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# North Carolina MEDICAL JOURNAL

*a journal of health policy analysis and debate*


## Can We Be Healthy While Our Economy is Unhealthy?

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*Projected affiliation in late 2009.

# Health Reform: An Invitation to Contribute to the Discussion

The run up to the November election brought a lot of attention to health reform. Both major candidates presented relatively complete plans for major changes in the way we pay for health care and how we structure our health care delivery system. The appointments by President Obama point to a sustained effort to implement real change. This has prompted many experts and representatives of patients, providers, and payers to propose their own plans for reform. The *North Carolina Medical Journal* will be taking a part in this discussion with a section of the *Journal* devoted to articles and analyses that focus on reform. We would like to invite submissions that help the readership of the *Journal* understand why reform may be necessary, how the system should be changed, and how national reform will affect North Carolina. We invite scholarly discussions and analyses as well as commentaries that help illustrate the benefits as well as the problems that comprehensive change will bring to the costs, quality, and outcomes of health care and to the health of the people of North Carolina. The fourth installment of this series starts on page 307 of this issue of the *Journal*.

North Carolina MEDICAL JOURNAL

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### The North Carolina Institute of Medicine

In 1983 the North Carolina General Assembly chartered the North Carolina Institute of Medicine as an independent, quasi-state agency to serve as a nonpolitical source of analysis and advice on issues of relevance to the health of North Carolina's population. The Institute is a convenor of persons and organizations with health-relevant expertise, a provider of carefully conducted studies of complex and often controversial health and health care issues, and a source of advice regarding available options for problem solution. The principal mode of addressing such issues is through the convening of task forces consisting of some of the state's leading professionals, policymakers, and interest group representatives to undertake detailed analyses of the various dimensions of such issues and to identify a range of possible options for addressing them.

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## &
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Director, Centers for Disease Control and Prevention

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**October 8, 2009, 9 am - 4 pm**
**Check-in begins at 7 am**
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**304 N. Greene Street**
**Greensboro, North Carolina**

This year's conference will highlight our partnership with the North Carolina Institute of Medicine (NCIOM). The conference will feature the release of *Prevention for the Health of North Carolina: The North Carolina Prevention Plan*. The plan contains evidence-based strategies to improve population health in North Carolina. Breakout sessions will focus on specific health promotion strategies and select health issues that will be part of the North Carolina 2020 Health Objectives.

For more information and to register:
www.healthycarolinians.org
(919) 707-5150
Pre-registration is required

North Carolina
# MEDICAL JOURNAL

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*Published by the North Carolina Institute of Medicine and The Duke Endowment*



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**Managing Editor:** Christine Nielsen, MPH, 919.401.6599, ext. 25 or christine_nielsen (at) nciom.org. **Assistant Managing Editor:** Phyllis A. Blackwell, 919.401.6599, ext. 27 or phyllis_blackwell (at) nciom.org. **Graphic Design:** Angie Dickinson, angiedesign (at) windstream.net. **Printing:** The Ovid Bell Press, Inc, 1201-05 Bluff Street, Fulton, MO 65251, 800.835.8919. **Annual Subscriptions (6 issues):** Individual $42.80 ($40 plus 7% NC tax). Institutional: $64.20 ($60 plus 7% NC tax).

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# Tarheel Footprints in Health Care

*Recognizing unusual and often unsung contributions of individual citizens who have made health care for North Carolinians more accessible and of higher quality*

## Henry "Buster" Humphreys
## Changing the Ways People Work

During the past several years, Henry "Buster" Humphreys has been instrumental in bringing together Beaufort County's economic developers, school superintendents, community college presidents, and other private and faith-based community groups to assess the workforce needs of the growing health care industry. By partnering Beaufort's Workforce Development Board with Beaufort County JobLink and the Adult Dislocated Worker Program, Mr. Humphreys has engaged the group to find ways to promote health care careers for recently laid-off or out of work employees in the area.

"As a retired businessman," Mr. Humphreys once said, "you have to make a profit, or you have no mission." After the National Spinning plant closed in 1993 in Washington, North Carolina, almost 400 workers lost their jobs and were looking to go into other fields. Mr. Humphreys was frustrated that there was not a group actively engaged in trying to help shape the county's workforce. By constructing partnerships with key organizations and individuals, Mr. Humphreys created a group to come together and use their expertise to formulate better answers for displaced workers. Since Mr. Humphreys spent significant time involved with the Pitt Memorial Hospital Board of Trustees and University Health Systems, he was able to anticipate Beaufort County's future health care needs. Realizing the importance of combating health care professional shortages, he encouraged groups in the area to start funneling workers into this growing occupational field.

Mr. Humphreys' strategically designed partnership between Beaufort's Workforce Development Board, Beaufort County JobLink, and the Adult Dislocated Worker Program has retrained hundreds of displaced workers who were formerly employed in the manufacturing and textile industries and prepared them for the health care field. The program provides support for tuition, books, uniforms, physicals, travel reimbursement, and childcare for individuals so they can focus on their studies and not have to worry about the financial aspects of retraining. JobLink case managers are available to workers to help walk them through the process and provide support during their transition into a different career field. In some cases, tutors are assigned to individuals, and support groups are arranged informally to offer workers the chance to talk about their experiences and express their feelings.

Currently, out of 153 people in the retraining program in Beaufort County, 100 are enrolled in the medical field. The county offers medical retraining programs for two-year RN or LPN degrees and select medical lab professions. Workers entering these programs have been predominately female, but during the past six months there has been an increase in the number of men going into nursing. Travis Harbridge is one example of a displaced worker taking advantage of the resources around him and making a career transition to the medical field. Three years ago, after being laid off by DSM (one

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## PEER-REVIEWED ARTICLES



## HEALTH REFORM IN NORTH CAROLINA



## SPECIAL ARTICLE



## POLICY FORUM
## *Can We Be Healthy While Our Economy is Unhealthy?*



## COMMENTARIES



## DEPARTMENTS

*continued from page 292*

of the pharmaceutical companies in the area) Mr. Harbridge decided to go into the nursing program at one of the local community colleges. Currently, he is working at Pitt Memorial Hospital and is very pleased with his work environment and his job choice.

When asked about Mr. Humphreys, a friend of his, Victor Rodgers, manager of the Beaufort County JobLink Center, says, "Buster is a character, and by that I mean there is not a problem that he won't engage in without a smile. He is well-known by business leaders and throughout the community. He's driven and he wants results. Even in his early 80s he has more energy than folks twice as young as he is. Buster also has a huge heart and is driven by the poverty and the lack of opportunities that are endemic to rural communities. He's as much interested in curbing and ending poverty in this area as he is trying to find jobs for people. He goes across the spectrum to motivate individuals because he realizes how vital of a resource they are for the future. I consider him as someone to aspire to in terms of being successful in both business and the community."

At a time in our economy when job losses are occurring throughout the state, primarily in textiles and manufacturing, retraining workers to go into the health care field is important for the continued growth of this industry and to prevent health care workforce shortages The vision and work of Mr. Humphreys is a model for all communities experiencing the same situations to follow.

Buster Humphreys, who was born in Johnson City, Tennessee, graduated from Georgia Tech in 1951 with a bachelor's degree in industrial management and athletic letters in baseball and football. For almost 30 years he worked for National Spinning, the largest national textile plant in eastern North Carolina, and in 1997 he retired from his position as the chief executive officer. In the past two decades, Mr. Humphreys has served on boards for Pitt County Memorial Hospital, University Health Systems, and National Spinning. Currently, he serves on the boards for the Beaufort County Economic Development Commission, Beaufort Community College, and the Beaufort County Committee of 100.

*Contributed by Lindsey E. Haynes, a graduate student in the Department of Health Policy and Management, University of North Carolina at Chapel Hill, Gillings School of Global Public Health, with the assistance of Victor Rodgers, manager of the Beaufort County JobLink Center.*

# Practices for Sale

*Bringing Medical, Dental, and Health-Care Related Buyers and Sellers Together.*

| *Type Practice* | *Location* | *Practice Price* | *Real Estate* | *Total Listing Price* |
|---|---|---|---|---|
| **Urgent Care** | **Johnson County, NC** | **$185,000** | **Leased** | **$185,000** |

This established urgent care is located about 40 minutes South of Raleigh. Fully equipped with X-Ray and the staff is seasoned. The owner has another practice out of the area and wishes to sell this location.

| | | | | |
|---|---|---|---|---|
| **Urgent Care** | **Greensboro, NC** | **$350,000** | **Leased** | **$350,000** |

Upscale practice serving patients in the Triad for about 15 years. Medical equipment includes X-Ray, CBC and several up-fitted exam rooms with Welch Allyn Otoscopes. Consistent patient flow including walk-ins and corporate accounts. Physician is looking at retirement.

| | | | | |
|---|---|---|---|---|
| **Urgent Care** | **Wake County, NC** | **$1,005,000** | **$875,500** | **$1,880,000** |

Established in the heart of Wake County you will find the patient visits per day averaging 40 to 65 plus and a second provider is really necessary. Equipped to treat a volume of walk-ins, you will find this primary care practice has X-Ray, extensive phone and wireless communication devices, numerous desk top and lap top computers, in-house electronic claims filing, electronic patient records, lab and a terrific layout allowing nice patient flow and exceptional parking.

| | | | | |
|---|---|---|---|---|
| **Urgent Care** | **South of Raleigh, NC** | **$2,900,000** | **$1,400,000** | **$4,300,000** |

Full service walk-in practice seeing family, pediatric and women's corporate patients. A typical day will have this practice treating 75 to 120 patients. X-Ray, Lab and experienced staff makes this one of the thriving practices serving patients from Raleigh to Fayetteville.

| | | | | |
|---|---|---|---|---|
| **Internal Medicine** | **Greenville, NC** | **$600,000** | **$160,000** | **$760,000** |

This primary care practice is a medical cornerstone of the community. Serving metropolitan Greenville and surrounding areas, you will be impressed with the 35 to 45 consistent patient volume. Owning physician is willing to stay up to one year to assist with smooth ownership transfer.

| | | | | |
|---|---|---|---|---|
| **Women's Practice** | **Wake County, NC** | **$725,000** | **$1,750,000** | **$2,475,000** |

Primary care with a woman's touch. This is an established and well known practice in the heart of Wake County. Totally upscale with new computer system, exceptional staff and the physician willing to stay for several months assuring a smooth transition. Two story building fully leased to MD's with excellent cash flow.

| | | | | |
|---|---|---|---|---|
| **Neuropsychological** | **Charlotte, NC** | **$640,000** | **Leased** | **$640,000** |

This highly regarded practice offers psychological services that include diagnostic, rehabilitation, behavior medicine and specialized programming to include day treatment for brain injured adolescents and adults. Referral base includes hospitals, doctors, insurance companies, attorneys and case managers.

| | | | | |
|---|---|---|---|---|
| **Internal Medicine** | **Durham County, NC** | **$176,000** | **$165,000** | **$341,000** |

This practice is a main-stay of the community. The retiring physician is willing to stay for a few days per week to mentor and help with a deliberate transition. Currently treating Internal and Gastrological patients as the owning physician is double boarded.

| | | | | |
|---|---|---|---|---|
| **Orthopaedic** | **Tidewater area, VA** | **$300,000** | **Leased** | **$300,000** |

This hospital based Orthopaedic and Sports Medicine practice is established with X-Ray, experienced staff and internal electronic billing. Physician is retiring but willing to stay for several months to assist the new owner.

| | | | | |
|---|---|---|---|---|
| **Family Practice** | **Wake County, NC** | **$190,000** | **$492,500** | **$682,500** |

Spacious and well appointed family practice has been treating patients in the Raleigh and surrounding area for several years. Currently served by an MD and PA with a seasoned staff. Consistent patient flow in a well established medical location.

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PEER-REVIEWED ARTICLE

# Concordance Between Self-Reported Race/Ethnicity and that Recorded in a Veteran Affairs Electronic Medical Record

*Natia S. Hamilton, MA; David Edelman, MD, MHS; Morris Weinberger, PhD; George L. Jackson, PhD, MHA*

## Abstract

***Background:*** *Using information from electronic health records (EHRs) to examine racial/ethnic health disparities is increasingly common. This study examines the degree of concordance between administratively recorded race/ethnicity and the criterion standard of self-reported race/ethnicity at a tertiary care Veterans Affairs Medical Center (VAMC) in North Carolina.*

***Methods:*** *We compared self-reported race among 204 respondents to a cross-sectional mailed survey of patients with diabetes conducted in 2006-2007 to the race/ethnicity recorded in the EHR. Concordance was defined as the percent agreement between self-reported and administratively-reported race.*

***Results:*** *The overall response rate to the survey was 68.9% (204 of 296). Of the 204 respondents, 32 (15.7%) reported a different race/ethnicity from the race/ethnicity reported in the EHR. Misclassification resulted from either the patient reporting a race/ethnicity and having the information missing in the EHR (9.3% of respondents) or the EHR having a different race/ethnicity listed than reported by the patient (6.3% of respondents).*

***Limitations:*** *This study was conducted at one VAMC.*

***Conclusions:*** *While we found misclassification of race/ethnicity in the EHR, the level of discordance is smaller than previously reported in the Veterans Health Administration. Despite this, efforts still need to be made to ensure correct information is included in the EHR.*

***Keywords:*** *race/ethnicity; electronic health records; United States Department of Veterans Affairs*

Racial/ethnic disparities are defined as the disproportionate burden of diseases and other adverse health conditions across specific populations.[1-3] Retrospective studies often use race extracted from administrative databases to identify and characterize disparities. An important source of administrative data is the electronic health record (EHR). One national survey revealed that 78% of hospitals systematically collect patient demographic information using EHRs.[4] The Veterans Health Administration (VHA) Computerized Patient Record System (CPRS) is one of the most advanced EHRs in the world and is used extensively to conduct research on health disparities.[2,5-8]

Although data on race/ethnicity are readily available in EHRs, concerns have been raised about their accuracy.[9-15] For example, in an analysis of race/ethnicity for 730,149 patient surveys in 1999, the concordance was only 60% when comparing VHA EHR-recorded and patient self-reported data on race/ethnicity. This low concordance resulted largely from missing data on race/ethnicity for 36% of patients. When race/ethnicity was recorded, concordance was greater than 90% for whites and African Americans and greater than 80% for Hispanics; however there was lower concordance for Asians and Pacific Islanders (70%) and Native Americans

**Natia S. Hamilton, MA**, is a research assistant at the Center for Health Services Research in Primary Care at the Durham Veterans Affairs Medical Center. She can be reached at natia.hamilton (at) va.gov.

**David Edelman, MD, MHS**, is a senior research associate and staff physician at the Center for Health Services Research in Primary Care at the Durham Veterans Affairs Medical Center and an associate professor in the Division of General Internal Medicine at the Duke University Medical Center.

**Morris Weinberger, PhD**, is a senior research career scientist at the Center for Health Services Research in Primary Care at the Durham Veterans Affairs Medical Center and the Virgil N. Slee distinguished professor of health care quality management in the Department of Health Policy and Management at the University of North Carolina at Chapel Hill Gillings School of Global Public Health.

**George L. Jackson, PhD, MHA**, is a research health scientist and epidemiologist at the Center for Health Services Research in Primary Care at the Durham Veterans Affairs Medical Center and an assistant professor in the Division of General Internal Medicine at the Duke University Medical Center.

(20%).[10] Misclassification and missing data on race/ethnicity can thwart efforts to monitor and reduce health disparities, which in turn negatively impacts the overall quality of care delivered within a system.[12]

The VHA, the largest integrated health care system in the United States, has recently implemented policies to improve data collection related to race/ethnicity by focusing more on self-report measures[16] and encouraging greater attention of administrators to reduce missing data.[13] Changes in the process of collecting information on race/ethnicity were the result of changes in the Office of Management and Budget (OMB) Directive 15, Race and Ethnic Standards for Federal Statistics and Administrative Reporting. First adopted in 1977, OMB Directive 15 was established in response to a need to provide, collect, and use compatible, non-duplicated, and exchangeable racial/ethnic data among federal agencies.[17] In 1997, the OMB released revised standards for the collection of information on race/ethnicity and mandated compliance by federal agencies by January 2003. The most significant change that occurred due to this directive was that self-identification became the preferred data method for reporting race.[18] In 2003, the Department of Veterans Affairs (VA) adopted self-report as the preferred data collection method for information on race/ethnicity. It has allowed people to report multiple races for an individual, in compliance with changes to OMB Directive 15.[16] In response to the change in data collection methods, the goal of this study is to examine the degree of concordance between self-reported race/ethnicity and race/ethnicity information recorded in CPRS for patients with diabetes at one tertiary care VAMC.

## Methods

These data came from a cross-sectional mailed survey of primary care patients with diabetes to assess their experiences with the VAMC where they received primary care for their diabetes.[19] The study was approved by the medical center's institutional review board.

## Eligible Patients

The study was conducted in one primary care clinic at an academically-affiliated VAMC. Patients were eligible if they met the following criteria: (1) enrolled in a primary care clinic and had an assigned primary care provider in that clinic; (2) attended three or more appointments at the VAMC over the past two years; (3) had a primary care visit scheduled with the study clinic in the next six months; and (4) had filled one or more prescriptions in the last six months for insulin and/or an oral hypoglycemic agent. These criteria were intended to identify patients who received their primary diabetes care from a VAMC. From the 1,557 eligible patients identified, we drew a random sample of 300 patients for the survey.

## Measures

***Self-reported race/ethnicity:*** In the survey, respondents were asked to indicate race/ethnicity using the following categories: (1) American Indian or Alaskan Native; (2) Asian; (3) Black or African American; (4) Native Hawaiian or Pacific Islander; (5) White (Caucasian); and (6) Other. Respondents also had the option to choose whether or not they were of Hispanic origin.

***EHR classification of race/ethnicity:*** Data on race/ethnicity were gathered from CPRS during the determination of the survey sampling frame. In the VA, race and ethnicity are obtained at the time of registration intake. Prior to January 1, 2003, a patient's race/ethnicity was based on the observation of the VA employee registering the individual. Since that time, the preferred method of collecting this information has been patient self-report to VA administrative staff.[16] VHA EHRs racial categories are: (1) American Indian or Alaska Native; (2) Asian; (3) Black or African American; (4) Native Hawaiian or Pacific Islander; (5) White (Caucasian); (6) Other; (7) Declined to answer; or (8) Unknown.

## Data Analysis

In this study, concordance refers to the agreement of classification for self-reported race/ethnicity and record system race/ethnicity. A patient was considered to have concordant race/ethnicity information if the response to the survey matched the race/ethnicity recorded in CPRS. The patient was considered to have misclassified race/ethnicity information if the response to the race/ethnicity questions in the survey was different than that in CPRS. Misclassified race/ethnicity was categorized as two possibilities: 1) information was unavailable in CPRS because either the patient declined to answer or the information was completely missing/unknown; or 2) the race/ethnicity indicated in the survey was a different race/ethnicity indicated in the CPRS.

## Results

During the process of obtaining the random sample and mailing of the survey, four patients died. Of the 296 patients receiving the survey, 204 (68.9%) surveys were completed and returned. Two patients did not indicate a race/ethnicity and their race was classified as "unknown." Reflecting the veteran population in North Carolina,[20] the sample was predominantly white (57.4%) or African American (37.3%). Respondents had a mean age of 65.0 years. Virtually all (98%) were men, 29.5% reported no non-VA health insurance, and 21.2% reported less than a high school education (see Table 1).

There were a total of 32 (15.7%) survey respondents without concordant race/ethnicity information in the VA EHR. Race/ethnicity was classified as "unknown/missing" by the EHR for 19 (9.3%) of the 204 survey respondents. The remaining 13

(6.3%) survey respondents with misclassified race/ethnicity reported a race/ethnicity that was different than that reported in the EHR.

Concordance reflects the agreement between self-reported race/ethnicity and race/ethnicity information reported in the EHR (see Table 2). The self-reported rows indicate the number of patients per race/ethnicity that responded to the survey. The EHR columns indicate the percentage agreement compared to the self-report measure. For example, this study found that out of 76 individuals who indicated on the survey that they are African American, 93.4% had an indication in the EHR that they are African American. In other words, the concordance between the two sources among African Americans is 93.4%. Percentages in each self-reported race/ethnicity row add to 100%; EHR columns do not add to 100%.

## Discussion

Accurate classification of race/ethnicity in EHRs is important because it documents health disparities and serves as the basis for monitoring the effect of strategies to reduce those disparities.[4] We compared the consistency of EHRs and self-reported race/ethnicity among veterans receiving primary care at VAMCs. The VA is an important venue for such a study because of its sophisticated EHR.

We found that one in six (15.7%) respondents had race/ethnicity recorded in the EHR that differed from patient self-report. Although misclassification between the two sources was identified, the rate is far smaller than the 40% identified in administrative data from across the VA health care system in 1999. Furthermore, only 9.3% of individuals in the current study were classified as "unknown" in the EHR, compared to 36% across the VA health care system in 1999.[10] Historically, problems with the accuracy of race/ethnicity data in VA EHRs may have resulted from

**Table 1.**
**Characteristics of Patients Included in the Final Analysis (N=204)**

| Characteristic | Mean (SD) or Percent |
|---|---|
| Race (self-reported) | |
| White (non-Hispanic) | 57.4% |
| African American (non-Hispanic) | 37.3% |
| Asian | 0.0% |
| American Indian or Alaska Native | 2.5% |
| Native Hawaiian/Pacific Islander | 0.0% |
| Other | 2.0% |
| Unknown | 1.0% |
| Ethnicity (self-reported) | |
| Hispanic | 0.5% |
| Age (years) | 65.0 (10.6) |
| Gender (male) | 98.0% |
| No non-VA health insurance | 29.5% |
| Less than a high school education | 21.2% |

**Table 2.**
**Concordance Between Self-Reported Race/Ethnicity and that Reported in the Electronic Health Record (N=204)**

| | Electronic Health Record | | | | |
|---|---|---|---|---|---|
| **Self-reported**[a] | White (non-Hispanic origin) | African American (non-Hispanic origin) | American Indian or Alaska Native | Native Hawaiian/ Pacific Islander | Unknown[b] |
| White (non-Hispanic origin) (n=117) | **85.5%** | 0.0% | 0.0% | 1.7% | 12.8% |
| African American (non-Hispanic origin) (n=76) | 1.3% | **93.4%** | 0.0% | 0.0% | 5.3% |
| American Indian or Alaska Native (n=5) | 0.0% | 80.0% | **20.0%** | 0.0% | 0.0% |
| Other (n=4) | 75.0% | 25.0% | 0.0% | 0.0% | 0.0% |
| Unknown (n=2) | 0.0% | 50.0% | 0.0% | 50.0% | **0.0%** |

a Possible self-reported categories also included Asian, Hispanic origin, and Native Hawaiian/Pacific Islander (non-Hispanic origin); however no one indicated any of these categories.

b A patient was also counted as unknown if the EHR had no race information or indicated that the patient declined to answer.

Table notes: Percentages in rows (self-reported categories) equal 100%. Bold indicates level of agreement between the two sources.

reliance on observation of race/ethnicity,[16] which is still a common practice among hospitals in the United States.[4] The increased level of concordance we observed could be explained by the national VA and OMB policies implemented to improve the completeness and accuracy of race/ethnicity data.

In regard to concordance for specific racial/ethnic groups, African Americans and whites have greater concordance than any other racial/ethnic groups. This is consistent with findings previously reported both in and outside of the VA.[9,10,14,21] This similar finding across studies indicates that missing data on race/ethnicity is likely not misclassified at random. Researchers should be aware that while classification of race/ethnicity in the VA may be improving, studies focusing on the health of patients who are not non-Hispanic, African American, or white may be especially vulnerable to misclassification bias.

There are important limitations and considerations for this study. The study was conducted at a single VAMC among primary care patients with diabetes. These patients have kept visits at the VAMC and thus provided multiple opportunities to have correct data in the EHR. Concordance may well be lower among veterans who receive care less frequently at VAMC. Also, we were unable to assess concordance or information for patients who did not respond to the survey. Unfortunately, there were not enough non-Hispanic/non-whites or non-Hispanic/non-African Americans included in the sample to be able to make more of a definitive statement regarding the degree of race/ethnicity information concordance for patients in these "other" racial/ethnic groups. However the percentage of patients with a given self-reported race/ethnicity in this study is similar to the VA estimate for a population of all veterans in North Carolina, which indicates that 97.8% of North Carolina veterans are African Americans and whites (Caucasians) combined, while only 2.2% are comprised of non-Hispanic/non-whites or non-Hispanic/non-African Americans.[20]

The high degree of racial/ethnic disparities in the process and outcomes in health care continue.[1-3,22,23] Our need to understand the nature of these disparities, monitor interventions aimed at addressing disparities, and provide culturally competent care requires valid information on race and ethnicity to be recorded in the medical record.[24] Evidence from this study suggests that national efforts by the VA to improve completeness and accuracy of data on race/ethnicity may have been successful. These data will be critical as the VA continues to develop strategies to reduce or eliminate disparities in health care related to race/ethnicity. **NCMJ**

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***Disclaimer:*** The views expressed in this article are those of the authors and do not necessarily reflect the position or policy of the Department of Veterans Affairs of the United States government.

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PEER-REVIEWED ARTICLE

# Mission Hospital's Code Stroke Team:
## Implications for an Aging Population

*Reid Taylor, MD; Cindy Benton, MSN, FNP-C; Amy Buckner, RN, BSN; Robin Jones, BSN, CNRN; Alex Schneider, MD*


## Abstract

***Objective:*** *To evaluate the success of an acute stroke program designed to streamline the evaluation and treatment of acute ischemic stroke patients, with particular regard to the risk of symptomatic intracerebral hemorrhage and discharge disposition based on age in those patients treated with acute stroke intervention.*

***Methods:*** *Retrospective review of patients at Mission Hospitals in Asheville, North Carolina from January 2006 to October 2007 with sudden neurological deficit identified within six hours of onset. Data were obtained from Mission Hospital's in-house spreadsheet database and the American Stroke Association's "Get With the Guidelines" (GWTG) database. Patients were evaluated by a code stroke protocol that included early involvement of stroke-treating neurologists. A chart review of all code stroke patients established the number of patients treated with acute intervention, disposition, and follow-up information.*

***Results:*** *Over the 22-month study period, there were 568 code stroke evaluations. Of all code stroke patients, 27.1% (n=154) were treated with an acute intervention for stroke, usually intravenous thrombolysis. We analyzed treated patients on the basis of age, with the younger age group (YAG) being 79 years or younger and the older age group (OAG) being 80 years or older. Of the patients treated with acute intervention, 58 (37.7%) were OAG. Discharge disposition varied with age: 42.7% of YAG patients went home alone or with home health assistance, whereas only 20.7% of OAG patients went home alone or with home health assistance. The inhospital mortality rate was 10.4% for YAG patients and 22.4% for OAG patients. Symptomatic intracerebral hemorrhage was noted in one patient under age 80 and one patient over age 80. This is a symptomatic hemorrhage rate of 1.3%.*

***Limitations:*** *This was a retrospective, observational, post hoc analysis without a standardized follow-up program.*

***Conclusions:*** *Our Code Stroke Team, with an inpatient neurology service, increased the proportion of stroke patients treated with acute intervention benchmarking with other GWTG participating hospitals in this time period. Aggressive stroke treatment with thrombolytic therapy in patients over age 80 did not show an increased rate of symptomatic intracerebral hemorrhage.*


***Keywords:*** *stroke teams; aging population; symptomatic intracerebral hemorrhage; acute stroke intervention; thrombolysis*

Stroke is the third leading cause of death in the United States.[1] Tissue plasminogen activator (tPA) is the only FDA-approved drug therapy for acute ischemic stroke. Thrombolysis with tPA was approved for acute stroke in 1996, but this therapy is limited to patients who present within three hours of symptom onset.[2] A mechanical clot retrieval system is also FDA-approved.[3] Symptomatic intracerebral hemorrhage (SICH) is a potentially fatal complication of thrombolysis. Nationwide, less than 2% of ischemic stroke patients are treated with tPA.[4] Several reasons have been offered to explain the low acute treatment rates in acute ischemic stroke. These include lack of public awareness about stroke symptoms, reluctance of neurologists to be involved in acute stroke therapy, resistance of emergency physicians to utilize thrombolytic therapy in stroke, and poor coordination of services when the patient does arrive with stroke symptoms.[5] In North Carolina, several issues regarding stroke care in a community teaching hospital have been reported. These issues include reliance on community neurology support, the lack of acute stroke response teams (Code

**Reid Taylor, MD**, is a neurologist with Mission Neurology Services at Mission Hospitals in Asheville, North Carolina. He can be reached at reid.taylor (at) msj.org.

**Cindy Benton, MSN, FNP-C**, is a nurse practitioner with Mission Neurology Services at Mission Hospitals.

**Amy Buckner, RN, BSN**, is the stroke data analyst at Mission Hospitals.

**Robin Jones, BSN, CNRN**, is the coordinator of the Mission Stroke Program at Mission Hospitals.

**Alex Schneider, MD**, is the medical director of the Mission Stroke Program and neurologist with Mission Neurology Services at Mission Hospitals.

Stroke Teams), and the lack of standardized protocols for treatment of acute ischemic stroke.[6] To address these issues, Mission Hospitals in Asheville, North Carolina has made a commitment to improve public education, develop a hospitalist neurology program with a Code Stroke Team, and seek The Joint Commission (TJC) primary stroke center certification. Our acute stroke protocols were reviewed and updated through a multidisciplinary group using published guidelines.[7]

Mission Hospital's updated acute stroke protocol was launched in January 2006, and in November 2007 we reviewed our efforts to date. Mission has utilized the "Get With the Guidelines" (GWTG) program to provide a format for data collection and allow for benchmarking to other hospitals using the same system.[8] The GWTG program is an evidence-based program based on scientific guidelines for in-hospital quality improvement. GWTG stroke data is solely based on discharge principle diagnosis code. Our in-house database is a spreadsheet used to collect the Brain Attack Coalition data points and is driven by code stroke evaluation.[9] The Brain Attack Coalition is a group of professional members and organizations that are dedicated to furthering research, awareness, and treatment of stroke.[10] Code stroke evaluation patients may not have a discharge diagnosis of stroke.

