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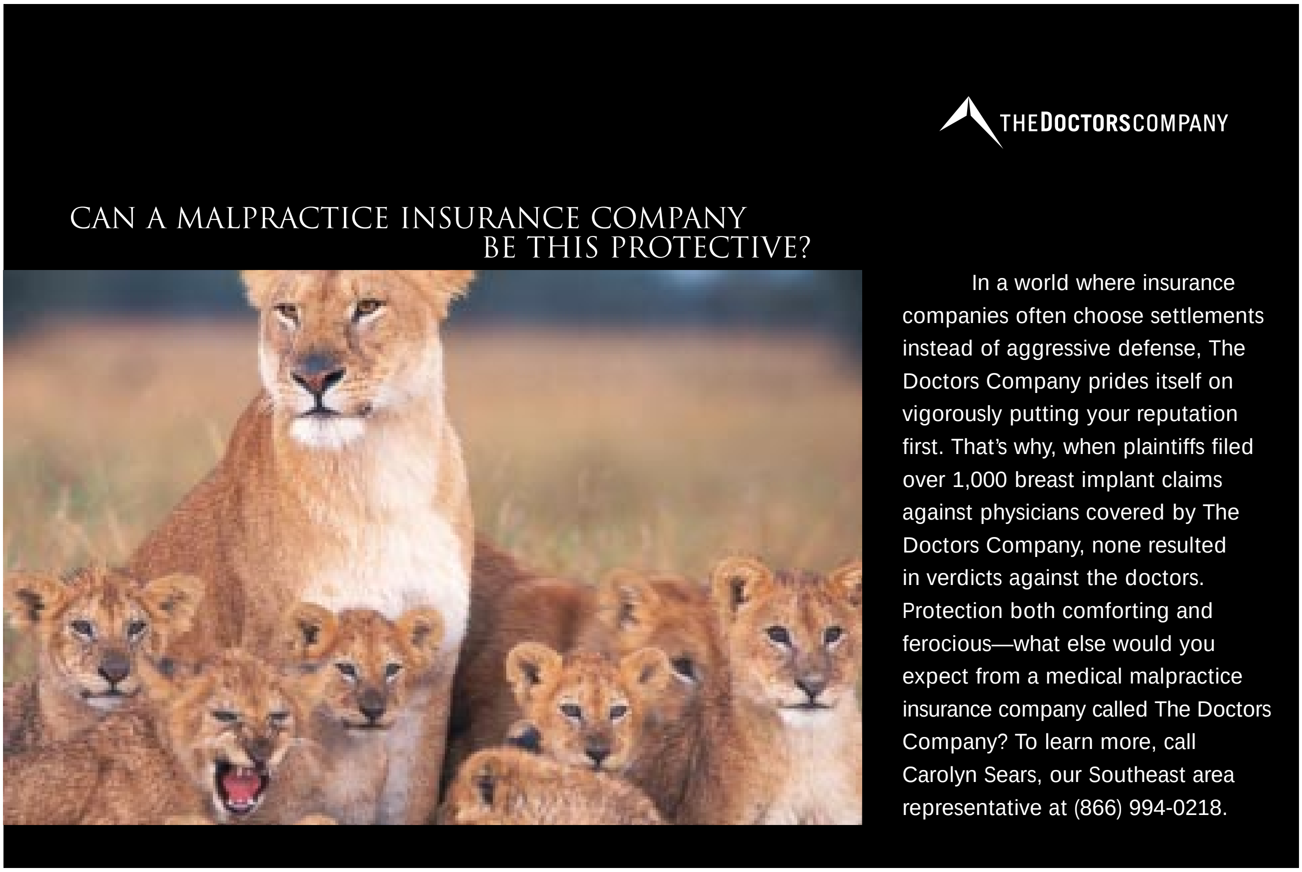

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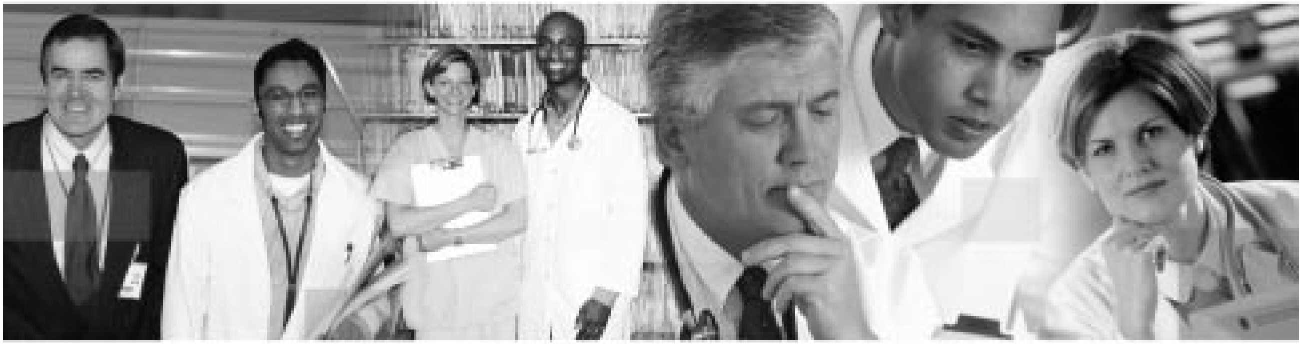

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# Influenza Vaccination of Healthcare Workers:
## Institutional Strategies for Improving Rates

*Kristina Simeonsson, MD, MSPH, Chris Summers-Bean, MS, RN, and Allison Connolly, MA, MPH*

## Abstract

*The nosocomial transmission of influenza has been well documented since the 1970s with both direct and indirect effects of outbreaks in healthcare settings. Outbreaks can directly increase morbidity among patients and residents of long-term care facilities. Indirect effects include disruption of normal operations of healthcare institutions, shortages of healthcare workers (HCWs), fewer elective admissions, and income loss due to absenteeism. Influenza vaccination of United States HCWs remains below 40% despite the availability of a safe, effective vaccine and a long-standing recommendation for vaccination of HCWs. New strategies to improve the rate of influenza vaccination among HCWs are needed as the percentage of those receiving yearly vaccination has changed little in the past 20 years. Increasing HCW influenza vaccination coverage calls for a paradigm shift; institutions should view vaccination of HCWs as a crucial part of a comprehensive infection control program designed to protect patients and staff. Administrators of hospitals, long-term care facilities, and other health agencies should respond to this challenge by developing programs to improve yearly influenza vaccination of their staff. Such efforts would put these employees into compliance with national recommendations and also benefit the institution by reducing absenteeism, nosocomial influenza transmission, and the associated economic losses and disruption of routine operations.*

## Introduction

Influenza epidemics occur each year in the United States; however, the impact of the disease on morbidity, mortality, and the economy is underestimated both by healthcare workers (HCWs) and the general public. An average of 200,000 people are hospitalized and 36,000 die due to influenza or its complications each year in the United States.[1,2] The healthcare costs related to these episodes as well as the time lost from work and school have a significant economic impact. In the United States, it is estimated that the economic cost associated with influenza epidemics exceeds $12 billion annually.[3]

Influenza is easily spread from person-to-person by respiratory droplets, particularly in enclosed areas. Infected adults can transmit influenza virus even in the absence of symptoms.[4] Therefore, infected HCWs can unknowingly serve as vectors of the virus even if they avoid contact with patients after the onset of illness.

Vaccination is the most effective means of preventing influenza illness. HCWs are among the target groups to receive influenza vaccine each year, yet their compliance with vaccination remains low. Institutions should promote influenza vaccination of HCWs as a necessary step to ensure the health of employees and patients.

## Nosocomial Transmission of Influenza

Nosocomial transmission of influenza has been well documented since the 1970s. Outbreaks have been identified even during times when influenza activity was not documented in the surrounding community.[5,6] The effects of these outbreaks can be far reaching. They can increase morbidity among hospitalized patients and residents of long-term care facilities, who are at risk for complications from influenza illness. Outbreaks of influenza can also have the indirect effects of disrupting the normal operations of healthcare settings (if there are shortages of staff), decreasing elective admissions, and loss of worker income due to absenteeism.

Numerous outbreaks of nosocomial influenza, with effects

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on staff, institutions, and patients, have been documented in the infection control literature. A descriptive example by Sartor of an outbreak on an internal medicine ward is illustrative: Five of the 22 staff members became ill with influenza.[7] These five cases resulted in 14 person-days of sick leave during the two-week outbreak. Because of the staff shortage, eight scheduled admissions to this ward were postponed, and all admissions to the ward from the emergency department were suspended for 11 days. In this same study, nine of the 22 susceptible patients developed influenza illness, and three of the nine had prolonged hospitalizations.[7]

Outbreaks of influenza in high-risk settings like neonatal intensive care units, transplant units, and specialty care units, have resulted in increased morbidity or mortality for patients.[5,6,8-10] For example, Munoz and colleagues describe an outbreak of influenza A in a 20-bed neonatal intensive care unit (NICU).[8] This outbreak resulted in four infants developing influenza-like illness. Laboratory results confirmed influenza A in three of these infants. One of the infants subsequently died. Although no definite source for this outbreak was identified, four NICU staff members had been sick with influenza-like illness when the first infant manifested symptoms.

