March 2012

Allied Health Job Vacancy Tracking Report

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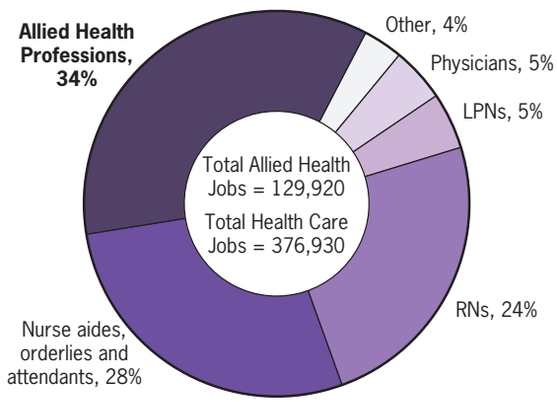
Introduction

Allied health professionals make up the largest proportion (34%) of the health care workforce in North Carolina (NC) (**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 to inform the work of policymakers, 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 derived from U.S. Bureau of Labor Statistics, Occupational Employment Statistics, State Cross-Industry Estimates: 2010. URL: http://www.bls.gov/oes/oes_dl.htm. Accessed 9/13/11, revised 3/21/12.

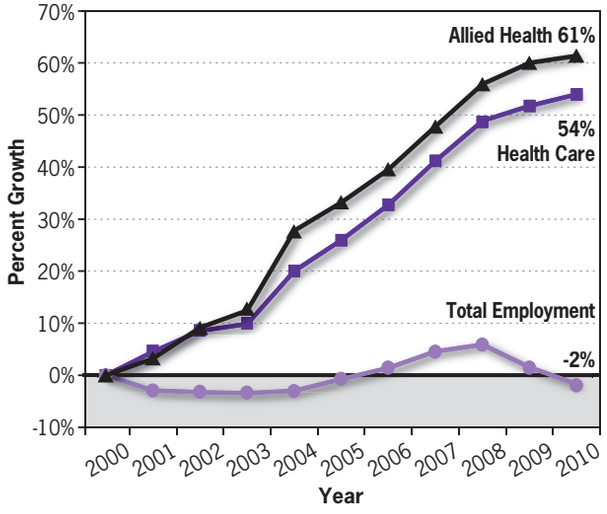
The allied health job vacancy tracking project estimates workforce demand for selected health professionals in North Carolina by monitoring job vacancy advertisements from both online and print sources. There are multiple factors that could indicate a shortage including rising salaries, long waiting times for appointments, increased time needed 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 Fall 2011, and is a continuation of five previous reports.

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 as all health professionals with the exception of physicians, nurses, chiropractors, dentists, optometrists, pharmacists, podiatrists, nurse aides, orderlies and attendants. **Figure 1** shows that allied health accounted for more than one in three health care professionals in the state. Historically, there has been a high growth rate in allied health employment, and this has continued even during the recent economic recession. **Figure 2** shows that, while total employment decreased since 2000 (2% reduction), the health care sector experienced marked expansion (54% growth). Allied health jobs are particularly resilient to the worsening economy, and outpaced both health care and total employment with 61% growth since 2000. As policymakers consider ways to stimulate the economy and reduce unemployment, the allied health sector has the potential to serve as a job creation engine.

Support for this study comes from the North Carolina Department of Commerce.

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.

Figure 2.
Percent Growth in NC Employment Relative to 2000



Source: North Carolina Health Professions Data System with data derived from the U.S. Bureau of Labor Statistics, Occupational Employment Statistics, State Cross-Industry Estimates: 2000-2010. URL: http://www.bls.gov/oes/oes_dl.htm. Accessed 9/13/11, revised 3/21/12.

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 Access®. 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.

Between September 18 and November 26, 2011, 1,844 de-duplicated job vacancy advertisements were collected. This total was reduced by 231 to account for 462 part-time and PRN vacancies. An additional 14 listings were excluded from further analyses because they lacked sufficient information on the geographic location or employment setting of the advertised vacancy. These exclusions left a final sample size of 1,599 job vacancies.

