

Health Care Employment and the Current Economic Recession

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Before the economic downturn hit North Carolina, many stakeholders had voiced concerns about whether the supply of health professionals in the state was adequate to meet growing demand. In 2007, the North Carolina Institute of Medicine issued a report indicating that the supply of physicians, nurse practitioners, physician assistants, and certified nurse midwives was not keeping pace with population growth and that significant inequities existed in the distribution of providers across the state.¹ In 2008, the North Carolina Hospital Association (NCHA) reported that its member hospitals had over 8,000 vacant positions, more than half of which were for nurses.² Then, in a relatively sharp turn of events, and as the North Carolina labor market began to feel the effects of the recession in the fall of 2008, news reports began to emerge about hospitals implementing hiring freezes and recent nurse graduates finding it increasingly difficult to find jobs.³ The new economic reality caused speculation that the recession had “solved” North Carolina’s health workforce shortages. However, despite numerous anecdotal reports that the demand for health care workers had slackened and supply had increased, little empirical evidence existed documenting that the downturn in the economy had in fact caused a decline in health care employment.

There is extensive literature detailing the link between economic expansion and increases in health care employment.^{4,5} Analyses have found that for every 1% increase in gross domestic product (GDP), health care employment rises by 1.2%, and health care utilization increases by 1.5%.⁶ However, while there is ample evidence of a relationship between economic expansion and increases in health care employment, less documented is the effect that a recession has on the employment prospects for physicians, nurses, and other health professionals. Does health care employment decrease in response to economic downturns at the same rate that it increases in response to economic upswings? Is the effect immediate or lagged? This commentary briefly summarizes what is known about the effect of the economic downturn on the supply of health professionals in North Carolina. The key message is that if North Carolina policymakers refrain from making decisions based on short-term economic trends, we

can use this time as a unique opportunity to thoughtfully plan for, and build, a future supply of health professionals who are well-distributed across the state.

Economic Trends and Health Care Employment in North Carolina

North Carolina’s economy has been hard hit by the current economic downturn. In May 2009, the state’s unemployment rate stood at 11.1%, up from 5.9% a year earlier and significantly higher than in most recent periods in history, except during the recession of the early 1980s (see Figure 1, page 332). In May 2009, only six states—California, Michigan, Nevada, Oregon, Rhode Island, and South Carolina—had higher unemployment rates.

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Because health insurance coverage for the working-age population in the United States is tied to employment, the number of uninsured will rise as more people lose their jobs. Those who are uninsured are more likely to forgo medical care and the result is a decline in health care utilization, a trend that has clearly been felt by hospitals in the state. According to data collected by the NCHA, member hospitals

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reported that in the last quarter of 2008 they had: (1) negative patient, hospital, and total margins—the first time all three average margins were negative; (2) a decline in commercial payer volume and a rise in charity care, Medicaid, and Medicare patients; and (3) slowing inpatient volumes, particularly for elective procedures.

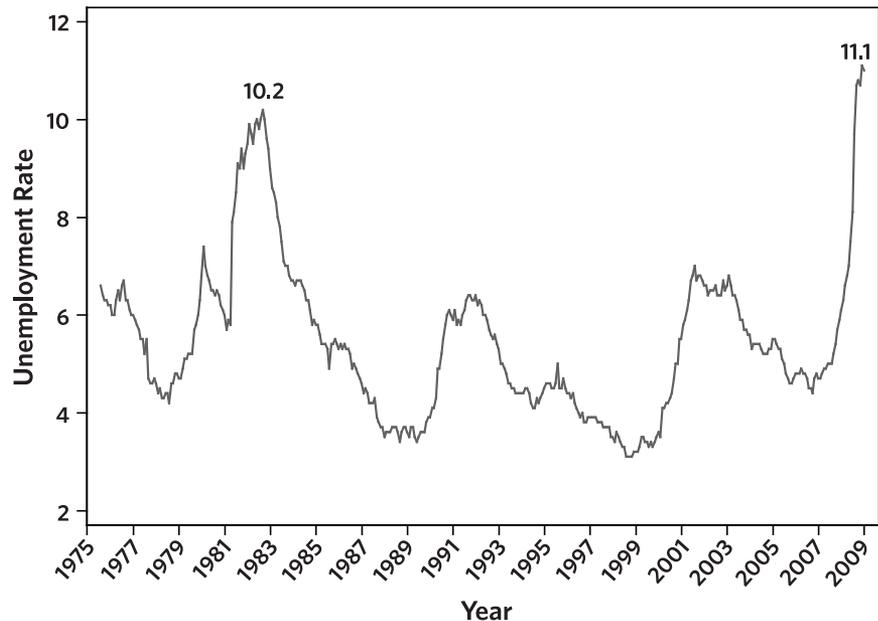
Recognizing the effect the recession was having on patient volume and payer mix, the NCHA conducted a survey in early 2009 to determine whether North Carolina hospitals were implementing hiring freezes or laying off workers in response to the economic downturn. The survey found that fewer than 20% of hospitals reported layoffs but 51% were implementing a range of other labor saving strategies (e.g., furloughs, pay cuts, and reductions in 401k contributions) to reduce payroll costs. Hospitals with lower commercial volumes were more likely to implement payroll expense reduction strategies, and hospitals with larger than average growth in Medicaid patients were more likely to layoff workers.