Cunney and colleagues describe an outbreak of influenza in a 34-bed NICU in which 19 infants became infected with influenza virus, six showed symptoms, and one died.[9] In both of the outbreaks described (by Munoz and Cunney), a very low percentage of NICU staff had been vaccinated for influenza. In the first instance, 45% of NICU physicians and 5% of NICU nurses had been vaccinated; in the second instance, only 15% of the NICU staff were vaccinated.[8,9]

## The Effect of Vaccination

Research demonstrates that vaccination is effective in reducing morbidity and mortality due to influenza. In healthy persons under 65 years of age, the efficacy of influenza vaccination exceeds 80% when there is a good match between the vaccine strain and the circulating strain of influenza virus.[11,12] While the vaccine is not as effective in preventing illness in those over 65, it has been shown to significantly reduce severe complications and deaths in this age group.[13,14]

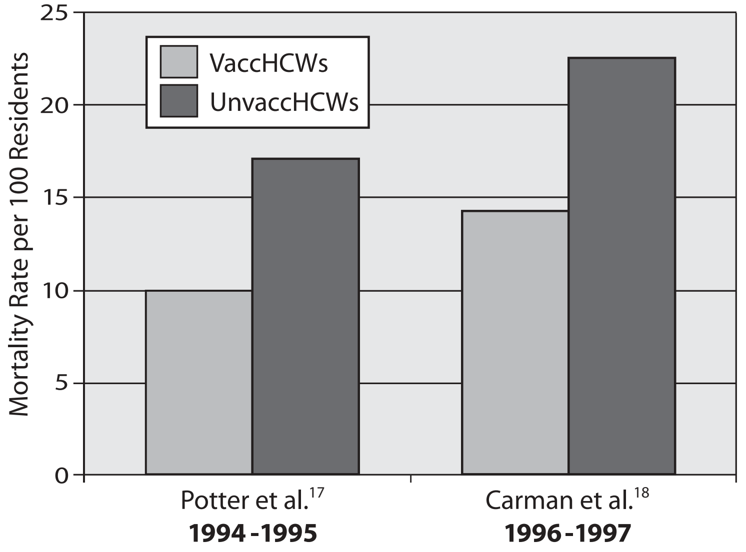
Further, vaccination has been shown to be effective in reducing absenteeism among healthy working adults.[11,12,15] In the largest study of healthy working adults (randomized and placebo-controlled), influenza vaccination reduced absenteeism due to upper respiratory infections from any cause by 43%.[15] In a study looking specifically at healthcare workers, influenza vaccination resulted in a 28% reduction of absenteeism due to respiratory infections during the influenza season.[16]

Vaccination of HCWs against influenza has also been associated with a reduction in patient mortality, as shown by two studies that examined the effect of vaccination of HCWs on patient mortality rates in long-term care facilities.[17,18] The first study, by Potter and colleagues, was conducted during the 1994-1995 influenza season in 12 long-term care facilities (LTCFs) in Scotland.[17] The investigators stratified the LTCFs according to their policy regarding vaccination of patients for influenza. The study then randomized the LTCFs into two groups—those in which HCWs were routinely offered influenza vaccination and those in which HCWs were not offered vaccination. In the LTCFs in which influenza vaccination was routinely offered to the workers, 61% of HCWs received the vaccine. Although the authors did not determine how many HCWs may have received vaccine at the LTCFs that did not offer the vaccine, they believed that the percentage of vaccinated HCWs in these facilities would be negligible.

A follow-up study was conducted by Carman and colleagues during the 1996-1997 influenza season in 20 LTCFs in Scotland.[18] LTCFs were again stratified according to their policy on influenza vaccination of patients and also by size of the facility. As in the study by Potter et al., the sites were then randomized into two groups. In one group, HCWs were routinely offered influenza vaccine, while in the other group of sites they were not. In those facilities where influenza vaccine was routinely offered to HCWs, 51% received the vaccine; in facilities where vaccine was not routinely offered, only 5% were vaccinated.

Both of these studies showed an association between vaccination of HCWs and decreased patient mortality (See Figure 1). In the study by Potter et al., patient mortality in facilities where HCWs were not routinely offered influenza vaccine was 17%, and in facilities where HCWs were offered the vaccine, patient mortality was 10%.[17] (The difference in patient mortality remained statistically significant after controlling for patient characteristics such as age, sex, influenza vaccination status, and

**Figure 1.**
**Association of Long-term Care Resident Mortality and Healthcare Worker (HCW) Vaccination**



degree of disability). The study by Carman et al. showed an unadjusted rate of mortality of 14% for residents in facilities where vaccine was offered to HCWs, compared to 22% in the facilities where vaccine had not been offered. A significant difference was still observed after adjusting for patient characteristics.[18]

### *Influenza Immunization of Healthcare Workers*

Every year the Advisory Committee for Immunization Practices (ACIP) issues recommendations regarding which population subgroups should be targeted to receive influenza vaccination; the most recent recommendations are summarized in Box 1.[4] Although the ACIP has recommended for over 20 years that HCWs receive annual influenza vaccination, only 36% of HCWs (estimated) actually receive the vaccine each year.[19] The HCWs who receive influenza vaccine tend to be older, more likely in their work to be caring for children or the elderly, more likely to have received influenza vaccine in the past, and more likely to be physicians.[20,21]

### *Reasons for Acceptance*

Compared to HCWs who are not vaccinated, those who are vaccinated are more likely to acknowledge the seriousness of influenza illness and its complications, recognize the efficacy of the vaccine, and understand their increased risk of contracting influenza.[20] In a study by Martinello et al., HCWs who responded correctly to a set of five basic knowledge questions pertaining to influenza vaccine were more likely to have been vaccinated compared to those who responded incorrectly to any one of the questions. [22]

Self-protection and personal health are the most common reasons that HCWs give for why they accept the influenza vaccine.[20,21,23-25] Beyond the wish to avoid illness, HCWs may accept vaccination in order to decrease the chance that they might miss work because of illness. In one survey of house staff physicians, one-third of the respondents said they got the vaccine to help avoid absenteeism.[26]

The desire to protect patients from influenza is another reason why HCWs decide to receive influenza vaccine. In some studies over half of vaccinated HCWs listed protection of patients as a major reason to receive the vaccine.[21,25]

Finally, the wish to serve as a role model may factor into a HCW's decision to receive influenza vaccine. Setting an example to other HCWs and patients was mentioned by 46% of hospital physicians surveyed in one study.[24] Twenty-four percent gave this as their most important reason for being vaccinated.

### *Reasons for Nonacceptance*

Why are the majority of healthcare workers not receiving influenza vaccine? Surprisingly, the reasons are the same ones given by the general public. For instance, unvaccinated HCWs share the public's perceptions about the vaccine's side effects and its efficacy. The literature suggests that 20-44% of unvaccinated HCWs decline the influenza vaccine because they are concerned about side effects.[20-25] The most frequently mentioned side effect is the possibility of getting influenza or an influenza-like illness from the vaccine itself.[21,23,24,27] HCWs also fear allergic reactions or contracting Guillain-Barré syndrome following

### **Box 1:** 2004 ACIP Recommendations: Target Groups for Annual Influenza Vaccination[4]

**Persons at risk for complications**

- persons aged ≥65 years;
- residents of nursing homes and other chronic-care facilities that house persons of any age who have chronic medical conditions;
- adults and children who have chronic disorders of the pulmonary or cardiovascular systems, including asthma;
- adults and children who have required regular medical follow-up or hospitalization during the preceding year because of chronic metabolic diseases (including diabetes mellitus), renal dysfunction, hemoglobinopathies, or immunosuppression (including immunosuppression caused by medications or by human immunodeficiency virus [HIV]);
- children and adolescents (aged six months-18 years) who are receiving long-term aspirin therapy and, therefore, might be at risk for experiencing Reye syndrome after influenza infection;
- women who will be pregnant during the influenza season; and
- children aged six-23 months.