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 September 2011 to help guide the selection of professions facing the greatest demand. Council members were asked to identify whether or not the profession they represented was facing a shortage, provide evidence of the perceived shortage, give AHEC regions and media sources where vacancies for that profession may be advertised, and suggest important issues facing the future of the allied health workforce. The final list of ten professions was based on the results of this survey and prior inclusion in earlier tracking reports (**Table 1**).

Table 1. Professions Monitored

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

Vacancy advertisements for the professions listed in **Table 1** were collected each week from online and print sources. The online sources included job search engines, healthcare system websites, and professional organizations' career postings pages. The print sources were collected from the Sunday classifieds section of ten newspapers representing the state's nine AHEC regions (**Table 2**).

For the online sources, consistent search terms were used each week to allow for a more systematic sampling of advertisements. Since job advertisements

Table 2. Media Sources Monitored for Allied Health Vacancies

Online Sources
Advance for Healthcare Careers
AHIMA
American Speech-Language-Hearing Association
Carolinas HealthCare System
Cone Health
Duke University Health System
HIMSS
Indeed.com
North Carolina Occupational Therapy Association
North Carolina Office of State Personnel
North Carolina Physical Therapy Association
North Carolina Public Schools Application System
North Carolina Society for Clinical Laboratory Sciences
North Carolina Speech Hearing & Language Association
Novant Health
UNC Health Care
Vidant Health (University Health Systems of Eastern Carolina)
Newspaper Sources
Asheville Citizen Times
Charlotte Observer
Fayetteville Observer
Greensboro News and Record
Raleigh News and Observer
Rocky Mount Telegram
The Daily Reflector
Wilmington Star-News
Wilson Daily Times
Winston-Salem Journal

for some professions like speech-language pathologists vary seasonally with the school year, efforts were made to adjust the number and types of sources monitored in order to counteract low seasonal demand.

Similar to the way that tracking imaging professions required collecting data on multiple positions (e.g., radiologic technologist, sonographer, dosimetrist), tracking clinical laboratory science (CLS) or health information management (HIM) positions required collecting job listings for several different roles. For example, CLS positions included health technicians and technologists, which may have been advertised under different titles such as cytotechnologist, histologist, and phlebotomist. HIM professions included coders, health information administrators, and health information technicians, and were advertised under titles such as HIM director, medical record manager, coder, and medical reviewer.

Methodological Limitations

Although past tracking reports have proven successful at highlighting professions and areas in the state facing increased shortages, several 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. Also, it is 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.

A preliminary analysis was done after four weeks of data collection. Based on these results and feedback received from employers, educators, and health care professionals, additional hospital and professional association websites were added to more accurately reflect where job ads for certain professions such as HIM were being posted. Because of the late additions, some postings that were filled and taken down during the first four weeks of data collection may not have been captured. However, the advantages of gathering more accurate vacancy information outweighed the cons of potentially missing some job advertisements.

Additionally, vacancies may have been undercounted 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 commonly 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.

Results

Similar to previous reports, the therapy professions, including physical therapists (PTs), occupational therapists (OTs), and speech-language pathologists (SLPs) were near the top in terms of absolute vacancies by profession. Specifically, PTs (17.1%), OTs (14.5%), and SLPs (12.6%) accounted for 44% of total vacancies in the state.

There was a sharp increase in HIM profession vacancies from 17 ads (1.1% of total vacancies) in Spring 2011 to 202 ads (12.6%) in Fall 2011.

Though assessing demand by examining the absolute number of vacancies reveals important information about the magnitude of shortages, it is also important to measure demand relative to workforce size. To more accurately compare the relative 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 OTAs shows the usefulness of this index. SLPs (n=202) had twice as many job advertisements as OTAs (n=102), but the vacancy index was half as much for SLPs (5.6) as OTAs (11.6) because the overall size of the workforce for each profession differs dramatically (3,630 SLPs versus 880 OTAs). Thus, relative to workforce size, OTAs are in higher demand than SLPs.