However, these data mask an important fact: despite the recession's negative impact on hospitals' bottom lines, most hospitals surveyed reported that they were still recruiting for vacant positions. An examination of the data in Figure 2 suggests that hospitals are not the only employment setting in health care where workers have continued to find jobs during the recession. The data show that, while in the past 17 months North Carolina has rapidly shed jobs in non-health care sectors, health care employment has held relatively steady, and even increased between March and May of 2009.

These data suggest that health care employment has remained relatively "recession proof" compared to other sectors in the economy. Further, when historical trends in specific

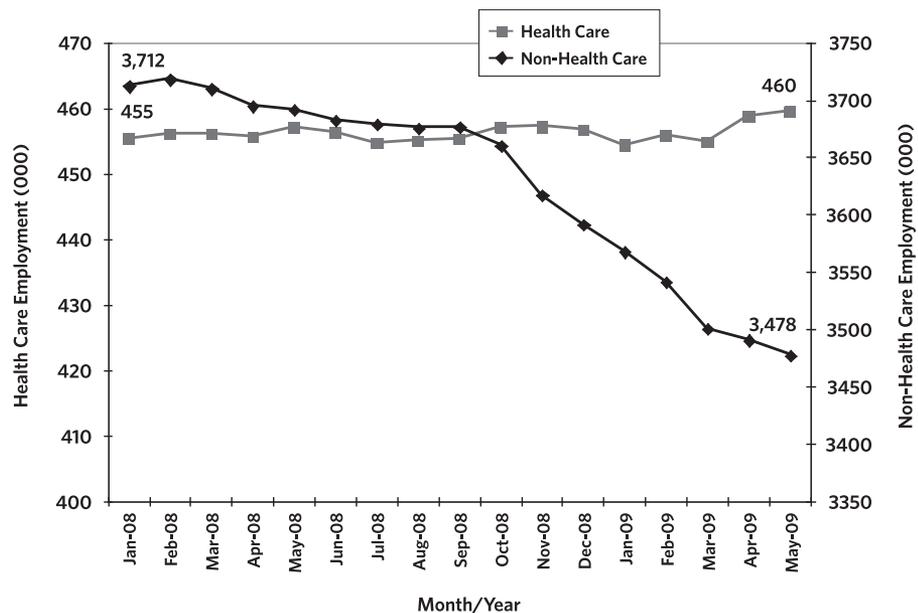
health care professions are analyzed, the data suggest that health care jobs in North Carolina will remain relatively immune to the recession due to three primary factors: (1) allied health professionals comprise the largest share of

Figure 1.
North Carolina Unemployment: May 1976 - May 2009



Source: US Bureau of Labor Statistics. <http://www.bls.gov/lau/home.htm>. Accessed June 10, 2009.