Preliminary review of our patients indicated that we were intervening more frequently than other GWTG hospitals. This is a report on a retrospective, non-randomized, non-blinded case series of acute ischemic stroke patients either in-house or presenting to the emergency department in a community hospital, treated within six hours of symptom onset, and entered into our code stroke log from January 2006 through October 2007. Post hoc analysis of outcomes versus age and stroke severity will be discussed. This study was approved by the Mission Hospital IRB.

## Methods

Mission is a Level II Trauma Center which receives regional referrals from across western North Carolina for specialized care. There are family medicine and obstetrics/gynecology residency programs, but there is no neurology residency program. There are two full-time neurohospitalists as part of a hospital-employed neurology service that includes outpatient neurologists who participate in covering the Code Stroke Team. Discharge facilities include skilled nursing facilities, an acute rehabilitation hospital, and hospice level care.

The Code Stroke Team is multidisciplinary and includes a neurologist, a code stroke nurse, and radiology, pharmacy, and laboratory personnel. The team is available 24 hours a day, seven days a week for acute stroke intervention. The code stroke nurse is a registered nurse from the stroke unit with additional education in acute stroke and certification in performing the NIH Stroke Scale (NIHSS). The reliability of the NIHSS by non-neurologists has been reported.[11] These nurses are on call within the hospital and respond to the bedside of a code stroke patient to facilitate evaluation per our protocol, helping to expedite treatment opportunities in conjunction with the stroke-treating neurologist. By protocol, the Code Stroke Team is notified of all patients with possible stroke symptoms presenting within six hours of symptom onset.

Emergent imaging studies include cranial computerized tomography (CT) with CT angiography (CTA) of the head and neck. In some cases the CTA is omitted due to clinical presentation or renal insufficiency or failure. Both intravenous (IV) and intra-arterial (IA) thrombolysis are considered in acute stroke as well as interventions such as angioplasty or other techniques of endovascular recanalization when deemed appropriate. Our protocol for acute stroke includes the use of standard IV tPA if the patient presents within three hours and with IA tPA/endovascular therapy if the CTA shows a proximal occlusion and the patient presents within six hours. A combined "bridging" approach with IV tPA plus endovascular therapy is considered if the patient presents within three hours and proximal intracranial occlusion is identified.

Our study population was ischemic stroke patients treated with acute intervention identified by review of our code stroke log and through chart review between January 2006 and October 2007. Code stroke patients are emergency room or in-house patients identified by staff as having a neurological deficit within the last six hours and are recorded in our in-house database. Treated acute ischemic stroke patients are a subset of code stroke patients. Treatment decisions are based on chief complaint and emergency evaluation by the Code Stroke Team. As in other reports, our percentage of acute ischemic stroke patients treated with acute intervention (numerator) out of the total number of ischemic stroke patients (denominator) was obtained by using principal discharge International Classification of Diseases, Ninth Revision (ICD-9) codes.[4] Observational post hoc results differentiated outcomes based on age.

Details of all code stroke patients are entered into an in-house database and monitored as part of our continuous quality improvement initiative. The in-house data are entered in a spreadsheet format during admission and after discharge by our data analyst (AB) who provided data management. Data entered comes from a separate code stroke log that includes code stroke evaluation as well as the medical record. Validation is provided by oversight by the code stroke coordinator (RJ). If the patient has a principal discharge diagnosis of stroke the information is also entered into the GWTG database by AB.

In November 2007, we reviewed our database for all ischemic stroke patients treated with acute intervention since the start of our updated acute ischemic stroke protocol in January 2006 through October 2007. The total number of people admitted with ischemic strokes was determined by principal discharge diagnosis code (ICD-9 codes 433.01, 433.10, 433.11, 433.21, 433.31, 433.81, 433.91, 434.00, 434.11, 434.91, and 436). Some code stroke evaluations were cancelled soon after team notification, usually due to time of onset being greater than six hours. Also, we discovered a small group of patients who presented within the six-hour window that were not designated as code stroke. Neither of these groups were included in the full analysis either because they were not

entered into the code stroke log or because their discharge ICD-9 code was not ischemic stroke.

Information on code stroke patients included age, score on the NIH Stroke Scale, and type of intervention. Trained physicians, registered nurses, or nurse practitioners performed the NIH Stroke Scale. Persons of advanced age, those with advance directives, or those living in a facility other than home were not excluded from acute intervention if the stroke symptoms decreased acceptable baseline independence in the opinion of the treating neurologist. Outcomes with respect to NIH Stroke Scale scores and ages were evaluated. NIH Stroke Scale scores were reviewed to determine if outcome at discharge varied with stroke severity. Patients 80 years old or older were classified as the older age group (OAG) with the remaining patients classified as the younger age group (YAG). Previous reports stratified age above and below 80 years.[12,13] Recorded treatment outcomes included discharge disposition, death, and presence or absence of symptomatic brain hemorrhage.

A follow-up CT scan at 24 hours is routine after treatment with IV tPA. All of the 24-hour CT scan reports were reviewed by two of the authors (RT and CB). If there was report of any hemorrhage, the scan was reviewed to confirm hemorrhage and to differentiate petechial hemorrhage from intraparenchymal hemorrhage. The clinical significance of each hemorrhage was determined by chart review. Intracerebral hemorrhage with a clinical decline was defined as symptomatic while intracerebral hemorrhage without clinical decline was defined as asymptomatic.

Discharge disposition was determined by chart review. Patients were classified as returning to home; home with home health such as physical therapy; acute rehabilitation hospital; assisted living facility; skilled nursing facility (SNF); hospice care; death; or other. Since discharge to hospice care implies imminent death, we combined discharge to hospice care and in-house death in our results and defined it as total mortality. Outpatient modified Rankin scores, a standardized scale for measuring disability in stroke patients, were determined by the follow-up neurologist.

## Results

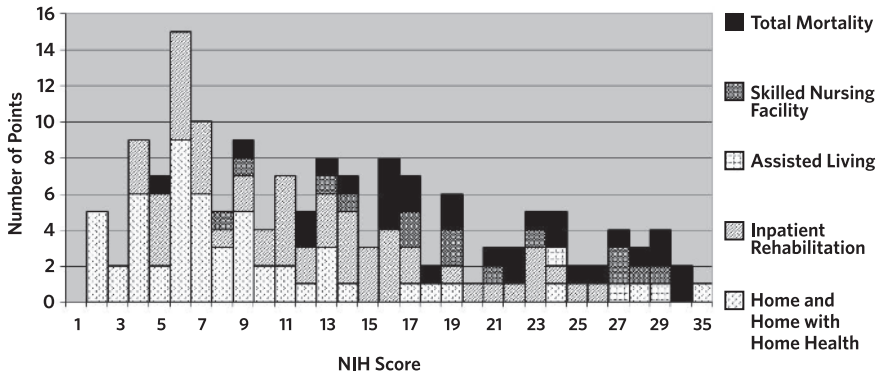
Between January 1, 2006 and October 31, 2007, there were 568 patients evaluated for code stroke. The majority (92.3%, n=524) of those patients came through the emergency department, and the remainder (7.7%, n=44) were in-house patients. This is an average of 25.8 code strokes per month. Of those code stroke patients, 154 (27.1%) were treated with an acute intervention. The reasons for patients not being treated were rapid improvement (33.1%, n=137); onset greater than three hours or uncertain time of onset (23.7%, n=98); CT findings of mass lesion or hemorrhage (16.4%, n=68); seizure at onset or probable seizure at onset (6.0%, n=25); recent surgery, procedure, or stroke (4.6%, n=19); other or unrecorded exclusion (4.6%, n=19); unclear diagnosis (3.6%, n=15); anticoagulation (International Normalized Ratio/INR>1.7) (2.2%, n=9); conversion disorder (1.9%, n=8); patient or family declined (1.9%, n=8); history of gastrointestinal bleeding or other bleeding (1.2%, n=5); and terminal illness (0.7%, n=3). There were 136 (88.3%) patients of the total 154 treated patients who were treated with IV tPA alone, 10 patients (6.5%) were treated with a "bridging" dose of IV followed by endovascular therapy, and eight patients (5.2%) were treated with endovascular therapy alone. The age range for all patients treated was 22-96 years, with a median of 75. The OAG, defined as age greater than or equal to 80, was 37.7% (n=58) of those treated with acute stroke therapy. The age range in the OAG was 80-96 years, and the median age was 85. The YAG, defined as age less than or equal to 79, was 62.3% (n=96) with an age range of 22-79 years and a median age of 67.

The NIH Stroke Scale ranged from 2-35 and the median score was 12. Post hoc evaluation of the 154 treated patients revealed that baseline NIH Stroke Scale of 15 or greater had discharge disposition of death, SNF, or hospice in 23 patients (14.9%), while scores of 14 or less had the same dispositions in only six patients (3.9%) (see Figure 1).

In-hospital mortality overall was 14.3% (n=22). The in-house mortality in OAG was 22.4% (13 out of 58), while the YAG mortality rate was 10.4% (10 out of 96). If patients discharged to hospice are presumed to die soon and those numbers are added to the patients who died in the hospital, there is a total acute mortality rate of 18.8% (29 out of 154) overall, with a rate of 29.3% (17 out of 58) in the OAG and 13.5% (13 out of 96) in the YAG.

The reports of follow-up CT scans on ischemic stroke patients done within 24 hours of acute intervention revealed that 24 patients had descriptions of hemorrhage. Petechial

**Figure 1.**
**Discharge Disposition of all Treated Acute Ischemic Stroke Patients by Initial NIH Stroke Score Between January 2006 and October 2007 (N=154)**



hemorrhage (n=15), parenchymal hemorrhage (n=8), and subarachnoid hemorrhage (n=1) were noted. Hemorrhage rates were 13.2% (18 out of 136) with IV tPA and 33.3% (6 out of 18) for endovascular-treated patients. Those patients with any hemorrhage noted on follow-up CT ranged from ages 60 to 93. The median age was 77. The median age of patients without hemorrhage on follow-up CT was 75. Of the 58 OAG patients, there were nine hemorrhages (15.5%) of any type, while of the 96 YAG patients, there were 15 hemorrhages (15.6%) of any type. The median initial NIH stroke score for all patients was 12 with the median initial NIH stroke score for hemorrhage of any type of 17. A single patient had a cardiac arrest and died without a follow-up CT and was assumed to not have a hemorrhage.

All patients with parenchymal hemorrhage on follow-up CT had large ischemic stroke, but two cases had definite clinical deterioration with the intracranial hemorrhage and were designated symptomatic intracranial hemorrhage (SICH). In one SICH a 65-year-old man presented with an NIH Stroke Scale score of 11 and was treated per protocol with IV tPA. Several hours later he was without a deficit before having an acute clinical change, and CT showed a parenchymal hemorrhage within a basal ganglia infarct. He was discharged to an assisted living facility. The other SICH was an 84-year-old woman who was also treated per protocol with IV tPA. Her presenting NIH Stroke Scale score was nine. She developed a large parenchymal hemorrhage, deteriorated, and died. These two hemorrhages give a rate of 1.3% (two out of 154 treated patients) symptomatic hemorrhages in our ischemic stroke patients with acute intervention.

Five patients were treated with IV tPA beyond 180 minutes, but none were treated beyond 190 minutes. There were no symptomatic hemorrhages in this group, but there was one petechial hemorrhage. In each of the cases the timeline was known, and a clinical decision was made to treat beyond 180 minutes.

Of the 58 patients in the OAG, 12 (20.7%) went home with or without home health, while in the 96 patients in the YAG, 41 (42.7%) went home with or without home health. Discharge to home, with or without home health, was higher in the younger age group. The majority of patients had follow-up with other health care providers and those records were not available to the study team. Within a few weeks of discharge, 59 patients had follow-up appointments with the outpatient division of Mission Neurology. Of those patients, 24 (40.7%) did not appear for follow-up appointments. Modified Rankin scores of patients who did present for follow-up revealed a range from zero to four with a mean of one. The modified Rankin scale runs from zero (asymptomatic) to six (death).

## Discussion

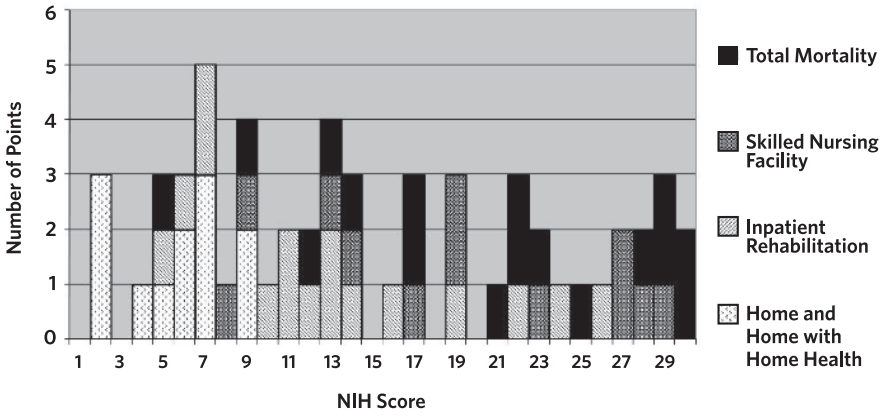
Nationwide, the use of tPA is less than 2% in all cases of stroke.[4] Using our method of dedicated staff for Code Stroke, a group pager notification to relevant clinical and laboratory services, and neurohospitalists, we intervened in 154 out of 568 code stroke patients between January 2006 and October 2007. Based on Mission Hospital's ICD-9 coding, there were 931 cases of principal diagnosis of ischemic stroke during that same period. These numbers determine the percentage of ischemic stroke-treated patients with acute intervention to be 16.5% (154 out of 931) of total ischemic stroke discharges.

Previous reports have emphasized the importance of neurologists in a successful code stroke program.[14] Since teaching institutions have residents and/or fellows within the hospital on a constant basis, neurohospitalists alone at academic medical centers would not be expected to have a large impact on the use of thrombolysis in acute stroke but may be beneficial in nonacademic hospitals. The complex variety of exclusion criteria in our patients indicates a need for neurological expertise. In addition to our neurohospitalist staff, regional education, EMS involvement, code stroke nurses, and multiple department buy-in to the acute stroke protocol process are potential explanations for our number of patients treated. GWTG, our source of information about other institutions, does not differentiate neurohospitalist versus non-neurohospitalist programs.

Discharge disposition did vary with age group and clinical severity. The frequency of in-house mortality in our ischemic stroke patients with acute intervention of all ages was 14.3%. Some patients were discharged to hospice with the expectation of death. We considered the number of in-house deaths and discharges to terminal care/hospice to be equivalent to total short-term mortality which was 18.8% (29 out of 154) in this study. The concept of total short-term mortality is important for institutions without access to hospice discharges to be able to compare outcomes to these reported numbers. Total short-term mortality was more than a two-fold increase in treated acute stroke patients over the age of 80 compared to patients younger than age 80. If the patient is over age 80 and has an NIH Stroke Scale score over 15, the expected discharge disposition is death or SNF, with few patients meeting criteria for inpatient rehabilitation. However, 20.7% of patients over 80 did well, and the hemorrhagic complication rate was not in excess compared to younger patients. We thus conclude that age alone is not an absolute contraindication to acute stroke treatment (see Figure 2).

As seen in other studies where baseline stroke severity is associated with outcome, our study shows the prognosis is better with lower NIH Stroke Scale scores.[15] Neither our database nor GWTG include data on the patient's living situation at baseline, so it is possible that some patients came from assisted living or SNFs with some level of independence and were discharged to the same level of care as baseline. It is also possible that all SNF patients moved down the continuum of discharge disposition. Until more information is available we do not consider arrival from SNF exclusion for acute intervention; decisions should be made based on saving any independent function. The risk of symptomatic intracerebral hemorrhage is well-known and often cited as a reason to avoid tPA in acute stroke.[16] Our experience validates prior reports that hemorrhage of any type on follow-up CT is no more common for people over age 80 than it is for those under 80;[13,17] there was one

**Figure 2.**
**Discharge Disposition of all Treated Acute Ischemic Stroke Patients ≥ 80 Years Old by Initial NIH Stroke Score Between January 2006 and October 2007 (N=58)**

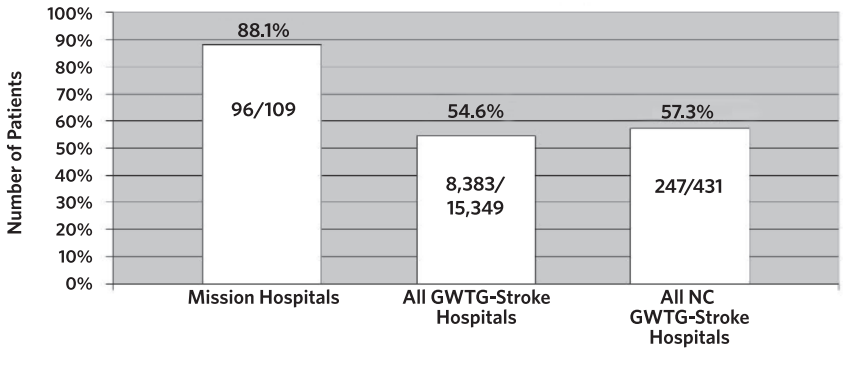



case of SICH over age 80 and one SICH under age 80. The transformation of a small deficit into a large one with thrombolytic therapy is certainly a serious concern. However, cases of parenchymal bleed in this series were seen in patients with large ischemic stroke with no clinical deterioration. Intra-arterial thrombolysis and devices for clot removal had a higher rate of intracerebral hemorrhage at follow-up CT scan, but the majority of these were asymptomatic. Our rate of symptomatic hemorrhage after acute intervention in ischemic stroke was 1.3%. This mirrors a recent report that for every 100 patients treated with IV tPA, approximately one patient will experience a severely disabling or fatal outcome from a SICH, but that analysis did not include other types of intervention.[18] Although the rate of SICH is no higher in patients over age 80, the overall outcome in this group is poor.[19]

In light of this, if acute stroke therapy in patients over age 80 does not result in clinical improvement then the goals of care should be readdressed, particularly if the baseline deficit is severe. Analysis of the efficiency of our program indicates some potential for improvement in monitoring these patients with an opportunity for cost savings. Unexpected deterioration after acute stroke treatments has been rare so our current practice of a 24-hour intensive care unit (ICU) stay may not be adding significantly to patient safety or outcomes. A low-risk monitoring unit outside the ICU would open up ICU beds and use fewer resources. Furthermore, our protocol adopted the original National Institute of Neurological Disorders and Stroke (NINDS) practice of getting a CT scan at 24 hours. The clinical implications of any asymptomatic hemorrhage are not clear, and perhaps there should be study of which patients would benefit from routine 24-hour CT scans.

With respect to follow-up information, the number of patients with primary physicians, the planned follow-up after discharge from acute rehabilitation facilities, and the travel distance to this hospital were not recorded. Only 59 of 154 treated patients (38.3%) had follow-up appointments made with our neurologists; of those patients, 24 (40.7%) did not keep the appointments. Neither age nor degree of disability stands out as issues in those patients who kept their appointments: patients with virtually no impairment got follow-up, as did some patients with severe disability. The no-show rate was similar in patients above and below age 80. Potential explanations include distance to appointment, expenses incurred by the patient, or previously established relationships with primary care doctors. The significance of this lack of neurological follow-up is unknown. Comparison of our data during the time of this review to other hospitals who participate in the GWTG database reveals that our rate (88.1%) of treatment of patients with thrombolytic therapy who arrive within three hours exceeded the pooled data of all hospitals (54.6%) and exceeded the rate in all hospitals within North Carolina (57.3%) (see Figure 3).[20] We have found this database to be easy to use, and it provides real time information for comparison to other institutions. GWTG is a proprietary database that can be used to track treatment and medication parameters. Unfortunately, it is not possible to modify the database. To monitor performance, our code stroke patients are also entered into a separate in-house spreadsheet database.

**Figure 3.**
**Acute Stroke Patients Entered into Get with the Guidelines Database Between January 2006 to October 2007 and Treated with IV tPA within 180 Minutes of Onset of Symptoms**



GWTG requires a principle discharge diagnosis ICD-9 code of stroke. Since some treated patients had different discharge ICD-9 codes, GWTG alone is not a complete reflection of treated patients. For example, an ischemic stroke patient treated acutely who had a principal discharge diagnosis code of myocardial infarction would not be included in the GWTG database.

Limitations of this case series are many and include its retrospective nature, the difficulty in merging a proprietary database with our in-house database, the relatively small number of patients, and the lack of standardized methods to compare benchmarks for percentage of treated acute stroke patients between institutions. Statistical analysis was not done, although our results mirror the experience of others with regard to age, stroke severity, and clinical outcome.[12,13,15] Recognition of our above-average treatment rate through GWTG caused a more detailed analysis, all of which was done on a post hoc basis. Important outcome parameters such as baseline, 30-, and 90-day functional levels are not always available through the code stroke log, hospital chart, or available outpatient records. Nevertheless, this article outlines the experience of a single institution making use of all resources in an economical manner.

A review of North Carolina demographics indicate that the elderly population is growing rapidly and the population aged 85 or greater is expected to double in the next 30 years.[21] This mirrors a nationwide trend that is more prevalent in southern states. Treatment protocols for many illnesses may have to be modified or reviewed for appropriate use in older age groups. Regional education, hospitalist vascular neurologists, consensus across many hospital service lines, and a dedicated Code Stroke Team that includes a code stroke nurse can increase acute intervention in ischemic stroke. The GWTG database can serve as a template for process and quality improvement. Our analysis of ischemic stroke patients treated with acute intervention at Mission Hospital by our Code Stroke Team revealed a higher rate of treatment when compared to other GWTG institutions, and the rate of symptomatic hemorrhage was less than historical reports. **NCMJ**

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# HEALTH REFORM IN NORTH CAROLINA

## *Health Care Reform: My View*

*William L. Roper, MD, MPH*

When viewing the prospects for national health reform, I am more optimistic than I've been in the past 25 years. With that being said, we have a long road ahead of us in terms of actually improving our health care system. Currently the United States has the world's most expensive health care system on a per capita basis. Nearly 50 million Americans are without health insurance, and in North Carolina alone, one in five people are uninsured. In the practice of medicine, our system often provides the wrong care, overusing ineffective therapies and underusing effective therapies. Many things that are done are not safe for patients. These issues of cost, access, and quality need to be looked at together, as they are intricately related. Fortunately, all three of these topics are now at the forefront of the policy debate in Washington, and North Carolinians have developed some nationally recognized innovative programs that can be useful.

**Cost**

It is my belief that we have plenty of money in our health care system. We do not need an even more expensive health care system—we just need to use the resources we now have more wisely. That means taking money that's currently being wasted and using it to fund care for people currently without insurance. By wasting money, I'm referring to our not making smart decisions. For example, I think most people would admit that ordering extra tests and scans for patients is unnecessary and doesn't really have to be done. If we could implement more standardized patient protocols and provide more efficient care, in a manner that constrains (and does not add to) costs, I'm confident we could free up enough dollars to pay for the care of those who lack health care coverage and maybe even end up spending less than we do now. There are real opportunities for making progress on controlling costs, such as implementing electronic health records and doing comparative effectiveness research to guide practice and payment. We need to design health insurance in a way that pays for services that are proven effective and doesn't pay for those that are not.

**Access**

As mentioned earlier, almost 50 million Americans lack health insurance, and because they lack health insurance they don't have full access to our health care system. There is very strong evidence that their health is worse as a result. People are harmed, and we as a nation are too. We should create a system of universal health care coverage. We don't need to have one plan that covers everybody, but we do need to ensure that everyone is covered.

The problems of the country's and our state's health system are mirrored at UNC Health Care. As a safety net hospital, we've seen a dramatic increase in uncompensated care, to unprecedented levels. In some of our clinics, 40% of our patients who walk through the door are uninsured. Due to the rapidly growing unemployment rate, people have been left without coverage and health insurance. As North Carolina's unemployment rate worsens, the tidal wave of uncompensated care will get much worse. With each 1% rise in North Carolina's unemployment rate, we lose another $14.4 million. Since the rate has gone from 4% to almost 11%, our additional uncompensated care costs for the upcoming year are going to be close to $100 million, totaling near $300 million.

In terms of health care access, North Carolina is leading the way for improvement. One example is the Medicaid program called Community Care of North Carolina (CCNC), which was highlighted in the May/June 2009 issue of the *North Carolina Medical Journal*. Institutions across the state are working with community health centers and private physicians to make sure our citizens get the most appropriate care. CCNC links hospitals, doctors, and neighborhood clinics to provide a means of referring people

*continued on page 308*

*continued from page 307*

without health insurance to places where they can get care in a less expensive setting. UNC Health Care is part of this program, and we have partnered locally with Piedmont Health Center. We provide funds to Piedmont so patients can get care close to home without having to come to our emergency rooms. These kinds of partnerships have proven to be effective in improving our population's health while redirecting non-urgent visits from an expensive emergency room setting to a more appropriate office-based setting.

**Quality**

Health care quality and patient safety has been growing in importance to patients, providers, and policymakers. In 2000, the Institute of Medicine of the National Academies published their landmark report, *To Err Is Human: Building a Safer Health System*,[1] which revealed that close to 100,000 people die unnecessarily each year from the result of medical injuries caused by errors. In addition to medical errors, many procedures done in the health care delivery system are unnecessary and are not guided by evidence-based practices. There are administrative wastes in the system; duplication and inefficiencies are rampant. Our system doesn't always use modern information technology in a widespread fashion to produce the quality and efficiency that we all deserve.

The topic of health care quality will continue to play a role in health care reform. Quality improvement initiatives—such as pay for performance, the Institute for Healthcare Improvement's 100,000 Lives Campaign, and President Obama's push for the widespread use of health information technology—will remain key ways of linking quality and cost. Implementing new standards is not always easy, but clearly the benefits in patient care demonstrate the success of these important initiatives. I chair the board of the National Quality Forum, which has a leading role in this area, alongside many others. I advise that we should implement a health care system that covers everyone, avoids duplications and inefficiencies that run rampant in our health system today, and supports development and implementation of electronic health records.

Health reform is going to require a lot of willingness to compromise on everybody's part. For the first time in my memory, the parties of interest—community members, hospital leaders, labor unions, elected officials, insurance companies—everyone is saying, "Yes, I'm willing to compromise." Only with that kind of attitude can we expect to make progress on tackling one of the most complex problems our government has ever seen.

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*William L. Roper, MD, MPH, is the CEO of the University of North Carolina Health System.*

SPECIAL ARTICLE

# Expanding Access to Health Care in North Carolina:
## The NCIOM Health Access Study Group

*Jesse Lichstein, MSPH; Representative Hugh Holliman; Senator Tony Rand, JD; L. Allen Dobson Jr., MD, FAAFP; Julia Lerche, MSPH; Mark Holmes, PhD; Pam Silberman, JD, DrPH*

***Editor's Note:*** *This special article covers the work of a recent North Carolina Institute of Medicine Task Force. In the past we have devoted whole issues of the NCMJ to NCIOM reports; however access to health care is a topic studies frequently by the NCIOM and was the subject of a 2006 NCMJ issue. Due to the proximity of the 2006 issue and the relevance of the topic of the current issue, we have decided to include this special article here*

In 2006-2007, approximately 18.9% of North Carolinians, or more than 1.5 million people, lacked health insurance coverage.[a] With the downturn in the economy and the subsequent loss of jobs and benefits, estimates indicate that since 2007 the state has seen a 3.1 percentage point increase in the proportion of North Carolinians who are uninsured.[1] The total number of North Carolinians lacking health insurance coverage has likely grown to approximately 1.8 million people, or 22% of the population. While some North Carolinians were experiencing barriers to health care before the economic crisis began, the dramatic change in the economy has highlighted and exacerbated the need to expand access to appropriate and affordable health care services for all North Carolinians.

Access is a complex term that describes the ability of people to use health services. It includes the availability and adequate supply of services and providers and the ability to utilize and afford those services. It also includes things that make it possible for people to recognize when and where to go for care. The best measure of access is the ability to obtain care when needed. Everybody should see a caregiver from time to time for checkups and preventive services but use may increase as a person becomes ill, is injured, or the need for surveillance increases with age or condition.

Between 2000 and 2007, the percentage of people in the state reporting that they could not see a doctor when they needed to because of costs increased from 12% to 17.1%.[2,3] There are many factors that can keep a person from seeing a caregiver when they need to: lack of sufficient numbers or types of health care practitioners in a community, language or cultural

***Compared to other states, North Carolina has experienced the largest percent growth of uninsured due to the recent economic downturn, 22.5% between 2007 and 2009.***

a Unless otherwise noted, data on the uninsured are based on internal North Carolina Institute of Medicine analysis of the Current Population Survey's Annual Social and Economic Supplement, published by the US Census Bureau.

**Jesse Lichstein, MSPH**, is a project director at the North Carolina Institute of Medicine. She can be reached at jesse_lichstein (at) unc.edu.

**Representative Hugh Holliman** is a member of the North Carolina House of Representatives from District 81 in Davidson County.

**Senator Tony Rand, JD**, is a member of the North Carolina Senate from District 19 in Bladen and Cumberland Counties.

**L. Allen Dobson Jr., MD, FAAFP,** is the vice president of clinical practice development for Carolinas HealthCare System.