After adjusting for workforce size, OTAs emerged as having the highest vacancy index (11.6), followed by OTs (8.7). The vacancy index for OTAs returned to the top spot after slipping to fifth highest in Spring 2011.

Table 3. Vacancies and Vacancy Index by Profession

Profession	Workforce Size	Vacant Positions	Vacancy Index
Occupational Therapy Assistant	880	102	11.6
Occupational Therapist	2,660	232	8.7
Physical Therapist Assistant	2,020	170	8.4
Physical Therapist	4,530	274	6.0
Speech-Language Pathologist	3,630	202	5.6
Health Information Management	5,110	202	4.0
Clinical Laboratory Sciences	9,090	139	1.5
Medical Assistant	11,970	164	1.4
Imaging	9,680	68	0.7
Emergency Medical Services	8,940	46	0.5

Note: Excludes listings missing employer location (N=14). Data are based on a de-duplicated count of 1,599. Workforce size source: May 2010 U.S. Bureau of Labor Statistics, Occupational Employment Statistics, State Cross-Industry Estimates: 2010. URL: http://www.bls.gov/oes/oes_dl.htm. Accessed 9/13/11.

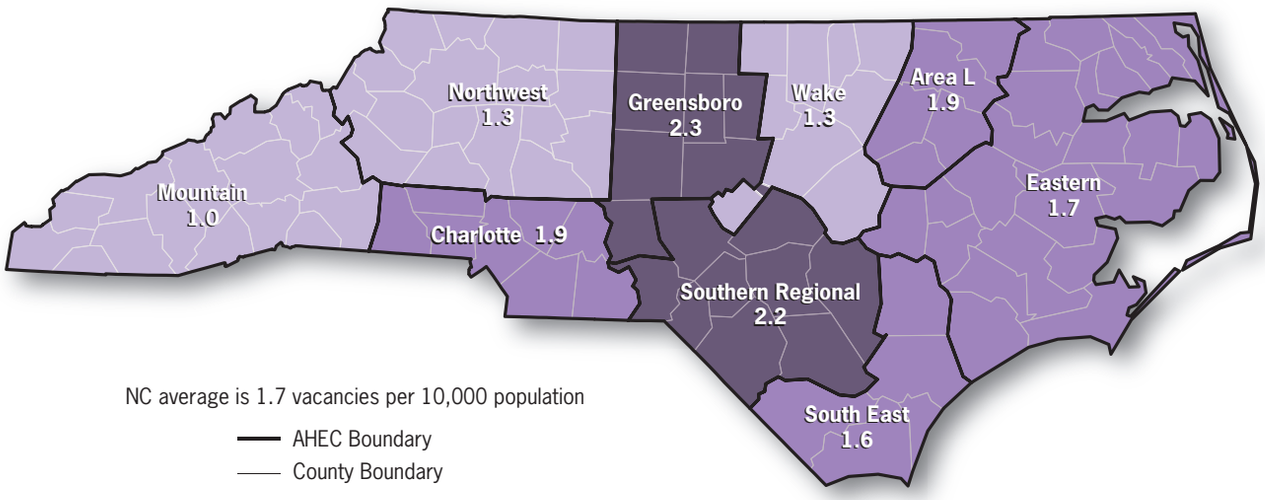
PTAs (8.4) and PTs (6.0) had the next highest vacancy indices by profession.

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 1.7 allied health vacancies per 10,000 population in North Carolina, with the highest vacancy ratio in Greensboro AHEC (2.3 vacancies per 10,000 population) and the lowest vacancy ratio in Mountain AHEC (1.0 vacancies per 10,000 population) (**Figure 3**). Urban regions such as Greensboro (2.3), Charlotte (1.9), and Wake (1.3) AHECs demonstrated a wide range of vacancy ratios. The growing hospital systems in these regions demand more health professionals, but they are also able to draw from a deeper pool of professionals from educational institutions in these areas.

