May 2011

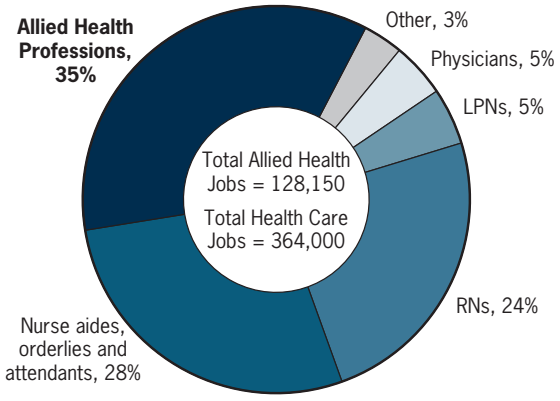
Allied Health Job Vacancy Tracking Report

Meredith Kimball, MSPH; Erin Fraher, PhD, MPP; Katie Gaul, MA; Jessica Lyons, MS

Introduction

Allied health professionals comprise the largest proportion of the health care workforce in North Carolina (**Figure 1**), yet there is limited information regarding their demand 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, employers, 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, 2009



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 (2009). URL: http://www.bls.gov/oes/.

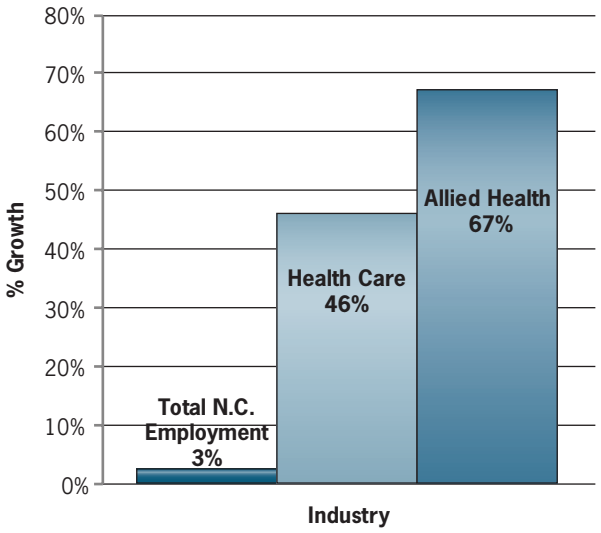
The allied health job vacancy study estimates workforce demand for selected health professionals in North Carolina by tracking job vacancy advertisements both in online and print sources. Although there are multiple factors that could signal a shortage including rising salaries, longer waiting times, an increase in the 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. The work described in this report reflects tracking that was conducted in Fall 2010 and is a continuation of three previous reports published in May 2006, August 2006, and April 2007.

The definition of who falls into the "allied health professional" category continues to be the topic of debate. For the purposes of this report, an exclusionary definition is used that defines allied health professionals as all health professionals with the exception of physicians, nurses, chiropractors, dentists, optometrists, pharmacists, and podiatrists. Even without the inclusion of nurse aides, orderlies and attendants, the most current data available show that the allied health workforce comprises approximately 35% of total health care employment in North Carolina (**Figure 1**). What is equally compelling about the need to focus on the allied health workforce is its ability to grow despite the economic downturn. In contrast to the small rate of growth seen in overall employment in North Carolina since 1999 (2.5%), the health care sector has experienced marked expansion (46% growth). Even more resilient to the worsening

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.

economy is the allied health sector, which has outpaced both total health care jobs and the overall employment sector with 67.3% growth since 1999 (**Figure 2**). As policymakers contemplate ways to stimulate the economy and reduce unemployment, the allied health sector has the potential to serve as a true job engine for the economy.

Figure 2.
Percent Growth in Employment in NC, 1999-2009



Source: North Carolina Health Professions Data System with data from U.S. Bureau of Labor Statistics, Occupational Employment Statistics, State Cross-Industry Estimates: 1999-2008. URL: http://www.bls.gov/oes/. Accessed 06/04/2009.