**Julia Lerche, MSPH**, is a former research assistant at the North Carolina Institute of Medicine.

**Mark Holmes, PhD**, is the vice president of the North Carolina Institute of Medicine.

**Pam Silberman, JD, DrPH**, is the president and CEO of the North Carolina Institute of Medicine.

barriers, transportation issues, and limited health literacy.[4-6] However, the lack of health insurance is one of the primary barriers to accessing health care. People without insurance in North Carolina are four times more likely than people with insurance coverage to report not seeking necessary medical care due to costs (47% vs. 10%) or having no usual source of care (59% vs. 14%). In addition, they are almost three times more likely than the insured to have not had a check-up in the last two years (35% vs. 12%).[3] The uninsured are less likely to get preventive screenings or receive ongoing care for medical conditions and, as a result, are more likely than the insured to receive care in the emergency department and/or be diagnosed with severe health conditions (such as late stage cancer).[7] Ultimately, uninsured adults are 25% more likely than insured adults to die prematurely.[7]

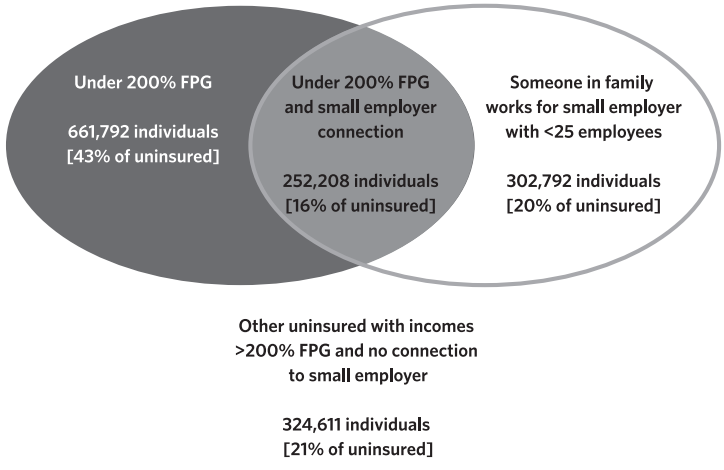
Insufficient access to health care has broad consequences. Workers in poor health are more likely to miss work, decreasing the productivity of the workforce. Students in poor health have more difficulty learning in school.[8] In addition, the uninsured only pay about one-third of their medical bills out-of-pocket. The remaining costs—known as uncompensated care—are often shifted to other payers through higher taxes and insurance premiums. In 2005, the cost of unpaid out-of-pocket costs of care for the uninsured in North Carolina was $1.3 billion.[9] To help cover the cost of uncompensated care, people with individual coverage in North Carolina pay, on average, an additional $438 more a year and families pay an additional $1,130 a year on increases in health insurance premiums.[9]

North Carolina has experienced more rapid growth in the proportion of its residents lacking health insurance than the rest of the nation. Between 1999-2000 and 2006-2007, North Carolina saw a 29% increase in the uninsured rate, which is more than double the 12% increase experienced by the nation as a whole. A major contributor to the increase in the number of uninsured has been the significant drop in employer-sponsored insurance (ESI). Between 1999-2000 and 2006-2007, North Carolina saw a 12.5% decrease in ESI. During the same time period, the nation saw an average decrease of only 6.8%. This decline in ESI is due to both a reduction in the proportion of businesses—especially small employers—that offer coverage to employees and the decline in the number of employees who purchase coverage for themselves or their families when offered. In addition, recent estimates show that North Carolina has experienced the largest percent growth of uninsured due to the recent economic downturn, 22.5% between 2007 and 2009.[1] This recent growth is due, in large part, to the rapid growth in North Carolina's unemployment rate.

From mid-2007 to early 2009, North Carolina had the second largest growth in the unemployment rate in the nation, at five percentage points (from 4.7% to 9.7%). Nationally, changes in unemployment rates have been linked directly to changes in the numbers of uninsured. Between December 2007 and May 2009, the national unemployment rate increased by 4.5 percentage points. This increase is estimated to have led to 11.1 million people losing ESI, Medicaid/Children's Health Insurance Program (CHIP) enrollment increasing by 4.5 million people, and the number of uninsured increasing by 4.9 million people.[10]

The uninsured include individuals from all income levels and all racial, ethnic, and age groups.[b] However certain populations are more likely to be uninsured than other populations; low-income individuals and people connected to small employers with less than 25 employees are at greater risk of being uninsured (see Figure 1). The majority (79%) of the uninsured in North Carolina fall into one or more of three groups: (1) children in families with incomes below 200% of the federal poverty guidelines (FPG) (14%),[c] (2) adults with incomes below 200% FPG (46%), and (3) people with a family connection to a small employer with less than 25 employees (36%). Because these are the people most likely to be uninsured, and because lack of insurance is one of the greatest barriers to health care, focusing limited expansion

**Figure 1.**
**Uninsured in North Carolina: Primarily Low-Income or Family Connection to a Small Employer**




Source: North Carolina Institute of Medicine. Internal analysis of the US Census Bureau, Current Population Survey's Annual Social and Economic Supplement, 2006-2007.

b Some people over 65 may not be eligible for Medicare.
c In 2009, 200% of the federal poverty guidelines is $44,100/year for a family of four.

strategies on these populations has the potential to make the greatest difference in expanding access to care.

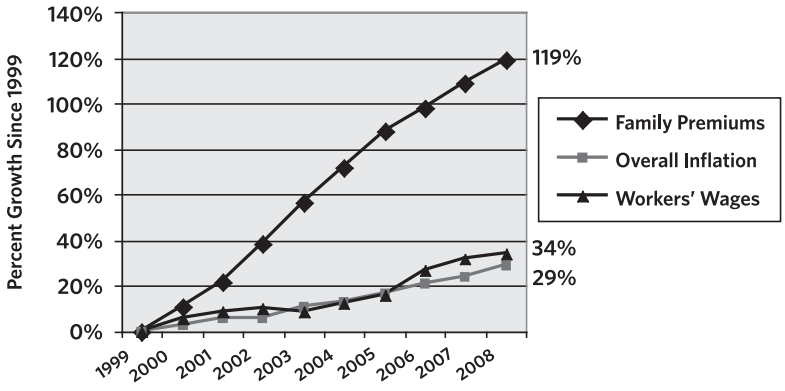
In 2008, the North Carolina General Assembly instructed the North Carolina Institute of Medicine (NCIOM) to convene a study group to examine problems of access to health care and recommend options to improve access where it is lacking.[d] This study built off of three recent NCIOM reports on covering the uninsured, the North Carolina health care safety net, and provider supply.[11-13] The NCIOM Health Access Study Group was co-chaired by Representative Hugh Holliman, Senator Tony Rand, and L. Allen Dobson Jr., vice president of clinical practice development at Carolinas HealthCare System. It included 38 additional study group and steering committee members, including policymakers, health care professionals, insurers, foundation representatives, advocates, uninsured individuals, and other interested individuals. A list of the members is included in the acknowledgements section at the end of this article. The Study Group met a total of five times over a period of five months. The full report detailing the work and recommendations of the Study Group is available on the NCIOM website at http://www.nciom.org. In this article, priority recommendations of the Study Group are presented in bold.

## Health Care Costs, Coverage, and Quality

Health insurance premiums in the United States have increased exponentially over the past decade, increasing much more rapidly than wages or general inflation (see Figure 2). Between 1999 and 2008, premiums increased 119% compared to 34% for wages and 29% for overall inflation.[14] The chief reason people lack coverage is cost. "Affordability" is subjective, but using various potential measures, researchers found that between 25% and 75% of the uninsured nationally couldn't afford care in 2000.[15] Given the doubling of premiums since then, health insurance is less affordable. In 2005, more than 80% of the uninsured couldn't afford care.[16] The rapid growth in premiums has also led to the decrease in the availability of ESI.[17] Even people with insurance are being adversely affected by rising premiums, deductibles, copayments, and coinsurance.[18] Policymakers and other health leaders need to understand what factors contribute to rising health care costs in order to design strategies to make health care and health insurance coverage more affordable.

Premium growth has been spurred by increases in underlying medical costs, including the higher cost and utilization of medical technologies and prescription medications, growth in the prevalence of chronic diseases, and increased uncompensated care for the uninsured.[19-23] In particular, new medical technologies have been estimated to account for a large portion of the increase in health care expenditures,[19] with some studies suggesting it is responsible for one-half or more of real spending growth.[24] Unless ways to reduce rising health care costs can be identified, we will never be able to afford coverage for anyone in the state—much less extend coverage to all of the uninsured. In addition, North Carolina needs to examine and further utilize its promising programs aimed at reducing costs and improving quality (e.g., Community Care of North Carolina and the North Carolina Healthcare Quality Alliance).[e,f] Efforts to expand access must be built on the strengths of the current health care delivery system. More work is needed to examine the issues of cost, quality, and

**Figure 2.**
**Cumulative Changes in Health Insurance Premiums are Greater than Changes in Inflation and Wages (United States, 1999-2008)**




Source: Kaiser Family Foundation and Health Research and Education Trust. *Employer Health Benefits Annual Survey, 2008.* http://ehbs.kff.org/pdf/7790.pdf. Accessed January 14, 2009.

d Section 31 of Session Law 2008-181.

e Community Care of North Carolina (CCNC) is a medical home model for the state Medicaid population. The 14 CCNC networks, consisting of community health care professionals and health organizations, manage the care of the enrolled population. Evaluations have shown the program to lower costs and increase quality. (Dobson LA Jr, Hewson DL. Community Care of North Carolina—an enhanced medical home model. *NC Med J.* 2009;70(3):219-224.)

f The North Carolina Healthcare Quality Alliance is an initiative to promote high quality, evidence-based health care in North Carolina through the use of quality measures, performance feedback, and practice support. (Willson C. The governor's initiative to improve health care: taking measure of medical care in North Carolina. *NC Med J.* 2008;69(2):98-99.)

coverage in order to identify strategies for North Carolina to rein in rising health care costs, enhance health care quality, and improve population health.

While it will be difficult for the state to expand coverage without first addressing costs, it will also be difficult for the state to address costs without first ensuring everyone has coverage. Voluntary insurance systems are marked by adverse selection, where individuals with pre-existing health problems and/or greater health risks are more likely than healthy individuals to purchase insurance. Because the insurance pool has a greater proportion of unhealthy and at-risk individuals, average premium costs are higher than if everyone had coverage. An individual mandate requiring all North Carolinians to purchase coverage, if it is affordable, has the potential to lower costs and, more importantly, provide all North Carolinians with health insurance coverage. This is essentially what Massachusetts did in their universal coverage plan.[25] The Study Group recommended that the North Carolina General Assembly institute an individual mandate to require all North Carolinians to purchase health insurance coverage, once the state has developed subsidies or other mechanisms to ensure that health insurance coverage is affordable to anyone with an income up to 300% FPG.

## Expanding Coverage to Low-Income Children, Low-Income Adults, and Small Employers

Nearly four-fifths of the uninsured in North Carolina are either low-income children, low-income adults, or have a family connection to a small employer with less than 25 employees. Due to the limited amount of time given for this study, the Health Access Study Group focused on options for expanding coverage for these three groups most at risk for being uninsured and in need of access to health care.

### Low-Income Children

Children ages 0-18 comprised approximately 20% of the 1.5 million uninsured in North Carolina in 2006-2007. Uninsured children are more likely to forego or delay needed care and are less likely to have a personal physician than insured children.[26,27] Low-income children are the most likely to be uninsured, with more than two-thirds of uninsured children having family incomes below 200% FPG. Yet most of these children are currently eligible for public coverage through Medicaid or NC Health Choice (North Carolina's CHIP).[g] In fact, approximately three out of every five uninsured children in North Carolina are currently eligible for, but not enrolled in, Medicaid or NC Health Choice. This inconsistency is a result of ineffective outreach, administrative complexity, and poor retention of those who are eligible. Other states experiencing this problem have implemented successful outreach and administrative simplification strategies to increase enrollment and retention, including presumptive eligibility, rolling renewals, web-based renewals, administrative verification, coordination with other public programs, and outstationing of eligibility workers.[h] In order for North Carolina to increase health insurance coverage for children already eligible for public programs, it needs to utilize some of these same strategies. The Health Access Study Group recommended that **the North Carolina Division of Medical Assistance (DMA) simplify the eligibility determination and recertification process to facilitate the enrollment of eligibiles into Medicaid and NC Health Choice, as well as expand outreach efforts to identify and enroll eligibles. In addition, the Department of Public Instruction and Local Education Agencies should work to promote health insurance coverage to eligibles, in coordination with outreach efforts for other public programs.**

While low-income children are the most likely to be uninsured, there has been a recent increase in the percentage of uninsured children with family incomes between 200%-300% FPG. In the 2008 session, the North Carolina General Assembly gave DMA the authority to implement NC Kids' Care, a public insurance program for uninsured children with family incomes between 200%-250% FPG.[i] This program would cover an additional 9% of uninsured children with a total additional 14% covered with an expansion to 300% FPG. However, the program has yet to be implemented. During the same 2008 session, the North Carolina General Assembly continued a seven year pattern of placing enrollment growth caps on the NC Health Choice Program, which could restrict outreach, recertification, or other expansion strategies. The Health Access Study Group recommended that **the North Carolina General Assembly remove the cap on coverage of eligible children for NC Health Choice and continue**

g Children eligible for Medicaid or the Children's Health Insurance Program (CHIP) are citizen children with family incomes no greater than 200% of the federal poverty guidelines.

h Presumptive eligibility is temporary enrollment for children who appear to be eligible for Medicaid or the Children's Health Insurance Program while the family completes eligibility determination. Rolling renewals allow for families to renew their applications at any time in the year. Web-based renewals are an online, multi-program application process that allows families to renew coverage at any time of day. Administrative verification allows the Department of Social Services to use administrative databases to verify information the family would otherwise need to provide for the application. Coordination with other public programs could include instituting referrals between programs, combining enrollment (so that when a child is enrolled for one program they are enrolled for Medicaid or CHIP as well), and/or sharing administrative information to facilitate administrative verification. Outstationing eligibility workers refers to having eligibility workers at federally qualified health centers and hospitals with a large number of uninsured or Medicaid patients to reach more eligibles. More information is available in the North Carolina Institute of Medicine Health Access Study Group Report, available at http://www.nciom.org/projects/access_study08/HealthAccess_FinalReport.pdf

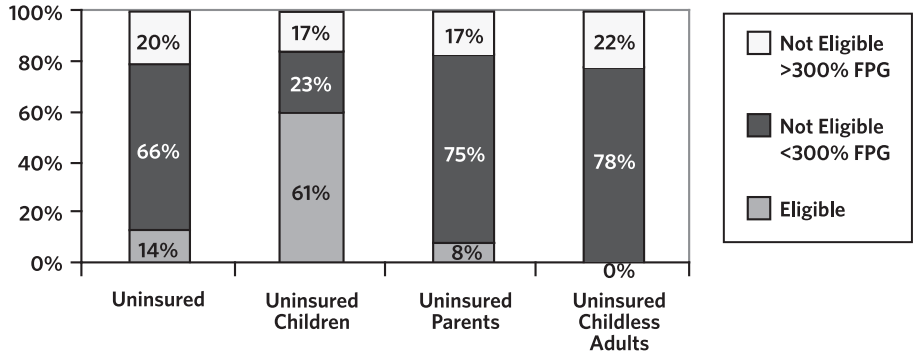
i Section 10.12(c) of Session Law 2008-107.

**implementation of NC Kids' Care up to 250% of FPG (300% if funding allows).** A targeted expansion of Medicaid coverage for children with disabilities in families up to 300% FPG would also help cover children with higher family incomes.[j]

### Low-Income Adults

Nearly half of those who are uninsured in North Carolina are low-income adults with incomes below 200% FPG. Unlike low-income children, the majority of low-income adults in North Carolina are not currently eligible for public coverage (see Figure 3). To qualify, adults must meet certain categorical, income, and resource eligibility criteria. The current federal Medicaid laws limit eligibility to certain categories of low-income adults. Unless a person is either a pregnant woman, parent of a dependent child under age 19, disabled, or at least 65 years old, he or she does not qualify for coverage, regardless of income. Removing these categorical restrictions would allow North Carolina to expand coverage to all low-income adults. Without categorical changes, the state could expand Medicaid to cover more uninsured adults by increasing the income thresholds for those individuals who are otherwise categorically eligible.[k]

**Figure 3.**
**Most Adults are Not Eligible for Existing Public Programs in North Carolina**




Source: North Carolina Institute of Medicine. Internal analysis of the US Census Bureau, Current Population Survey's Annual Social and Economic Supplement, 2006-2007.

The Health Access Study Group recognized the difficulties of seeking additional state funds to expand Medicaid in the midst of a major recession. Medicaid's enrollment grows during a recession as people lose their jobs and health insurance. In North Carolina, the monthly Medicaid enrollment grew 7% from 1,280,588 (June 2008) to 1,370,917 (June 2009).[28] This growth puts additional strain on the state, which—because of the recession—has less revenue to pay for its share of Medicaid costs. The study group recognized the need for additional federal support to help pay for the increased Medicaid costs during the recession. Since publication of the Study Group report, Congress provided temporary fiscal relief to the states as part of the American Recovery and Reinvestment Act of 2009.[l] As a result of this change, the federal government will now pay 74.51% of all Medicaid claims costs (up from 64.60%) in SFY 2009.

As with children, there are some adults who are currently eligible for Medicaid but are not enrolled. Increased outreach, simplification of application and recertification procedures, changes in resource requirements, and extension of the certification period could help identify, engage, and enroll these adults into Medicaid. The Health Access Study Group recommended that **DMA conduct outreach activities and simplify the eligibility and recertification process to facilitate the enrollment of adults into Medicaid, as well as explore other options to facilitate enrollment of adults into Medicaid.**

While the state could expand Medicaid coverage up to 200% FPG for low-income parents, North Carolina would still be responsible for paying the state match to cover individuals who became eligible through the expansion. Instead, the study group supported expansion to all low-income adults through a Medicaid Section 1115 waiver. A Medicaid Section 1115 waiver allows states to use a limited benefit package, cap program expenditures and, if necessary, limit expansion to a certain number of enrollees—all of which would limit the cost of expansion. To further limit the costs, the state could enroll new Medicaid recipients into Community Care of North Carolina (CCNC) and offer a premium assistance program to leverage an enrollee's existing access to ESI. The Health Access Study Group recommended that **the North Carolina General Assembly direct DMA to seek a Medicaid Section 1115 waiver to cover more low-income adults. The waiver should be**

j The Family Opportunity Act allows states to provide wrap-around Medicaid coverage for children who have private insurance coverage in order to provide better coverage to meet the special health care needs of children with disabilities.

k The state sets resource and income limits.

l The American Recovery and Reinvestment Act (ARRA) of 2009 (Pub L N. 111-005) provides fiscal relief to the state to help pay for increasing Medicaid enrollment. As a result of ARRA, the Federal Medical Assistance Percentage rate (FMAP)—the amount that the federal government contributes to cover the health care costs—increased from 64.60% to 74.51% (for SFY 2008-09), from 65.16% to 74.98% (for SFY 2009-2010), and from 65.56% to 75.36% (for SFY 2010-2011). This translates into an additional $2.255 billion over the 18 months of the ARRA. (Bush M. Medicaid overview. General Assembly of North Carolina website. http://www.ncleg.net/fiscalresearch/frd_reports/ frd_reports_pdfs/ Session%20Briefings/2009%20Medicaid%20Overview.pdf. Accessed March 11, 2009.)

**implemented in two phases (up to 100% FPG and then up to 200% FPG), offer a limited benefit package, develop a premium assistance program, and enroll participants in a low-cost insurance product utilizing the CCNC model.**

Unfortunately, it generally takes several years to obtain waiver approval from the US Centers for Medicare and Medicaid Services. In the interim, North Carolina should expand coverage to low-income women who have had a prior high-risk birth. Currently, Medicaid pays anywhere from 8 to 15 times more for high-risk births than for normal births, and having a prior high-risk birth is one of the strongest predictors of having a subsequent high-risk birth.[29,30] Improving interconceptional care for women with prior preterm births can improve subsequent birth outcomes.[31] The Health Access Study Group recommended that **the North Carolina General Assembly direct DMA to seek a Medicaid Section 1115 waiver or implement other Medicaid options to provide interconceptional coverage to women with incomes below 185% FPG who have had a previous high-risk birth.**

Another option to expand coverage to a small subset of high-cost, high-need adults is to provide a subsidy to individuals eligible for North Carolina's high risk pool. North Carolina is one of 35 states with a health insurance risk pool. Inclusive Health (also known as the North Carolina Health Insurance Risk Pool) provides coverage to individuals who cannot obtain affordable health insurance in the non-group market due to a pre-existing medical condition. Premiums for Inclusive Health are 175% of what a healthy adult of the same age, sex, and geographic location would be charged. This premium is often too high for people with a pre-existing condition to afford. In response to high premiums in health insurance risk pools, some states have provided subsidies to help people with low-to-moderate incomes pay their premiums. The Study Group recommended a similar subsidy program.

### Small Employers

Uninsured workers are disproportionately employed by firms with fewer than 50 employees, which are much less likely to offer health insurance to their workers than larger firms. In North Carolina, more than 98% of full-time employees working in firms with more than 50 employees are offered ESI, compared to less than 50% of employees in firms with fewer than 10 employees. The primary reason for this difference is that small firms face higher premium costs than larger firms. In 2005-2006, small firms (<50 employees) in North Carolina paid, on average, $313 more for an individual premium than firms with more than 50 employees ($4,151 vs. $3,838).[32,33] Higher premiums are largely due to higher administrative costs, higher risk for adverse selection, and fewer people in the insurance pool to spread the risk.[34] In addition, small firms in North Carolina are less likely to offer insurance coverage to their employees than small firms in the rest of the nation.[35] However, when offered, employees of small firms in North Carolina are about equally as likely to enroll in ESI. Thus, the primary strategy for increasing ESI for employees of small firms is to encourage more small firms to offer coverage. The Health Access Study Group supports the option of public subsidies to lower the cost of health insurance for small employers, in order to increase the offer rate among small firms.

## Strengthening the Safety Net

Although a lack of health insurance creates significant obstacles to accessing health care, people who are uninsured can receive care from the numerous safety net organizations in the state that provide free or reduced-cost care to people based on need. Many of these organizations provide preventive and primary care, as well as chronic disease management, while others provide more specialized services. These organizations, however, do not currently have the funding or the capacity to care for the growing number of uninsured. The NCIOM estimated that in 2003 only 25% of the uninsured were receiving services through primary care safety net organizations[12,36] and similar estimates are obtained using more recent data from 2008.[m] In 2005, the North Carolina General Assembly created the North Carolina Community Health Center Grants program to expand the infrastructure and the availability of safety net services across the state.[37] However the majority of funding has been non-recurring. Safety net organizations need recurring funds to expand capacity to serve the growing number of uninsured. To address this, the Health Access Study Group recommended that **the North Carolina General Assembly increase funding to expand the safety net capacity by appropriating new recurring funds for the Community Health Center Grants program.**

In addition to lacking the capacity to provide care to all in need, care received at safety net organizations is often fragmented. Communities can provide more effective care by developing systems of care that include specialty, diagnostic, hospitalization, medications, and disease/care management services. The North Carolina General Assembly began funding HealthNet in 2008 to support the development of these community collaborations for the uninsured.[37] However, additional funding is needed to expand the number of community collaborations. The Health Access Study Group recommended that **the North Carolina General Assembly increase funding to expand safety net community collaborations by appropriating new recurring funds to HealthNet program.**

## Provider Supply

While health insurance is a key component to expanding access to health care, ensuring that everyone has coverage will not, in itself, guarantee that everyone has access. North Carolina must also ensure that the state has an adequate

m Holmes M. Unpublished data based on internal NCIOM analyses. 2008.

supply of health care professionals to provide the preventive, primary, and specialty care services needed to maintain and improve the health of the population. Due to time restraints, the Study Group was only able to examine the supply of physicians, nurse practitioners, and physician assistants in the state. North Carolina is predicted to experience a shortage of physicians, nurse practitioners, and physician assistants in the next 10 to 20 years.[5,38] This predicted shortage is due to the combination of an increased demand for services (due to the growth and aging of the population and the increase in the number of people with chronic illnesses) and a decline in the number of practicing professionals (as a large cohort of professionals reach retirement age).[38] Not only is North Carolina expected to experience an overall health professional shortage, the state is also expected to experience even greater shortages among certain specialty areas including primary care, psychiatry, general surgery, and professionals who deliver babies (i.e., family practice, obstetricians, and certified nurse midwives). While these specialties are very important for the health of the state, their appeal is waning with United States-trained medical graduates.[38] Primary care providers are among the lowest paid physician specialties and many medical graduates are choosing specialties with higher salaries and/or more controllable lifestyles.[38] In addition, there is already a maldistribution of health care providers across the state, especially in rural areas. Maldistribution is likely to be exacerbated as the overall provider supply declines. In order to ensure that the state has an adequate supply of health professionals, North Carolina needs to increase the number of health care professionals entering the workforce as well as recruit and retain health care providers in underserved areas and specialties. Specifically, North Carolina needs to maintain and increase reimbursement levels, particularly those for primary care practitioners. The Health Access Study Group recommended that **the North Carolina General Assembly continue to support CCNC, continue Medicaid reimbursement levels at 95% of Medicare rates, and increase payment for primary care providers practicing in health professional shortage areas. The North Carolina General Assembly should fund technical assistance for practices in underserved areas and financial incentives for professionals practicing in underserved areas.**

The Health Access Study Group recognized that North Carolinians face many challenges in accessing high quality, affordable health care. Although the uninsured face the biggest challenges, even the insured are experiencing increasing barriers. Rising health care costs affect everyone, and the expected physician shortage will result in worsening access problems in the future. The Study Group also realized that during this economic crisis, a stepwise approach to expanding access to health care would be a preferred and effective approach. Therefore, the Study Group proposed a plan for phasing in the recommendations, with each phase corresponding with a two-year legislative cycle. This plan emphasizes a multifaceted approach incorporating public and private coverage strategies, increased support for the health care safety net, and investments in the health professional workforce. Ultimately, everyone stands to benefit from improved access to health care. Although solutions are not always easy, a deliberate, stepwise approach will be more successful than waiting until the situation becomes much worse. **NCMJ**

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# POLICY FORUM

## *Can We Be Healthy While Our Economy is Unhealthy?*



*Circumstances may worsen before they improve.... however, North Carolina innovations guide the way for us to find better value during this period of increased demands.*

# Introduction

## POLICY FORUM:
## *Can We Be Healthy While Our Economy is Unhealthy?*

At a time when the unemployment rate is increasing along with the number of people without health insurance we cannot help but ask, "Can we be a healthy state while the economy suffers?"

In today's world of cheap burgers and long commutes to desk-bound jobs it is hard enough to practice healthy behaviors even when you can afford to purchase a gym membership or schedule an appointment with the doctor. If you've lost your job or are working harder to keep the one you have, the choice for a healthy lifestyle becomes even harder.

North Carolina is currently experiencing unemployment rates not seen since the Great Depression. Housing foreclosures are on the rise, family incomes are lower, and budgets for schools, health programs, and health care safety net systems are being cut. Just how much will this hurt the population's health and the health care system? This issue of the *North Carolina Medical Journal* explores these questions from various angles, from dental care to medical care systems to media coverage.

Since employment status and health insurance are so closely intertwined, when individuals start losing jobs, health insurance coverage is quick to follow. Losing a job creates a lot of stress and losing health insurance takes away one option for coping with that stress. This is especially so for those with chronic illness or families to provide for. When faced with reduced incomes and unpayable bills, individuals tend to ignore their health care concerns and needs unless they are urgent.

Studies have demonstrated a strong and positive relationship between health insurance and health status; those with health insurance are more likely to be healthy than those without. Individuals without health insurance often delay visits to health providers for routine exams and screenings, and may ration their prescription drug medications (or not refill them at all) until their condition worsens to the point that they end up on the front steps of the local emergency department. Emergency departments are the most inefficient way to utilize our health care system; they are expensive and they ensure no continuity of care. As our authors point out, during the economic downturn emergency departments are experiencing an increase in admissions.

The downturn has not only affected individuals and their families, but it is also stressing the institutions and professionals who provide care. For hospitals, increases in unemployment rates have meant lower overall reimbursements. During this economic downturn, North Carolina hospitals are seeing decreases in privately insured patients and increases in Medicaid and uninsured patients. Since Medicaid does not offer as high a reimbursement rate as private insurance companies do, and many uninsured patients end up being written off as charity care, hospitals balance sheet are dipping into red ink. In addition, North Carolina's safety net system, the one place that uninsured patients can reliably turn to for their health care needs, is now overwhelmed with uninsured patients. The safety net is seeing volumes that the system has never seen in the past and there are questions about our ability to cope with those new patients. Currently many of these organizations are facing overcapacity and being forced to turn patients away during walk-in clinics, wait times for new patient appointments have dramatically increased, and the system is under duress. To cope with increased demand, hospitals and safety nets are looking for ways to collaborate with other health care organizations to work together and meet the needs of North Carolinians.

However there have, surprisingly, been some positive effects of the downturn. For example, there are indications that the downturn may positively affect the health care workforce, as more people

*continued on page 320*

*continued from page 319*

seek out the relative stability of these jobs. The economy is also acting as a catalyst for some long overdue attention to our health care system. With the economy tugging on everyone's wallets and health care being on almost everyone's mind, health reform is at the front and center stage for policymakers. Now, more than ever, there is a push to make health reform a reality. For the first time in history, it appears that various stakeholders are in agreement about changing the system and are willing to work together to pass comprehensive health care reform.