Therapy professions made up a large proportion of absolute vacancies and the greatest percentages

Figure 3.
Allied Health Job Vacancy Advertisements per 10,000 Population by AHEC Region, North Carolina, Fall 2011



Notes: North Carolina newpapers and online listings for select allied health professions tracked from September 18, 2011 to November 26, 2011 (N=1,599).
Source: North Carolina Health Professions Data System, Cecil G. Sheps Center for Health Services Research, University of North Carolina at Chapel Hill, 2012.
Population source: North Carolina Office of State Budget and Management, Socioeconomic Data, 2010. URL: http://www.osbm.state.nc.us/ncosbm/facts_and_figures/. Accessed 01/12/12.

of therapy jobs were advertised in the Charlotte and Greensboro AHEC regions (Table 4). Together, the Charlotte and Greensboro AHEC regions accounted for 30% or more vacancies for OTs, OTAs, PTs, and PTAs. Also, Charlotte and Greensboro AHEC regions made up around half of all advertisements for clinical laboratory scientists (26% and 24%, respectively), health information management (32% and 14%), and medical assistants (28% and 21%).

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. The regions with the largest healthcare systems, Charlotte, Greensboro and Wake, tended to have higher vacancies for hospital-affiliated professions like CLS and HIM. There were more diverse needs in the more rural regions. The demand for OTAs relative to supply was the most pronounced in Mountain AHEC, where OTAs accounted for 19% of total vacancies, while the next highest percentage was only 8% in Greensboro. Area L continued to experience a high demand for therapists relative to other regions, having the second-highest percentage of vacancies in OTs, PTs, and PTAs (20%, 20%, and 22%). Combined with SLPs (17%), these professions made up 79% of Area L's vacancies.

Employment Setting

Demand for allied health professionals varies by employment setting, since facilities deliver different types of care to patients with conditions of varying acuity (**Table 6**). Nearly 80% of the job postings were from hospitals (37%), long-term care facilities (21%), or practices (20%). This vacancy composition by employment setting mirrors the actual 2010 distribution of health care professionals across North Carolina hospitals (35%), long-term care facilities (22%), and practices (20%).[i] Hospitals had the highest percentage of total vacancies across the disciplines of CLS (64%), EMS (78%), HIM (74%), Imaging (65%) and PT (35%). Long-term care facilities accounted for the highest percentage of vacancies for OTs (34%), OTAs (54%), PTAs (38%), and SLPs (30%), and they were second-highest for PTs (22%). As noted in previous reports, the vast majority of medical assistant vacancies (87%) were in the "Practice" setting.

[i] NC Employment Security Commission. "Employment and Wage Data by Industry." URL: http://eslmi23.esc.state.nc.us/ew/. Accessed 2/7/12.

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

AHEC	Vacancies	Clincial Laboratory Sciences	Emergency Medical Services	Health Information Management	Imaging	Medical Assistant	Occupational Therapist	Occupational Therapy Assistant	Physical Therapist	Physical Therapist Assistant	Speech-Language Pathologist	All Professions
		n=139	*n=46*	*n=202*	*n=68*	*n=164*	*n=232*	*n=102*	*n=274*	*n=170*	*n=202*	*n=1,599*
Area L	*n=60*	2	2	1	6	1	5	2	4	8	5	4
Charlotte	*n=345*	26	15	32	22	28	19	21	20	14	15	22
Eastern	*n=179*	9	13	9	3	4	14	11	11	9	21	11
Greensboro	*n=261*	24	20	14	18	21	11	19	17	16	12	16
Mountain	*n=76*	3	2	2	1	4	7	14	4	5	7	5
Northwest	*n=199*	7	2	16	9	8	13	11	9	28	11	12
South East	*n=77*	4	9	3	9	4	4	2	7	4	7	5
Southern Regional	*n=198*	8	30	8	10	16	13	11	15	8	14	12
Wake	*n=204*	17	7	15	22	14	14	9	13	8	8	13
NC	***n=1,599***	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**

Data are based on de-duplicated count of 1,599.