Methodology

Demand for allied health professionals was assessed by collecting information from job advertisements over a span of ten weeks. Postings were collected once a week from online sources and regional newspapers between September 19 and November 28, 2010. Information was entered into an excel database and analyzed using Stata version 10.1. Given limitations regarding the number of allied health professionals that could be tracked each week, members of the Council for Allied Health in North Carolina (Council) were surveyed to help guide the selection of professions facing the highest demand. Council members were asked to identify whether or not the profession they represented was facing a shortage, where vacancies for that profession could be located, as well as their thoughts on how health reform might affect demand for their health professions. A preliminary list of professions was developed utilizing the results of the survey and the final decision for inclusion was influenced by historical tracking and recent trends in growth. The final list contained ten health professionals (**Table 1**).

Table 1. Professions Monitored

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

Vacancy advertisements for the professions studied were collected from the Sunday classified section of nine newspapers and weekly listings from 14 online job boards (**Table 2**). The newspapers provided statewide coverage by representing each of the nine AHEC regions and the online job boards represented professional associations and the major hospital systems throughout the state. Since jobs 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 to counteract low seasonal demand. Of the 14 online employment listings, four were specific to a single profession, one was targeted to related profession groups, and the majority (nine) posted vacancies for health care jobs more broadly.

When counting positions, information about the level of effort for each job advertised was utilized. Full time positions were given 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 10-week contract positions were allocated 1

Table 2. Media Sources Monitored for Allied Health Vacancies

Online Sources
Advance for Healthcare Careers
American Speech-Language Hearing Association
Carolinas Health Care
Duke Health
Mission Hospital
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
Novant Health
Rex Health
UNC Health Care
University Health Systems of Eastern Carolina
Newspaper Sources
Asheville Citizen Times
Charlotte Observer
Fayetteville Observer
Greensboro News & Record
Raleigh News and Observer
Rocky Mount Telegram
The Daily Reflector
Wilmington Star-News
Wilson Daily Times
Winston Salem Journal

FTE since most employers continue to fill those slots on an ongoing basis.

Several of the positions tracked constituted more than one role. Similar to the way that tracking imaging professions required looking at multiple roles (e.g., radiologic technologist, sonographer, dosimetrist), tracking health information management (HIM) positions required looking at health information administrators, health information technicians, and coders. Within these broad categories, individual positions were advertised under different names 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 follow, the potential for increased demand for HIM professionals resulting from the implementation of electronic medical records and current plans for a web-based health insurance exchange in North Carolina made this a valuable profession to include.

Methodological Limitations

Although past tracking reports have proven relatively successful at highlighting professions and areas in the state facing shortages, a number of limitations must 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. Thus, the sample collected may not be fully representative of the overall demand for professionals or the complete geographic distribution of job vacancies. Additionally, there may have been under-counting 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). Some advertisements also had incomplete data with respect to geography or employment setting. When possible, this information was gathered through internet searches.

Results

Similar to findings from previous reports, the therapy professions, including physical therapist assistants, occupational therapy assistants, physical therapists and occupational therapists demonstrate significantly higher demand relative to other professions (**Table 3**). Physical therapists had the

greatest number of vacancies (n=523) and represented 30% of overall vacancies. Physical therapist assistants had 274 vacancies (16%) followed by occupational therapists (n=214, 12%) and medical assistants (n=139, 8%).

Assessing demand through the absolute number of vacancies reveals important information about the magnitude of shortage but it is also important to measure demand relative to workforce size. For example, medical assistants and occupational therapy assistants exhibited a similar number of vacancies (139 and 121), but the overall size of the workforce for each profession differs dramatically (11,140 versus 2,730). To more accurately quantify the demand for each profession, we constructed a vacancy index, which is calculated by dividing the number of vacancy advertisements for each profession by the profession's total workforce size and multiplying by 100. The vacancy index reflects the number of open positions per 100 employed professionals. After adjusting for workforce size, occupational therapy assistants emerged as having the highest vacancy index (13.4), followed closely by physical therapy assistants (12.7) and physical therapists (12.1) (**Table 3**).