**Persons Aged 50-64 Years**

- recommended because this age group has an increased prevalence of persons with high-risk medical conditions

**Persons Who Can Transmit Influenza to Those at High Risk**

- physicians, nurses, and other personnel in both hospital and outpatient-care settings, including medical emergency response workers (e.g., paramedics and emergency medical technicians);
- employees of nursing homes and chronic-care facilities who have contact with patients or residents;
- employees of assisted living and other residences for persons in groups at high risk;
- persons who provide home care to persons in groups at high risk; and
- household contacts (including children) of persons in groups at high risk.

influenza vaccination, although these side effects are mentioned less often.[20,25] Unvaccinated HCWs may also have doubts about the efficacy of the influenza vaccine.[23,24,28] A study of pediatricians in a Swiss hospital revealed that nearly half of those who remained unvaccinated gave doubt of the vaccine's efficacy as the primary reason.[24]

Even though HCWs may know that they can transmit influenza to others and also recognize the potential severity of the influenza illness in their high-risk patients, they may still choose not to receive the vaccine. A study at one United States institution documented a vaccination rate among HCWs of only 16.2%, this despite the finding that over 90% of the physicians and nurses surveyed recognized that HCWs could transmit influenza to patients and that the patients could die from the illness.[29] Although knowledge of the severity of influenza illness and the efficacy and safety of the vaccine does not insure a HCW's acceptance of it, misperceptions about influenza illness and the vaccine can be significant barriers to being vaccinated.[22,26,29]

Many HCWs are unaware of ACIP's recommendations regarding which population subgroups should be vaccinated for influenza.[20-23,26,29] In some instances, this may influence their decision to be vaccinated. For example, Nichol and colleagues found that 8% of unvaccinated HCWs said that the most important reason for not being vaccinated against influenza was that they did not think they were in a target group for receiving it.[20] In addition, four studies discovered that between 2% and 15% of unvaccinated HCWs declined the vaccine because they were pregnant or breastfeeding,[21-23,29] although neither pregnancy nor breastfeeding is a contraindication to influenza vaccination.[4] In fact, the ACIP recommends that women who will be pregnant during the influenza season receive vaccine because they are at risk for complications from influenza illness.[4]

Finally, some unvaccinated HCWs simply believe that they are not at risk for influenza infection. [21-23,28] Harbarth and colleagues found that over half of the unvaccinated HCWs cited either their strong host defense or a low risk of getting sick from influenza as the primary reason not to be vaccinated.[28]

The belief of some HCWs that they are not at risk may stem from confidence in their host defense mechanisms or an ability to avoid influenza through personal prevention strategies.[21,28,30] For example, Manuel and colleagues found that the 81% of never-vaccinated HCWs believed that hand washing was more important for preventing illness from influenza than the vaccine.[30] In comparison, 67% of vaccinated HCWs held the same opinion. In the same study, 73% of never-vaccinated HCWs and 48% of vaccinated HCWs believed that a healthy diet and regular exercise were more important for preventing influenza than vaccination.

## Improving HCW Immunization Rates

Influenza vaccination among HCWs in the United States remains below 40% despite continued nosocomial outbreaks of influenza, the availability of a safe and effective vaccine, and a long-standing recommendation by the nation's leading committee on vaccination guidelines that HCWs be vaccinated. Administrators of hospitals, long-term care facilities, and home-health agencies, among others, need to respond to this situation by developing programs to improve yearly influenza vaccination coverage among their staff. Such programs would not only put these employees into compliance with ACIP recommendations, it would also benefit the institutions by reducing absenteeism, nosocomial influenza transmission, and the associated economic losses and disruption of routine hospital operations.

Healthcare institutions should design their influenza immunization programs around the inactivated, injectable vaccine. Although an intranasally-administered influenza vaccine became available in 2003, it is a live, attenuated influenza vaccine (LAIV) with several limitations that make it impractical to use in an institution-wide campaign. For instance, it is only approved for young, healthy persons (between five and 49

### Box 2: Keys to Increasing Healthcare Worker Vaccination Rates

1. Top management and administration need to become strong advocates to ensure healthcare workers get vaccinated to accomplish:
    a. better infection control
    b. reduced absenteeism
    c. cost savings
2. Make vaccination convenient
3. Reduce or remove cost barriers
4. Remind healthcare workers that CDC recommends influenza vaccination annually
5. Educate healthcare workers that:
    a. Injectable influenza vaccine cannot cause influenza
    b. Influenza virus is easily transmitted between healthcare workers and patients, putting already ill patients at risk for influenza illness and its complications

From the National Foundation for Infectious Diseases. Call to action: influenza immunization among health-care workers 2003. Bethesda, MD: National Foundation for Infectious Diseases, 2003. Available at http://www.nfid.org years);[4] people with an array of chronic conditions, including diabetes and heart disease, should not receive LAIV. In addition, LAIV is not recommended for HCWs who care for severely immunosuppressed patients.[4] Further, from an institutional perspective, the cost and the storage and handling procedures make LAIV undesirable compared to the injectable vaccine.

The National Foundation for Infectious Diseases (NFID) recently issued a call to action for employers to improve HCW influenza vaccination rates.[31] The key elements of the NFID's action plan (See Box 2) provide a solid foundation from which to develop a comprehensive influenza vaccination program. NFID recommends that top management become strong advocates of HCW influenza vaccination and that cost and access barriers be removed. The Foundation also suggests educating healthcare workers about the ACIP's recommendations and about nosocomial transmission of influenza, as well as debunking the common myths and misperceptions regarding the virus and the vaccine itself.

The educational component of an immunization campaign will likely require the most extensive planning and implementation. According to the NFID, increasing awareness among healthcare workers of the ACIP recommendation regarding them as a target group to receive the vaccine should be directed at all healthcare workers—those who already know the ACIP recommendation and those who do not. Some who know the recommendation may disagree with it.[20] Therefore, the rationale behind the recommendation must be included in the educational messages. HCWs should be made to understand that they can spread influenza to their patients, even in the absence of symptoms. When it is appropriate, documentation of nosocomial outbreaks can be used to illustrate this point.

Knowledge of ACIP recommendations and the ramifications of nosocomial influenza will not be enough to convince some HCWs to participate in a vaccination program. As discussed in the previous section, the fear of side effects or doubts about efficacy are often the principal factors in the decision to not receive the influenza vaccine. Therefore, educational campaigns should also highlight the low risk of side effects from influenza vaccine as well as its proven efficacy.

## Influenza Vaccination of Healthcare Workers Remains a Priority

Kristina Simeonsson, MD, MSPH

On October 5, 2004, one of the two manufacturers of inactivated influenza vaccine for the United States announced that it would be unable to deliver any of its vaccine because of contamination problems. This loss of more than 40 million doses of influenza vaccine has significantly reduced the projected supply for the United States, creating a severe shortage of vaccine for the current influenza season. In response, the Advisory Committee on Immunization Practices (ACIP) amended its list of recommendations for vaccination groups in an attempt to target the remaining supply to reduce the risk of influenza complications for those at highest risk.[1] These interim recommendations define eight groups of equal priority to receive influenza vaccine:

- all children aged six-23 months;
- adults aged 65 years and older;
- persons aged two-64 years with underlying chronic medical conditions;
- all women who will be pregnant during the influenza season;
- residents of nursing homes and long-term care facilities;
- children aged six months-18 years on chronic aspirin therapy;
- healthcare workers involved in direct patient care; and
- out-of-home caregivers and household contacts of children aged less than six months.

Individuals who are not in one of these priority groups have been asked to forego or defer vaccination for the 2004-2005 influenza season. These interim recommendations no longer include persons 50-64 years or household contacts of high-risk individuals as groups for which influenza vaccine is recommended.

Despite the change in vaccination recommendations due to this season's shortage, the ACIP still includes healthcare workers (HCWs) as a priority. The decision to include HCWs in the priority groups underscores that HCW-vaccination is essential to control the spread of influenza to high-risk patients.

Even for individuals in the eight priority groups, gaining access to vaccination this season may continue to pose significant challenges. HCWs who are not offered vaccination at their workplace should make every effort to get vaccinated on their own. Certain categories of HCWs have two options for influenza vaccination: (1) They can receive either the injectable influenza vaccine or (2) the intranasal, live attenuated form of influenza vaccine (FluMist). FluMist is indicated for healthy individuals five-49 years of age. According to the ACIP, HCWs who meet these criteria and do not care for severely immunosuppressed patients can receive the intranasal form of vaccine.[2] Healthcare facilities may choose to develop institutional policies pertaining to the use of FluMist for their HCWs. Regardless of whether HCWs are successful in finding influenza vaccination this year, the message about HCW vaccination is clear. Annual influenza vaccination of HCWs remains a top priority.

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Access to influenza vaccination must also be ensured. Several studies document that the location and schedule of vaccination administration influence whether HCWs will participate.[20,22,26,28] Access, however, includes not only logistical issues such as locations and times for vaccine administration, but also the cost to the worker of being vaccinated. One study found that one-third of vaccinated HCWs at one institution would not accept influenza vaccine if they had to pay for it themselves.[21] A recent position statement of the Association for Professionals in Infection Control and Epidemiology urged institutions to provide their employees with influenza vaccination at no charge—just as these institutions provide masks, gloves, gowns, and hand-washing products to employees at no charge.[32]

In short, the educational and access components of vaccine programs will likely be multi-faceted. Thus, assessing the employees' knowledge and concerns about the influenza vaccine, and therefore their willingness to be vaccinated, and removing the barriers to gaining access to vaccination, are both critical steps in planning a campaign. HCWs are a heterogeneous group who vary greatly in terms of their healthcare knowledge, educational level, and primary work environment, as well as race and culture. These variations may influence both the workers' educational needs and their ability to surmount the access barriers with respect to receiving influenza vaccination.[22-26,28]

Begue and colleagues found that addressing all of the issues expressed by HCWs during the educational component of the campaign increased their vaccination rate by 50%.[23] Other studies have demonstrated that some HCWs—attending and resident physicians, for example—are more likely than others to cite time and convenience as important reasons behind their failure to be vaccinated.[22,25,26]