Figure 2.
Health Care vs. Non-Health Care Employment, North Carolina: January 2008-May 2009



Source: Bureau of Labor Statistics. <http://www.bls.gov/sae/#tables>. Accessed on June 10, 2009.

health care workers in North Carolina and the state's growing and aging population will continue to demand the therapeutic, diagnostic imaging, and pharmacy services provided by these professionals; (2) the sharp increase in nurse workforce participation rates that the state is currently experiencing as a result of the recession is a temporary phenomena—the demand for nursing services will once again outpace supply as the economy begins to recover; and (3) institutional rigidities in the labor market such as the length of education programs and scope of practice regulations for professions like dentists and physicians buffer these and other licensed health professionals from reacting to short-term market signals of a downturn in the economy.

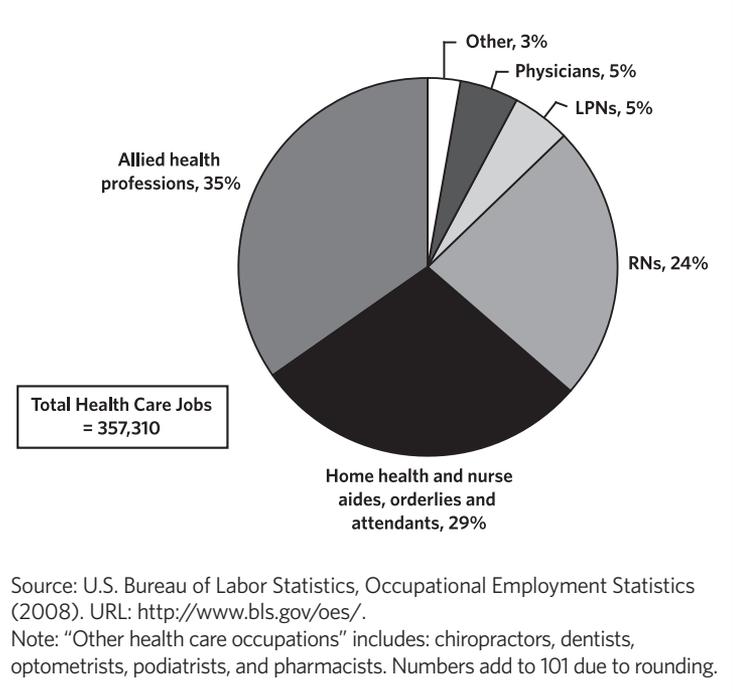
Allied Health Care Employment in North Carolina

When people think of health care jobs, they most frequently think of physicians and nurses. In 2008, physicians made up only 5% of health care workers, with licensed practical nurses (LPNs) and registered nurses (RNs) together comprising 29% of the workforce (see Figure 3). However, an even larger slice of the pie was made up of allied health professionals. There are differing accounts of which professions fall under the allied health umbrella, but for the purposes of this analysis it includes health care professionals with a wide range of credentials, from high school graduates working as pharmacy technicians in drug stores to physical therapists with doctoral training. It is sometimes easier to conceptualize the breadth of professions falling under allied health by defining it as all health care occupations except nurses, physicians, chiropractors, dentists, optometrists, pharmacists, and podiatrists.⁷ Even when nurse aides, orderlies, and attendants are excluded from this definition, allied health jobs comprised 35% of total health care employment in North Carolina in 2008.⁸

Data from the North Carolina Employment Security Commission (ESC) show that between 2001 and 2008 total employment in North Carolina increased by 5.4% while health care employment increased by 45.2%, and allied health jobs grew by 56.4%.⁹ A more detailed look at some of the fastest growing professions within allied health reveals some important trends in the factors driving the demand for health care services in the state. First, as the population ages, the need for therapeutic, diagnostic imaging, and pharmacy services increases. This trend is clearly reflected in ESC data. Between 2001 and 2008, the supply of occupational therapist aides increased by 100%, physical therapist assistants grew by 92%, occupational therapists were up 63%, and physical therapists increased by 45%. During the same period, the supply of medical sonographers grew by 77%, and radiologic technologists/technicians increased by 56%.⁹ Second, while the economic downturn has slowed the growth of prescription drug utilization, particularly among individuals who pay out-of-

pocket, the pharmacy industry is relatively insulated compared to industries where spending is more discretionary. People may choose to cut back on how often they refill their prescription drugs or choose among the drugs they can afford to refill, but they are not likely to completely stop taking all prescriptions.¹⁰ Further, the implementation of Medicare Part D coverage and the increasing number of drug plans offering assistance to low-income individuals offsets the decreased demand from patients paying out-of-pocket. For these reasons, pharmacy technicians—a profession which increased employment by 104% from 5,200 in 2001 to 10,580 in 2008—will continue to grow despite the economic downturn.