Table 3. Vacancies and Vacancy Index by Profession

Profession	Workforce Size	Vacant Positions	Vacancy Index
Occupational Therapy Assistant	900	121	13.4
Physical Therapist Assistant	2,150	274	12.7
Physical Therapist	4,340	523	12.1
Occupational Therapist	2,730	214	7.8
HIM	5,130	152	3.0
Speech-Language Pathologist	3,840	105	2.7
Respiratory Therapist	3,160	53	1.7
Medical Assistant	11,140	139	1.2
Imaging	9,660	92	1.0
EMS	8,930	75	0.8

Excludes listings missing employer location (N=22).

Regional Variation in Workforce Demand

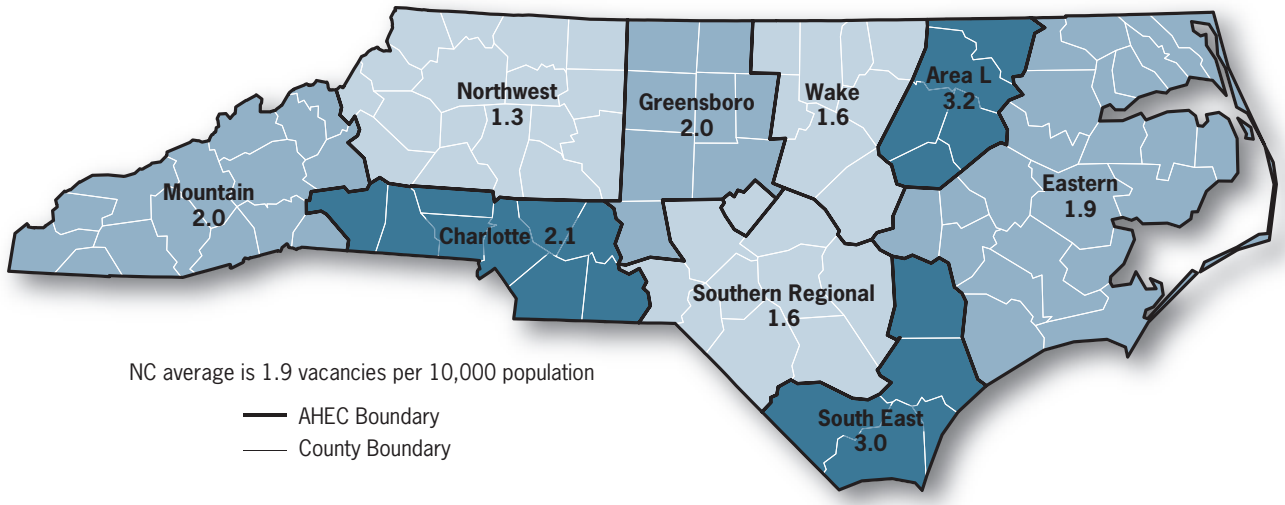
Information captured on job location was used to determine whether the demand for allied health professions varied by region of the state. Total vacancy numbers were adjusted for population size within each AHEC region. On average, there were 1.9 allied health vacancies per 10,000 population in North Carolina with the highest vacancy ratio in Area L (3.2 vacancies per 10,000 population) compared to the lowest vacancy ratio in Northwest AHEC (1.3 vacancies per 10,000 population) (**Figure 3**). Although more urban regions such as Charlotte and Wake AHECs exhibited higher absolute demand, these areas tend to attract more health professionals and thus have an easier time staffing vacancies, which keeps the relative demand lower.