One successful strategy to improve access is linking the vaccination campaign to a required activity. At one institution, a HCW vaccination rate of 62% was achieved for the 1999-2000 influenza season when vaccine was offered to HCWs during their mandatory tuberculosis screening, which was scheduled for a one-week period in October.[21] Offering the vaccine in a setting where employees are screened for other occupational health issues may also provide an opportunity to address individual concerns about the vaccine in a private manner. Other institutions have noted that offering the vaccine to the HCWs in the units where they work has proven to be an effective strategy.[20,22,28]

The ACIP recommendation that HCWs receive influenza vaccination every year is not a new one. However, new strategies to improve vaccination coverage of HCWs are necessary because the rate of vaccination has not changed significantly in the past 20 years. The challenge of increasing HCW influenza vaccination calls for a paradigm shift. Institutions should view influenza vaccination of HCWs as an integral part of a comprehensive infection control program designed to protect both patients and staff.[33] Vaccination remains the most effective way to prevent influenza illness, and vaccination of HCWs is essential to preventing the spread of influenza in healthcare settings. **NCMJ**

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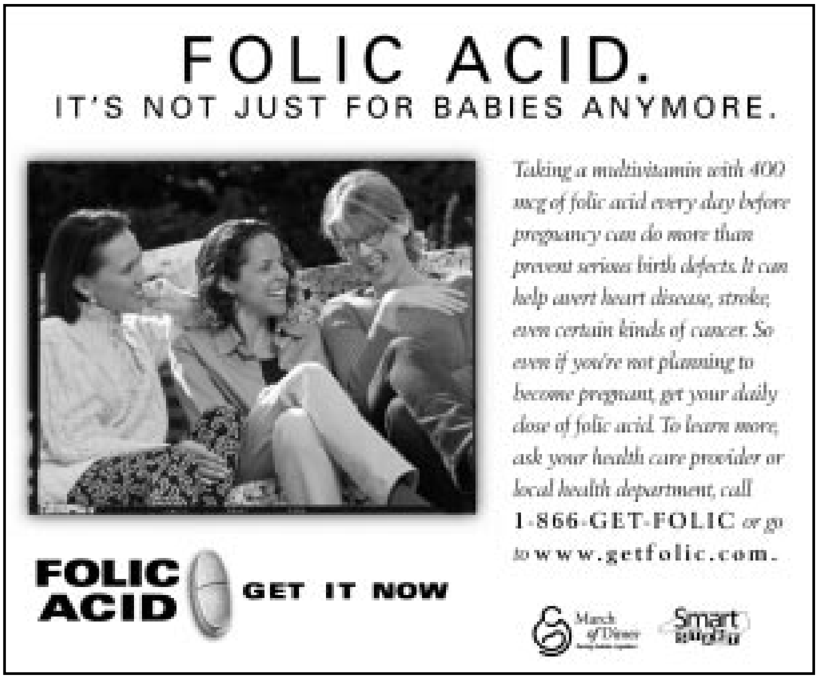

ARTICLE

# Racial Disparities in Health between White and African American Family Practice Patients:

## Clinical Implications

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## Abstract

***Objective:*** *To identify differences in self-reported health status and prevalence of chronic disease between African American and white patients.*

***Study Design:*** *A representative sample of African American and white adult patients from a stratified sample of family practices in North Carolina completed a questionnaire that included self-reported racial status, certain sociodemographic data, health risk factors, chronic conditions, and health status measures.*

***Data Source:*** *The North Carolina Health Project, a practice-based cohort of adult patients from a representative sample of family practice offices in North Carolina.*

***Principal Findings:*** *African Americans report poorer general health status than whites. Obesity, insufficient exercise, high blood pressure, and diabetes are more prevalent among African American than white family practice patients, even after adjusting for age, gender, and educational attainment.*

***Conclusions:*** *This study complements previous evidence of disparities in chronic disease and health risk factors between African Americans and whites, and it highlights specific factors that may be important in the primary care setting.*

***Relevance:*** *By focusing clinical attention on the prevention or treatment of specific factors that are known to be more prevalent among certain racial groups, primary care providers may help to reduce racial differences in healthcare.*

***Key words:*** *Health Disparities, Race, Ethnicity, Family Practice Network, Risk Factors, Health Conditions, Health Status*

## Introduction

Compared with other ethnic groups, African Americans have a disproportionately high prevalence of many risk factors and diseases, and these are associated with increased morbidity and mortality. For clinicians to better serve African American patients, they must understand the disparities that exist, their causes, and practical means of intervening. African Americans have historically had less access to and use of ambulatory care services, and there appear to be potentially important differences in the ways that African Americans and whites perceive their health status.[1-4] African Americans may also differ from whites

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in how they perceive benefits or harms that they associate with certain medical or surgical interventions.[5,6] It is unclear to what extent race contributes directly to disparities in perceived health status, as opposed to serving as a proxy for other, more directly pertinent factors such as socioeconomic status. Race, however, is a salient attribute for many individuals, either in how they identify themselves, or how they are identified by others, including healthcare providers. It is useful and informative, therefore, to assess the extent to which actual and perceived health status differs between members of different races who reside in the same community and who receive medical care from the same provider.

The primary care physician's office practice constitutes an important site for both prevention and treatment of health problems. Therefore, it is important for primary care physicians to be sensitive to race and ethnicity-related issues in their patients, to be aware of the care their patients receive, and to provide complete and accurate information about healthcare options to all of their patients.

This study compared general health status, health risk factors, and chronic disease rates between African American and white patients in a representative sample of family practices in North Carolina. The study aimed to identify how perceived health status, as well as healthcare needs and access, differ by race, so as to better inform the delivery of health interventions that are appropriate to African American and white patients in the primary care setting.

## Methods

Data for this study are from the North Carolina Health Project (NCHP), a network of 13 family practices with 16 location sites in North Carolina. The study selected practices by a purposive sampling method that ensured representation of rural and urban sites in each of the state's three geographic regions (west, central, and east), and that preferentially selected practices serving high proportions of racial/ethnic minorities. Rural and urban status was designated based on the United States Department of Agriculture's (USDA) rural-urban county codes for the county in which the practice was located.[7] All selected practices agreed to participate in data collection.

The study placed research assistants at each participating site for a four-week data collection period. The research assistants offered a four-page, self-report questionnaire, available in English or Spanish, to each non-emergency adult patient who presented for an office visit. As needed, the research assistants explained the questionnaires and consent forms, answered participants' questions, and assisted them with questionnaire completion, which took place in the healthcare provider's office at the time of the visit.

The questionnaire included the following measures:

- **Sociodemographic data:** age, race, gender, marital status, work status, education level.
- **Physical measures:** weight and height. Body mass index (BMI) was calculated from the reported weight and height.
- **Health risk behaviors:** exercise habits and smoking status.
- **Chronic health conditions:** high blood pressure, heart disease, osteoarthritis, depression, chronic back pain, and diabetes.

**Table 1.**
**Selected Characteristics of African American and White Adult Patients in North Carolina Family Practice Settings**

| | African Americans (N=900) % or Mean | Whites (N=3,481) % or Mean | p Value* |
|---|---|---|---|
| **Female Gender** | 75.9% | 69.5% | 0.018 |
| **Age in Years** | 46.0 | 48.0 | 0.342 |
| **Residence in Rural County** | 48.1% | 53.1 | 0.781 |
| **Educational Attainment** | | | |
| Less than high school | 29.6% | 16.5% | |
| High school diploma | 31.7% | 30.1% | |
| Beyond high school | 38.7% | 53.4% | 0.031 |
| **Marital Status** | | | |
| Married | 32.7% | 65.4% | |
| Widowed | 12.1% | 8.4% | |
| Living w/ partner | 5.3% | 2.7% | |
| Separated/divorced | 22.6% | 13.4% | |
| Never married | 27.3% | 10.3% | 0.016 |
| **Currently Working** | 49.2% | 58.7% | 0.062 |
| **Health Risk Factors** | | | |
| Smoking now | 24.2% | 25.4% | 0.482 |
| No exercise | 56.3% | 41.6% | 0.001 |
| Obese (BMI > 30) | 53.4% | 35.5% | < 0.001 |
| **Chronic Conditions** | | | |
| High blood pressure | 48.6% | 31.9% | 0.004 |
| Heart disease | 9.8% | 11.4% | 0.295 |
| Osteoarthritis | 24.7% | 23.8% | 0.763 |
| Depression | 23.7% | 26.4% | 0.185 |
| Chronic back pain | 24.1% | 25.1% | 0.503 |
| Diabetes | 21.6% | 12.0% | 0.006 |
| **General Health Status** | | | |
| "Fair" or "poor" health | 36.6% | 24.3% | 0.009 |

** Significance tests for comparisons were calculated using Pearson's chi-square test for categorical variables and the 2-sample t-test for continuous variables, adjusted for stratified sampling design using SUDAAN 8.1*

- **Health status:** self-rated health status as assessed by the question, "In general, would you say that your health is: excellent, very good, good, fair, poor?"