So, can we be healthy while the economy is unhealthy? Perhaps, is the best answer we can give. We can and are doing many things to preserve and protect our health with constrained resources. But we also are mindful of a better future and we are building for that while we cope with uncertain times. When things turn around, we hope to emerge stronger and healthier than ever before. Let's take what we learn from this time of economic uncertainty and give North Carolinians a chance for a healthier future.

*Thomas C. Ricketts III, PhD, MPH*
*Editor-in-Chief*

*Christine Nielsen, MPH*
*Managing Editor*

ISSUE BRIEF

# Can We Be Healthy While Our Economy is Unhealthy?

*Mark Holmes, PhD*

The last 12 months have been a time of tremendous economic upheaval and uncertainty. By almost any measure, we are in the midst of an almost unprecedented economic downturn. In May 2009, North Carolina's unemployment rate was at 11.1%, the highest since February 1983, when it was 10.2% (see Figure 1, page 322). There are more unemployed people than ever before in North Carolina —double the number from March 2008— and an additional 0.9% are likely to be "discouraged workers" who have given up searching for employment.[1] In addition to being jobless, many are losing their homes: in June 2009, one in every 326 North Carolina households were in foreclosure.[2] Due to decreased household and corporate incomes, the state budget faced up to a $4 billion shortfall.[3] Indeed, most popular media descriptions of our economic condition often include the phrase "since the Great Depression," underscoring that we are facing conditions not seen in the last 70 years. Although there are some early positive signs, a number of economists remain bearish on our short-term and intermediate economic future.

*As we struggle with our economic challenges, our health needs continue to increase— despite fewer resources to allocate to health care.*

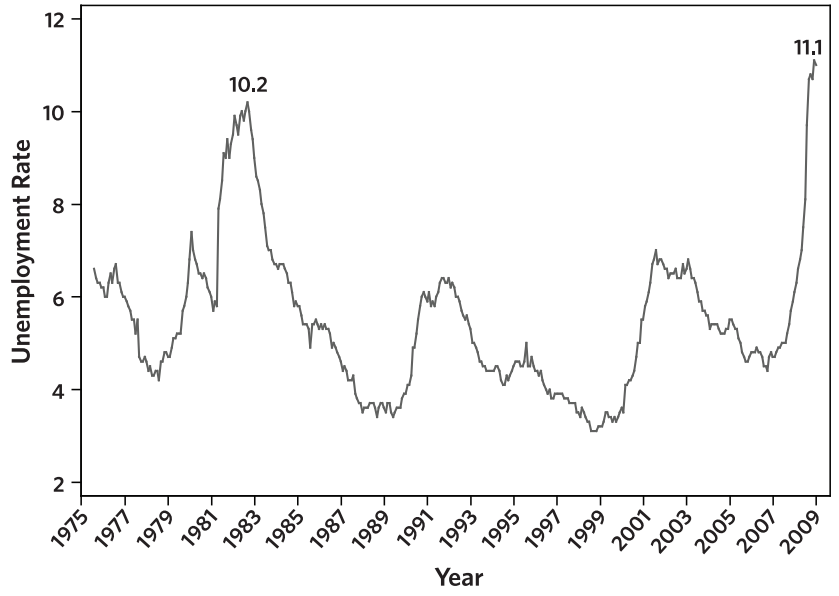
## Immediate Impact of the Economic Downturn

As we struggle with our economic challenges, our health needs continue to increase—despite fewer resources to allocate to health care. Businesses, some forced to layoff employees just to survive, must make difficult decisions about health insurance coverage for employees. Households with diminished income may forgo purchasing health insurance or prescription drugs to meet their mortgages. A June 2009 survey by the Kaiser Family Foundation found that 26% of respondents reported not filling a prescription due to cost, and 19% cut pills in half or otherwise lowered the dose.[4] Roughly two million North Carolinians receive their health insurance from the state of North Carolina through Medicaid, NC Health Choice, or the State Health Plan; with the tight budget, continuing to meet the needs of these people becomes more and more challenging. Well-documented relationships between household income, labor force status, out-of-pocket cost of health insurance, and the likelihood of purchasing insurance suggests that as incomes fall, as fewer people work full-time, and as employees face increased costs for coverage the proportion of North Carolinians with health insurance will decrease.

Unfortunately, real-time data on the uninsured rate are difficult to obtain. One of the most widely recognized sources is the Annual Social and Economic Supplement to the Current Population Survey (CPS), administered in March of each year to roughly 4,000 North Carolinians. The latest survey, released in August 2008, asked in March 2008 about coverage for 2007; thus, the CPS data reflect conditions before the existing economic downturn. In order to develop a more accurate picture of current circumstances, researchers from the Cecil G. Sheps Center for Health Services Research at the University of North Carolina at Chapel Hill and the North Carolina Institute of Medicine exploited the known link between health insurance coverage in a state and the state unemployment rate, along with associations with health care cost trends, population increases, and Medicaid coverage policy. Based on the January 2009 unemployment data, these researchers concluded that the number of uninsured in North Carolina rose by 22% from 2007 to January 2009, the largest increase in the country.[5]

**Mark Holmes, PhD**, is the vice president for the North Carolina Institute of Medicine and the co-director of the Program on Healthcare Economics and Finance at the Cecil G. Sheps Center for Health Services Research at the University of North Carolina at Chapel Hill. He can be reached at holmes (at) nciom.org.

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




Source: Bureau of Labor Statistics. Local area unemployment statistics: North Carolina January 1976-June 2009. Seasonally adjusted data. January 2004–December 2008 use new controls; June 2009 data preliminary. Available at: http://www.bls.gov/lau/. Accessed July 21, 2009.

Nationally, 12% of respondents indicated they had lost their health insurance as a result of the economic recession; these respondents indicated that this loss was "a serious problem."[4]

In fact, of the three components of the "iron triangle of health care"—cost, quality, and access—access has received by far the most attention in the popular media. Ferrel Guillory discusses the important role of the media in informing the public in his commentary in this issue of the *Journal*. That access would receive the most attention is not altogether surprising: health insurance is the easiest of the three for most people to understand and they generally know whether they are insured. The public often feel that the quality of health care they receive is good; in a recent poll, 83% of respondents were satisfied with the quality of care they receive.[6] But consumers can't always estimate the total cost for many health care services. A *Wall Street Journal* Online/ Harris Interactive Health-Care poll found that average consumers underestimated the cost of major surgeries, like hip replacement (underestimating by nearly 60%) and cesarean section (underestimating by 50%).[7] And although they do not always understand the details of their health insurance—in one study, 30% of privately-insured respondents inaccurately indicated whether they were in an HMO[8]—people generally understand health insurance and what this means in regards to their ability to access health care services.

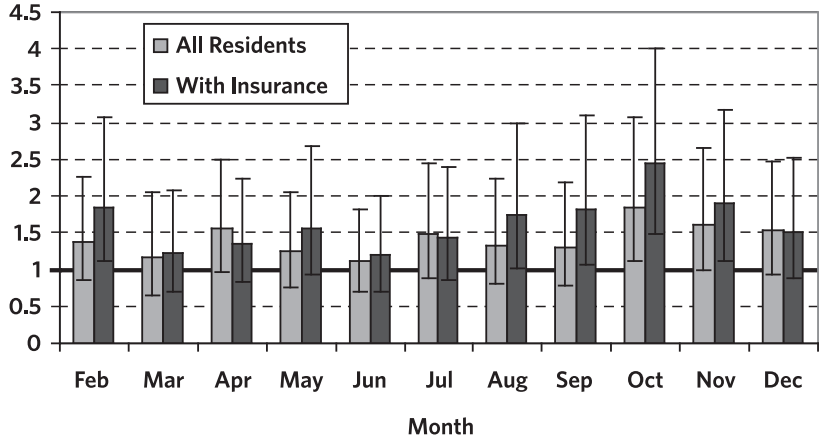
Comprehensive reform of the type being discussed at the federal level depends critically on reform of all three vertices of the triangle, as it is difficult, for example, to improve access unless cost is also addressed. Perhaps learning from the experience of the early 1990s, the Obama administration has made educating the public on the role of health care costs a major element in its efforts to promote comprehensive health reform. A proposed major investment into comparative effectiveness research, which studies common treatments for health conditions to see which are most effective, is an example of the dedication of Congress and the administration to controlling health care costs. This effort is largely driven by the Office of Management and Budget Director Peter Orszag's experience at the Congressional Budget Office and his understanding of controlling health care costs in balancing the federal budget. White House Chief of Staff Rahm Emanuel's now-famous line that "a crisis is a terrible thing to waste" underscores that efforts at comprehensive health reform may at least partly be driven by our current recession.

As people lose their insurance coverage, their access to care may be reduced, and some may postpone necessary care, seek care from safety net providers, or visit hospital emergency departments (EDs) because their needs are urgent. This may lead to increased costs and poorer control of chronic diseases subsequently leading to more care that could have been avoided if the chronic disease were more effectively managed. Data from the Centers for Disease Control and Prevention's 2008 Behavioral Risk Factor Surveillance System (BRFSS) indicate an increase near the end of 2008 in the percent of North Carolinians who indicate they "could not see a doctor because of cost," with the largest increase occurring in October, about the time the financial crisis was manifesting itself (see Figure 2). Surprisingly, respondents who indicated they currently had coverage showed a larger increase than the uninsured in these months; this may suggest that the response may have been less about coverage and more about addressing the economic uncertainty of the time.

## Effects on Health

Postponing care can lead to poorer health. The evidence supporting the link between having good access to care and improved health outcomes is well-known.[9] Assuming there is a downturn in coverage due to the economy, diminished access will have negative health effects. In this issue of the *Journal*, Steve Cline outlines some of these potential effects in his commentary. Other research has identified some *positive* effects—mostly on behavior—during poorer economic periods. This counterintuitive result is based on simple economics—

**Figure 2.**
**Risk of "Could Not See a Doctor Because of Cost" Increased at the End of 2008, Particularly Beginning in October**




Data Source: Behavioral Risk Factor Surveillance System (2008). January as referent month. Adjusted for age (quadratic), race, income, and whether currently have health coverage. North Carolinians only. Excludes those 65 or over. 95% confidence intervals shown.

for example, walking, playing basketball, and other similar activities are free, and smoking cigarettes costs money. Christopher Ruhm reviews some of his research in this area in his sidebar.

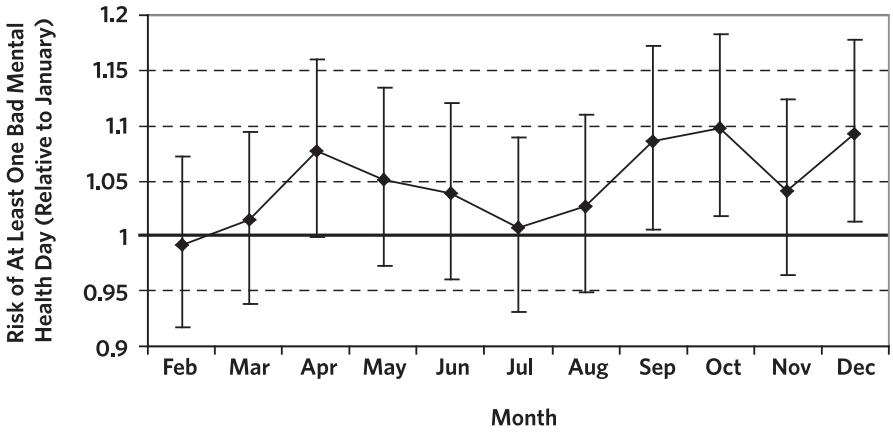
The recession has had effects on other aspects of health beyond the physical domain, as the turmoil of uncertainty can dramatically impact people's mental health and well-being. Some may experience heightened anxiety, some may suffer depression, and some may use substances to cope. National BRFSS data for 2008 show that the risk of having at least one day of "bad mental health" increased in September, October, and December, with respondents almost 10% more likely to report having at least one "not good" mental health day in those three months than in the preceding year (see Figure 3). This is a trend consistent with heightened anxiety due to the recession and financial crisis occurring in mid-September. In her commentary, Kim Franklin discusses early trends in utilization for mental health and substance abuse services.

Households may also forgo dental care. Because fewer people have insurance for dental services than for medical services,[10] dental services may be more susceptible to business cycles than medical services, as households are paying out-of-pocket for dental care. A June 2009 survey found that over one-third of respondents (or a family member living in their household) had skipped dental care or checkups.[10] Just as in the other domains, decreased use of prevention services will likely lead to increased demand for more urgent, acute needs. For example, one study in Texas found a 121% increase in visits to the emergency department for pediatric dentistry concerns from 1997-2001.[11] Almost 75% of the ED visits were due to nontraumatic concerns, and 68% of admissions were a result of cavities. A study in Ontario found over three-quarters of ED visits for dental concerns were nonurgent.[12] Thus, ED utilization for nonurgent dental concerns are considerable and likely to increase as access to dental care decreases during a recession. M. Alec Parker discusses the trends in dental services in his commentary in this issue of the *Journal*.

## Finding Lower Cost Providers

Another option for individuals who find themselves without health insurance coverage is to use safety net providers. North Carolina's safety net system is one of the strongest in the country, but it has seen a tremendous increase in utilization since the beginning of the economic downturn. One clinic reported its "time to next appointment" increased from the

**Figure 3.**
**Nationally, People Were More Likely to Indicate Bad Mental Health Days in the End of the Year Than in the Beginning**




Source: Behavioral Risk Factor Surveillance System (2008). January as referent month. Adjusted for age (quadratic), race, income, and whether currently have health coverage. Includes all US respondents. Excludes those 65 or over. 95% confidence intervals shown.

same day to a staggering 25 days in just three months.[13] In order for the existing system to meet the increased needs of the communities they serve, individual safety net providers will need to work together to develop a more seamless, coordinated system of care for the uninsured in the community. Two major state initiatives—HealthNet (funded by the state) and the Care Share Health Alliance (funded by a consortium of funders including the NC Health and Wellness Trust Fund, NC Office of Rural Health and Community Care, Blue Cross and Blue Shield of North Carolina Foundation, The Duke Endowment, and Kate B. Reynolds Charitable Trust) are helping communities develop coordinated systems of care to facilitate, among other things, medical homes for the uninsured. In this issue of the *Journal*, Jennifer Henderson and Judith Long outline one community's approach to developing a collaborative, multiprovider safety net approach. (More information on the Care Share program can be found in this issue's Spotlight on the Safety Net, page 373.)

Currently, 20% of the uninsured view the emergency department as their primary provider.[14] Emergency departments serve a vital role in the North Carolina safety net system, but they may not always be the most cost-efficient setting for providing nonurgent care. The Emergency Medical Treatment and Active Labor Act (EMTALA) requires hospitals participating in Medicare to screen and stabilize patients presenting with an emergency medical condition, regardless of their ability to pay. One consequence of this is high utilization (and associated costs) by individuals with conditions not requiring treatment in an emergency department. Due to EMTALA, however, hospitals may be reluctant to redirect individuals with nonurgent needs to a more appropriate setting because of potential liability or regulatory consequences with inappropriate redirection. With a great deal of the discussion surrounding national health reform turning to costs, identifying a mechanism to preserve Congress's intent of EMTALA to provide access to emergency treatment while ensuring that the treatment is delivered in the most appropriate setting would help control costs. Estimated use of EDs for nonurgent complaints range from 33% to 50%;[15] one study found that roughly half of those using the ED for a non-urgent condition had a primary care physician; roughly half of these thought that the ED was better for unscheduled care and more efficient, although 40% thought they would have paid less at a PCP.[15]

The difficulty, of course, is developing the appropriate mechanism that accomplishes the goal without adversely affecting the health of the patients. One study found that alternative methods of classifying whether a visit was urgent varied widely in their assessment.[16] In his sidebar in this issue of the *Journal*, William Atkinson outlines some features of how this might operate. Another way to help manage inappropriate use of the emergency department is to intervene more upstream by successfully managing chronic conditions in a clinic setting. This could help dramatically reduce the use of ED services. Beyond the improvement in health for the individual, such a program may be cost-saving for the health system if patients' health could be improved sufficiently to limit the number of urgent conditions. Kristin Wade and colleagues outline a program at Carolinas Medical Center that addresses ED utilization rates and share some early results.

## Investments and Marshalling Resources in a Time of Uncertainty

Of course, hospitals and health systems provide services in other settings beyond the emergency department. Some of our larger health systems have budgets exceeding $1 billion in operations that encompass multiple settings and multiple health care services. As the recession has developed, all our hospitals and health systems have been forced to address the changing economic circumstances and their effect on multiple aspects of these enterprises including not only health care delivery, but also the elements affecting every other organization —access to capital, cash management, and labor costs (including number and mix of employees, salary, and benefits). In addition, like other actors in the health care system, hospitals are making strategic decisions against the backdrop of health reform. Given the expected increase in the uninsured, a decrease in health status, and increased use of the safety net system, the financial picture for a health care system such as UNC Health Care—which includes our state's primary safety net hospital—would be expected to have been dramatically affected over the past year. In his commentary, John Lewis discusses this issue in more detail.

Meanwhile, despite these recent events, our population continues on its secular trend of growing older and sicker, which is resulting in an increased demand for health care services. Furthermore, Americans' well-chronicled appetite for the newest and most promising (and often most expensive) treatments means hospitals and health systems may be looking to expand their technology capabilities to stay competitive.[17] But with a tight credit market, decreased revenues, and an uncertain future, how can hospitals and health systems ensure they have access to the capital they need to meet expanding health care needs? John Franklin discusses recent trends in the capital market in his sidebar in this issue of the *Journal*. Meanwhile, the market for the primary resource used in delivering health care services—labor—is experiencing its own turmoil. Employment in the health care sector has certain advantages, especially in an increasingly global economy. Because it is a "hands-on" service, it is primarily delivered locally, meaning it is difficult to export jobs, and the demand for health care services is less elastic than most other goods and services, causing it to be less responsive to booms and busts of the economy. Because of this, a cadre of North Carolina leaders have focused on facilitating expansion of the industry and facilitating worker retooling and career ladders to help with recently laid-off workers. Erin Fraher and colleagues describe some of these issues in her commentary.

## Impact on Government and Philanthropy

As households have faced pinched budgets due to declining revenue and increasing costs, so have governments and businesses. Just as households may find it natural to postpone long-term investments (e.g., saving for college or retirement or performing home improvements) to ensure short-term needs such as mortgages and food can be met, governments and businesses often take similar approaches.

A different approach has been taken by Congress through the American Recovery and Reinvestment Act (ARRA). The ARRA was primarily intended to stimulate the economy by injecting billions of dollars into the economic stream, with a large portion of the funding (e.g., transportation funding) being allocated within weeks of enactment. But the ARRA also invests with a view to the long run system by developing our health information technology (HIT) system. The ARRA contains funding of about $21 billion to, among other activities, incent providers to purchase and "meaningfully use" HIT systems in their offices. Other elements include the development of a statewide plan for health information exchange, allowing providers to have more information about their patients readily available thus reducing delays and unnecessary duplication of services. Governor Perdue convened a HIT Strategic Planning Task Force, chaired by Steve Cline, to develop a statewide plan.[a] The promise of HIT to improve quality efficiency has been discussed for years, but like most network-based technologies, the value-added increases exponentially in the number of providers who can access the information in real time. Therefore, an efficient health information exchange is only effective if there are many providers who can access the data; thus incenting private providers to adopt HIT is a critical investment of the ARRA. Sam Spicer outlines the key components of the incentives in his commentary.

As discussed earlier, the demand for North Carolina's health care safety net services has increased dramatically. Many of these safety net providers depend on local philanthropies for critical support. Meanwhile, the call for national health reform and increased efficiency within our system has led to an increased focus on developing innovative models that improve the delivery of health care in our system. Historically, North Carolina researchers and practitioners have helped develop some nationally recognized innovative models that have revolutionized some of the ways health care is delivered; many of these models were at least partly supported by a North Carolina foundation on a pilot basis to allow incubation of breakthrough ideas. Despite the increased pressures for supporting safety net providers and developing programs, the available resources for philanthropic purposes have decreased due to shrinking investment portfolios. Thus, funders face that unfortunate reality of the business cycle—just when demand is highest, the available funds are at their lowest. How do philanthropies balance these increased demands with the discipline to not spend the "seed corn" of the endowment? Eugene Cochrane outlines one funder's perspective in his commentary.

## Investing in the Future

We, as a state, certainly face many economic challenges in our current environment, and circumstances may worsen before they improve. Our health care system faced many pressing needs including mental health reform on the state level, cost control, access expansion, and quality improvement throughout the system prior to the downturn. Since then these needs have only increased and expanded. Despite this, however, North Carolina innovations guide the way for us to find better value during this period of increased demands. Our state has been on the forefront of viewing population health in an "investment" framework—investing in prevention, case management, and quality improvement—to help bend the cost curve to maximize our ability to get better value with our health care dollar. As our economy recovers and demand and resources return to more historical levels, we will be in an excellent position to make many of the systemic changes that we acknowledge needed to be done in the past and work towards making North Carolina the healthiest state in the nation. **NCMJ**

a This plan is available at http://www.ncrecovery.gov.

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# Can I Afford to be Healthy?

*Steve Cline, DDS, MPH*

It is perfectly intuitive to expect certain measures of population health to decline during periods of great economic instability. Recessions are marked by increases in unemployment and decreases in income. The literature connecting income and health status is well-established; frankly, being poor is bad for your health. As we face increased numbers of unemployed and lower family incomes, we expect lower health insurance coverage,[1] subsequent lower access to timely health care, and derivative effects on health. Again, the link between health insurance coverage and health outcomes is unequivocal.[2] Furthermore, common sense suggests many other effects—food insecurity, overcrowded and substandard housing, increased stress—all related to our economic turmoil. The popular media has been littered with stories of increased rates of wide-ranging illnesses and conditions including job-related deaths,[3] abortions,[4] mental health crises,[5] and child abuse and neglect.[6]

The evidence connecting *individual* economic insecurity and health outcomes is quite strong. However, the research on the effect of economic insecurity on the population as a whole is less definitive.[7] A 1983 review of earlier research concludes that the relationship between the business cycle and population health is not resolved, with evidence suggesting both direct and inverse relationships exist.[8] Christopher Ruhm is one of the best known proponents of the inverse relationship; see his sidebar on page 328 for his view. Notwithstanding his research, there are other studies with the more intuitive finding that health declines during periods of economic stress. For example, a study in Sweden followed approximately 30,000 individuals for over a decade and found that unemployment increased mortality risk by almost 50%.[9] Furthermore, recent work looking at those who have become unemployed through plant closures found an increased risk of poor health outcomes.[10] Perhaps the conflict between the two perspectives is largely due to the fallacy of composition—although the unemployed individual may have poorer health, increases in an economy's unemployment may not lead to decreases in population health measures. Other work has found asymmetric results of unemployment changes—an increase in unemployment leads to large decreases in the mortality rate, while a decrease in unemployment rate leads to much smaller increases (5% of the effect size).[11]

The science is clear about what diseases North Carolinians are dying from and which underlying behaviors cause them. For the most part, we are victims of our own lifestyle choices. Tobacco use, poor diet, and physical inactivity alone account for more than 35% of all deaths in the US.[12] Lifestyle changes brought on by a significant economic downturn can result in people reacting with more unhealthy behaviors. However the converse could also be true: an economic downturn could increase healthy behaviors which would then improve health. Unfortunately the evidence suggests that where health is concerned, poor health behaviors may outweigh the good ones during an economic crisis.

*The literature connecting income and health status is well-established; frankly, being poor is bad for your health.*

## Physical Health—"Healthy behaviors are the least of my worries"

### Physical Activity and Nutrition

Eating better and exercising more is a personal goal we often hear. However, achieving this worthy goal may be more difficult to do in bad economic times. We are already a nation of overweight people; two-thirds of North Carolinians are considered overweight or obese, which places North Carolina as the 12th fattest state in the nation.[13] Economic stress often results in eating cheaper, less healthful food, and stress alone can lead to overeating or other negative eating habits.[14] Poor eating habits are exacerbated by the loss of family resources to support gym memberships, recreational camps for children, organized athletic events, and other physical activities that can improve health.[15]

**Steve Cline, DDS, MPH**, is the deputy state health director at the North Carolina Department of Health and Human Services. He can be reached at steve.cline (at) ncmail.net.

# Economic Conditions and Health Behaviors: Are Recessions Good for Your Health?

*Christopher J. Ruhm, PhD*

Health is conventionally believed to improve during economic expansions and deteriorate in downturns. Yet the empirical evidence supporting this view is quite weak, and recent research using sophisticated methodological approaches indicates that mortality *decreases* and physical (although not necessarily mental) health *improves* when the economy temporarily weakens.[1] For example, a one percentage point increase in the unemployment rate is associated with a 0.3% to 0.5% reduction in total deaths.[2] One reason for this is because during economic downturns, driving often decreases due to reductions in commuting and work-related travel Consequently motor vehicle fatalities decrease; a one point rise in joblessness reduces traffic deaths by 1% to 3%.[2] However, many other types of mortality also decline. Particularly noteworthy is the substantial decrease in fatal heart attacks,[3] which is interesting since this risk is responsive to short-term changes in health behaviors and environmental factors.

Lifestyle modifications probably explain some of the health improvements occurring during economic downturns. One reason is that there is an increase in non-market leisure activities which can often be health promoting, such as exercise and cooking meals at home. Lower incomes may also play a direct role for a reduction in purchases such alcohol, tobacco, and restaurant food.

Alcohol use has been most widely studied. In research conducted during the 1990s, I found that drinking (particularly the consumption of hard liquor) and alcohol-involved vehicle fatalities fall when the economy weakens.[4] Supporting evidence has been provided by both earlier and later studies.[5-7] Since moderate alcohol use is linked to health benefits, reductions in drinking might imply less healthy lifestyles. However, this is not the case: the variation in overall consumption reflects movements from heavy to light alcohol use, rather than between recreational drinking and abstaining.[8]

Limited research suggests that other behaviors also become healthier in tough economic times. Using data from the Behavior Risk Factor Surveillance System, I estimated that a one point drop in the percentage of the population employed reduces the prevalence of smoking, obesity, physical inactivity, and multiple health risks by 0.6%, 0.4%, 0.7%, and 1.1% respectively.[9] The decline in body weight is concentrated among the severely obese and groups with relatively high risk of early death (males, African Americans, and Hispanics). Increases in exercise largely reflect movements away from complete inactivity, and the reductions in tobacco use disproportionately involve heavy smokers, although the reasons for this are not fully understood. These macroeconomic effects are initially quite small but accumulate over time. Supporting evidence has been obtained by other researchers for smoking (using the same data but examined over a longer time period), for exercise in Germany, and for obesity among high school aged boys (but not girls) in the United States.[10-12] However, mixed findings have been provided using data from Finland.[13] One study also showed that pregnant women consume less alcohol in bad economic times but with varied results for smoking.[14]

The improvements in health during economic downturns occur despite reductions in many types of medical care. My research indicates that routine medical checkups and screening tests (mammograms, pap smears, and digital

### Health Insurance and Access to Care

The majority of North Carolinians receive their health insurance through their employer. Unfortunately, North Carolina is experiencing the highest unemployment rates we have seen in decades, which has created a growing percentage of uninsured residents. More families with less income essentially leads to more people dependent on public assistance programs and safety net health care providers. In fact some of our public assistance benefits are based on recipients getting jobs. ("Workfare" Reform, 1996.) But what happens when there are no jobs? Access to care declines. With every 1% increase in the unemployment rate, an estimated one million people lose their health insurance.[16] In addition, even people with health insurance are reluctant to seek appropriate medical care and fail to comply with needed medications because they worry they can't afford the prescription medications.[17]

### Social Influences

Social determinants of health such as increased poverty, decline in education levels, and inadequate housing play a significant role in health status.[18] This is particularly true for vulnerable populations, who already experience significant health disparities. There is a long-standing debate among health services researchers about whether a sharp socioeconomic decline causes a decline in health or if this sharp decline only affects poor, less healthy people more. But does it really matter? The point is that health suffers when basic human living conditions are compromised.

## Mental Health—"Life is hard!"

Lack of money and poor living conditions can cause significant stress and emotional consequences. The loss of a

rectal exams) are less often received during downturns; doctor visits and hospital episodes also decrease.[15,16] However, these patterns may not be universal. For instance, there is evidence that advanced medical treatments for coronary heart disease, such as coronary artery bypass graft and percutanerous transluminal coronary angioplasty, become more rather than less common when the economy weakens.[3]

Health is also likely to be affected positively during short-run decreases in the production of goods and services. Reductions in hazardous working conditions and the physical exertion of employment could have beneficial effects when job hours are decreased during economic expansions. The decline in work hours also increases sleep, the lack of which is linked to stress, decreased alertness, higher injury risk, elevated rates of obesity, and physiological or psychological symptoms. Finally, injury rates may fall because of relatively large decreases in the cyclically sensitive construction and manufacturing sectors, where the risk of accidents is relatively high.

The surprising conclusion is that physical health improves, on average, when the economy weakens. This does not undo the damage of bad economic times but it does emphasize the need for caution in assuming that all measures of well-being move in the same direction when economic conditions change. Exciting research is presently underway that will increase our understanding of the mechanisms of these effects and of how the impacts differ across population subgroups.