Many professions had a large percentage of advertisements in the Charlotte AHEC region including physical therapists, physical therapist assistants, HIM professionals, medical assistants, imaging professionals, and respiratory therapists. For instance, of the total number of vacancies advertised, 46% of medical assistants, 34% of respiratory therapists and 33% of health information management positions were recruited in Charlotte (**Table 4**). These positions are typically staffed in practices and hospital settings respectively. Speech-language pathologists were recruited primarily in Southern Regional and Eastern AHECs (20% each). Many of these advertisements sought SLPs to fill immediate needs in school settings. Physical therapist assistants had similarly high demand in Charlotte AHEC (18%), but also showed high demand in Eastern (18%) and Greensboro (17%) AHECs (**Table 4**). The majority of EMS services were recruited in Mountain AHEC (63%), many connected to Mission Health System.

Labor markets are regional and the demand for specific professions varies by AHEC region. **Table 5** shows the percent of an AHEC's total advertisements comprised by each profession. Though speech-language pathologists made up only 6% of overall

positions needed throughout the state, they comprised 15% of vacancies in Southern Regional AHEC. Slightly more than one-quarter (26%) of positions available in Area L AHEC were medical assistants while they made up only 8% of NC's overall vacancies. Demand for occupational therapy assistants was spread fairly evenly throughout the state, though notably higher in Area L (12%) and Northwest (15%) regions. Physical therapist assistants also showed high demand in Southeast (29%) but notably lower demand in Area L (4%).

Figure 3.
Allied Health Job Vacancy Advertisements per 10,000 Population by AHEC Region, North Carolina, Fall 2010



Notes: North Carolina newpaper and online listings for select allied health professions tracked from September 19 to November 28 (N=1,748).
Source: North Carolina Health Professions Data System, Cecil G. Sheps Center for Health Services Research, University of North Carolina at Chapel Hill, 2011.

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

AHEC	Emergency Medical Services	Health Information Management	Imaging	Medical Assistant	Occupational Therapist	Occupational Therapy Assistant	Physical Therapist	Physical Therapist Assistant	Respiratory Therapist	Speech-Language Pathologist
	n=75	*n=152*	*n=92*	*n=139*	*n=214*	*n=121*	*n=523*	*n=274*	*n=53*	*n=105*
Area L	—	7	—	17	4	9	6	1	4	2
Charlotte	—	33	25	46	18	19	17	18	34	4
Eastern	5	6	2	1	17	8	11	18	4	20
Greensboro	5	16	21	10	14	9	11	17	6	9
Mountain	63	4	8	2	7	5	7	4	21	8
Northwest	—	15	9	3	10	26	12	13	11	11
South East	5	5	2	4	6	2	9	15	4	13
Southern Regional	5	5	4	3	9	6	12	3	—	20
Wake	16	10	29	14	14	16	14	12	17	13
NC	100	100	100	100	100	100	100	100	100	100

Data are based on de-duplicated count of 1,748.

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=75	*n=152*	*n=92*	*n=139*	*n=214*	*n=121*	*n=523*	*n=274*	*n=53*	*n=105*	*n=1,748*
Area L	*n=98*	—	11	—	26	10	12	34	4	2	2	100
Charlotte	*n=360*	—	14	6	18	11	6	25	13	5	1	100
Eastern	*n=191*	2	5	1	1	19	5	31	25	1	11	100
Greensboro	*n=218*	2	11	9	6	14	5	27	21	1	4	100
Mountain	*n=150*	31	4	5	2	11	4	24	8	7	5	100
Northwest	*n=204*	—	11	4	2	11	15	31	17	3	6	100
South East	*n=138*	3	6	1	4	9	2	34	29	1	10	100
Southern Regional	*n=140*	3	5	3	3	14	5	46	6	—	15	100
Wake	*n=249*	5	6	11	8	12	8	29	13	4	6	100
NC	***n=1,748***	**4**	**9**	**5**	**8**	**12**	**7**	**30**	**16**	**3**	**6**	**100**

Data are based on de-duplicated count of 1,748.