Research assistants mailed completed and incomplete questionnaires to the principal investigators on a weekly basis. All data were then entered into an Access database.

The investigators stratified the subjects' demographic and clinical characteristics by race (African American vs. white) and excluded data from subjects who did not identify themselves as either African American or white from these analyses. We used Pearson chi-square analyses and 2-sample t-tests to measure the significance of differences between the two study groups, and we dichotomized the five-point scale for general health status into two categories: fair/poor *versus* excellent/very good/good. We analyzed educational attainment in three categories: less than a high school diploma, high school diploma, and more than a high school diploma. In calculating odds ratios between African Americans and whites, we used logistic regression, with health habits, risk factors, chronic conditions, and health status as dependent variables, and age, gender, and education level as co-variates. All statistical tests were two-sided (alpha=0.05) and were adjusted for the clustering of residents within clinics using Taylor series expansion methods,[8] as implemented in SUDAAN software.[9]

## Results

### Response rate

In the 16 practice sites, we found 7,680 eligible patients, of whom 4,760 consented to participate, yielding a recruitment rate of 62%. Approximately 10% of respondents required support from study research assistants to complete the self-report questionnaires. Sixty-nine (1%) respondents identified themselves as belonging to more than one racial group (mixed race), and 310 (7%) checked neither "black" nor "white." Of these, 95 (31%) identified themselves as either "Mexican, Mexican-American, or Chicano" or "Other Spanish, Hispanic, or Latino." We omitted these respondents from the analyses. The total analysis sample consisted of 4,381 respondents, 3,481 (79%) of whom identified themselves as white and 900 (21%) who identified themselves as black. In this paper, we use the term African American to refer to the participants who checked "black" in accordance with convention in the medical literature, even though the African ancestry may be distant for many of the individuals in this sample. All of the respondents included in this study completed the English version of the study questionnaire.

### Demographics

Demographic data for the study sample, stratified by race, appear in Table 1. Within the study sample, 76% of African Americans and 70% of whites were female (p=0.018). The mean ages in years for African Americans and whites were 46 and 48, respectively (p=0.342). Approximately half of the sample of both African Americans and whites resided in a rural county. Whites tended to have higher educational levels, with a greater percentage of whites having had more than a high school education than African Americans (p=0.031). More whites (65%) than African Americans (33%) reported being married (p=0.016). More whites (59%) than African Americans (49%) also reported being currently employed, either full-time or part-time (p=0.062).

### Health risk factors

We found no significant difference in smoking status between African Americans and whites; approximately one-quarter of both groups were smokers. There was, however, a significant racial difference in the percentage of the population whom we defined as obese (BMI > 30), with 54% of African Americans *versus* 36% of whites meeting this criterion (p<0.001). African Americans also tended to be more sedentary; 56% of African Americans compared to 42% of whites reported getting no exercise on a typical day (p<0.001).

We report the odds ratios for selected risk factors and conditions among African Americans and whites, adjusted for age, gender, and education level, in Table 2. Compared to white patients, the adjusted odds for African Americans are lower for current smoking status (OR 0.76, 95% CI 0.61-0.94) and higher for reporting no exercise on a typical day (OR 1.63; 95% CI 1.29-2.05) and for being obese (OR 1.92; 95% CI 1.61-2.30).

### Chronic conditions

Of the self-reported chronic conditions selected for analysis, we found that the frequency of heart disease, osteoarthritis, depression, or chronic back pain did not differ by race. However, African Americans did report more high blood pressure (49% vs. 32%, p=0.004) and diabetes (22% vs. 12%, p=0.006) than did whites (See Table 1). After adjusting for age, gender, and education, this difference still held: African Americans were more likely than whites to report high blood pressure (OR=2.44; 95% CI 2.05-2.91) and diabetes (OR=2.16; 95% CI 1.66-2.78) and less likely to report depression (OR=0.74; 95% CI 0.58-0.95) and chronic back pain (OR=0.81; 95% CI 0.71-0.94). The adjusted odds of reporting heart disease or arthritis were not statistically different from 1.00, when controlling for age, gender, and education (See Table 2, Model 1). However, after controlling for the additional variables of current smoking, exercise status, and obesity, the odds of African Americans reporting heart disease were significantly lower than for whites (See Table 2, Model II; OR=0.73; 95% CI 0.60-0.88).

### Health status

More African Americans rated their general health as "poor" or "fair" than whites (37% vs. 24%, p=0.009) (See Table 1). This difference remained significant even after controlling for age, gender, education, current smoking, exercise status, and obesity (OR=1.47; CI 1.06-2.04) (Table 2).

## Discussion

The United States is becomingly increasingly diverse racially and ethnically. Racial disparities in health and in the receipt of healthcare in the United States are well documented.

**Table 2.**
**Adjusted Odds Ratio of Selected Health Indicators among African American Patients Compared to Whites in Family Practice Settings**

| | Odds Ratios (95% CI) | |
|---|---|---|
| **Dependent Variables** | **Model I[a]** | **Model II[b]** |
| **Health Risk Factors** | | |
| Smoke now | 0.76 (0.61, 0.94) | — |
| No exercise | 1.63 (1.29, 2.05) | — |
| Obese (BMI > 30) | 1.92 (1.61, 2.30) | — |
| **Chronic Conditions** | | |
| High blood pressure | 2.44 (2.05, 2.91) | 2.11 (1.67, 2.67) |
| Heart disease | 0.88 (0.71, 1.08) | 0.73 (0.60, 0.88) |
| Osteoarthritis | 1.10 (0.86, 1.39) | 0.97 (0.75, 1.25) |
| Depression | 0.74 (0.58, 0.95) | 0.65 (0.53, 0.78) |
| Chronic back pain | 0.81 (0.71, 0.94) | 0.72 (0.60, 0.85) |
| Diabetes | 2.16 (1.66, 2.82) | 1.83 (1.37, 2.45) |
| **General Health Status** | | |
| "Fair" or "poor" health | 1.59 (1.23, 2.06) | 1.47 (1.06, 2.04) |

***Odds ratios calculated using logistic regression with race as the explanatory variable, and adjusted for stratified sampling design using SUDAAN 8.1.***

[a] Model I: adjusted for subject age, gender, and education.
[b] Model II: adjusted for subject age, gender, education, current smoking, exercise status, and obesity.

Maintaining and improving the nation's health will, therefore, be dependent in part on reducing the factors that lead to health status disparities between minority groups and whites.[10] This study confirms that African American patients report poorer health status and greater prevalence of certain risk factors for poor health, particularly obesity, sedentary lifestyle, and high blood pressure, compared to their white counterparts in the primary care setting of North Carolina. The purpose of this study was to confirm and measure these health disparities in the family practice setting in order to illustrate the challenges that face primary care providers in North Carolina. Because the offices of primary care physicians are common sites of medical care for persons with risk factors who have not yet developed overt disease, primary care physicians could play an important role in decreasing the observed disparities in health outcomes.

Data for this study were obtained only from individuals who received medical care from family practice providers in the state of North Carolina. Our findings may therefore not be readily generalized to other regions of the United States, or to other medical practice settings. An additional limitation is that the data were obtained by patient self-report, which makes the health risk factors and chronic condition reports subject to bias or inaccuracies due to misunderstanding of medical diagnoses by some respondents. On the other hand, the study has a unique strength: it is the first to examine health risk factors, chronic conditions, and self-reported health status among a representative sample of family practice patients across an entire state.

There are many plausible explanations for observed disparities in health, including potential differences in socioeconomic status, educational attainment, access to healthcare, health-related behavior, discrimination, and racism. In our study, disparities in risk factors and chronic conditions persisted after adjusting for educational attainment (See Table 2). Furthermore, every study participant had at least some access to primary care, although we did not assess the quality or quantity of healthcare services available to individual patients. It therefore seems unlikely that access to healthcare is a major contributor to the race-related differences observed in this study. Other explanations must be considered, including the possibility that some forms of discrimination or racism occur in the community or in the healthcare setting. Evidence that suggests that a patient's race may influence providers' decisions or actions has been found in studies that reveal that physicians may sometimes perceive African Americans as less intelligent and less likely to adhere to medical advice compared to white patients,[11] that medical students judge black patients to have a lower quality of life than white patients with similar symptoms,[12] and that the race and sex of patients may independently influence the way a physician elects to manage chest pain.[13]

Strong evidence exists to suggest that a primary care office may be an appropriate setting to bring about change in health-related behaviors. A meta-analysis of primary-care-based intervention studies revealed that physical activity counseling is often effective, with stronger results obtained from interventions that are brief (3-10 minutes), tailored to the patients' characteristics and preferences, and that include supplemental written materials.[14] Physician intervention can also lead to smoking cessation.[15,16] Moreover, achieving a healthy weight tends to improve patients' subjective well-being.[17] It is has also been shown that minority and economically disadvantaged patients are less likely to receive screening[18] and behavioral interventions[19] from their physicians. Finally, steps to increase cultural competency among healthcare providers may help to reduce the tendency toward racial and ethnic bias in the provision of care. Elements of cultural competency within the practice setting include: a culturally diverse staff that reflects the community served; bilingual providers and/or translators when significant language barriers exist; providers who are knowledgeable about different health beliefs, cultural practices, or values among their patients; patient education materials that are culturally and linguistically appropriate; and a practice that engages in community outreach activities.[20] **NCMJ**