Figure 3.
Health Care Jobs in North Carolina, 2008



Thus, while health care employment has slowed in recent months, it is not likely to shed the number of jobs that have been lost in non-health care professions. North Carolina's aging and growing population will continue to fuel the demand for therapeutic, imaging, pharmacy, and other allied health professional services, shielding the health care industry from the dramatic job losses experienced in the non-health care sector.

Nursing Supply and Demand During an Economic Downturn

What about nursing? Nurses are the single largest profession in the state and there is substantial anecdotal evidence that the demand for nursing services has slowed while supply has increased significantly because individuals who had previously exited the workforce have re-entered the labor market. Recent work by Peter Buerhaus and colleagues (2009)¹¹ supports this anecdotal evidence and finds that registered

nurse workforce participation rates are countercyclical—increasing at times of recession and decreasing during times of expansion. The relatively high elasticity of nursing supply to changes in the economy described by Buerhaus and colleagues is reflected in nursing supply data in North Carolina.

There are essentially two ways nurses can re-enter practice in North Carolina after being out of the workforce:

- 1) They can move from inactive to active licensure status by reinstating their license with the North Carolina Board of Nursing.
- 2) If they have let their license lapse and have been out of practice for more than five years, they can take a nurse refresher course and re-enter the workforce.

When data on the number of nurses reinstating their licenses in the past six months was compared to the same six month period a year earlier, there was no change for RNs and a slight downward trend for LPNs (see Table 1).

Table 1.
Nurses Reinstating Licenses, North Carolina

	October 1, 2007- March 31, 2008	October 1, 2008- March 31, 2009
Registered Nurses	1,258	1,253
Licensed Practical Nurses	423	382

Source: North Carolina Health Professions Data System with data derived from North Carolina Board of Nursing.

However, when data collected by the North Carolina Area Health Education Centers (NC AHEC) program on the number of nurses enrolling in refresher courses were analyzed, the data revealed a dramatic increase after the economic downturn hit in 2008 (see Figure 4).

The data in Figure 4 reflect nurses enrolled in both the didactic and clinical components of the nurse refresher course. Both components are required to reactivate a lapsed or inactive license. The didactic component alone is often taken by nurses who have active licenses and who want to re-enter the workforce after having been out of the workforce for more than five years. An examination of monthly data for the past 18 months revealed that the nurses who were enrolled in the didactic component of the program increased sharply just as the economic downturn really hit in October of 2008 (see Figure 5).

The implication to be drawn from these data is that there has been a recent increase in the supply of nurses re-entering the workforce after an extended absence. Nurses, more than other health professionals, fluidly move in and out of the workforce in reaction to economic downturns. However, as evidenced from the past and from analyses conducted by Buerhaus and colleagues, the imbalance in the labor market toward a slight oversupply is a temporary fluctuation. As in the case of allied health employment, population growth and the aging of the population will keep the demand for nursing

services relatively stable during the recession and once the housing and stock markets recover, the slight increase in the supply of nurses will disappear. Thus, while it is tempting in the context of current budget constraints to decrease investments in nursing education, North Carolina will likely face an excess demand for nurses once the economy begins to expand again.

Institutional Rigidities and Lag Effects in Workforce Supply

An important feature of the positive correlation between health care employment and GDP is that employment increases lag behind economic expansion. Using time-series data from multiple countries over a 25-70 year timespan, Cooper and colleagues demonstrated that this lag effect was about five years for overall health employment and 10 years for increases in physician supply.¹² These lags are due in part to institutional rigidities in the market. Even if a rise in GDP results in an immediate increase in health care utilization