Table 6. Percent of Vacancies by Employment Setting

Setting		All Professions	Emergency Medical Services	Health Information Management	Imaging	Medical Assistant	Occupational Therapist	Occupational Therapy Assistant	Physical Therapist	Physical Therapist Assistant	Respiratory Therapist	Speech-Language Pathologist
		n=1,748	*n=75*	*n=152*	*n=92*	*n=139*	*n=214*	*n=121*	*n=523*	*n=274*	*n=53*	*n=105*
Hospital	*n=754*	43	73	74	85	19	37	41	31	47	91	17
Practice	*n=401*	23	4	25	11	80	20	19	21	15	—	27
Home Health	*n=190*	11	—	1	—	—	5	7	22	13	6	11
Rehab	*n=147*	8	—	—	2	—	23	17	7	15	—	3
Travel	*n=81*	5	4	1	1	—	—	1	11	4	—	4
School	*n=56*	3	—	—	—	1	—	7	1	—	—	30
Staffing	*n=45*	3	—	—	—	—	5	1	4	4	—	3
Government	*n=29*	2	—	—	—	—	5	5	2	—	—	5
Unknown	*n=17*	1	—	—	—	—	—	1	1	2	2	—
EMS Transport	*n=15*	1	19	—	—	—	—	—	—	—	2	—
Long-term Care	*n=12*	1	—	—	—	—	5	1	1	—	—	—
Lab	*n=1*	—	—	—	1	—	—	—	—	—	—	—
Total	*n=1,748*	100	100	100	100	100	100	100	100	100	100	100

Data are based on de-duplicated count of 1,748.

Employment Setting

Demand for allied health professionals varied by employment setting (**Table 6**). Forty-three percent of job positions were located in hospitals and twenty-three percent were located in practices, where the vast majority of medical assistants (80%) were being recruited. Home health positions made up a significant share (11%) of vacancies and employed the therapy professions: occupational therapists and assistants, physical therapists and assistants, as well as respiratory therapists and speech therapists. Additionally, 11% of the vacancies advertised for physical therapists were travel positions where professionals spend ten weeks at each job site.

Discussion

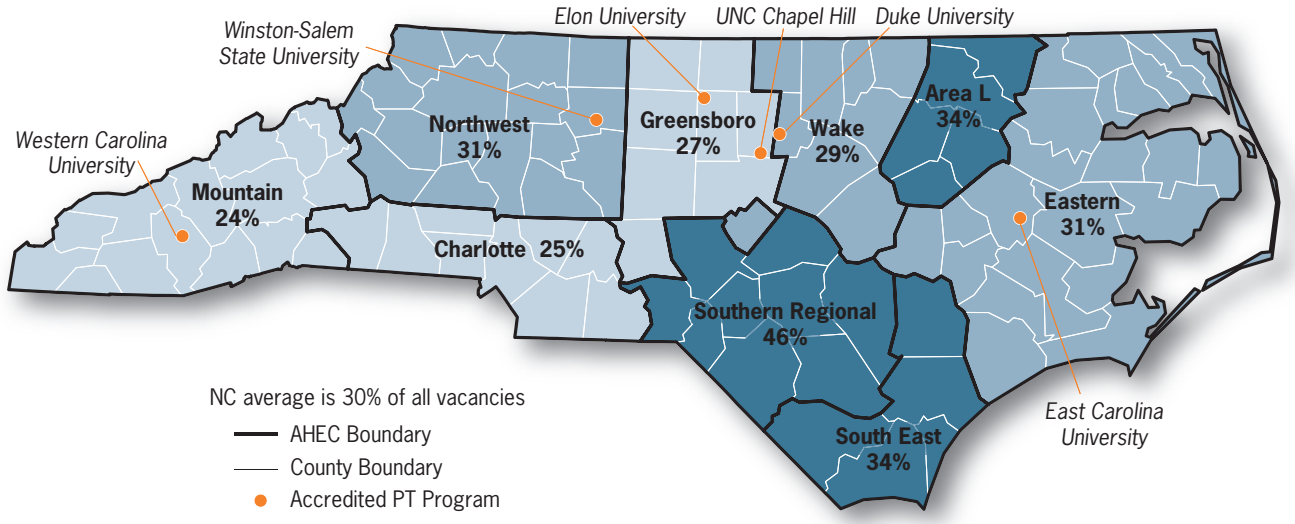
As has historically been the case, the therapy positions exhibited strong demand relative to workforce size, and within that category, assistant positions – physical and occupational therapy assistants – exhibited the strongest demand. Specifically, occupational therapy assistants show a much higher vacancy index (13.4) than occupational therapists (7.8), which may be a reflection of task shifting during the economic downturn.