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**ARTICLE**

# Diabetes Awareness among African Americans in Rural North Carolina

*Angela K. Antony and Walid A. Baaklini, MD, FCCP*

## Abstract

***Objective:*** *To evaluate the extent of diabetes unawareness in rural North Carolina.*

***Methods:*** *Randomly administered an eight-question survey to African Americans age 15-74 living in Halifax County, North Carolina.*

***Results:*** *Ninety-five out of 116 eligible participants completed the survey (82% response rate). Most (67%) of the participants reported having two or more major risk factors for Type II diabetes (diabetes mellitus). More than half (51.6%) of the participants were obese. Most (96.8%) of the participants reported having been tested for diabetes at some point in their lives (10% tested positive, only 8.4% of the remaining 90% reported ever having a second test).*

***Conclusion:*** *Diabetes mellitus is a very prevalent problem among the African American population of Halifax County, North Carolina. Our study underscores the fact that patients are not systematically screened and followed-up for diabetes mellitus. More healthcare and commnity programs need to be adapted to fight this serious public health problem.*

## Introduction

Diabetes mellitus is one of the most serious health problems facing the more than 35 million African Americans living in the United States—1.8 million of whom live in North Carolina.[9] Diabetes mellitus, a condition in which the body produces little or no insulin or is unable to utilize insulin properly, results in dangerously high blood sugar levels; this can lead to coma, death, or a myriad of other health complications including blindness, kidney failure, foot or leg amputations, stroke, and heart disease. Diabetes impairs lives of countless African Americans is the seventh leading cause of death of African Americans in the United States.[8]

There are two major categories of diabetes, Type I and Type II. With Type I diabetes, the body produces almost no insulin at all so the afflicted individual must take exogenous insulin to survive. In Type II diabetes, also known as adult onset diabetes mellitus (AODM), the body either produces insufficient amounts of insulin or experiences insulin resistance, a condition in which the body cannot properly utilize insulin. Type II diabetes accounts for 90-95% of all diabetes cases.

Over the last 30 years, the number of African Americans diagnosed with diabetes nationwide has more than tripled. Presently, over 2.8 million African Americans are plagued with this serious disease.[1] Studies show that in North Carolina, African Americans are three times more likely to develop diabetes than whites of a similar age. Compared to white Americans, African Americans experience higher rates of three serious diabetes complications: blindness, kidney failure, and amputations. In addition, African Americans also experience greater disabilities from these complications.[9] However, despite the staggering statistics, diabetes awareness within the African American communities of North Carolina is alarmingly low. In fact, diabetes awareness is such a problem that more than half of African Americans with diabetes are totally unaware of their medical condition. This means that for every African American diagnosed with diabetes, there is at least one undiagnosed case.[3]

This study was conducted to investigate the level of diabetes awareness within the African American population of rural North Carolina. In this study, the targeted population was that of Halifax County where African Americans comprise over 53% of the total population.[9] Research found that many of the African Americans in Halifax County fell into the high-risk category and exhibited several of the genetic, medical, and lifestyle risk factors characteristic of diabetes.[5] However, many of these individuals had not been tested for diabetes, and of the few who had been tested, the majority had not gone back for a second testing. This study was conducted in Halifax County with the hope that it would encourage similar studies elsewhere in rural North Carolina, thereby aiding in the imperative task

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**Figure 1.**
**Diabetes Survey**

1. **Please specify your age group:**
   ☐0-20 ☐20-39 ☐40-49 ☐50-59 ☐60-74 ☐75+
2. **What is your sex?** ☐Male ☐Female
3. **What is your race/origin?**
   ☐Caucasian ☐African American ☐Hispanic
   ☐Asian/Pacific Islander ☐Other: ________________
4. **Do you visit a doctor regularly?**
   ☐Yes ☐No
5. **When was the last time you visited a doctor?**
   ☐last week ☐last month ☐last year ☐1-2 years ago
   ☐more than 2 years ago
6. **What is your height and weight?**
   Height: ___feet ___inches Weight: ___lbs
7. **Which of the following describe you?** *(please mark all that apply):*
   - ☐ I have been diagnosed with obesity.
   - ☐ I have an immediate family member with diabetes.
   - ☐ I exercise regularly. (at least three times a week)
   - ☐ I am a woman who has delivered a baby weighing over 9 pounds.
   - ☐ I have high blood pressure or hypertension.
8. **Have you ever been tested for diabetes?** If yes, please circle your test result.
   ☐Yes (positive / negative) ☐No

   **If you answered yes and positive, are you being treated for diabetes?** ☐Yes ☐No

   **If you answered yes and negative, have you been tested again for diabetes since?** ☐Yes ☐No

of increasing diabetes awareness throughout the African American population of North Carolina.

A questionnaire was developed to evaluate how much the rural African American population understood about the various risk factors of Type II diabetes mellitus. We categorized the risk factors of Type II diabetes into three groups: genetic, medical, and lifestyle. Genetic risk factors include inherited traits and family ancestry; medical risk factors include obesity, hyperinsulinemia, insulin resistance, and impaired glucose tolerance; lifestyle risk factors include diet and physical activity. Included in the questionnaire was a survey (See Figure 1), which assessed the risk level of each individual and inquired whether the individual had been tested or treated for diabetes. Our survey responses were analyzed to determine the number of people unaware that they were at high risk for diabetes. A presentation and lecture on diabetes risk factors and prevention was given to the participants after they completed the survey. Our study was aimed at evaluating the severity of diabetes unawareness in rural North Carolina, which would ideally generate interest in how to deal with this issue and increase awareness in the African American community.

## Methods

Before embarking on our campaign to research diabetes awareness, we first assessed the current diabetes knowledge of the African American population in question. The five members of the survey research team were Dr. Walid Baaklini; North Carolina School for Science and Mathematics Senior Angela Antony; registered nurse and diabetes educator Susan Liverman; and two local volunteers. We devised a survey (See Figure 1) on diabetes awareness and risk factors and distributed it randomly to citizens in several African American concentrated areas of Halifax County, North Carolina. Out of 116 eligible participants, 95 individuals participated in the study yielding a response rate of about 82%. The survey included questions that identified the individual risk factors of diabetes such as age, physical activity level, family history, and other genetic, medical, and lifestyle factors. Individuals who were at high risk for diabetes based on their answers to the risk factor questions were then asked additional questions assessing their awareness of this high-risk condition. In addition, we asked individuals if they had ever been tested for diabetes. If they had and were found to be non-diabetic, we inquired whether they had gone back for a second testing. Finally, we requested the height and weight of each person surveyed and used a Body Mass Index Chart to assess whether these individuals could be at risk because of their weight since obesity is another major risk factor for diabetes.

## Results

African Americans between the ages of 15 and 74 completed the survey. Upon analysis of the data, we found that 67% of the studied population had two or more of the major risk factors for Type II diabetes, which classified them as "high risk." However, only three of these high-risk individuals had visited a doctor within the last year. Fortunately, the findings also showed that 96.8% of the surveyed population had been tested for diabetes at some point in their lives, and 10% of those tested were found positive for the disease and were given treatment. However, of the 90% that had tested negative, only 8.4% had gone back for a second testing. This is unfortunate, given Halifax County's high-risk reputation and the wide range of ages in which diabetes can develop.

Another of the major risk factors of diabetes is heredity, and the survey found that 10% of the population had an immediate family member with Type II diabetes. Those taking the survey were also asked whether they exercised regularly, because research has proven that exercising at least three times a week can significantly reduce the risk of developing diabetes.[3] Unfortunately, only 3.3% of the surveyed population reported regular exercise—a group that included less than 6.7% of the female population. One other major risk factor of diabetes is obesity, which was also inquired about in the survey. Using the Body Mass Index (BMI) chart, we found an alarming 51.6% of the population to be obese, meaning they had scored over 29 on the BMI scale. In several extreme but common cases, the obesity in question had become especially dangerous. One male in the over-75 age group stood at 5'2" and 189 pounds, scoring a 34.5 on the BMI scale. Another male in the 50-60 age group, measured 5'3" tall but weighed 200 pounds, scoring a 36 on the BMI chart. One of the most alarming cases observed, however, was that of a female in the 60-74 age groups. Standing at 4'5", a normal height for a schoolchild, the woman in question weighed 175 pounds, putting her off the charts on the BMI scale. We estimated her score to be roughly 38 or 39.

Unfortunately, although over half of the randomly chosen participants in our study were obese, only 6.45% of these cases had been diagnosed. Even more alarming, a full 71.1% of the undiagnosed obesity cases claimed to visit a doctor on a regular basis.