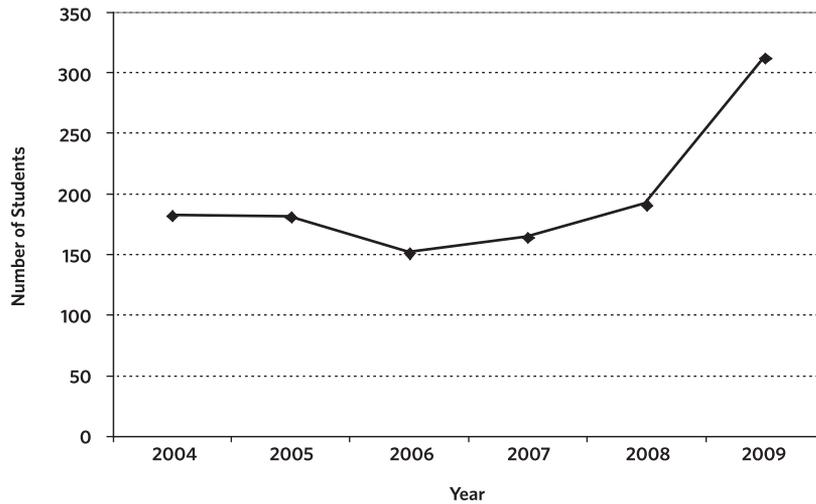
(i.e., people buy more health care because they can now afford it) which in turn increases the demand for physicians, it takes years to train physicians and the educational spigot cannot be switched on in a short timeframe—new medical schools need to be built or existing schools need to be expanded to increase physician output.

During an economic downturn, health care utilization decreases (particularly for elective procedures) which, in turn, decreases the

demand for physicians, dentists, pharmacists, and other providers. Despite market signals of a slowing demand, labor supply does not quickly adjust. This is because health professionals who were already in the educational pipeline before the recession hit continue to graduate. Health professionals who are already in the workforce may increase the number of hours they are working or delay retirement. Together, these effects work to temporarily increase the effective labor supply. In such a labor market, health professionals may not find jobs in their preferred practice specialty, geographic location, or employment setting. The short-term increase in supply results in a workforce that is better diffused among regions and employment settings that had trouble attracting personnel before the recession hit.

Another element of rigidity in the labor market is that health professionals like physicians, pharmacists, and dentists are licensed, and it is licensure boards that regulate entry into the profession. Health professionals must demonstrate the required level of competence and education to become licensed to practice, and even when professionals are not actively working the profession, they most often maintain licensure. As the nursing data in Table 1 shows, this makes it difficult to use licensure data to identify the number of professionals who have lost employment during the recession. Also, because the content of a licensed health professional's practice is determined by regulation, employers cannot easily

Figure 4.
Total Students Enrolled in Nurse Refresher Courses, 2004-2009



Source: North Carolina Health Professions Data System with data derived from the North Carolina AHEC Program.

shift tasks from higher cost to lower cost workers during difficult economic times. So, while to some extent nurse practitioners and physician assistants can backfill tasks previously undertaken by physicians, their substitution is limited due to regulation. Similarly, the relatively limited scope of practice for dental hygienists and pharmacy technicians makes it impossible to substitute them for dentists and pharmacists respectively.

The education and regulation system of health professionals, like physicians and dentists, buffer these professions from

fewer people have the resources with which to purchase health care services. Before the recession, patient admissions to North Carolina hospitals were increasing at about 2-3% per year. Since the recession began, patient admissions have flattened to a zero growth rate, with some hospitals experiencing a decline in admissions. In the outpatient setting, patients are putting off physician visits, filling only those prescriptions that are most important to manage their illnesses, and even postponing non-elective procedures.^{13,14}

As the demand for health care has decreased, employment growth has slowed, but the state has not shed health care jobs at the same rate as in non-health care sectors. Even though payroll and benefits are generally about 50% of the average health care organization's total costs, hospitals and other facilities have more often chosen payroll saving devices such as pay cuts and furloughs to manage costs rather than laying off workers.