*Christopher J. Ruhm, PhD, is the Jefferson-Pilot Excellence Professor of Economics at the University of North Carolina at Greensboro. He can be reached at chrisruhm (at) uncg.edu.*

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job or the inability to provide for one's family can greatly increase stress, anxiety, and depression during a recession. The increase in emergency room visits, suicides, and psychiatric hospital admissions associated with mental health conditions is well-documented during periods of economic decline and financial stress.[19] For example, earlier work found increases in psychological stress and care-seeking for psychological stress during periods of economic instability.[20] Economic stress can also increase violent and abusive behaviors. Stress, anxiety, and depression can also lead to a wide range of physical health conditions including asthma, high blood pressure, back pain, and cardiovascular disease. Stress can contribute to an increase in negative coping behaviors such as tobacco use, alcohol consumption, or physical abuse. According to a report recently released by the Family Violence Prevention Fund, "nearly half of all teens whose families experienced economic problems in the past year reported having witnessed their parents abusing each other."[21]

## Family Planning—"It's a baby bust!"

One of the most telling indications that a poor economy has a negative impact on health is how people respond to family planning issues. Families who are worried about their future are making tough choices. A March 2009 survey by the American College of Obstetricians and Gynecologists of more than 1,000 women showed a decrease in women scheduling annual exams and an increased demand for birth control services, including a preference for longer-term options such as vasectomies.[22] The survey also reported more families choosing to postpone planned pregnancies and an increased demand for abortion services. Research in Australia found that unemployed married women were more likely to terminate pregnancies than employed married women.[23] Uncertainty about the future results in reluctance to bring a baby into the world. These trends may be a product of a temporary decline in the economy but can have a lasting impact on the lives of these families.

## "Don't give up"

There is hope. There are things we can all do to reduce our health risks that aren't dependent on the economy. These are the same things that make you healthier all the time and they involve personal decisions we control. We all need to make better food choices, exercise regularly, get plenty of sleep, resist bad habits, seek help when you need it, and think positively. Easier said than done, I know, but in the end, it's all worthwhile. Exercise can be fun and leading a healthier lifestyle can make you feel better. By all indications these tough economic times will not be short-lived. Let's do what we can to make sure we are not short-lived ourselves. **NCMJ**

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# Health Care Employment and the Current Economic Recession

*Erin Fraher, PhD, MPP; Jessica Carpenter; Sarah Broome, PhD*

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.

***...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.***

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

**Erin Fraher, PhD, MPP**, is the director of the North Carolina Health Professions Data System at the Cecil G. Sheps Center for Health Services Research at the University of North Carolina at Chapel Hill. She can be reached at erin_fraher (at) unc.edu.

**Jessica Carpenter** is a social research specialist at the Cecil G. Sheps Center for Health Services Research at the University of North Carolina at Chapel Hill.

**Sarah Broome, PhD**, is the director of economic research at the North Carolina Hospital Association.

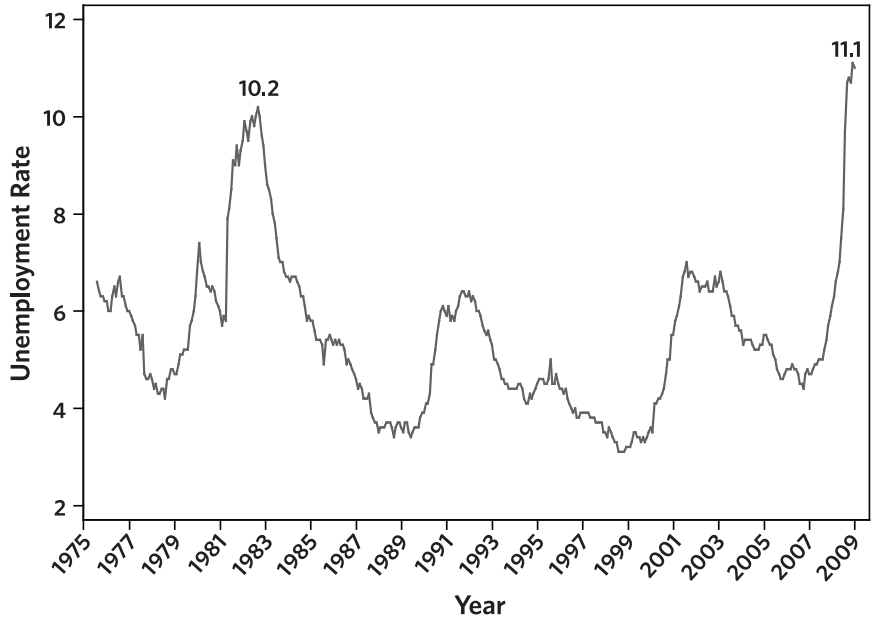
reported that in the last quarter of 2008 they had: (1) negative patient, hospital, and total margins—the first time all three average margins were negative; (2) a decline in commercial payer volume and a rise in charity care, Medicaid, and Medicare patients; and (3) slowing inpatient volumes, particularly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

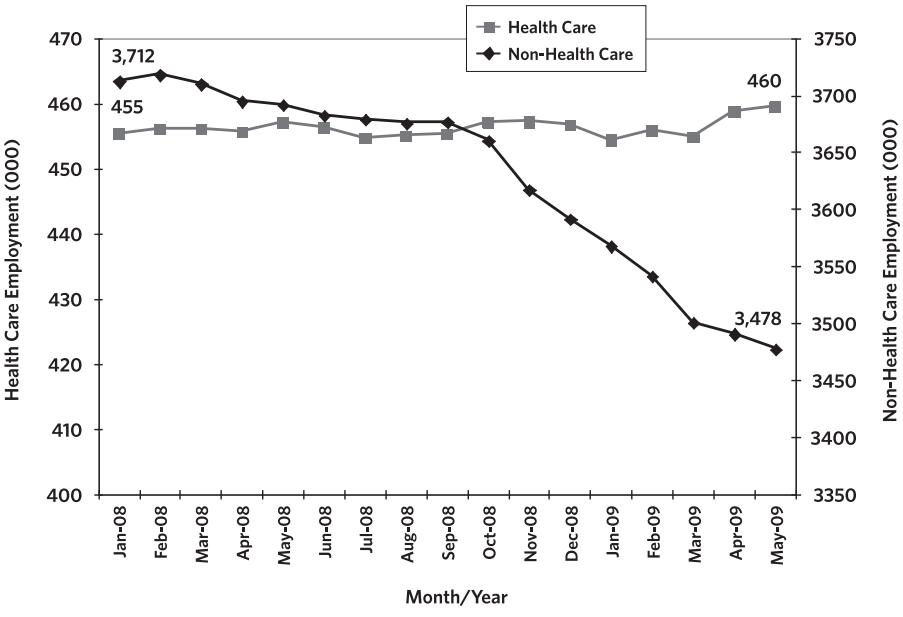
These data suggest that health care employment has remained relatively "recession proof" compared to other sectors in the economy. Further, when historical trends in specific health care professions are analyzed, the data suggest that health care jobs in North Carolina will remain relatively immune to 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.

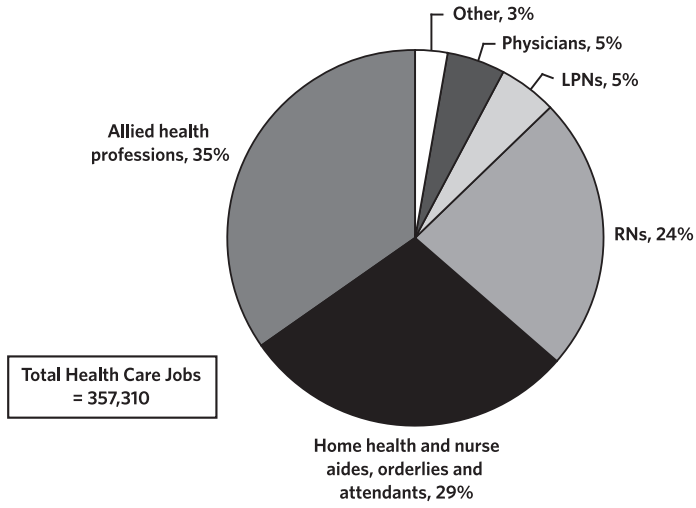
health care workers in North Carolina and the state's growing and aging population will continue to demand the therapeutic, diagnostic imaging, and pharmacy services provided by these professionals; (2) the sharp increase in nurse workforce participation rates that the state is currently experiencing 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**




Source: U.S. Bureau of Labor Statistics, Occupational Employment Statistics (2008). URL: http://www.bls.gov/oes/.
Note: "Other health care occupations" includes: chiropractors, dentists, optometrists, podiatrists, and pharmacists. Numbers add to 101 due to rounding.

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.

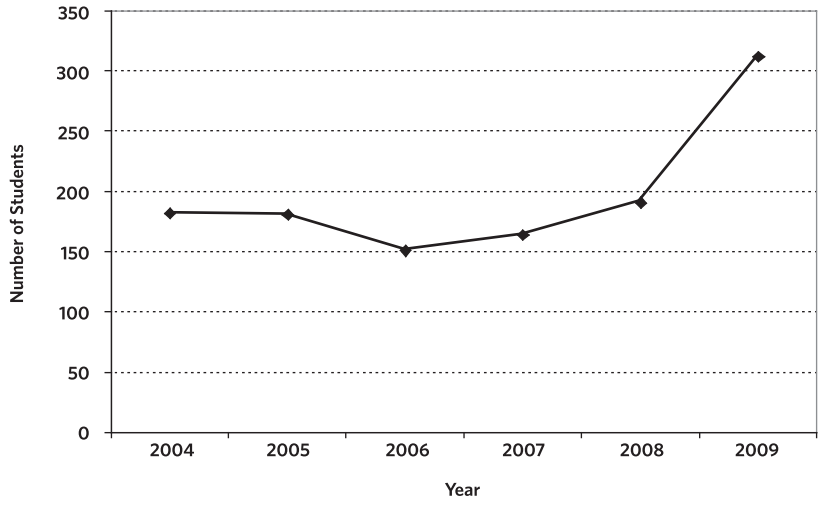
## Institutional Rigidities and Lag Effects in Workforce Supply

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 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.

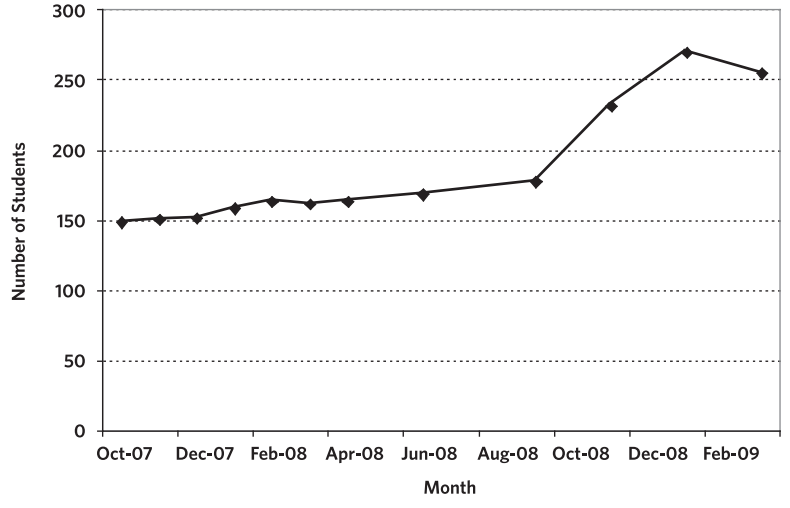
## Summary of Findings and Conclusions

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 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

**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**

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# Financial Perspective of a Large Health Care System in North Carolina

*John P. Lewis, MBA*

With the worsening economy, the University of North Carolina Health Care System (UNC HCS) faces severe challenges. Like many providers, especially safety net providers, we had already been facing several of these challenges.

The jolting impact of the recession has accelerated underlying trends that threaten to destabilize our system's financial health. The rapid rise in unemployment precipitated a deterioration in insurance coverage in terms of the number with insurance, the quality of the benefit, and whether the patient has private insurance or Medicaid. Demand for services softened with the fall in consumer confidence and employment, particularly for semi-elective care, such as an MRI for lower-back pain or knee arthroscopy. As a state institution, we face cuts in the state budget that will directly reduce funding to the University of North Carolina School of Medicine and its clinical entities which are an integral part of the UNC HCS. Stock market losses substantially reduced our reserves, which are invested, thereby eroding our protection against further downturns and diminishing our capacity to invest in capital projects.

The accumulated impacts of the recession have made an already challenging operating environment far worse. It has not, however, been without a silver lining. In response to the crisis, our management team, faculty, and staff have improved our operations by focusing on cost containment, improved efficiency, and improved communication with our staff. Ultimately, the duration of the recession and the health policies developed to address the long-term structural difficulties in financing health care will play a major role in shaping how the UNC HCS addresses the many challenges we face.

## Deteriorating Payer Mix

The insurance coverage a patient has matters. The UNC HCS cares for all comers. In general, if a patient comes with private insurance, we earn a little; if a patient has Medicare, we lose some; if a patient has Medicaid, we lose more. Patients without insurance typically pay very little to nothing at all so in those cases we lose a lot. Over recent years, we have experienced a steady and unfavorable shift in our payer mix. For instance, in each of the last several years, we provided about a 10% annual increase in the costs of care for uninsured patients, or roughly double our overall growth. Underlying this trend is the increasing cost of private health insurance and the gradual erosion of employer-based coverage, which leaves many without insurance.

*The accumulated impacts of the recession have made an already challenging operating environment far worse.*

Not surprisingly, there is a direct link between increased unemployment and a decline in payer mix. For each 1% rise in the unemployment rate, we have historically experienced a 6% fall in managed care volume, no change in Medicare volume, a 3% increase in Medicaid volume, and a 6% increase in the number of uninsured. Put more simply, when unemployment increases, people lose their employer-based insurance and often become uninsured or enroll in Medicaid. In dollar terms, a 1% rise in unemployment equates to a $14.4 million drop in our cash collections.

Based on this analysis, a 1% change is troubling; but a 6% change is catastrophic. Yet that is exactly the scenario we face. In January, 2008, unemployment in North Carolina stood at 4.7%; in April 2009, it was 10.8%.[a] On an annual basis, if history holds, we would expect about an $86 million decline in what we are paid for the services we provide. If we compare this to our operating income of $38.8 million in 2008, the key question for us becomes whether historical trends will apply. So far, the trend has been directionally accurate; however, the federal subsidy for COBRA coverage seems to

a Unemployment numbers are from the North Carolina Employment Security Commission.

**John P. Lewis, MBA**, is the chief financial officer for the UNC Health Care System. He can be reached at jplewis (at) unch.unc.edu.

have slowed the overall impact. Specifically, had history held, we would have seen a 40% increase in charity care last month relative to the same month one year ago. The actual increase was about 30% or only 75% of the expected increase.

To describe the magnitude of the issue, our cost of providing uncompensated care rose from $208 million to $227 million to a projected $263 million for the fiscal years 2007 through 2009, respectively. Next year, we expect to reach $300 million in uncompensated care. That will be about 20% of our overall cost. Furthermore, we expect that nearly one of every seven of our patients will lack any insurance coverage.

## Demand Softening

Intuitively, one may not expect our demand to be correlated with the economy. After all, not very many people choose when to be sick, when to need a lifesaving procedure, or when to be injured. Many health care services, though providing health benefits, are not medically urgent; and with increased economic hardship, individuals can and do choose to delay or avoid treatment. Many of these semi-elective diagnostics or procedures help fill otherwise unused capacity with well-reimbursed services.

Our physician and hospital clinical services in Chapel Hill, are less vulnerable to these changes than many other providers. This is true for three primary reasons. First, we generally operate at full capacity. Our physician clinics and hospitals maintain extraordinarily high utilization rates. Today, for instance, 95% of our intensive care unit beds are occupied. Second, the Research Triangle area has experienced steady growth in recent years due to population growth and aging. This has increased our patient base. Finally, as a quaternary care facility, we tend to have a smaller proportion of non-medically urgent cases.

Nonetheless, discretionary cases are down. A primary example is infant deliveries. Obviously, babies arrive based on a relatively long planning horizon. Based on the evidence, it appears that young couples were the first to realize we were entering a recession. Following years of steadily increasing deliveries with a 5% increase in 2008 over 2007, we expect no increase in 2009 over 2008.

In Wake County the trend is more pronounced. Despite continued population growth, increases in volume have slowed dramatically. Again using births as an example, Rex Healthcare, following multiple years of greater than 10% increases, will deliver only about 2% more babies this year than last. Other services such as imaging exams, surgeries, and even inpatient discharges have similarly leveled off.

The logic for decreasing demand becomes more intuitive when combined with the point above: fewer North Carolinians have insurance. However, this change will have a deeper effect and longer duration than the drop in employment. For many years, patients have absorbed a higher out-of-pocket cost as employers shifted more health costs to their employees. With pressure on income, out-of-pocket expense is more of a concern than before, especially when considering decreased job security, less willingness to take time away from work due to concerns for job security, less disposable income, and perhaps less access to credit. In short, we forecast that the suppressed demand will outlast the bottoming of the economic downturn.

## State Budget

As a state institution, the UNC HCS has unique vulnerabilities as well as protections that other health care providers lack. Despite the mounting cost of our uncompensated care, the state appropriation to the UNC HCS has been cut by $4 million this year and may be reduced even more in coming years. Counter to many people's perceptions, we receive only a small fraction of our revenues as a state appropriation. In the current fiscal year, this revenue will be less than 3% of our operating revenues. Yet these funds are vitally important, especially as an offset to meeting our increasing charity care mission and to defray a portion of our costs for resident education. Without the appropriation, the UNC HCS would have operated at a deficit for eight of the past ten years.

This commentary focuses on the clinical mission of the UNC HCS. Our vulnerability, however, extends beyond state funding for our clinical services and includes our research and education mission. Because these missions are not discrete, reduced funding in either of these areas has a profoundly negative impact on clinical financial performance. Cuts under debate in the North Carolina Legislature could reduce funding to the UNC School of Medicine by $30 million or more.

The Legislature is also considering reducing Medicaid payment rates and other adverse changes to our clinical operations. Together these would have another negative $30 million effect on the UNC HCS. There is a likelihood, however, that as a state institution, at least portions of the UNC HCS would be exempt from these changes.

Predicting the outcome of these policy and appropriation changes is difficult. However the UNC HCS, like all large systems across North Carolina, relies heavily on state funds for patient services contracts (i.e., Medicaid and the State Employees Health Plan) and, in our case, state appropriation. The state budget crisis underscores the reality that we have increasingly recognized over recent years: the current cost structure can quickly overwhelm the available resources. Without structural change, such as universal health insurance coverage (regardless of what form it may take), reductions in service levels—particularly to our most vulnerable citizens—will be inevitable.

## Capital Markets—Equity Losses and Bond Debt

Like most corporations, the reserves of the UNC HCS have been invested partly in the equities markets. Of course, in better times, we benefited from the income and appreciation earned on these assets. However, as the stock market has declined, so have our reserves. These reserves serve practical purposes in addition to being a cushion for leaner times. Like most hospitals, each of the hospitals in the UNC HCS holds substantial debt used for major investments in our facilities.

# Tight Capital Market's Impact on Hospitals

*John Franklin*

Over the past 24 months, world economies have been stressed by a surge of economic challenges which originated in the United States. The result has been historic gyrations in the credit markets, with nearly every type of nonfinancial industry experiencing difficulty obtaining capital to fund their businesses. The hospital and health care sectors, while often viewed as anti-cyclical businesses, have not been immune to the operational and financial realities of the present economic environment.

In recent years, many nonprofit (tax-exempt) hospitals tailored their capital structures to include a mix of debt obligations, including fixed and variable rate debt. Fixed rate debt is much like a home mortgage in that the terms and cost of the debt over the entire payback (usually 30 years) is locked in at closing. Variable rate obligations, however, while also long-term borrowings of up to 30 years, are structured to have the rate reset on a regular basis (usually daily or weekly)—thus enabling the hospital to borrow long-term money with short-term interest rates.

Most variable rate structures, like auction rate securities and variable rate demand bonds, utilize credit enhancement from a bond insurance company or commercial bank to gain a high rating on the bonds and provide liquidity to short-term investors. Unlike fixed rate debt, variable rate debt credit enhancement must continually be maintained or renewed over the 30-year life of the borrowing—opening borrowers up to the ongoing credit risk. The financial management of a hospital capital structure has been made very difficult lately because many hospitals are finding themselves unable to access capital at a reasonable cost while at the same time their existing variable rate capital structures are impaired due to credit downgrades with bond insurers, commercial banks, or interest rate swap counterparties.

Due to a lack of liquidity in the fixed rate tax-exempt market in late 2008 and early 2009, hospitals were unable to borrow. Although the market is now thawing so that an "A" rated hospital can borrow at a 7% interest rate for a 30-year loan (compared to less than 5% two years ago), it remains to be seen how thoroughly the markets will thaw for lower-rated hospital credit. In addition, the fees that banks are charging for letters-of-credit associated with variable rate debt structures have doubled or even tripled in cost.

The takeaway from this is that the increased cost of capital has caused some hospitals to delay capital improvement plans due to the expense. Hospitals that made major improvements to their facility prior to the credit market disruptions will have a competitive advantage over hospitals that will have to raise capital in the current market environment. In addition, hospitals with stronger credit profiles will have easier access to capital than hospitals with weaker credit profiles. Weaker hospitals are therefore seeking nontraditional sources of capital including HUD 242 Loans, Federal Home Loan Bank Loans, and Bank Qualified Loans, which became more available as a result of the recent stimulus package passed by Congress.

At present all three major rating agencies (Moody's, Fitch, and Standard & Poor's) have negative outlooks for the hospital industry. In fact, 81% of all credit rating downgrades by Moody's Investors Service in 2008 were for hospitals rated Baa1 or lower, a category that generally includes stand-alone community hospitals and rural hospitals. Interestingly, 74% of all Moody's credit rating upgrades were for hospitals rated A or Aa or better, which typically includes dominant-market leading community hospitals and tertiary hospital systems.

The credit gap is widening between strong and weak hospital credits, and the cost differential of capital between the two is causing the gap to widen further. The pivotal event that causes smaller hospitals to seek a partner is a lack of access to capital. Therefore the current capital squeeze will accelerate consolidation in the industry through mergers, acquisitions, and closures. Just like the rest of the United States, North Carolina will see a significant increase in system affiliation.

*John Franklin is the managing director of the BB&T Debt Capital Markets Healthcare Finance Group. He can be reached at jfranklin (at) bbandtcm.com.*

Stock market declines translate directly into loss of reserves. Our reduced amount of reserves has the compounding effect of making us a less attractive borrower and limits our future capacity to invest in ourselves.

The UNC HCS's debt has remained remarkably stable for several reasons. First, we hold types of debt that have not had increased interest rates. Second, because we came into the recession with financial strength, we are still not seen as a high risk. Third, we are not yet seeking new debt.

Many other institutions have been less fortunate. Bond rating agencies have downgraded the debt held by many hospitals and health systems. Lenders simply offer loans at the most attractive rates to the most reliable borrowers. With these downgrades, the cost of borrowing and existing variable rate debt is more expensive. The analogies to the housing mortgage market are striking. Hospitals are now paying more interest, are less able to borrow, and more will face challenges meeting their repayment obligations.

Our future capital spending is a much gloomier picture. Our equity losses and the heightened operating challenges we face inevitably mean that we will invest less in our facilities and future expansion than would be ideal. In round numbers,

we have cut our forecasted capital expenditures in half for the next five years. This is despite the extraordinary need we have to expand in order to better meet the needs of the patients we serve. Yet with less in the bank, we have little alternative.

The challenges before us are not new though the magnitude is more daunting. More North Carolinians and more of our patients are uninsured than ever before. Many are delaying or avoiding care which, at least temporarily, has reduced volumes in profitable areas. The recession's impact on state revenues has set off a funding crisis that will likely cause a dramatic cut in our funding just as our societal need is at its highest.

It is hard to find silver linings in this economic crisis. Yet there have been many. We renewed our focus on efficiency and containment of expenses. We sharply curtailed, if not eliminated, discretionary spending. We painstakingly scrutinize positions before adding or replacing staff. Turnover has dropped to a record low level which is crucial for enabling us to improve both quality and efficiency of care. We can be extremely selective in hiring. We have decreased our reliance on overtime and temporary staffing. Our co-workers are more committed than ever to providing a great patient experience, knowing the importance of maintaining high volumes. Our investments in program growth have been targeted to the programs most core to our multiple missions.

These changes have helped us stave off financial distress in the first part of the recession. As has been the case with other industries, the recession exposes the financial vulnerabilities health systems face. At the UNC HCS, we have provided far more uncompensated care than ever before and anticipate that we will provide even more next year. We have improved our efficiency, but cannot address the underlying challenges in isolation. As has been commonly recognized in the public debate, we need a solution that curbs growth rates and cost inflation and assures coverage to more or all people. **NCMJ**

# Impact of Community-Based Patient-Centered Medical Homes on Appropriate Health Care Utilization at Carolinas Medical Center

*Kristin E. Wade, RN, MSN; Scott L. Furney, MD, FACP; Mary N. Hall, MD, FAAFP*

There are numerous reports that link the economic downturn to increased use of emergency departments (EDs). For example, in *The Washington Post*, Larry Gage, president of the National Association of Public Hospitals and Health Systems, stated that "the absolute number of people using emergency rooms has gone up as much as 20% to 30% in the last six to eight months due to the recession."[1] The same article reported that Providence Hospital in Washington, DC experienced a 13% increase in emergency room visits in the previous year.

Carolinas HealthCare System, centered in Charlotte, North Carolina provides the majority of safety net care for the Charlotte-Mecklenburg region; yet interestingly enough, the EDs at our hospitals are not experiencing similar trends as the rest of the nation. Comparing the first five months of 2009 to the first five months of 2008 shows only a slight increase in ED visits (0.5%) for all of the Carolinas HealthCare System's Mecklenburg County hospitals. This is during a period in which our region is experiencing overall population growth, rising unemployment rates, and increasing numbers of people without health insurance. This commentary will explain some of the strategies implemented at Carolinas Medical Center over the past decade that are helping to control ED utilization.

Carolinas HealthCare System (CHS) is a large, vertically integrated health care system with facilities in North and South Carolina. The flagship hospital, Carolinas Medical Center (CMC), is an 808 bed facility and a Level I Trauma Center. As in many cities, our safety net hospital serves a significant role in providing access to services for underserved populations. CMC also serves as one of North Carolina's five academic medical center teaching hospitals, providing residency training for over 200 physicians in 15 medical specialties. Additionally, CMC operates primary care clinics for uninsured and underinsured patients in four strategically located areas of the city. These clinics, along with affiliated specialty care clinics, provide medical care to over 70,000 low-income individuals in 250,000 annual visits.

*The community clinics have demonstrated benefit to the hospital by delivering effective, efficient, patient-centered, and timely care. A key outcome was a decrease in hospital ED utilization rates.*

In the 1940s, CMC began operating clinics for the uninsured on its main hospital campus and recently expanded to other sites to help meet community demand. It became apparent to the community and hospital leadership in the mid-1990s that the existing clinic infrastructure was at critical capacity. New patient appointments were scheduled months out, established patients could not get appointments so they utilized the ED, and there were growing concerns about potential impact to the quality of the medical education program if these trends continued.

**Kristin E. Wade, RN, MSN**, is an assistant vice president at Carolinas Medical Center. She can be reached at kristin.wade (at) carolinashealthcare.org

**Scott L. Furney, MD, FACP**, is a clinical professor and chairman of the Department of Internal Medicine at Carolinas Medical Center.

**Mary N. Hall, MD, FAAFP**, is the chair of the Department of Family Medicine at Carolinas Medical Center and the director of the Charlotte Area Health Education Center (AHEC).

To address these concerns, CMC made the decision to help meet the needs of our community by expanding services and embracing the medical home concept; this decision has shown downstream success in terms of patient outcomes and improved utilization at appropriate care venues. As evidence of this, while ED visits have remained essentially flat at our Charlotte acute care hospitals, visits to the CMC primary care clinics are up 9% over the last year.

CMC continues to develop our primary care clinics to be true patient-centered medical homes. A decade ago, locations were chosen for the placement of new clinics by mapping where Medicaid patients lived, in order to provide care for patients in their surrounding communities. Key medical home principles for care delivery have been established, including:

- Each patient is assigned to a continuity physician (primary care provider).
- Patients have access to a 24-hour nurse advice line and to an on-call physician.
- There is facilitation of care across the continuum, including well care, sick care, specialty care, and hospitalization services.
- Support services are provided from a team of care providers including social workers, interpreters, dieticians, pharmacists, and health educators. This care team ensures that physicians focus on providing medical care while others collaborate to meet the patient's broader needs.
- Partnerships are created with community-based care organizations. A few examples include co-location of Mecklenburg County Health Department services, such as WIC and maternity care coordination; onsite registered nurse care coordinators from the local Community Care of North Carolina's Medicaid case management program; and partnerships with organizations that provide care for the homeless to streamline their access to free health care and medications.

The community clinics have demonstrated benefit to the hospital by delivering effective, efficient, patient-centered, and timely care. A key outcome was a decrease in hospital ED utilization rates. After the community clinics opened, we realized a steady decline in ED visits at Carolinas Medical Center from 118,400 visits in 1995 to 102,500 in 1999. A few years ago, ED visits were creeping up again and studies of ED patterns indicated that the Hispanic/Latino population disproportionately used the ED for non-emergent needs, particularly for their children. In February of 2004, we opened a pediatric after hours clinic at our CMC NorthPark location. It is open Monday-Friday in the evenings and during the day on Saturday and Sunday. After extending these hours, ED visits for Medicaid and uninsured children decreased by 20% over the following year, and the acuity of children that were presenting to the ED increased by 6.6%, indicating that the lowest acuity patients were indeed seeking care elsewhere. To continue this trend, a scheduler was added to the ED staff to directly book follow-up appointments in the clinic's scheduling system and to educate patients about the importance of utilizing their primary care physician. Since then, ED visits slowly crept back up, and extended hours were added at a second pediatric location in late 2008. Without adjusting for growth, ED visits remain lower today than before the community clinics expansion in 1995 (see Figure 1).