## Conclusion

Diabetes, once relatively uncommon among African Americans, is now the third leading cause of death from disease among this population.[2] Studies have found that African Americans, both in North Carolina and throughout the United States, are more prone to this disorder for numerous reasons. African Americans have a higher prevalence of obesity, a fact also observed in this study, which is a major risk factor for Type II diabetes. In addition, African Americans are known to have a higher occurrence of hypertension, a disorder strongly associated with diabetic complications such as eye, kidney, and heart disease. Lastly, African Americans tend to have less access to financial, social, health, and educational resources that would otherwise improve their current health status and level of diabetes awareness.[10]

Still, there are many ways to alleviate this problem and to improve the present health situation of our state and nation's African American population. First, obese individuals, through proper diabetes education and instruction, can effectively manage or prevent diabetes through diet, weight control, and exercise if they act early. With more advanced obesity cases, treatment with oral hypoglycemic agents or insulin can make a difference. In addition, proper diabetes education and management can reduce the risk of suffering from the major diabetes complications such as blindness, kidney failure, heart attack, stroke, and amputations. The factors that aggravate these complications include delay in diabetes diagnosis, delay in treatment, denial of diabetes, abnormal blood lipids, high blood pressure, and cigarette smoking, all of which can be avoided or alleviated through increased diabetes awareness.

Ultimately, the key is spreading the word. This study was intended to motivate clinics, hospitals, and medical professionals to aid in the crucial task of increasing diabetes awareness. Already throughout Halifax County, the word is beginning to spread: diabetes support groups, fundraisers, and public presentations are becoming increasingly more common. Awareness is paramount if we want to see more favorable diabetes statistics for the African Americans of Halifax County, North Carolina, and the entire United States. **NCMJ**

*Angela Antony was senior in high school at the North Carolina School for Science and Mathematics when she completed her study and this article. She is now a freshman pre-med student at Harvard University. Her work here is remarkable at this early stage in her career. We are proud to produce young students like Ms. Antony in North Carolina and hope that she will return to North Carolina to practice.*

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# Thanks from the *North Carolina Medical Journal*

Without the voluntary assistance and carefully executed reviews of a number of anonymous reviewers, no journal can offer the kind of peer-review for submitted manuscripts that can assure its readers the highest quality of published articles. We are fortunate in having the service of a number of individuals who have given generously of their time and expertise in service to the *North Carolina Medical Journal* this past year, and we are pleased to have this annual opportunity to acknowledge their efforts.

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# POLICY FORUM
## *Eliminating Racial and Ethnic Health Disparities*

## COMMENTARIES

> *"The fundamental need for eliminating health disparities is to preserve the health of the nation. Health is not just the absence of disease, but rather the presence of both physical and mental well-being."*

# INTRODUCTION

## Policy Forum:
## *Eliminating Racial and Ethnic Health Disparities*

In our continuing effort to present clear and broad-spectrum coverage of key health and healthcare issues facing North Carolinians, this issue of the *North Carolina Medical Journal* focuses on a national policy agenda having significant implications for our state. When former President Clinton and Surgeon General Dr. David Satcher announced a major new initiative to decrease or eliminate the disparities that exist in the United States affecting groups defined by racial/ethnic, socio-economic/income, gender, geographic, age, disablement, or sexual orientation characteristics, they were calling to our attention some of the most pervasive and embarrassing realities of American health status and healthcare. Not only are these disparities in the incidence, prevalence, and burden of illness associated with common health conditions huge in many cases, but addressing these issues is made all the more difficult by the sheer complexity of these disparities and the factors that may have contributed to them.

Although disparities exist when comparisons are made between the health status and healthcare accessibility experienced by most middle- and upper-class American whites and persons in several minority population categories, the predominant emphasis in discussions of health disparities has been on those related to race and ethnic status. These discussions often are more narrowly focused on differences between whites and African Americans. In this issue of the Journal, we bring attention to the broader set of problems under the rubric of "health disparities," but our focus, like that of others, is limited, for the most part, to racial/ethnic disparities. We have tried to expand the discussion to include minority groups other than African Americans.

We have invited Anissa I. Vines, PhD, MS, and Paul A. Godley, MD, PhD, of the University of North Carolina, Co-Directors of the Program on Ethnicity, Culture, and Health Outcomes (ECHO), to write an Issue Brief on this theme. In their Issue Brief, these authors provide a conceptual overview of the topic, as well as illustrations of many dimensions of the broader set of problems along which attempts have be made to address these issues. Vines and Godley raise questions about the utility of the concept (and labels) of "race" and "ethnicity" in assessing the health significance of disparities. Even though they do not deal with disparities beyond those involving race or ethnicity, Vines and Godley clearly demonstrate the reasons why this area of public policy development has been very difficult and a substantial challenge to those who work in the healthcare field.

We have invited a number of commentaries from persons and organizations who are working in our state to address these issues, including information on the extent of these problems among the state's American Indian and Latino populations; the extent to which healthcare access differs among racial and ethnic populations; the adequacy of numbers of healthcare professionals from racial/ethnic groups; the efforts of state governmental agencies, community health centers, and local public health departments to address the health and healthcare needs of the state's minority populations; the role of faith-based voluntary organizations in meeting the challenge of health disparities; and the importance of minority group participation in health and medical research. In addition, we have included recently received scientific papers addressing these issues in the front of this issue.

Despite the narrower focus on racial and ethnic group disparities in this issue of the Journal, we hope that we have presented a set of ideas and supporting information through which these issues may be elevated on our state's public policy agenda for the future. We continue to invite comments from our readers on these and other topics addressed in the Journal.

*Gordon H. DeFriese, PhD*
*Editor-in-Chief and Publisher*

*Kristie Weisner Thompson, MA*
*Managing Editor*

**ISSUE BRIEF**

# The Challenges of Eliminating Racial and Ethnic Health Disparities:
## Inescapable Realities? Perplexing Science? Ineffective Policy?

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*Anissa I. Vines, MS, PhD and Paul A. Godley, MD, PhD*

One of the most important new foci of American health policy deliberations since the late 1990s has been widespread concern over racial and ethnic disparities-that is, the disproportionate burden of diseases and other adverse health conditions among specific populations. Serious discussions about inequity in access to care and the epidemiological patterns of illness, disability, and mortality began during the Clinton Administration and through the personal efforts of former Surgeon General Dr. David Satcher. Wide variations in the provision of health and medical care and in health outcomes among racial, ethnic, and other social groups have been viewed as inseparable from issues of social justice and equity in our country.

As health disparities have been examined in the United States or in North Carolina, the predominant emphasis has been on disparities that exist for particular race and ethnic groups (also referred to as persons of color), especially those whose race or ethnicity is identified as African American, Latino/Hispanic, American Indian or Alaskan Native, or Native Hawaiian or other Pacific Islander. These groups collectively represent nearly a third of the nation's and North Carolina's populations and are expected to grow. Latinos now represent our nation's largest minority group (12.5%), with African Americans comprising 12% of the population. North Carolina has experienced one of the most rapid increases in its Latino population among all states, with Latinos now representing 4.7% of the state's population, increasing from 1.04% in 1990.[1] African Americans are now 21% of the state's population and remain as North Carolina's largest minority population group. Recent reports from the North Carolina State Center for Health Statistics show that African Americans, American Indians, and Latinos are more likely to have poorer health than whites in North Carolina. Given the predicted growth of minority populations—populations experiencing poorer health—our ability to successfully identify and address health disparities will significantly influence the health of our state and nation.

Racial and ethnic health disparities are intricately woven with socio-economic status and the ability to access other educational and social supports. Indeed social and environmental factors, such as having a low income, living in poor housing, having limited education, living with violence in communities, and the limited access to recreational facilities, are important to consider in health disparities research. But, health disparities cannot be fully explained by differences in socio-economic status alone. Health disparities are due to a complex interaction of many factors,

> *"The promise and potential of the American healthcare system is often beyond the reach of persons of color or is culturally inadequate when accessed. The continuance of health disparities lowers our nation's overall health status and poses social, environmental, and financial risks for everyone."*

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including: individual behaviors and preferences, cultural beliefs, biological factors, environmental factors, differential health interventions, potential bias among treating providers, public and private health policies, and differential access to healthcare services, in addition to socio-economic factors.[2]

Latinos, for example are relatively healthy compared to whites or African Americans despite their low incomes and poor working and living conditions. This may be due to their recent immigration to the United States (e.g., the so-called "healthy migrant effect") and relatively young age. Latina birth outcomes are much better—with lower rates of infant mortality and low-birth weight—than other racial or ethnic groups.[3] Yet, Latinas tend to delay or omit prenatal care more often than other groups. Unfortunately, studies from states with more mature Latino communities suggest that, over successive generations, the favorable birth outcomes among Latinos will rapidly disappear.[4] Culturally and linguistically appropriate interventions need to be developed before these recent immigrants become acculturated to the diet and lifestyle prevalent in the United States. Health literacy issues must also be addressed for this population. Not only do many Latinos have trouble understanding our healthcare system, but many Latinos are faced with a healthcare system that does not understand their culture and providers who cannot assess their health needs and preferences because of language barriers. These problems/differences present a number of health policy dilemmas. To achieve health equity, the priority in all areas of health policy should be to address health differences among population groups.