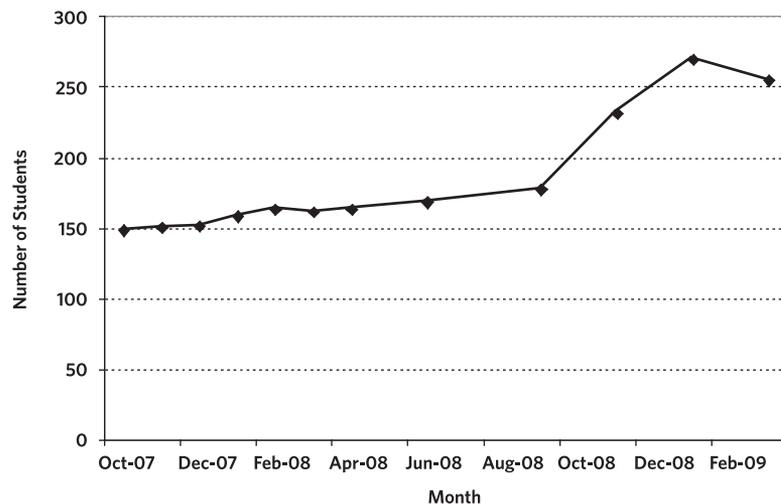
On the supply side, historical trends suggest that allied health employment will likely be relatively stable, and physician and dentist supply will remain insulated from large-scale decreases in employment. By contrast, nursing supply has increased significantly because individuals have returned to the workforce after extended absences, and some nurses already in the workforce have increased their hours or delayed retirement. These factors have created a temporary oversupply of nurses in the short-term which will likely disappear as the economy recovers. A benefit of this

large-scale changes in supply in reaction to an economic downturn. By the time the market signals of an economic downturn are felt, the economy recovers and overall supply remains relatively unchanged. This is in contrast to most allied health professionals and nurses who have shorter training periods and more limited scopes of practice. Movement in and out of the workforce for these health professionals is more frequent and thus fluctuations in supply are more responsive to economic signals.

Summary of Findings and Conclusions

Anecdotal evidence, as well as data from the North Carolina Hospital Association, suggest a slackening in the demand for health care services in the state. As more people lose their jobs, the numbers of uninsured increases and

Figure 5.
Number of Students Enrolled in Didactic Component of Nurse Refresher Course by Month, October 2007-February 2009



Source: North Carolina Health Professions Data System with data derived from the North Carolina AHEC Program.

temporary increase in supply is that the distribution of nurses across North Carolina will likely improve as new graduates seek employment outside their preferred geographic locations and employment settings. As more recent data become available, it will be interesting to see whether the supply of nurses in North Carolina's rural and health professional shortage areas has increased and whether those employment settings that have traditionally struggled to find enough qualified personnel—long-term care and mental health facilities for example—have experienced an upturn in supply.

The data presented in this analysis show that the sky is not falling for health care employment, contrary to some news reports. Health care employment has been stable during the economic downturn and has even increased slightly in the last two months. Even though the state's unemployment rate is hovering around 11%, five of our largest medical systems recently reported that they are having difficulty filling 900 vacancies, and one hospital recently opened new units as part of an expansion that is projected to add 1,400 new jobs.^{15,16} State policymakers need to recognize that the short-term increase in the supply of physicians and nurses as well as other health professionals is not evidence that workforce shortages have been solved. These effects are temporary, and it would be extremely misguided to delay or cut back on educational

investments in the mistaken belief that these trends constitute some sort of new health workforce reality. Instead, we need to use this time to increase enrollment in the health professional educational pipeline, encourage workers to settle in rural and underserved communities, and promote health careers in the allied health professions which historically have had difficulty attracting competitive applicants.

The big unknown is what will happen with health care reform. If reform legislation passes that grants health insurance coverage to the approximately 1.8 million North Carolinians who are currently uninsured,¹⁷ this will rapidly change the health workforce landscape. As the Massachusetts health reform example demonstrates, providing insurance coverage to large portions of the population who were previously uninsured significantly increases the demand for primary care services.¹⁸ The fact that health care reform in some configuration could happen in the not too distant future presents an even larger imperative to build a sustainable and adequate health professional supply in the state. **NCMJ**

Acknowledgements: *The authors would like thank Gail Mazzocco, clinical associate professor and statewide AHEC nursing liaison, for the data on nurse refresher enrollment and Cindy Thomas, data operations specialist at the North Carolina Board of Nursing.*

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