**Figure 1.**
**Emergency Department Visits and County Population**

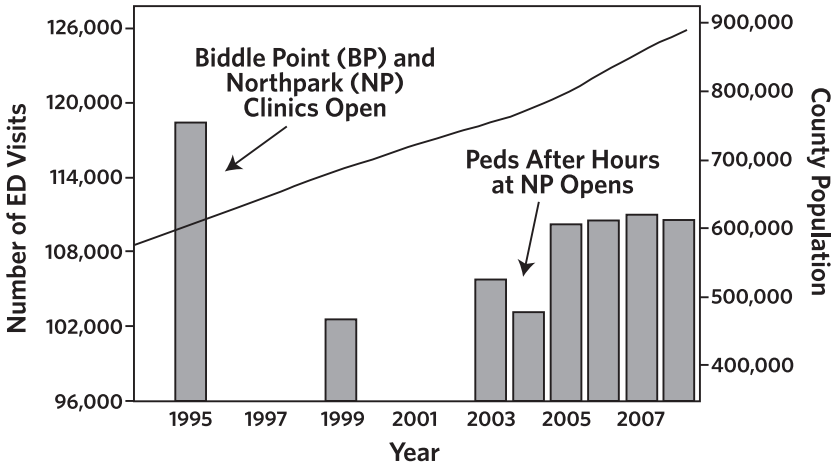



Figure note: Bars denote number of ED visits (left axis); line denotes county population (right axis).

Another major barrier to patient compliance, and also to physician productivity, was the high rate of patient "no-shows," with an average of 38% of patients missing their appointments. In 2002, services were enhanced through implementation of an "open" or "advanced" access scheduling system, locally called Available Access and modeled after the work of Dr. Mark Murray and Catherine Tantau. This scheduling methodology improved the patient show rates at our two large family medicine clinics from 62% in 2001 to 90% in 2005. In this system, patients calling for well or sick care appointments are scheduled for the same or next day. In addition, reminder letters are sent to patients who have not called and scheduled a well visit appointment at the recommended time intervals appropriate to their chronic disease or preventive needs.

Charlotte has one of the fastest rates of Hispanic/Latino growth in the US, now accounting for 10% of the total county population—a 56.3% increase in less than one decade.[3] Through focused efforts, we were able to address cultural and

linguistic needs in providing health care for this population. At just one of our clinics, 62% of the patients identify themselves as Hispanic/Latino. Meeting the needs of a non-English speaking population is necessary to provide health care services in our community. Use of interpreters helps to accomplish that, but can be extremely expensive and requires longer visits since conversations must be repeated. Recruitment of bilingual staff who can perform their job duties while communicating with the patient in their native language is more cost-effective and also provides cultural relevance for patients. CMC provides a Bilingual Incentive Pay Program for staff who pass a language competency assessment. Due to this program 50% of the staff at our largest clinic are bilingual. Other specific initiatives to provide culturally and linguistically appropriate services include patient education materials and signage in both English and Spanish, use of verbal and pictorial education to address both culture and lower literacy, and use of culturally appropriate items such as dietary guidance by nutritionists using ingredients more familiar to the patients in teaching Hispanic/Latino patients about diabetic diets.

Improved access to appointments, better show rates, onsite support staff, and a focus on culturally and linguistically appropriate care has led to better patient outcomes. A demonstration of this is the performance of patients receiving care at our CMC community clinics when compared to general North Carolina performance as reported by the Behavioral Risk Factor Surveillance Survey (NC-BRFSS).[3] One of the measures on the BRFSS is "Number of times in the past 12 months you have seen a doctor, nurse, or other health professional for your diabetes." Hispanic/Latino patients at our clinics are 23% more likely to have 1-5 visits and 64% more likely to have 6-11 visits than Hispanic/Latinos across North Carolina. African American patients are 4% more likely to have 1-5 visits and twice as likely to have 6-11 visits. Even more telling are statistics about patients with more than 12 visits in one year for diabetes. Hispanics were 11 times less likely to have 12 or more visits versus Hispanics across North Carolina, with less than 1% of the patients seeing the doctor more than 12 times. African American patients were 21% less likely to have had greater than 12 visits for diabetes in a year versus African American patients across North Carolina. This high number of visits could indicate that diabetes is poorly controlled, and that the medical homes at CMC are delivering better care for these minority populations (see Figure 2, page 344).

In addition to promoting a healthier lifestyle and decreasing morbidity complications for patients, improved diabetes care is financially beneficial to hospitals. Internal analysis found that uninsured patients admitted to CMC with a diagnosis of diabetes and who were not receiving services at one of our CMC medical homes, cost the hospital 31% more per day and 67% more per admission than for uninsured, diabetic patients with an established primary care home in a CMC clinic.

CMC community clinics have received national recognition for the care that we are delivering. Two of our community clinics received recognition in June 2008 from the National Association of Public Hospitals for addressing health disparities in their communities. All of the CMC primary care clinics have been recognized at the highest level by the National Commission on Quality Care (NCQA) for Physician Practice Connections (PPC). Three-quarters of our eligible primary care physicians are recognized by NCQA for meeting evidence-based standards in caring for patients with diabetes.

The CMC community clinics are very effective at providing care for significant numbers of our local uninsured community; however, it is very important to note that this does not fully

## Medical Homes Reduce Excessive Utilization:
### A Patient Success Story

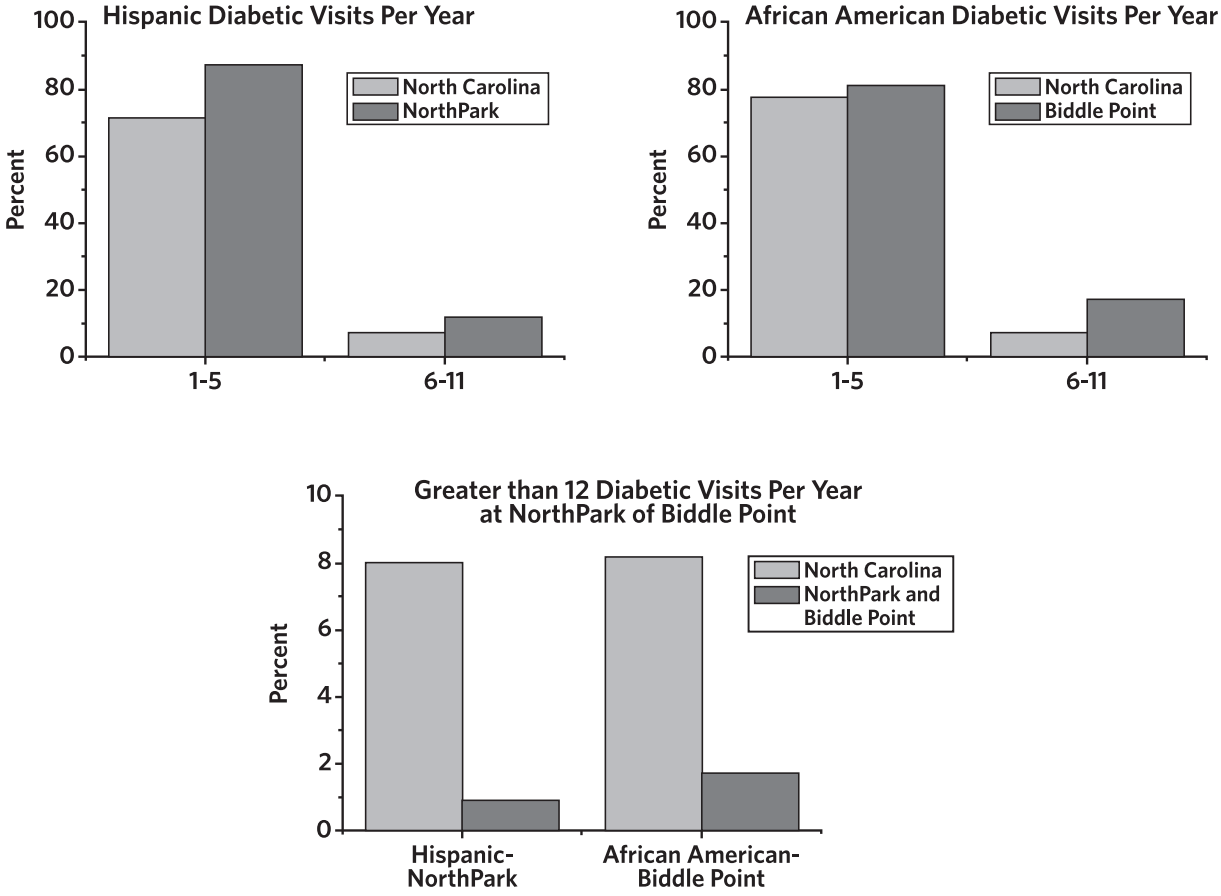
***Scott L. Furney, MD, FACP***

In 2003, physicians in the Department of Medicine at Carolinas Medical Center identified a small subset of patients who were frequently hospitalized due to poor management of their medical conditions. Their medical problems were often complicated by other factors, such as substance abuse, psychiatric disorders, or poor social support systems. We implemented a multidisciplinary medical home model for these high-risk patients in hopes of reducing their utilization of hospital resources. Interventions included easy access to physicians and clinic staff, frequent phone calls from case managers, free access to medications, and other interventions tailored to suit the needs of the individual patients.

Results of these interventions included reduced hospitalizations and emergency department utilization by more than 80%. While this medical home intervention was not a controlled study, the results for this high risk group were clearly beneficial. One of the patients, a 21-year-old Type-1 diabetic, had been hospitalized with diabetic ketoacidoisis 22 times during the year prior to the pilot program. Her disease was further complicated by poor social support systems and depression. With frequent clinic visits, psychiatric treatment, daily phone calls from a disease management nurse, and case management services provided by Medicaid, she was only hospitalized twice in the subsequent year. Objective measures of her diabetes control, such as Hemoglobin A1C, blood pressure, and lipid levels also demonstrated dramatic improvements with adherence to her medications. Six years later, her diabetes remains well-controlled and she has required less intensive intervention as her self-care skills have improved with education. In her case, provision of a medical home with comprehensive medical care and support was not only cost-effective, but potentially life-saving.

*Scott L. Furney, MD, FACP, is a clinical professor and chairman in the Department of Internal Medicine at Carolinas Medical Center. He can be reached at scott.furney (at) carolinashealthcare.org.*

**Figure 2.**
**Rates of Care for Diabetes Patients Seen at Carolinas Medical Center versus North Carolina**




meet all of the need. Just as in the 1990s, the CMC community clinics are at capacity. CMC is actively participating with MedLink of Mecklenburg County, a community collaborative of all of the safety net organizations striving to help meet the needs of our growing local uninsured community. MedLink includes all of our local hospital systems, free clinics, our local federally qualified health center, Department of Social Services, health department, Physicians Reach Out (our Project Access style program and a part of Community Health Services), MedAssist (providing medications for uninsured patients), Community Care Partners of Greater Mecklenburg (our local Medicaid case management network), and other safety net providers. MedLink is working to develop strategies to address future health care needs in a more community wide manner.

We increasingly hear about people who are newly unemployed and do not know how to access social services or our safety net. We do not know what the future months and years will hold for us, as newly uninsured patients may be avoiding preventive services and chronic disease care due to financial consideration. Patients who have not historically received care within the existing medical home structure could present to our ED and hospitals for care in the upcoming months and years with higher rates of acuity.

Two principles can clearly be gleaned from the past successes of the CMC community clinics: (1) adoption and expansion of patient-centered medical home models are key to delivering effective, efficient, and appropriate care, and (2) support of collaborative work among the health care continuum, such as the work being done by MedLink of Mecklenburg and Community Care of North Carolina, will be critical to the success of future safety net care and, ultimately, the overlying cost of health care. **NCMJ**

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# A Proposal for Jump-Starting National Health Care Reform

## How Common Sense Reforms in Hospital Emergency Departments Can Reduce Wait Times, Improve Patient Care, Improve Quality of Care, and Lower Costs

*William (Bill) K. Atkinson, PhD, MPH, MPA*

The potential elements of national health care reform tend to frighten everyone—the politicians and policymakers responsible for creating it, the medical community responsible for implementing it, and the patients who will be most affected by changes to our existing health care system. But health care reform doesn't have to be frightening or overly complicated if approached in the right way. By adopting common sense reforms that improve access, patient care, quality of care, and lower health care costs, it can be demonstrated that health care reform can work. Momentum can then build for larger scale reforms.

The hospital emergency department has become the primary health care provider for millions of Americans. Because hospitals are required by federal law to provide individuals with emergency medical care regardless of their ability to pay, many people turn to emergency departments when they need medical treatment of any kind.

The Emergency Medical Treatment and Active Labor Act (EMTALA) was enacted in 1986 in response to concerns that emergency departments were refusing to treat uninsured patients or inappropriately transferring them to other hospitals, a practice known as "patient dumping." EMTALA requires all Medicare participating hospitals to provide an appropriate "medical screening exam" (MSE) to anyone who comes to a hospital emergency department seeking medical care. If the patient has an emergency condition, the hospital must either treat and stabilize the emergency medical condition or appropriately transfer the patient to another hospital.

On the surface, the law makes complete sense. But in reality, EMTALA regulations create unnecessary barriers that make it difficult for hospitals to effectively treat emergency department patients. While EMTALA requires that every patient receive a medical screening exam, it does not provide clear guidelines about what constitutes an appropriate exam. The regulations are vague, saying that an exam could range from a brief history and physical examination to a more complex process involving numerous tests, CT scans, and other diagnostic procedures.

The law is clear, however, on one point: federal guidelines issued in 1998 specifically prohibit hospitals from triaging patients who don't require emergency care. In other words, without an MSE, hospitals are not allowed to send a patient with a sore throat to a nearby community health clinic or non-emergent care center that is willing to provide more appropriate care.

This creates unfortunate consequences that are all too common in our current health care system. First, it leads to longer wait times in hospital emergency departments because physicians are required to conduct a medical screening exam on every patient, regardless of what type of care they need. Second, the current regulations promote the practice of "defensive medicine." Emergency department physicians operate with an abundance of caution that causes them to order more tests and procedures than they might otherwise. The last thing emergency physicians—or the hospitals in which they practice—want is an ex post facto regulatory finding that they failed to provide an appropriate screening exam.

While WakeMed embraces the unique role that hospital emergency departments play in providing patients with primary and specialty health care services, it is important for hospitals to have the ability to help patients match their health care needs with the most cost-effective, medically appropriate level of care. The existing EMTALA regulations make that process more difficult than it should be.

### The Solution: Common Sense Reforms

There is a growing belief among national policymakers that health care costs can be lowered by ensuring that patients receive treatment in the most cost-effective location. This approach has been partly adopted in North Carolina with Community Care of North Carolina's innovative "medical home" program.

It is now time to take the next logical step by applying these same principles to hospital emergency departments. Congress should adopt EMTALA reforms that give hospitals the flexibility to triage non-emergency patients and refer them to the most cost-effective, medically appropriate health care setting.

There is already a good example of this approach in an emergency setting. A new Emergency Medical Services (EMS) pilot project in Wake County relies on advanced practice paramedics to respond to emergency calls, triage the patient, and determine the most appropriate course of action. Patients are often transported by ambulance to a local emergency department. In other cases patients are referred to non-hospital, clinical, social services, or other community-based settings. This innovative approach is working in the field, and it will work in a hospital emergency department.

The reform of EMTALA represents a prime opportunity to begin implementing meaningful health care reforms that will lower health care costs and improve patient care.

*Dr. William (Bill) K. Atkinson is president and CEO of WakeMed Health & Hospitals, a private, not-for-profit health care organization based in Raleigh, North Carolina. He can be reached at batkinson (at) wakemed.org.*

# Stressing the Safety Net:
## Effects of an Economic Downturn

*Jennifer Henderson; Judith Long, MNA, MDiv*

Safety net providers exist to care for individuals and families who would otherwise be unable to access medical, dental, and mental health care because they lack the financial resources or do not have insurance. Safety net providers use various criteria to screen patients for eligibility, such as being uninsured or having a low-income, defined as income below a percentage of the federal poverty level (FPL). Safety net providers exist throughout the state to meet the needs in their local communities and provide care to those without access.

In Hendersonville, North Carolina, safety net providers include a federally qualified health center, a free clinic, a public health department, a state-funded community health center, several medical practices, and two hospitals. These providers work collectively to ensure that individuals do not "fall through the cracks."

### Model of Collaboration: Free Clinic and Federally Qualified Health Center

The Free Clinics (TFC) and Blue Ridge Community Health Services, Inc. (BRCHS) are located in Henderson County in the rural western part of North Carolina, near the border of South Carolina. Henderson County, with 525 farms, is the largest producer of apples in the state and the seventh largest in the nation.[1] Henderson County's population has grown from 69,285 in 1990 to over 100,000 in 2008.[2] Henderson County has been the fastest growing county in western North Carolina for more than a decade. At the same time the county is designated as a Health Professional Shortage Area (HPSA) for primary, dental, and mental health care services. It is estimated that approximately 17% of the population is medically uninsured.[3]

BRCHS began more than 45 years ago as a seasonal clinic providing health services to the migrant population in Henderson County. Since that time, BRCHS has grown into a comprehensive community health center providing high quality, affordable health care services to individuals in Henderson and surrounding counties. Six BRCHS sites, including a primary care practice, a pediatric practice, a dental center, and three school-based health centers, serve local residents. BRCHS is funded as a federally qualified health center (FQHC) and is the primary source of affordable, comprehensive medical and dental care for many low-income adults and children in the area. BRCHS programs and services are targeted to local populations most in need: people with low-incomes who are uninsured, underinsured, Medicaid and Medicare enrollees, Spanish-speaking, migrant and seasonal farmworkers, elderly, and children. The BRCHS staff of 80 includes over 20 professionals, including 11 medical services providers (physicians, nurse practitioners, and physician assistants), three dentists, three dental hygienists, two part-time psychiatrists, and three mental health providers (licensed

***When the economic downturn reached crisis proportions in the fall of 2008, safety net facilities began to feel the strain. With the record number of job losses, more and more people now meet the qualifications for safety net services, often having lost both their income and health benefits.***

**Jennifer Henderson** is the chief executive officer of Blue Ridge Community Health Services in Henderson County, North Carolina. She can be reached at jhender (at) brchs.com.

**Judith Long, MNA, MDiv**, is the executive director of The Free Clinics in Henderson County, North Carolina. She can be reached at jlong (at) thefreeclinics.org.

clinical social workers and professional counselors). While BRCHS primarily serves Henderson County, many patients travel from surrounding counties such as Polk, Rutherford, and Transylvania for their health care.

Since 2001, TFC in Henderson County has provided a user-friendly place for people to access the health care safety net system when they do not know where else to turn. TFC offers seven regular clinics (medical, dental, psychiatric, diabetic life management, orthopedic, eye, and pulmonary), a community pharmacy, a prescription assistance program, and community case management. Like most free clinics, TFC relies upon a pool of volunteers to provide care to patients, including 15 primary care physicians, four specialty physicians, three psychiatrists, three nurse practitioners, and 16 dentists. TFC has a small staff of four full-time and eight part-time people, including four nurses, a pharmacist, and a pharmacy technician. Yet unlike many other free clinics throughout the state, TFC does not provide ongoing primary care to patients. Rather, TFC refers patients to other providers such as BRCHS so that those patients can establish an ongoing primary care home. In turn, TFC assists BRCHS and other primary care medical homes in caring for low-income, uninsured patients by offering specialty clinics, intensive case management, a community pharmacy, a prescription assistance program, and access to specialists and diagnostic testing through a community case management program. Referrals between TFC and the primary care medical homes are frequent as we work together to bridge the gaps in care.

TFC and BRCHS are working together to bridge the gap in Henderson County. The collaboration includes the following features:

- BRCHS designates space once a week in their dental practice for TFC to provide a free dental extraction clinic.
- BRHCS accepts primary care, dental, and mental health patients referred from TFC.
- TFC's community pharmacy serves BRCHS patients, especially those needing diabetic supplies and psychiatric medications.
- TFC accepts referrals from BRCHS for specialty clinics and referrals to specialists through the community case management program.
- TFC and BRCHS administrative and clinical leadership serve collaboratively on community partnerships and task forces, representing the health needs of, and serving as community advocates for, the uninsured.
- BRCHS and TFC share information on available resources, educational opportunities, and legislative updates that may benefit both agencies and the patients they serve.

TFC's community case management program is available to all patients who meet TFC's guidelines (i.e., Henderson County resident, uninsured, and 185% FPL) and accepts referrals from physicians and practices throughout the community. TFC has built a network of 45 specialty providers, eight mental health providers, four medication assistance providers (in addition to TFC's two programs), six primary care providers, and three providers of ancillary medical services including equipment and supplies. Specialty physicians and providers of ancillary services in this network will see patients free for the first visit upon referral from TFC. TFC's community case manager works to refer patients to the appropriate specialty care as well as to coordinate the provision of any additional care that is needed. This program grew from 34 unduplicated patients in 2004-2005 to 485 unduplicated patients in 2007-2008, an increase of 1,326%.

In 2008, BRCHS provided over 48,000 encounters for 13,950 patients; by category these were 57% medical, 25% dental, 12% patient support (referral, eligibility, and community outreach), and 6% mental health. In 2007-2008, with the help of volunteer providers, TFC provided 2,844 encounters for 1,529 unduplicated patients. TFC's encounters were 34% community case management, 17% medical, 17% mental health, 17% specialty clinics, and 15% dental. The majority (51%) of the services provided by TFC were for patients referred from other practices like BRCHS, through the specialty clinics and community case management program.

## Stressing the Safety Net: Increase in Demand

When the economic downturn reached crisis proportions in the fall of 2008, safety net facilities began to feel the strain. With the record number of job losses, more and more people now meet the qualifications for safety net services, often having lost both their income and health benefits. TFC experienced a 14% increase in demand for its walk-in medical clinic from January through May 2009 and, due to overcapacity, began turning away patients for the first time in its history. Additionally, 42% of people requesting service from TFC's dental extraction clinic were placed on a waitlist during the period from January through May 2009, compared to only 3% of requests placed on a waitlist from July through December 2008.

BRCHS has also experienced a significant increase in demand. Due to lack of space and providers, BRHS is unable to serve the approximately 20 patients each day who request services; instead, patients are advised to come to a walk-in clinic. One of the most significant impacts of the increase in demand at BRCHS is the wait time for new patient appointments—32 days for the medical practice and 90 days for the dental practice.

To meet the increase in demand, BRCHS is actively seeking to hire two additional providers. Funds for the new providers will come from the American Recovery and Reinvestment Act of 2009, under the Increased Demand for Services Community Health Center Grants. BRCHS is a recipient of funds which must be used over the next two years to support a new provider, support staff, an interpreter, and an eligibility specialist. The demand for services in Henderson County could easily fill the schedules of five new full-time providers at BRCHS, but existing space in the facility limits the numbers of providers currently being sought to only two. BRCHS is

exploring the availability of additional funds in order to expand their physical plant to better meet the needs of the community. TFC is actively recruiting more volunteer providers to provide care at the clinics. TFC is also actively recruiting more specialists into the specialty network so that TFC can continue to meet the increasing demand for specialty care.

In addition to the increase in demand for safety net providers, another direct impact of the economic downturn is that, when patients finally do access care, they are often quite ill. Newly uninsured persons who have recently lost their jobs are primarily concerned about money and keeping a roof over their head and feeding their families. Newly uninsured persons are often unaware of the safety net services available in their community. Additionally, because health care can cost a great deal of money, these patients often procrastinate seeking care until they are unable to procrastinate any longer. Diabetic patients who stop testing their blood sugar and taking their medications can become seriously ill quickly, as can patients who stop taking their blood pressure medication. When these patients finally do arrive at a safety net provider like TFC or BRCHS, it takes more intensive intervention to stabilize their illness and return them to health. The greater level of intervention required further taxes the safety net and the providers who are struggling to meet increased demand.

With the downturn in the economy, even insured patients are postponing surgeries, procedures, and visits to physicians. The health care system overall is experiencing an increase in demand from uninsured patients while simultaneously experiencing a decline in insured patients. At the same time hospitals, physicians, and specialty physicians are finding themselves stretched very thin.

TFC's specialty network—built on the Project Access model—depends upon the good will of specialists to see a number of patients in their office free upon referral. The impact of the economy upon specialty physicians has a ripple effect upon their willingness and availability to accept free patients referred from TFC. At the time when the increase in uninsured patients means more and often sicker patients needing services through TFC's community case management program, specialists are becoming more difficult to access. It requires more negotiation to schedule visits, and some patients are being asked to pay a modest amount to the specialty provider. Henderson County safety net providers including TFC and BRCHS are beginning to engage in conversations about how to support and sustain the specialty care network.

## Effective Community Response Possible Only through Collaboration

While some may see the collaboration of free clinics and community health centers as rare or unusual, we hope our experience can serve as a positive example to other communities. TFC and BRCHS share a strong mission to improve access to critical primary and specialty health care services for uninsured and medically underserved individuals. Both TFC and BRCHS are honored to be entrusted with such an important mission and have a strong mutual respect for the providers and services of both agencies. We are justifiably proud to serve as an example of the importance of engaging with community partners through collaborative models to best serve the medically vulnerable in our community, especially during these times of economic crisis when safety nets throughout the state are so overwhelmed. We firmly believe that effective collaboration among safety net providers offers our best response to the current stress in the health care system, as well as the best long-term response to caring for the medically underserved in our communities. **NCMJ**

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# The Impact of the Economy on Individuals with Mental Health and Addiction Challenges:
## Tangible and Intangible Effects

*Kim Franklin, PhD*

Those of us who work in the public, state-funded behavioral health care system in North Carolina are experiencing a profound sense of concern for the individuals that we serve. Frankly, it's a sense of concern that has not been unfamiliar to us since the North Carolina Legislature passed mental health reform in 2001. Over the past several years, as consumers, providers, advocates, regulators, and decision-makers, we have collectively and hopefully held our breath as a new array of services was launched—services which were intended to increase the delivery of effective, evidence-based supports to those most in need.

As public employees turned private providers, we rolled up our sleeves and dug into the task of learning how to survive in a private, fee-for-service environment. Many of us hoped to do more than just survive—we wanted to strive for the level of quality and innovation in our service delivery that our recipients deserve. During the early days of mental health reform in North Carolina, we often used the metaphor of "building a plane while in flight" to reassure ourselves and those we serve that at some point this rather daunting task would be accomplished. At that point, the aircraft would fly smoothly, providing a safe and reliable vehicle for individuals on their journey of mental health and substance abuse recovery. However, even those of us who believed strongly in the philosophy of reform have struggled to maintain a sense of optimism as reform implementation has left many of the promises unfulfilled.

Recently, North Carolina Department of Health and Human Services Secretary Lanier Cansler challenged all of us to relinquish the language of reform and instead focus on rebuilding the system by relying on the routine practice of continuous quality improvement. I agree that it is time to accept the constancy of change and allow ourselves to benefit from a new viewpoint. However, I also must admit that if I was granted the ever-elusive "one wish" it would be that our public mental health system would have inspired more confidence in the individuals who count on it before we experienced the impact of an economic downturn.

When considering the impact of the economy on individuals who seek public mental health services, it may be useful to distinguish between those who are most recently seeking services and those that have depended on mental health services for some length of time. Over the past year one thing has become clear: more individuals than ever are reaching out to receive public mental health services. Our agency has seen a 64% increase in referrals for individuals seeking services compared to the previous year. In the past few months, we have seen anywhere from a 125% to 211% increase in referrals. One hypothesis for this trend is that access into the mental health system is more efficient and more effective ("no wrong door") as a result of mental health reform. However, our Local Management Entity reports that the number of individuals presenting for services in the midst of a mental health/addiction crisis or in need of psychiatric hospitalization is unprecedented.

*For many individuals, the economic downturn has... precipitated an onset or relapse of mental health or addiction challenges.*

For many individuals, the economic downturn has dramatically changed their circumstances in life, and the change has precipitated an onset or relapse of mental health or addiction challenges. Professionals in the health care field are very familiar with the stress-vulnerability theory of illness. Typically, individuals who have a vulnerability to mental health and/or addiction issues experience a breakdown of coping when these issues are combined with significant external stressors. We can all imagine the effect that job loss and heightened financial stress can have on one's mental state, often in the form of increased symptoms of anxiety and/or depression, as well as increased conflict within the very support systems that individuals need the most during

**Kim Franklin, PhD**, is the clinical director of Meridian Behavioral Health Services. She can be reached at kim.franklin (at) meridianbhs.org.

times of enhanced stress. We also can easily imagine how, as income becomes significantly compromised and health care of all types becomes less affordable, individuals may initially attempt to avoid costly treatment services, including psychiatric medication. Sometimes, particularly in rural areas, a barrier to reaching out for services can be something as simple as lacking gas money or a car. Under the new service array, community-based services are intended to go to the individual, rather than require the individual to come to a clinic. However, the unfortunate reality of this approach is that some adults find community-based services to be intrusive or even embarrassing if their living situation is not what they would wish it to be. The initial effort to avoid incurring the cost of formal treatment services is understandable. However for some individuals this may result in an event which either warrants a crisis response system or eventually connects the individual with mental health services through a more indirect route—first passing through a period of homelessness, incarceration, or involvement with social services. The stigma of receiving mental health services is still quite strong in our society, particularly in rural areas, so crisis events can trigger a process of internalized stigma and shame that only adds to an individual's sense of failure and demoralization. For those finally reaching out for services, this represents an unprecedented low point for them. It is these intangible consequences that may be difficult for us to fully appreciate during this period of economic downturn.