As with other allied health professions, demand for the therapy professions varies by region. **Figure 4** shows the percent of an AHEC's total vacancies that were for physical therapists and the location of physical therapy programs in North Carolina. On average, 30% of NC's vacancies were for PTs, but demand was much higher in Southern Regional AHEC where there is no PT program.

With the implementation of the Affordable Care Act[1], North Carolina is increasingly focused on implementing new models of integrated and coordinated care such as Patient Centered Medical Homes and Accountable Care Organizations. As these models are tested and implemented, new staffing plans will emerge that utilize allied health professionals in more effective ways and in conjunction with other health professionals.

When we first surveyed council members to determine which professions to include in the vacancy

Figure 4.
Physical Therapist Job Vacancy Advertisements as Percent of All Vacancies by AHEC Region, and Location of Accredited Physical Therapy Education Programs
North Carolina, Fall 2010



Notes: North Carolina newpaper and online listings for select allied health professions tracked from September 19 to November 28 (N=1,748).
Source: North Carolina Health Professions Data System, Cecil G. Sheps Center for Health Services Research, University of North Carolina at Chapel Hill, 2011; North Carolina State Board of Physical Therapy Examiners, http://www.ncptboard.org/documents/PT%20%20PTA%20School%20List.pdf, accessed 5/13/11.

tracking project, we asked them how they thought health reform might affect demand for the position they represented. Although 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 number of insured was cited by many as a reason for increased demand. Additionally, many felt that there would be increased demand of health information technology professionals.

Although there is much discussion within the health care field about the rapidly growing health information management sector, it is hard to fully see that trend in the demand data currently available in North Carolina. The most recent data available through this tracking report do not show strong demand for HIM professionals relative to other health professions. However, implementation of Electronic Health Records is just beginning in many practices and health care systems, thus it may be necessary to track the demand for HIM professionals over the next few years as EHRs are fully implemented and demand for HIM professionals with health information technology (HIT) and health information exchange (HIE) skills increase. The implementation of EHRs may also change workflows within practices, thus changing the way allied health professionals are deployed in interprofessional team-based models of care. Other states are beginning to survey practices to fully understand how HIT and HIE are affecting workforce demand and this type of study may be something that policy makers in North Carolina might also want to undertake.

Conclusion

The data presented in this report support anecdotal evidence of strong demand for allied health professionals in the therapy fields. Although the demand for health information management positions is still fairly low relative to other professions, the data collected in this tracking study may not adequately represent HIM professions in true demand or there may be a lagged effect as EHR systems are broadly implemented. Absolute demand is highest in urban areas that are home to several of North Carolina's largest health systems, but the eastern and rural parts of the state continue to face higher relative demand due to their continued struggle to recruit and retain health professionals. Continued surveillance of the allied health workforce is necessary to equip policy makers with the information needed to ensure access to an adequate supply and distribution of allied health professionals across the state.

[1] U.S. HR 3590, Patient Protection and Affordable Care Act, 2009. Available from: http://www.govtrack.us/congress/bill.xpd?bill=h111-3590. Accessed October 6, 2010.

Maps were produced by the North Carolina Health Professions Data System, Cecil G. Sheps Center for Health Services Research, University of North Carolina at Chapel Hill.
700 copies of this public document were printed at a cost of $639.33, or $0.92 each.

The Cecil G. Sheps Center for Health Services Research
The University of North Carolina at Chapel Hill
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

UNC
THE CECIL G. SHEPS CENTER
FOR HEALTH SERVICES RESEARCH