Table 5. Percent of AHECs' Total Vacancies by Profession

AHEC	Vacancies	Clincial Laboratory Sciences	Emergency Medical Services	Health Information Management	Imaging	Medical Assistant	Occupational Therapist	Occupational Therapy Assistant	Physical Therapist	Physical Therapist Assistant	Speech-Language Pathologist	Total
		n=139	*n=46*	*n=202*	*n=68*	*n=164*	*n=232*	*n=102*	*n=274*	*n=170*	*n=202*	*n=1,599*
Area L	*n=60*	3	2	3	7	3	20	3	20	22	17	100
Charlotte	*n=345*	10	2	19	4	14	13	6	16	7	9	100
Eastern	*n=179*	7	3	11	1	4	19	6	17	8	24	100
Greensboro	*n=261*	12	3	11	5	13	10	8	18	11	9	100
Mountain	*n=76*	5	1	4	1	8	21	19	13	11	17	100
Northwest	*n=199*	5	1	17	3	6	15	5	13	24	11	100
South East	*n=77*	8	5	6	8	8	10	3	25	9	18	100
Southern Regional	*n=198*	6	7	8	3	13	15	6	20	7	15	100
Wake	*n=204*	12	2	15	7	11	16	4	18	7	8	100
NC	***n=1,599***	**9**	**3**	**13**	**4**	**10**	**14**	**6**	**17**	**11**	**13**	**100**

Data are based on de-duplicated count of 1,599.

Table 6. Percent of Vacancies by Employment Setting

Setting	Vacancies	Clincial Laboratory Sciences	Emergency Medical Services	Health Information Management	Imaging	Medical Assistant	Occupational Therapist	Occupational Therapy Assistant	Physical Therapist	Physical Therapist Assistant	Speech-Language Pathologist	All Professions
		n=139	*n=46*	*n=202*	*n=68*	*n=164*	*n=232*	*n=102*	*n=274*	*n=170*	*n=202*	*n=1,599*
Government	*n=36*	6	7	4	3	—	1	1	2	1	3	2
Home Health	*n=127*	—	—	—	—	—	2	11	19	19	14	8
Hospital	*n=594*	64	78	74	65	7	27	15	35	27	20	37
Long-Term Care	*n=334*	2	—	2	2	3	34	54	22	38	30	21
Other	*n=16*	1	7	4	—	1	1	—	—	—	—	1
Practice	*n=326*	24	4	15	29	87	5	4	19	7	9	20
Rehabilitation	*n=25*	—	—	—	—	—	1	4	1	6	3	2
School	*n=117*	1	4	1	1	1	29	3	1	2	17	7
Staffing	*n=24*	2	—	—	—	1	—	8	1	—	4	2
Total	*n=1,599*	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**

Data are based on de-duplicated count of 1,599.

Discussion

Therapy positions continue to exhibit strong demand, with OTAs and OTs showing the strongest demand. Even though the raw number of vacancies is smaller for OTs and OTAs than for PTs and PTAs, the vacancy index shows that they are in high demand relative to the size of the OT and OTA workforce.

There was a twelve-fold increase in HIM vacancies from Spring to Fall 2011. Reasons for this may include better targeting of sources for collecting HIM job ads and employer response to the development and implementation of new HIM initiatives such as meaningful use regulations, health information exchanges, and the transition from ICD-9 to ICD-10 coding.

CLS showed a relatively high number of vacancies (n=138). A large proportion of lab scientists are reaching retirement age and academic programs may not be producing enough graduates to meet industry demand due to insufficient training opportunities.[ii]

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 areas continue to experience difficulty recruiting health professionals, and they lack educational programs that would enable them to train professionals locally.