For individuals that have been service recipients in the public mental health system for a longer period of time, the impact of the economic downturn may play out in a manner that is more subtle and less dramatic. For many of these individuals, daily life already includes a sense of deprivation from what the rest of society has. Many already live on disability, already rely on public assistance for housing and food, already make-do without transportation, and already go without cell phones or a landline to reach out for support. Many already live very transient lives, fraught with challenges to their personal safety and wellness due to financial hardship.

In preparing this commentary, I met with several individuals that my agency serves in order to gain insight into what has changed for them since the economy started to fail. It was very interesting to realize that many of those I spoke with, including some who receive the most intensive services, did not focus on what I would call the "tangibles," such as a job, a home, a car, insurance, or some type of regular income to cover their basic needs. Instead they focused more on their fears and anxieties about the service delivery system and the stress of not knowing who will be there for them as they experience the ebbs and flows of their psychiatric conditions. They spoke about the importance of having a place to go where they knew there would be help when they needed it, a place where they wouldn't be judged or turned away. They also spoke of the confusion they have experienced during reform as they have transitioned between providers and tried to keep track of who works where and what each service is called. They spoke of the alternative strategies that they are willing to employ to ensure that they get the help they need, including buying medication off the street when psychiatric appointments are too few and far between. Finally, several spoke of all of the people that appear to be in need of help these days and their fear that there will not be enough services for everyone. We all know that even the most gentle of people can begin to develop a sense of competitiveness and distrust when resources begin to run scarce.

As it turns out, many of these fears are real. In addition to the potential loss of service dollars due to budget cuts, which directly threatens service delivery, there is also the effect of the economic downturn on providers and their ongoing willingness/ability to deliver services to individuals within the public mental health system. Many patients were aware that when North Carolina decided to legislate the privatization of the system, one of the potential unknowns of the model would be the willingness of private providers to serve those public mental health consumers with the most demanding and complex needs. Despite their need, individuals with considerable mental health and addiction challenges can often be difficult to engage in services. As providers become more protective of their revenue, they consciously or unconsciously begin to focus their efforts on individuals who are most able to engage, most reliable, most compliant, and most accessible. This can mean that the individuals who are most difficult to serve become known primarily by crisis response workers, law enforcement officers, and local emergency departments. Ironically, this is exactly the opposite of what mental health reform legislation intended when target populations were established with the goal of prioritizing those most in need of clinical care and assuring they get the treatment they need.

It appears that a primary challenge for the mental health system during this economic crisis is to identify the providers of care that are most invested in serving the public mental health client, even at the highest level of challenge and needs, and then supporting and incentivizing those providers to develop creative, cost-effective models of service delivery with the potential to survive during lean economic times. This takes a willingness on the part of each and every partner in the system to place value on innovative and creative solutions, to replace competition with collaboration, and to maintain a focus on the individuals needing services. The answer is much more comprehensive than putting additional money in the system. It is about providers and decision-makers demonstrating that we are fully committed to walking alongside the individuals we serve, regardless of the challenges brought on by our economy. Commitment is a trickle-down affair. As the system commits to the ongoing viability of quality providers, those providers, in turn, are able to inspire confidence that they are in it for the long haul. We may not be able to make a difference in the more tangible effects of the flailing economy; however, our assurance is that we can be counted on to be there, regardless of whether individuals are seeking services for the first time or continuing to receive services. And that assurance is invaluable. **NCMJ**

# Dental Care During a Recession

*M. Alec Parker, DMD*

The recent downturn in the economy has had far reaching effects on the lives of just about every American. This is particularly true in North Carolina as our state has been cited as having the third highest unemployment rate in the nation. Businesses have been forced to implement employee layoffs and other cost savings measures in order to survive. The increasing unemployment rate, along with a precipitous drop in consumer confidence, has had a negative impact on the utilization of dental services. As consumers become more concerned about their economic future, they become less likely to spend money on any product or service that is not considered to be essential. For many people, dentistry falls into this "elective" category.

Since consumer spending is the major driving force in our economy, tighter wallets create a ripple effect, driving down revenue in both the private and public sector. A patient who has lost his or her job is more likely to cancel or postpone dental visits. This is especially true if their job loss also meant the loss of their dental benefits. While dentists in private practice are re-evaluating their business plans to determine how they will weather the storm, state government officials and members of the North Carolina General Assembly are struggling to balance a state budget projected to have a $4 billion shortfall. In order to create a balanced budget, lawmakers are proposing funding cuts that could unravel the carefully woven safety net programs developed to provide health care for the underserved.

For families in the midst of a financial crisis, a decision to cancel dental appointments or to postpone dental care until their financial situation improves seems to be logical. However, that decision carries certain risks. Failure to maintain regular preventive care visits definitely saves money in the short-term, but it also deprives the patient of the opportunity for their dentist to diagnose dental disease in its early stages, when treatment is not only more straightforward but also less expensive. Research and experience indicate that most dental diseases do not go away without definitive treatment. In fact, without treatment many get progressively worse. As the disease process advances, treatment becomes more complex, requiring procedures with a commensurately higher fee. Unfortunately, some patients delay treatment to the point that the tooth becomes nonrestorable and must be removed.

Patients facing problems accessing dental care, whether those barriers are financial or geographic, are experiencing additional challenges due to the economic downturn. In fact, some have been placed in triple jeopardy: (1) they have lost their job, which means less or no income; (2) with the loss of their job, they may have also lost any dental benefits which were a part of employment arrangements; and (3) several state-supported programs, such as Medicaid and the North Carolina Oral Health Section, may be the target of severe cuts by the North Carolina General Assembly. The decision to cut funding for state programs where matching federal dollars are available is especially worrisome. Other programs may be totally eliminated. Many safety net providers are coping with budget cuts by reducing the number of hours they are open, decreasing the number of dental staff, and/or narrowing the scope of services they provide.

***As consumers become more concerned about their economic future, they become less likely to spend money on any product or service that is not considered to be essential. For many people, dentistry falls into this "elective" category.***

Many people who find themselves in this situation, especially adults who are ineligible for Medicaid dental benefits, will turn to hospital emergency departments for their dental needs. Most hospital emergency departments are not equipped to see dental patients and therefore only offer palliative

**M. Alec Parker, DMD**, is the executive director of the North Carolina Dental Society. He can be reached at aparker (at) ncdental.org.

treatment consisting of an examination and prescriptions. This usually is an attempt to address current symptoms without treating the underlying cause. Once the prescriptions have run out, the problem will reoccur and the patient will reappear in the hospital emergency department where the cycle begins all over again. The most frustrating part of this cycle is that the costs to the state to provide payment for palliative services rendered in an emergency department are several times more expensive than the dental fees charged in a private office that would have definitively resolved the problem.

How are dentists in North Carolina faring in this economic climate? National surveys completed by the American Dental Association in late April 2009 reveal some interesting facts about dentists who are in private practice in North Carolina.[a] In this survey, dentists were asked to compare their practice's financial information from the first quarter of 2009 with that of the third quarter of 2008 (approximately six months prior). Results show that:

- About 50% reported that their net incomes were down, while the other half stated that their net incomes were flat or slightly higher.
- 42% of dentists reported that their gross billings and collections were lower, while 58% stated they were either flat or slightly higher.
- Treatment acceptance rates were reported as being lower by 48% of dentists, while 43% stated treatment acceptance rates were about the same, and only 9% said treatment acceptance rates were up.
- 40% of dentists reported having fewer new patients, while 40% were about the same, and only 20% had an increased flow of new patients.
- In regards to open appointment slots, 52% stated they had more open time in their schedule, 30% stated it was about the same, and 18% said their schedules were booked more solidly than six months ago.
- When asked to indicate how confident they were that the economic conditions of their dental practice would improve over the next year, 35% of dentists were "not confident at all," 53% were "somewhat confident," and 12% were "very confident."
- When asked if their net income for 2008 was higher or lower compared to 2007, 43% said their net income was higher, while 57% said their net income was lower.

Faced with a slower economy, dentists in private practice must address the same concerns as any other business owner: Should I consider cutting back on the hours that the office is open? Should I consider laying off staff or asking some of them to consider working part-time? If dental Medicaid reimbursement rates are lowered can I afford to continue to treat Medicaid patients, given that their current levels don't even cover my overhead costs? What does the future hold for the dentists, dental hygienists, and dental assistants employed by the state? Will budget cuts totally eliminate positions and programs? Will the North Carolina General Assembly make additional cuts to dental education? (The state currently funds less than 30% of the costs of educating a student in the DDS program at the University of North Carolina at Chapel Hill.) Dental school faculty shortages were a growing problem prior to the economic downturn. What about now and in the foreseeable future? Will students who receive their dental education at a time when dental school budgets are being reduced receive the same quality of training as their predecessors? Will the UNC School of Dentistry be able to retain its national stature as one of the highest-ranked dental schools in the country? Will the Legislature continue its financial commitment to the UNC Board of Governors Joint Plan for Dentistry? Under the terms of this agreement, the Legislature would provide money to construct a new dental sciences building and increase the class size at the UNC School of Dentistry. The agreement also provided funding for the construction of the new dental school at East Carolina University with a class size of 50 students.

All of these questions need to be answered before one can make any reasonable assumptions regarding the effects of the current recession on dental care in North Carolina. Employers will need to see definitive signs of an economic recovery before they will consider expanding their facilities or their workforce. Consumers will need to feel secure that they will have a job before they begin to spend money in the marketplace. And state governments will need to see more money coming into their coffers as tax revenue before they can consider restoring programs that have been cut or eliminated.

If the recession deepens or is prolonged past current projections, it is logical to assume that we will see a further decline in the demand and utilization of dental services. Dental practices that once relied heavily upon elective cosmetic services for their revenue will need to reposition themselves in the marketplace to address more "needs driven" concerns such as decay and periodontal diseases. As patients delay treatment due to the economic crisis, it is probably safe to assume that more patients will elect to have decayed teeth removed rather than restored, not because they would prefer to have their teeth removed but because they cannot afford the treatment needed to retain them.

Let's hope that the efforts put forth by the federal government to stimulate our economy are successful and that we see signs of a recovery on the horizon. If so, most North Carolinians will have access to some of the best oral health providers in the world through private practitioners and a public health safety net system that has been the envy of the nation. **NCMJ**

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# HITECH Stimulus for Physicians

*Samuel S. Spicer, MD*

In response to the economic circumstances occurring in late 2008, on February 17, 2009 President Barack Obama signed in to law the American Recovery and Reinvestment Act of 2009 (ARRA). This act, often referred to as "The Stimulus Act," appropriated federal expenditures to a variety of projects throughout the economy, with a large portion of the funding being allocated toward infrastructure development (such as road construction). A portion of the funding appropriated under the Act provides health care information technology (HIT) incentives and expands privacy legislation. Title XIII (Section 13001) of that legislation is termed the Health Information Technology for Economic and Clinical Health Act (HITECH) and funds $17.2 billion for incentives and $2 billion for grants.

HITECH may be more of a lesson in delayed gratification than a stimulus bill. Incentive payments to physicians participating in Medicare do not start until January of 2011 for *meaningful use* of *certified* information systems. Table 1 (page 355) lists the Medicare Part B maximum yearly payments. In 2015, the law directs 1% reductions in the Medicare fee schedule followed by an additional 1% reduction in each of the next two years—2016 and 2017—for physicians who have not satisfied the requirements to qualify.

When announcing the HITECH legislation, President Obama promoted an electronic health record (EHR) for all US citizens by 2014. The rationale behind having an EHR is the expectation that it will improve the quality of health care and population health while simultaneously delivering care more efficiently. EHRs have been able to deliver some operational efficiencies inside an integrated delivery network such as Kaiser Permanente[1] but the effect of widespread adoption is unknown.

A simplified but useful formula for incentive payment requirements is $ = EMR + HIE + QR. An EMR is an electronic medical record that includes electronic prescribing, HIE is a health information exchange which shares medical records, and QR is quality reporting. Most physicians are familiar with the concept of an office EMR and the reporting of National Quality Forum metrics through the Centers for Medicare and Medicaid Services Physician Quality Reporting Initiative.

The key to payment depends upon the final definitions of *meaningful use* and *certified*.[a] These definitions will be issued by the Secretary of the Department of Health and Human Services by December 31, 2009. The definitions will be based upon a recommendation by Dr. David Blumenthal, a Harvard physician and professor, who now serves as the national coordinator for the Centers for Medicare and Medicaid Service's Office of the National Coordinator (ONC) for Health Information Technology. The Congressional Office of Budget and Management has estimated that there will be $23 billion in payouts for incentives from Medicare and $21 billion from Medicaid funds between 2009 and 2019.[2]

***The North Carolina Medical Board lists over 16,000 licensed physicians practicing in North Carolina. If 50% of these qualify for HITECH funds, it could contribute over $352 million to the state's economy.***

## Medicaid Providers

Under the HITECH Act, physicians will have a choice of receiving incentive funding through either Medicare Part B or Medicaid, but not both. Medicaid EMR incentives, which will

a The latest definitions for *meaningful use* and *certified* can be found at: http://healthit.hhs.gov/portal/server.pt?open=512&objID=1325&parentname=CommunityPage&parentid=15&mode=2&in_hi_userid=11113&cached=true.

**Samuel S. Spicer, MD**, is the president of the North Carolina Healthcare Information and Communications Alliance. He can be reached at sam.spicer (at) nhrmc.org.

**Table 1.**
**Medicare Part B Maximum Yearly Payments**

| | Potential Medicare Payment Amount, by Year | | | | | | |
|---|---|---|---|---|---|---|---|
| Year of Adoption | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | Total |
| 2011 | $18,000 | $12,000 | $8,000 | $4,000 | $2,000 | $0 | $44,000 |
| 2012 | | $18,000 | $12,000 | $8,000 | $4,000 | $2,000 | $44,000 |
| 2013 | | | $15,000 | $12,000 | $8,000 | $4,000 | $39,000 |
| 2014 | | | | $12,000 | $8,000 | $4,000 | $24,000 |
| 2015 | | | | | 1% reduction | 1% reduction | Variable |
| 2016 | | | | | | 2% reduction | Variable |

Table notes: There is a 10% additional payment each year for health services shortage areas. Maximum amount possible is 75% of allowed charges each year. 1% and 2% reduction refers to a reduction in Medicare fee schedule.

be administered by the state, will provide payments to a range of practitioners for their *meaningful use* of EHRs (see Table 2). These incentives can be directed to safety net providers such as federally qualified health centers and rural health clinics, as well as practitioners including nurse practitioners, certified nurse midwives, and dentists. To qualify, providers need at least 30% of their practice to consist of medically underserved patients. Pediatricians need only 20% and will receive two-thirds of the same payment. During the first year, physicians may receive funding to be applied to EMR purchase, installation, and training. Payment is for reimbursement of expenditures, and there are no penalties such as those included in the Medicare program.

## Economic Impact in North Carolina

The North Carolina Medical Board lists over 16,000 licensed physicians practicing in North Carolina. If 50% of these qualify for HITECH funds, it could contribute over $352 million to the state's economy. However, there is a large gap in the number of EMRs that might qualify for incentive payments. In 2008 it was estimated that nationally 38% of physicians have a basic EMR system of some kind and 4% have a complete EMR system with features such as office notes, order entry, and decision support.[3] If the definitions of *certified* and *meaningful use* incorporate very basic installations, then nearly 2,000 physicians would need to install and use a new qualifying EMR by the end of calendar year 2010 to qualify for the incentive. A more strict definition could lead to 7,000 physicians needing to upgrade their systems. It usually takes six months or more to plan, purchase, and successfully install an office EMR.

## Privacy and Security Provisions

Privacy and security issues have had major revisions. A collaboration among 44 states and territories, including North Carolina, have developed tools for compliance including a Provider Education Toolkit that provides education regarding privacy and security for physicians in an electronic world. Both the North Carolina Medical Society and the North Carolina Academy of Family Physicians have referenced free CME at the Secure4Health website (http://www.secure4health.org).

**Table 2.**
**HITECH Act: Medicaid Physician Reimbursement Plan**

| | Potential Medicaid Payment Amount, by Year | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Year of Adoption | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | Total |
| 2011 | $25,000 | $10,000 | $10,000 | $10,000 | $10,000 | $0 | $0 | $0 | $0 | $0 | $65,000 |
| 2012 | $0 | $25,000 | $10,000 | $10,000 | $10,000 | $10,000 | $0 | $0 | $0 | $0 | $65,000 |
| 2013 | $0 | $0 | $25,000 | $10,000 | $10,000 | $10,000 | $10,000 | $0 | $0 | $0 | $65,000 |
| 2014 | $0 | $0 | $0 | $25,000 | $10,000 | $10,000 | $10,000 | $10,000 | $0 | $0 | $65,000 |
| 2015 | $0 | $0 | $0 | $0 | $25,000 | $10,000 | $10,000 | $10,000 | $10,000 | $0 | $65,000 |
| 2016 | $0 | $0 | $0 | $0 | $0 | $25,000 | $10,000 | $10,000 | $10,000 | $10,000 | $65,000 |
| 2017 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 |

Medical education credits may be available and are part of the offering.

## Health Information Exchange: The Weak Link

Currently there are approximately 193 HIEs with only 57 actively transferring data in the United States.[4] The western North Carolina exchange, called Data-Link, began transferring records in 2006 as a collaboration among 16 western North Carolina hospitals. It is now enrolling physician offices.[5] University Health Systems of Eastern Carolina, Duke University Health System, and the University of North Carolina Health Care System are all in various stages of exchange within their own integrated delivery networks. For the vast majority of health care in North Carolina the exchange of information is limited to the use of a fax machine, patients physically carrying medical records, a CD, or hand delivery of paper.

The financial value of an EMR has been proven to be somewhat successful because of its ability to assist with coding and billing efforts. Quality reporting is emerging as financially rewarding to health care practitioners with programs like Bridges to Excellence, various health plans' centers of excellence, and the CMS Physician Quality Reporting Initiative rewarding practices for reporting quality measures and/or achieving certain quality benchmarks.

Health information exchanges, however, are struggling to find a financial model. Nationally, 82% of exchanges cite the sustainable business model as a difficult challenge to implement.[6] To be successful, an HIE must have the support of the collaborators who can harvest the efficiencies such as major health plans (e.g., Medicaid, Medicare, Blue Cross and Blue Shield, military health system, and the Veterans Health Administration), lab companies, and radiology practices. In addition, HIE face difficulty with access to capital, funding misalignment, lack of uniform policies, and data sharing agreements. Recognizing these difficulties has prompted North Carolina to develop a strategic plan for HIT.

## North Carolina Health Information Technology Strategic Planning Task Force

To ensure that North Carolina is in a position to capture as much of the stimulus funding as possible, in April 2009 Governor Beverly Perdue appointed a North Carolina HIT Strategic Planning Task Force. Members represent consumer organizations, public health agencies, physicians, hospitals, mental health providers, and other health care representatives. The Task Force's report was released June 24, 2009 with recommendations on a strategic approach for EMR, HIE, quality reporting, and health care broadband access.[b] On July 17th Governor Perdue charged the North Carolina Health and Wellness Trust Fund with leading North Carolina health IT efforts. A Health IT Collaborative will operate under the direction of the Trust Fund to obtain stimulus grant funds for EMR adoption, HIE operations, quality reporting, and broadband access.

HITECH grant funding on a state level can be for planning or implementation efforts. Given the significant amount of groundwork that has been done by the North Carolina Healthcare Information and Communications Alliance (NCHICA), North Carolina Area Health Education Centers, the North Carolina Healthcare Quality Alliance, and other groups, North Carolina should be able to compete for implementation grants this fall as soon as criteria have been finalized by the ONC.

## Difficult Issues in HIT Implementation

Several related issues will have a significant impact on the ability to implement the North Carolina HIT Strategic Plan Task Force report:

1) ***Role of personal health records and the patient-physician relationship.*** Patient participation and compliance can be the difference between illness and wellness. Shared decision-making and patient self-management of chronic conditions are key parts of improving health. Personal health records can add safety and reliability to providers' medical record systems. Mutual trust is the foundation of a healthy physician-patient relationship. Physicians and consumers need to be engaged in how personal health records are incorporated into their EMR.

2) ***Design of EMR to assist physician workflow.*** Payment reform is an opportunity to reorient care and subsequently EMR design around electronic abstraction of quality metrics.[7] Incentives must be properly aligned so that the EMRs are used to improve quality of care and patient health, not simply used to improve coding. If we are to reward quality, providers need tools that make it easy to deliver the best possible care with quality built into the system.

3) ***Improving our efficiency.*** Cost savings are dependent upon decreasing unnecessary testing, appropriate use of guidelines, coordination of care, better preventive care, and workflow efficiencies. Community Care of North Carolina (CCNC) is a proven mechanism for cost savings in the Medicaid population.[8] Given current state budget constraints, priority should be given to enhancing CCNC's medical home functions with health information technology. Electronic prescribing alone provided Mississippi with $1.2 million in cost savings per month in Medicaid prescriptions.[9] Because of the efforts of CCNC and BCBS, North Carolina is the 6th highest e-prescribing

b See http://www.ncrecovery.gov for more details.

state with currently 15% of prescriptions transmitted electronically. Accurate measurement of the savings will also be needed to help sustain the underwriting of HIEs.

4) ***Coordinated statewide effort.*** As outlined in the HIT Task Force report, North Carolina has immense intellectual capital, strong public health programs, proactive provider organizations, excellent teaching institutions, and organizations such as CCNC, the Area Health Education Centers, The Carolinas Center for Medical Excellence, MCNC, eNC, the North Carolina Institute of Medicine, and NCHICA. All of these groups need to work in concert through the North Carolina HIT Collaborative in order to be successful in grant funding and underwriting endeavors. The continued leadership of Governor Perdue and the North Carolina General Assembly can oversee the coordination of efforts among stakeholders and ensure the success of North Carolina's efforts.

5) ***In the office assistance.*** Even with the incentives for adoption, most EMR implementations are time and resource intensive endeavors that still lose money. Using the New York model of exchange development[10] to assist providers by having on the ground and in the office expertise will dramatically increase the probability of success. North Carolina should use the existing organizations such as AHEC, CCME, and NCHICA to put resources on the ground and tip the balance in favor of adoption.

The HITECH Act brings significant interest in the adoption of electronic medical records, the establishment of health information exchanges, and the enhancement of quality reporting. Providers may be eligible for $44,000 to $65,000 in incentives. Successful application of electronic medical records for meaningful use will depend upon a prompt and effective implementation of new health information exchanges. A coordinated statewide effort has started with Governor Perdue's appointment of the North Carolina HIT Collaborative. Timely implementation of the HIT strategic plan will allow North Carolina to be competitive for additional grant funding. The result will be better health for North Carolinians. **NCMJ**

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# Maintaining Philanthropic Activity During Difficult Economic Times

*Gene Cochrane*

Charles Dickens once wrote, "It was the best of times, it was the worst of times...." In a measure, that is true for health philanthropy in 2009. Many people who have worked in health care, in governmental areas related to health care, and at private foundations that fund health care recognize that we may be on the verge of a national commitment to change the health care system as we know it. Many of us have waited for this day and are excited about the possibilities that lie ahead.

In normal times, foundations would welcome this opportunity. They would be able to provide funds to help organizations find what works best and fine-tune a developing national health care strategy.

Instead, many foundations today are at a low point in assets, and money available for grants is lower than it has been in decades.

December 2007 marked the official beginning of the recession in the United States. The United States stock market dropped 37% in 2008, and many components of the financial markets and the general economy continue to struggle in 2009. While late spring and early summer have brought some signs of stabilization, economic challenges continue to affect the ability of foundations to respond to great opportunities.

The Council on Foundations, a national trade organization of corporate, private, family, and individual foundations, completed a study of 430 of its members in March 2009. The report found that:

- Three of four foundations saw their assets decline by 25% or more during the past year, with a higher proportion of independent and large foundations experiencing a more significant decrease.
- About half of the foundations project that they will reduce their total grantmaking for 2009 by 10% or more.
- Many foundations were shifting their focus to directly aid low-income individuals, organizations, and others adversely affected by the economic downturn.

The report also noted changes occurring inside foundation offices: 60% of foundations reported reducing operating costs, especially in community and larger foundations; 45% eliminated salary increases; 27% instituted hiring freezes; and 16% eliminated positions.

I am not aware of a similar study for North Carolina foundations, but if you listen to conversations among foundation leaders and program officers, you'll hear that their organizations are facing an increased demand for philanthropic support. Grant applications are rising, and nonprofits are seeking larger amounts of support. Many North Carolina foundations have responded in ways similar to those cited in the Council on Foundations report. One interesting development has been a growing conversation about providing funds for operating support, especially to small, grassroots organizations that help people who are most adversely affected by the economy. When growth has occurred in organizations' giving plans, budgets have focused on primary medical care centers, food assistance, support for emergency housing (homeless shelters), or providing direct assistance for heating and utilities bills. Foundation support is also increasing for programs that provide education, job readiness skills, job training, and employment assistance.

*Many foundations are rethinking their programs, staffing, and approach to grantmaking, not in terms of "when things return to normal," but rather in terms of a new day and a new way of operating.*

North Carolina has been fortunate to be home to many foundations that encourage discussion, cooperation, and collaboration. The North Carolina Network of Grantmakers is

**Gene Cochrane** is the president of The Duke Endowment. He can be reached at gcochrane (at) tde.org.

an active state network of more than 80 foundations that better understand each others' interests and have a clearer grasp of key issues facing the state. Through this increased awareness, foundations have been able to share lessons learned and find programs that have proven, quantifiable results. We have witnessed greater program and financial collaboration than ever before. In years past, programs such as the Nurse-Family Partnership or Care Share Health Alliance may have been led by one or two foundations. Today, they involve a number of funders bringing their own expertise, insights, and financial strength to the effort. This cooperation has allowed foundations to extend limited resources and make higher-cost programs possible.

Funders are also paying more attention to the importance of proven results. We can no longer fund an idea because it sounds good in theory or fund a test period hoping that another organization will provide permanent funding. Organizations need to present concrete plans and well-developed proposals to be successful in this highly competitive grant marketplace.

New, more defined strategies are emerging inside foundation offices to guide their work. For example, many foundations, especially in health care, have worked to strengthen organizations and make sure they have the capacity to meet the needs of our citizens. Strengthening organizations in and of themselves is often a worthy goal. Other foundations have turned a much-needed focus toward emerging or grassroots organizations. In many cases these new organizations offer interesting examples of different approaches to age-old questions and warrant serious consideration for the new ideas they can bring. Still other foundations often are more interested in taking a program that has been proven effective elsewhere, bound by solid research and solid experience, and expanding that program to other communities. This runs counter to the long-held notion of "best created in my backyard" and emphasizes maintaining fidelity to a proven model. Clearly, more funding is going to programs that have documented effective practices, suggesting that the intervention will produce positive results. In other words, today's grantmakers are using limited resources to fund programs that have been proven successful or can demonstrate a positive record.

Most foundation executives believe it will be some time before philanthropy returns to the way it was in the early part of this decade. Many foundations are rethinking their programs, staffing, and approach to grantmaking, not in terms of "when things return to normal," but rather in terms of a new day and a new way of operating. Whether the financial markets return gradually or whether that return is delayed, foundations and their support will look different in the future.

We are on the verge of a new day for health services in the United States, and we are also on the verge of a new day in health philanthropy. **NCMJ**

# Weaker Media, Weaker Health News Reporting

*Ferrel Guillory*

The long recession has drained vital resources from North Carolina's daily newspapers and television stations, already weakened by the expansion of the internet and shifts in news-consuming habits. The economic woes of the mass media lead inexorably to a depletion of their ability to report and analyze major trends and issues in health and health care.

Media are plural. That sentence is correct grammatically, and it states an important truism. Significant differences exist between national media and state-level media, between daily newspapers and local TV news shows, between print media and electronic media. Thus, an analysis of the relationship of North Carolina media to the health care sphere must take into consideration these differences—as well as how media companies have sought to adapt to the transformed economic, societal, and news environment.

At the center of the media environment of the early 21st century stands a paradox. In North Carolina, as well as across the United States, consolidation has taken place along with diversification. Big media companies, based outside of North Carolina, now own most of the state's major journalistic enterprises. Technology has given rise to a proliferation in the delivery platforms for news, analysis, and opinion. Meanwhile, North Carolina media feel the influences of these advances—that is, they feel under siege, as do media in other states, from declining newspaper readers (especially among young adults), from a proliferation of cable-television channels, and from the rise of audience-targeted alternative communication vehicles on the internet.

*The economic woes of the mass media lead inexorably to a depletion of their ability to report and analyze major trends and issues in health and health care.*

What had been for decades, even centuries, a spread-out state of small towns and small cities, of farmers and mill workers, of a relatively small elite of affluent business and professional people along with a broad citizenry of people of modest means, of poor and near-poor, North Carolina became something else through the 1980s and 1990s as economic change accelerated. A middle-class and upper-middle-class lifestyle took hold in the burgeoning suburbs of Charlotte, Raleigh, and other cities.[1] Population growth and the rise in education and affluence, however, did not produce a corresponding growth in newspaper circulation. Circulation of North Carolina newspapers on Sunday, usually the day of highest sales, peaked in 1990 as a percentage of the state's population, and has declined since.[1] In response, North Carolina newspapers, in keeping with general American trends, re-engineered their mix of news and features to appeal to non-readers, to off-again, on-again readers.

Declining circulation of newspapers has sent editors and publishers scurrying to attract new readers—with consumer-oriented features, narrative stories, and brilliant photos and info-graphics. Today's media tell readers more than in the past about business and finance, religion, child-rearing, food, and entertainment—and especially about health and medicine.

Only a few years ago, for example, *The News & Observer* (*N&O*) in Raleigh had as many as four reporters assigned to various health-related beats. They covered the big pharmaceutical industry in Research Triangle Park, Chapel Hill-based Blue Cross Blue Shield, the medical schools of the University of North Carolina at Chapel Hill and Duke University, and local hospitals. They covered the health care sphere as business, as science, and as personal interest stories.

Today, according to people familiar with the newspaper's staffing, *The N&O* has only one reporter with a primary focus on health. *The N&O* and *The Charlotte Observer*, the state's two most powerful daily newspapers, are now owned by the McClatchy Company of Sacramento, CA.[1] These once journalistic rivals now share coverage of sports, features, and state government and politics.[6] Along with other newspapers and TV stations, the state's two biggest newspapers have cut staff through buy-outs and layoffs as the recession cut into their advertising revenues.

The preparation of this essay included breakfast conversations with an array of people knowledgeable in the

**Ferrel Guillory** is the director of the University of North Carolina Program on Public Life. He can be reached at ferrelg (at) email.unc.edu.

intersection of the media and health in North Carolina—and they consistently described news coverage today as having diminished in quantity and quality, more simply touching the surface, less going into depth and context. Their assessment of the state of health journalism in North Carolina parallels the findings of a March 2009 report to the Kaiser Family Foundation, *The State of Health Journalism in the US*.[2] The study involved a literature review of articles on health journalism, a survey of members of the Association of Health Care Journalists, and informal interviews with more than 50 reporters. The study concluded, "Interest in health news is as high as it's ever been, but because the staff and resources available to cover this news have been slashed, the workload of remaining reporters has gone up... As a result many in the industry are worried about a loss of in-depth, enterprise and policy-related stories."[2]

Critiques of press and broadcast coverage usually assess the national media more than state and local TV and newspapers. The Kaiser Family Foundation and the Project for Excellence in Journalism of the Pew Research Center conducted a study of US news media coverage of health issues during the 18 months from January 2007 to June 2008—that is, during the period including the presidential primaries, but not the general election campaign.[3] It monitored 48 news outlets, including newspapers, network and cable TV, radio, and online sources. "This study indicates that news about health occupies a relatively small amount of American news coverage across all platforms," says the Kaiser-Pew report. "The amount of coverage devoted to health issues ranged from a low of 1.4% on the cable TV programs studied, up to a high of 8.3% on the television network evening newscasts. Overall, specific diseases or conditions constituted the bulk of coverage (41.7%), followed by public health issues (30.9%), and coverage of health policy and the health care system (27.4%). Given the small portion of national news information that is dedicated to the health care system, it may be difficult for the public to become fully knowledgeable about the state of our system and potential changes under debate."[3]

Among his arguments for health policy change, President Obama has contended that the nation cannot fully assure long-term economic progress without an effort to control health care costs. This fusion of health and economic policy-making makes the debate over health care reform a national, more than a local, news story. North Carolina newspapers will surely run national news agency reports on the debates in Washington and continue to welcome opinion columns from nearby experts and advocates. Still, what the North Carolina public learns about their nation's health care debate will come more from national than state sources.

So now let's consider the condition of health news reporting more specifically in the state's media—and factors that health-care professionals should take into consideration in dealing with state and local reporters and editors.

1) ***Most citizens still look to the mainstream mass media as vital sources of reporting and analysis on current events.*** Even in their reduced-staff weakened state, metropolitan daily newspapers and TV news shows remain critical transmission belts of information and insight.[4] In general, studies show that more people say they get news from TV than from newspapers, while newspapers devote more attention to public policy issues than television. *The News & Observer* and *The Charlotte Observer* appear committed to sustaining investigative reporting: for example, *The N&O's* recent series on mental health and *The Charlotte Observer's* award-winning reports on injuries to poultry plant workers. In its daily newspapers, North Carolina has an array of editorial pages committed to serious commentary.

2) ***Dependable, continuous health coverage has diminished.*** The media seem less inclined, and less able, to provide sustained attention to health news, especially critical decisions on policy. The operative word in news coverage these days is "episodic." During the 2009 session of the General Assembly, the media showed little intensity in covering how lawmakers dealt with mental health issues illuminated by *The N&O's* investigative series. Funding of Medicaid, granting of certificates-of-need to hospitals, and steep declines in the budgets of Health and Human Services agencies received spotty news coverage.

3) ***A shift from health journalists to generalists.*** Coverage of health-related news is more likely to be assigned to a "generalist" journalist rather than a specialist in health science or business. A legislative or congressional reporter is likely to report on the debates in the General Assembly and in Congress, with stories framed in terms of what lawmakers said and how they voted. What's more, today's reporters are expected to produce stories not only for the newspaper or the TV news show, but also for the accompanying website.[4] They work under pressure to put a report online quickly. In this environment, public relations professionals have learned that they must provide background, context, and data to reporters who may not have much sense of what has happened before on a particular issue or a new development in research.

4) ***Health often on front pages and TV screens.*** Still, there remains a thirst for health and medical news and a rush to report health-related stories. Journalists—in particular TV news producers—gravitate to emergencies, public health "scares," and announcements of new "cures" and technologies. The personal trumps the political or the policy-oriented. As a result, newspaper readers and TV viewers see blanket-coverage of the H1N1 "swine" flu and other such outbreaks. The Kaiser-Pew report points out that cancer received more attention than other diseases, in part because of a spike in attention in spring 2007 when the cases arose of Elizabeth Edwards, spouse of a then-presidential candidate, and White House Press Secretary Tony Snow.[3]

5) ***Rise in alternative, non-daily media as sources of health-related news.*** Increasingly, news and analysis comes through alternative or non-commercial media. Weekly newspapers—the Business Journals of the Triangle, Triad, and Charlotte—report on the business of health care for a business-oriented audience. The WUNC radio service has a reporter assigned to health issues. A telling case comes from the Health Access Coalition of the NC Justice Center, which recently hired a journalist to produce journalism in behalf of its advocacy agenda, with reports published electronically on a website and a blog. In the March/April 2009 issue of this journal, coalition project director Adam Searing offered a pointed rationale: "When major news outlets no longer have staff dedicated to reporting health issues, room exists for health advocates to investigate and break news themselves. Advocates obviously have their own agendas and resource limitations as to how and what stories they will tell, but the alternative, increasingly, is no coverage at all."[5] Clashes over facts and analysis between and among the Health Access Coalition, the State Employees Association of North Carolina, and BlueCross and BlueShield of North Carolina over the state health plan and other matters from time to time generate news reports in daily newspapers and on TV.

The American news media are going through a period of transition, a process that can be described as de-massification. In this process, coverage of state and local governments of sufficient quality and quantity stands in greater jeopardy than coverage of national issues. The current media environment is not altogether healthy for our democracy. NCMJ

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# Funders on the Frontline:
## Shoring Up Our Safety Net



*Kathy Higgins*

The natural instinct when faced with a troubled economy is to conserve. Grantmakers, like most others during the past several months, have seen a dramatic decline in assets and available resources, and we have been forced to make difficult decisions about the way we conduct our business. Ironically, grantmakers and philanthropists are most needed in times of economic recession. They are called on to support organizations, individuals, and communities dealing with the compounding effects of an economic downturn. For example, North Carolina's health care system, in particular the health care safety net, is increasingly stretched as job losses and the numbers of uninsured rapidly climb.

Like others with so much invested in, and committed to, the health of our state, we have found ourselves at somewhat of a defining moment. We, too, are faced with one of the most difficult decisions for a philanthropic organization: do we scale back? Fortunately, we have decided that now is not the time. We are, however, evaluating where we can have the most direct impact and are focusing our energy and resources appropriately.

One place we believe we can make an immediate difference is with North Carolina's network of free clinics, which currently serve 79 of North Carolina's 100 counties[a] and are on the frontlines of the economic downturn. The realities of the national situation can be witnessed first-hand in these clinics, where in some cases patients are being turned away as a result of overcrowding, and already overburdened staffs are faced with more budget and personnel cuts.

Much of our organization's legacy is being defined through our partnership with the North Carolina Association of Free Clinics (NCAFC), which began with a five-year, $10 million grant in 2004, and continues today through a $10 million extension which was announced last year. Among the many successes from this collaboration is a more than 30% increase in the number of clinics and total counties served[a] and an increased capacity to care for uninsured patients.

We recognize, however, the more immediate needs that have emerged after recent events. With our existing investments dedicated to long-term strategy, this spring we committed an additional $2 million for immediate distribution to the clinics across the state most affected by the rise of unemployment and coinciding increase of uninsured. For many North Carolinians, this could mean the difference between being seen in a timely fashion or being placed on a waiting list or, in a worst case scenario, using the hospital emergency department for primary care.

Free clinics, along with other components of the state's safety net, are providing high quality and, more importantly, accessible care in a time when it is most needed. We recognize that our commitment to their long-term success begins with addressing this short-term crisis. With assets in decline, collaboration is an increasingly effective strategy grantmakers and human service agencies alike can employ to maintain and increase impact on the community. We have been partnering with other statewide North Carolina health funders as a way of aligning not only resources, but also expertise, in support of initiatives directly impacting access to quality care for North Carolinians.

An example of this is can be seen with the Care Share Health Alliance (Care Share), which was initiated by The Duke Endowment and is also supported by the Blue Cross and Blue Shield of North Carolina Foundation, Kate B. Reynolds Charitable Trust, North Carolina Health and Wellness Trust Fund, the North Carolina Office of Rural Health, and Community Care of North Carolina (see page 373 for more information on Care Share). Care Share coordinates resources from state government, private organizations, and local communities to help communities across the state develop a coordinated network of care. These networks ultimately expand access to care, while in turn leveraging resources to ensure more positive health outcomes for uninsured North Carolinians. The idea is that individuals who utilize the health care safety net can expect to receive similar consistency of care as anyone else. And why shouldn't they?

One such network is the Capital Care Collaborative, a consortium of eight Raleigh-based safety-net stakeholders (clinics, hospitals, county health departments, and others) working together to provide coordinated care for the region's medically underserved. This multi-agency collaboration is increasingly critical now given the widespread strain on

a Obtained from an internal data run that was provided by the North Carolina Association of Free Clinics (2009).

**Kathy Higgins** is the president of the Blue Cross and Blue Shield of North Carolina Foundation, online at http://www.bcbsncfoundation.org.

resources and increased utilization of safety-net services. It is also a model for other North Carolina communities of how grantmakers, diverse communities, and government entities can come together in the interest of the underserved and other vulnerable populations. This type of collaboration increases the collective financial stake of funders, but just as important, the resulting relationships and open lines of communication are critical to the cooperative efforts needed to face current economic conditions as well as other emerging issues. If this current situation has taught us anything, it is the value of agility and the capacity to react to ever-changing community needs. A year ago, most of us could hardly imagine the situation our state faces in terms of economic hardship—the adverse and compounding effects of which seem to multiply every day.

The philanthropic community has a growing and complex role. More than ever, our focus must be on how we can positively impact the most people through the most effective and efficient means. And while we too are facing challenges as organizations, we must commit to continue to fulfill our missions to help others. After all, that is what we do. **NCMJ**

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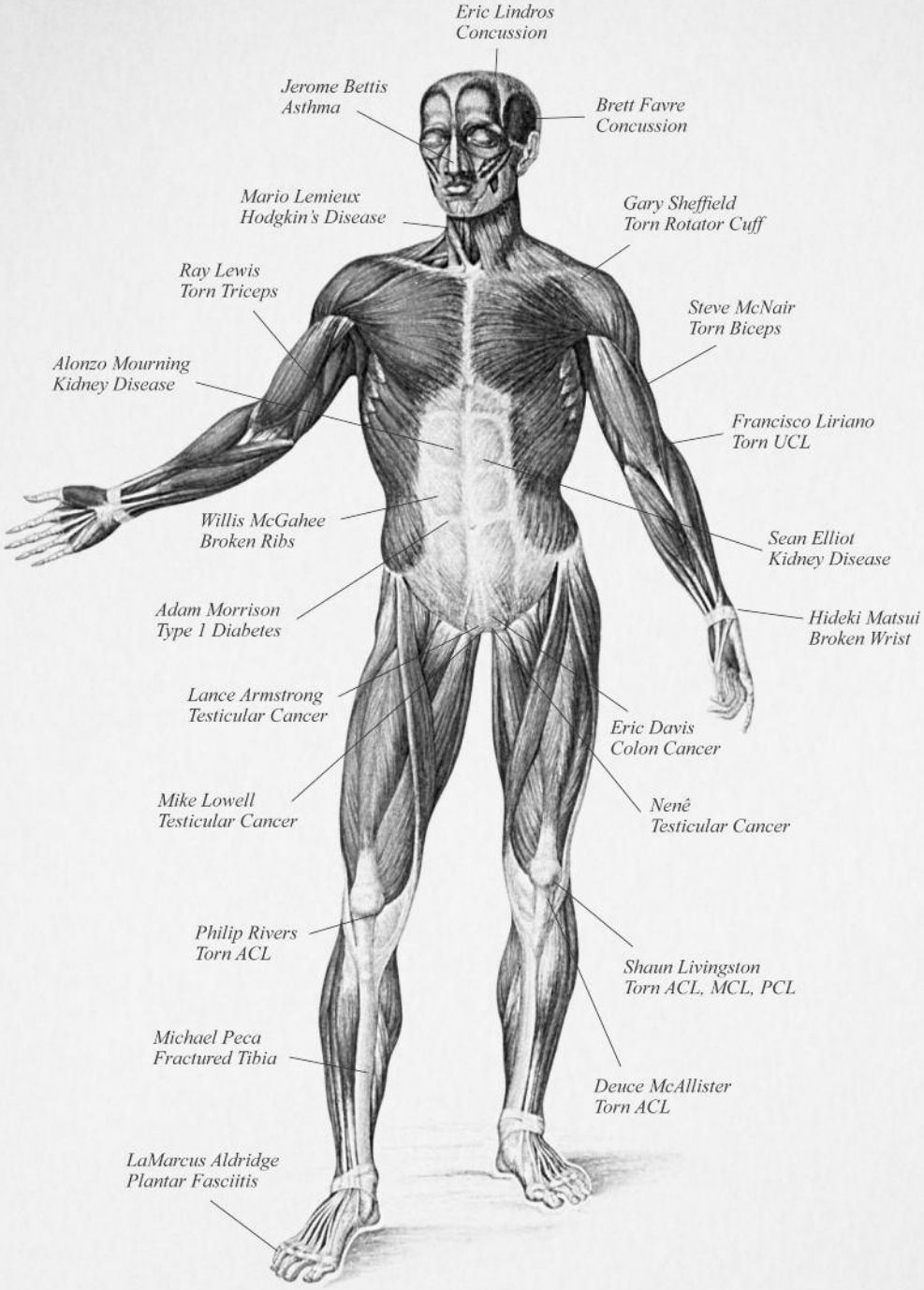


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# Running the Numbers

*A Periodic Feature to Inform North Carolina Health Care Professionals about Current Topics in Health Statistics*

*From the State Center for Health Statistics, North Carolina Department of Health and Human Services*
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## Recent Data on Health Insurance Coverage Associated with the Economic Downturn in North Carolina

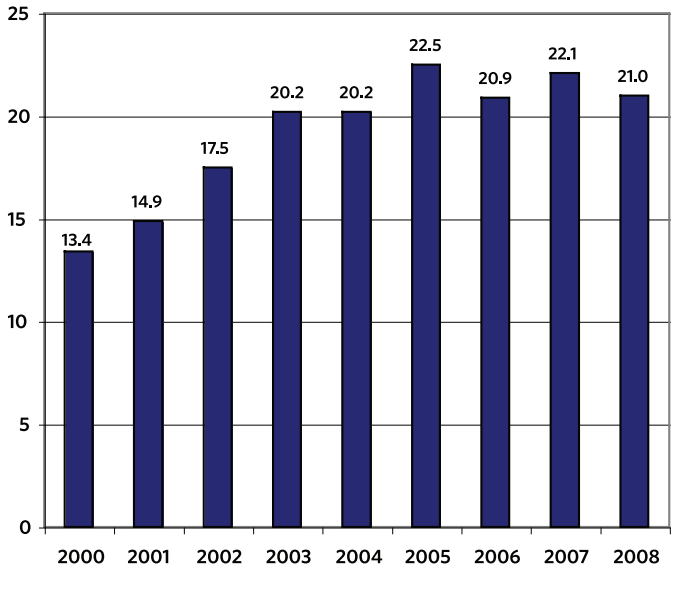
For many North Carolinians, health insurance and employment are closely linked. Compared to other states, employment in North Carolina is still relatively concentrated in manufacturing, and manufacturing jobs are disproportionately affected by a recession. Since the economic downturn in the second half of 2008, North Carolina has had one of the highest unemployment rates in the nation. We would expect this to result in individuals losing their health insurance[1] and the medical care industry seeing a decrease in their paying customers.

The North Carolina Behavioral Risk Factor Surveillance System (BRFSS) monitors health insurance coverage among adults in the state. To obtain data, the BRFSS uses random telephone surveys of North Carolina residents ages 18 and older. The BRFSS is funded by the US Centers for Disease Control and Prevention (CDC) and is conducted in all 50 states. In 2008, the latest year of North Carolina BRFSS data, nearly 16,000 adults were interviewed. The data are weighted to make the survey results more representative of the entire population of North Carolina adults. However, BRFSS data are self-reported by respondents over the telephone and therefore may not be as reliable as some other means of data collection.

For this installment of *Running the Numbers*, we used the results of the question, "Do you have any kind of health care coverage, including health insurance, prepaid plans such as HMOs, or government plans such as Medicare?" In 2008, 17.8% of all adults ages 18 and older responded "no." Since most people age 65 and older are covered by Medicare, we only tracked the percent uninsured for adults ages 18-64 (21.0% in 2008), which should be more affected by current economic trends.

Figure 1 shows the percent uninsured of North Carolinians in this age range from 2000-2008. The wording of the BRFSS health insurance question did not change over this time period. The percent uninsured increased sharply from 2000

**Figure 1.**
**Percentage of Persons Ages 18-64 Who Reported that They Had No Health Insurance, 2000 through 2008: North Carolina Behavioral Risk Factor Surveillance System (BRFSS)**

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to 2003 and then remained fairly stable from 2003 through 2008, at slightly more than one in five adults ages 18-64 uninsured.

Part of the reason that the percent increased early in the decade may be attributed to the rapid growth in the Hispanic population in North Carolina, who are more likely to be uninsured, and the fact that, for the first time, North Carolina added a Spanish language BRFSS survey in 2002.[2] In 2008, 81% of Hispanics adults ages 18-64 who completed the BRFSS survey in Spanish reported that they had no health insurance, compared to 33% of Hispanics who completed the survey in English.

Table 1 shows the 2008 percent uninsured in North Carolina (ages 18-64) by level of total household income. The 95% confidence interval shows the range in which we would expect the true value for all North Carolina adults to fall 95% of the time. As a good approximation, if two 95% confidence intervals do not overlap, then the difference between the corresponding percentages is statistically significant at $p < 0.05$. Adults in lower income households are much more likely to be uninsured than those in higher income households, suggesting that ability to pay strongly affects whether a person has health insurance.

**Table 1.**
**Percentage of Persons Ages 18-64 Reporting No Health Insurance by Categories of Total Household Income: 2008 North Carolina BRFSS**

| Household Income | Percent Uninsured | 95% Confidence Interval |
|---|---|---|
| Less than $15,000 | 56.1 | 51.1-61.1 |
| $15,000 - $24,999 | 48.3 | 43.9-52.7 |
| $25,000 - $34,999 | 28.7 | 24.2-33.6 |
| $35,000 - $49,999 | 14.6 | 12.0-17.5 |
| $50,000 - $74,999 | 7.0 | 5.3-9.2 |
| $75,000 or more | 2.8 | 2.0-3.9 |
| Total | 21.0 | 19.6-22.3 |

Being uninsured is also strongly associated with employment status. In 2008, among persons ages 18-64, 16.3% of those who were employed reported that they were uninsured, compared to 28.4% of those self-employed, 56.5% of those out of work for less than one year, and 53.4% of those out of work for more than one year. Only 7.5% of retired persons under the age of 65 reported that they were uninsured.

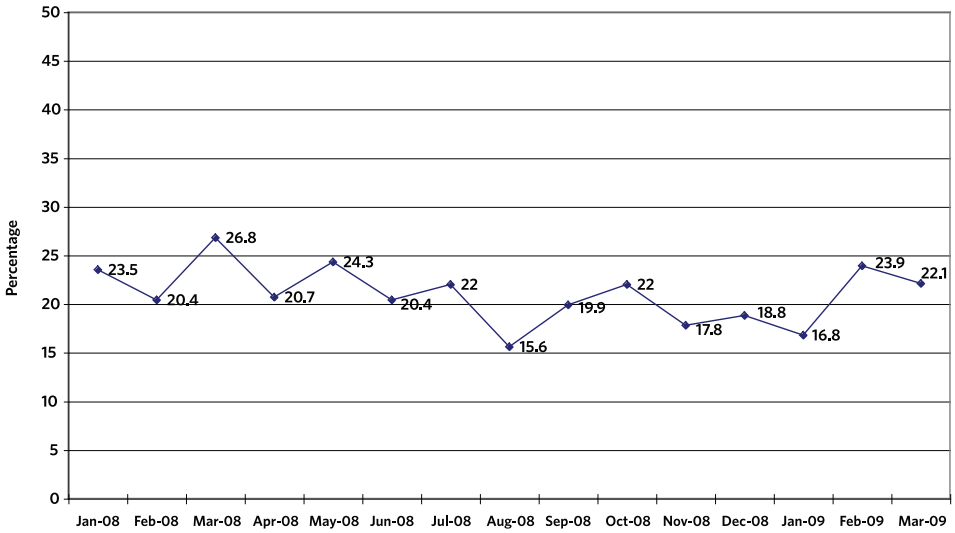
Figure 2 (page 371) shows the monthly percent uninsured for persons ages 18-64, from January 2008 through March 2009. While the annual BRFSS sample size for persons ages 18-64 is nearly 11,000, the monthly sample size is approximately 900. Therefore, there is much more sampling variability in the monthly data. Nevertheless, contrary to expectation, there is no discernable trend over this 15-month period, with the percentages uninsured fluctuating between 16% and 27%.

There are a two primary possible reasons why the North Carolina BRFSS data do not show an increase in percent uninsured in the last part of 2008 and early 2009, in step with the economic downturn. First, recently unemployed persons are eligible to purchase health insurance from their employer under COBRA coverage for at least 18 months, which could lead to a lag between unemployment and loss of health insurance coverage. However, even COBRA health insurance premiums are expensive and may not be affordable for many unemployed persons. Effective March 1, 2009, under the national economic stimulus package, unemployed persons may be eligible for reduced premiums in which the federal government will reimburse employers 65% of the COBRA premium and charge the former employee only 35% of the COBRA premium.[3]

Second, the North Carolina BRFSS is a landline telephone survey and there has been a strong trend in the United States toward households electing to drop their landline telephone service and go with cell phones only. Cell phone-only households increased at a record pace in the last six months of 2008 and now are 20% of the total population.[4] As recently as 2003, this figure was only 3%. In fact, the growing number of cell phone-only households may in part be due to the recession, with families looking to reduce their budgets.

Nationally, the percent of persons without health insurance coverage among cell phone-only nonelderly adults (27.5%) was substantially higher than the percent of nonelderly adults living in landline households

**Figure 2.**
**Percentage of Persons Ages 18-64 Who Reported that They Had No Health Insurance by Month, January 2008 through March 2009: North Carolina Behavioral Risk Factor Surveillance System (BRFSS)**




(16.4%).[4] Young people are much more likely to be cell phone-only (33% for ages 18-24 and 42% for ages 25-29, nationally) and young people are also much more likely to be uninsured. In 2008, 36% of persons ages 18-24 reported through the North Carolina BRFSS that they had no health insurance, compared to 13% of those ages 55-64. North Carolina BRFSS data for recent years show decreasing coverage for groups who are more likely to have only cell phones and less likely to have health insurance, those who are either young, Hispanic, of minority race, or have lower education and income. Weighting the BRFSS data attempts to alleviate, but does not overcome, this problem.

The North Carolina BRFSS is still a landline telephone survey, though a small cell phone pilot began in April 2009. The CDC has recognized that the BRFSS can no longer ignore cell phones and still provide valid health measurements for the adult population.

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*Contributed by*
*Paul A. Buescher, PhD; Brian F. Head, MA; James W. Cassell, MA*
*State Center for Health Statistics, North Carolina Division of Public Health*

# Spotlight on the Safety Net

*A Community Collaboration*
*Kimberly Alexander-Bratcher, MPH*

## Care Share Health Alliance

Between 2007 and 2009, North Carolina experienced one of the largest increases in the numbers of uninsured of any state in the country.[1] In most communities, there are too few safety net providers to serve all of the uninsured. Many people who lack health insurance coverage are unable to obtain the care they need because of the costs. While there are different safety net providers across the state, they are not able to serve all of the uninsured. Even when primary care services exist—provided by, for example, community or migrant health centers, rural health clinics, health departments, or free clinics—the uninsured often lack access to specialty care, dental services, or behavioral health services. Additionally, in many communities the safety net resources that do exist are not well-coordinated. As a result, some uninsured individuals receive duplicate services from different safety net providers at the same time, while others have difficulties obtaining the care they need.

Care Share Health Alliance (Care Share) was developed to address these problems. Care Share's mission is to improve the health of low-income, uninsured North Carolinians by supporting local collaborative networks of care. Care Share seeks to involve all the local health care providers in a community-wide system of care for the uninsured. While each community is different, local collaborative networks can include physicians or other health professional leaders, as well as representatives from health departments, community health centers, rural health centers, free clinics, hospitals, medical societies, dental societies, Area Health Education Centers, Healthy Carolinians, Project Access programs, Community Care networks, HealthNet networks, departments of social services, behavioral health agencies, nonprofits, and faith-based organizations. These groups are working together to expand access to care for low-income, uninsured individuals in the most effective and efficient manner possible.

One objective of these local community collaboratives is to link low-income uninsured members to a medical home. Medical homes provide high quality patient-centered primary care. The Care Share program is intended to make those medical homes available to the uninsured. However, Care Share collaboratives typically include a broader network of care, with other providers willing to donate care to fill in some of the gaps in the existing safety net system. Thus, people who need diagnostic services or treatment that are not offered in their medical home can be referred to other resources in the community, including private physicians who donate their care or hospitals (for inpatient or outpatient services). Most of the collaboratives have also identified resources to address the medication needs of uninsured patients, either through pharmaceutical assistance programs or other low-cost medication programs. In addition, uninsured patients with chronic illnesses have access to care and disease management services, based on the Community Care of North Carolina (CCNC) model.[a] Ultimately, the goal is to encourage communities to develop a community-wide plan to improve care for the uninsured by identifying existing resources and gaps in services, and then determining the best way to collectively fill those gaps.

Care Share was formed by health care leaders in North Carolina who were determined to improve the health of the uninsured. In 2007, The Duke Endowment invited these leaders to participate in a series of discussions. Many different organizations were involved in creating Care Share, including the NC Area Health Education Centers program; NC Association for Healthcare Access; NC Association of Free Clinics; NC Community Care Networks; NC Community Health Center Association; NC Division of Mental Health, Developmental Disabilities, and Substance Abuse Services; NC Division of Public Health; NC Foundation for Advanced Health Programs; NC Hospital Association; NC Institute of Medicine; NC Medical Society; and the NC Office of Rural Health and Community Care. In addition, the five major health care funders in the state (The Duke Endowment, Blue Cross and Blue Shield of North Carolina Foundation, Health and Wellness Trust Fund, Kate B. Reynolds Charitable Trust, and the Office of Rural Health and Community Care) have been actively involved in the development of Care Share.

a See the May/June 2009 edition of the *North Carolina Medical Journal* for a full description of the CCNC program.

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Care Share receives support from these North Carolina health funders to provide technical assistance to different communities. Since the organization's launch in March 2009, Care Share has been very active in its support of communities in the various stages of building a collaborative network. According to Kellan Chapin, executive director of the Care Share Health Alliance, "One of the basic tenets of Care Share is to build on the partnerships and networks that currently exist in every North Carolina community. Care Share is a new resource to communities to support and broaden their efforts to create formal collaborative networks of care for the uninsured." Technical assistance ranges from informal consultation to more intensive, on-site facilitation. In addition, Care Share staff are developing a technical assistance database that will include up-to-date information on the development of collaborative networks across the state. The program also supports a Knowledge Bank which is an interactive resource that will compile and distribute best practices in providing access to care for the uninsured, valid outcome measures that programs can use to measure their impact, and facilities to host teleconferences and webinars for use by collaborative network members.

Care Share will work with communities to help them strengthen or develop collaborations to expand and improve care for the uninsured. This may include helping communities develop or strengthen existing collaborations, to more extensive community-wide planning and provision of care to the uninsured.

"The Care Share Health Alliance can help improve the quality and array of services available to the uninsured, but it is not a long-term solution to the problem of the uninsured," said Pam Silberman, chair of the Care Share Health Alliance Board and publisher of the *North Carolina Medical Journal*. "We cannot provide all of the health care services that the uninsured need through existing safety net organizations and the donated services of individual health professionals and hospitals. Ultimately, we need a financing system to pay for care provided to the uninsured." But, until that time, Care Share helps to fill the gap. Care Share helps communities leverage resources to better meet the needs of the growing number of uninsured. These formal collaborative networks provide an integrated structure to better coordinate care and improve health for low-income, uninsured North Carolinians.

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*Kellan Chapin, executive director of Care Share Health Alliance, contributed to this article.*

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