Allied Health Workforce Planning in North Carolina: Past and Present

This is the sixth publication in a series of reports monitoring allied health workforce demand in North Carolina. The project has been generously funded by the North Carolina Department of Commerce, the North Carolina Health and Wellness Trust Fund, the Florence Rogers Charitable Trust, the North Carolina AHEC Program, and the Duke Endowment. As of March 2012, a funding source for future analyses has not been identified. This is despite the fact that the data generated from the project have been used by a wide range of policymakers in their efforts to ensure that NC has the right mix of allied health professionals by profession, geography and employment setting.

[ii]Michel, Robert L. "When Recruiting and Training Generation Y to Work in Medical Laboratories, U.S.A and U.K. Face Same Challenges." URL: http://www.radmailer.com/t/ViewEmail/r/AE830426DDF21F89/624343686ADF091DC68C6A341B5D209E. Accessed 2/13/12.

The North Carolina Community College System, The University of North Carolina General Administration, and their constituent colleges and universities have used the data along with other sources to evaluate the need for new education programs and to justify expanding existing ones. In these tight budgetary times, it is critical that such decisions be driven by data so that limited state funding is invested where it is most needed. For example, the data have been used to support the development of a new medical assisting program and a new pharmacy technician program at A-B Technical Community College in Asheville, a health studies degree completion program at UNC Greensboro, and a bachelor of science program in respiratory therapy at UNC Charlotte. The data have also generated interest in expanding the number of PT and OTA programs in the state.

The North Carolina AHEC Program office has used the data to promote allied health professions as career choices for students and displaced workers. The regional AHEC centers use the data for pipeline development and for planning the numbers and types of continuing education programs offered.

Allied health vacancy data were instrumental in securing an allied health sector strategy grant from the National Governors Association (NGA). The NGA funds were used by the North Carolina Commission on Workforce Development to fund four allied health regional skills partnerships (RSPs).[iii] RSPs were comprised of employers, educators, and workforce development stakeholders in the Centralina (Charlotte and Northwest AHEC regions), Capital Area (Wake AHEC), Lumber River (Southern Regional AHEC), and Turning Point (Area L AHEC) Workforce Development Board regions. The RSPs used the vacancy report data to develop and implement strategies to create new jobs and career advancement opportunities for high-demand occupations in the allied health sector. One goal was to make unemployed workers from traditional industries, such as manufacturing, aware of allied health career opportunities in their local area.

Out of the 2011 Institute for Emerging Issues (IEI) Forum came a charge to focus on health workforce innovations. The IEI convened stakeholders to identify strategies to build the state's allied health workforce and created an expert working group that drew on their own knowledge and data from the allied health vacancy reports to develop a model demonstration project. The project supports the transition of long-term unemployed workers in rural communities into allied health jobs through career guidance, educational programs, employer collaborations, and individual support systems.

Vacancy report data were used by North Carolina's Forgivable Education Loans for Service (FELS) program to determine which health professions were in critical shortage. The FELS program provides loan forgiveness to students in approved health sciences and education degree programs.

These few select examples[iv] show how valuable the data have been to policymakers. The need for robust data on demand for allied health professionals will only intensify as NC's population continues to rapidly expand, as the proportion of the population over age 65 continues to grow, and with insurance coverage expansions that will result if health reform is implemented. We can either plan for this future workforce driven by anecdote or by data. The latter approach is much more likely to result in investments of taxpayer dollars that match the health workforce needs of our state.

[iii] North Carolina Commission on Workforce Development. URL: http://www.nccommerce.com/wf/about-us/plans-policies-reports-initiatives/initiatives. Accessed 3/21/12.

[iv] Examples gathered through personal communication with Renee Batts, NCCCS; Alan Brown, NC AHEC; Sarah Langer, IEI; Terrence Scarborough, FELS Program, NCSEAA; and Alisa Debnam, CAHNC. March 23-29, 2012.

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 $330.23, or $1.10 each.

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