A nation that boasts as having the world's best medical care cannot overlook differential healthcare and health status outcomes where the system's performance, in some cases, is among the world's least equitable. The *promise* and *potential* of the American healthcare system is often beyond the reach of persons of color or is culturally inadequate when accessed. The continuance of health disparities lowers our nation's overall health status and poses social, environmental, and financial risks for everyone. A focus on health and healthcare disparities offers the opportunity to re-examine all that we do (and say) in regard to our highest ideals in American healthcare policy and practice. In addition, it gives us the opportunity to identify programs and policies that need strengthening and to better target resources so that we may attain these important national health goals and objectives.

## Measures of Health Disparities

Five principal measures of health disparities are of greatest salience with respect to national and state health policy. First, there are issues related to the epidemiologic distribution and variation among population subgroups in the *incidence/prevalence* of specific health conditions. Second, there are issues related to *accessing* basic healthcare services when the need arises. Third, there are issues related to the *types of treatment* provided when services are obtained. Fourth are issues related to the *quality* of those services that are provided. Finally, there are issues related to the *outcomes* (or the *effectiveness*) of the services for which access has been possible. Though these five dimensions are interrelated, the measurement of health disparities has often given emphasis to one or the other of these dimensions individually, without consideration of their interrelationship.

Typically, most discussions (occurring prior to the late

**Table 1.**
**Age-Adjusted Death Rates (per 100,000 populations) by Race and Ethnicity and Cause of Death, North Carolina Resident Deaths**

| | White | African American | American Indian | Hispanic/ Latino | Asian | Total |
|---|---|---|---|---|---|---|
| All Causes[5]<br>1999-2002 | 874.2 | 1,138.9 | 958.4 | 410.6 | 374.4 | 921.5 |
| Heart Disease[5]<br>1999-2002 | 240.1 | 295.9 | 292.4 | 87.0 | 75.0 | 249.6 |
| Prostate Cancer[6]<br>1997-2000 | 28.2 | 79.6 | 52 | 7.6 | 11 | |
| Breast Cancer[6]<br>1997-2000 | 24.4 | 35.5 | 24 | 10.4 | 6.7 | |
| Stroke[5]<br>1999-2002 | 68.3 | 96.5 | 75.8 | 33.2 | 73.2 | 42.0 |
| Diabetes Mortality[6]<br>1999-2002 | 21.5 | 55.6 | 52.7 | 18.1 | 17.5 | 27.4 |
| AIDS[5]<br>1999-2002 | 1.5 | 21.4 | 4.0 | 4.4 | 0.3 | 5.7 |
| Motor Vehicle Injuries[5]<br>1999-2002 | 19.2 | 20.7 | 41.6 | 28.3 | 12.9 | 19.6 |
| Chronic Liver Disease & Cirrhosis[5] | 8.9 | 10.5 | 8.7 | 3.8 | 3.2 | 9.2 |
| Homicide[5] | 4.6 | 17.0 | 18.1 | 13.3 | 4.4 | 7.6 |

**Table 2.**
**Key Indicators of Health Disparities by Race and Ethnicity in North Carolina**

| | White | African American | American Indian | Hispanic/ Latino | Asian | Total |
|---|---|---|---|---|---|---|
| Infant Mortality[6] (per 1,000 live births) | 6.3 | 15.4 | 11.2 | 5.8 | 5.2 | 8.6 |
| Diabetes Prevalence[7] | 6.7 | 11.0 | 11.6 | 2.4 | 4.8* | 7.4 |
| Arthritis[7] | 28.3 | 26.0 | 31.8 | 11.4 | 6.0* | 27.0 |
| Adolescent Pregnancy Rate[5] (Ages 15-19) | 62.4 | 103.0 | 95.7 | 168.0 | NA | 75.1 |
| HIV Rate[5] | 6.5 | 64.2 | 14.5 | 14.7 | 6.2 | 19.4 |
| STD Rate[5] | 172.0 | 1,758.3 | 580.6 | 477.9 | 243.5 | 515.0 |
| Obese[7] | 20.9 | 36.0 | 26.6 | 19.8 | 3.5* | 23.5 |
| No Healthcare Coverage[7] | 12.8 | 18.3 | 26.5 | 58.9 | 11.0 | 15.9 |

* Percentage is based on less than 20 events in the numerator

**Table 3.**
**Summary Health Indicators for White and Non-White Minority Populations in North Carolina by Gender, 2002[8]**

| | Years of Healthy Life | Years of Poor Health | Life Expectancy |
|---|---|---|---|
| White Men | 62.4 | 10.6 | 73 |
| White Women | 66.6 | 13 | 79.6 |
| Minority Men | 53.3 | 14.7 | 68 |
| Minority Women | 59.3 | 16.5 | 75.8 |

1990s) of health disparities have focused on the differences in the incidence or prevalence of specific health conditions. Key indicators of health disparities among racial and ethnic groups include such rates as infant mortality, life expectancy at birth, cardiovascular disease morbidity and mortality, diabetes incidence and prevalence, and musculoskeletal morbidity (including arthritis and other related conditions). For example, African Americans have higher death rates for stroke, diabetes, septicemia, nephritis, homicide, and AIDS; and lower death rates for chronic lung disease and suicide.[5] American Indians have high death rates for diabetes, motor vehicle injuries, and homicide. Latinos also have high death rates for motor vehicle injuries and homicide. The incidence and prevalence of different health problems do not affect all racial and ethnic groups equally. For example, Latinos have high death rates for AIDS, but low death rates for chronic diseases. Asians have low death rates for every cause.[5] The data in Table 1 depict mortality rates attributable to these conditions among racial and ethnic populations in North Carolina. Table 2 provides indicators of the impact of health disparities among racial/ethnic groups in North Carolina. The data in Table 3 summarize more general indices of health status for white and non-white populations, by gender, in North Carolina.

Several gaps in the health of minorities are much wider in North Carolina than they are in the nation as a whole. For example, African American North Carolinians shoulder a disproportionate burden from prostate cancer than their counterparts in other states.[9] Although the incidence rate for prostate cancer is lower for North Carolina African Americans than African Americans nationally, the mortality rate for prostate cancer is greater and more than three times that of white North Carolinians. Pockets of extraordinarily wide health disparities, such as those found in our state among prostate cancer patients, will be particularly challenging for healthcare practitioners and researchers alike. This is an area that needs basic etiologic research to understand the factors that account for the differential incidence of prostate cancer and the poorer health outcomes for some minority populations.

Over the past 50 years in the United States, health status has improved in many areas, such as infant mortality, cardiovascular mortality and morbidity and in reductions in musculoskeletal morbidity through joint replacement. These improvements have occurred among many ethnic groups, yet the gap in health outcomes between black and white, between Latino and non-Latinos, persist even after differences in socio-economic status have been taken into account. Rates of heart disease among adults illustrate the point; black men ages 25 to 64 years have higher death rates from heart disease than those for whites regardless of income. Only at older ages do the rates converge.[8]

## Racial and Ethnic Minorities are More Likely to be Uninsured

Racial and ethnic minorities are more likely to be uninsured than whites. In North Carolina, 14% of non-Hispanic whites are uninsured, compared to 19.9% of African Americans, and

55.7% of Latinos.[10] Latinos are least likely to have health insurance coverage because many of the Latinos in North Carolina are recent immigrants, and recent immigrants have a much harder time obtaining public health insurance coverage, regardless of their income,[a] and many are employed in jobs offering little or no health insurance coverage.

Individuals who lack health insurance coverage face financial barriers which make it difficult for them to access health care services. For example, 41% of the uninsured respondents from the 2003 North Carolina Behavioral Risk Factor Surveillance Survey reported that there was a time, in the last 12 months, when they needed to see a doctor, but were unable to obtain such care because of the costs (as compared to only 9.5% of people with insurance coverage).[11] This differential insurance coverage, coupled with lower socio-economic status, makes it difficult for some racial and ethnic minorities to access needed services.

## Disparities with the Utilization of Lifesaving Treatments

Disparities in healthcare are more easily measured as differences in the *use* of services than as differences in the quality of those services actually used or provided. Differences in insurance coverage do not address all the differences in use of health services. Cardiac catheterization in patients with chest pain, kidney transplants in dialysis patients, thoracic surgery in lung cancer patients, and acute reperfusion therapy for myocardial infarction are illustrations of areas where inequitable utilization (or provision) of life-saving or life-improving therapeutic procedures have been documented, even after controlling for insurance status. Some of these studies are briefly noted here.

One of the most striking health disparity studies used Medicare data to examine surgery rates among 10,984 black and white early-stage lung cancer patients.[12] Bach and his colleagues compared the surgery rates of black and white Medicare patients with stage I or stage II small cell lung cancer (for which surgical resection has been shown to be beneficial). Compared to the white patients, black patients underwent lung cancer surgery less frequently than whites (64.0% vs. 76.7%, $p<0.001$). Black patients who underwent thoracotomy had mortality rates that were at least equivalent to those of white patients, but overall, blacks had a lower five-year survival rate than whites (26.4% vs. 34.1%, $p<0.001$). The study attempted to control for socio-economic factors as well as comorbidities that might preclude surgery. Even after controlling for these factors, the authors were unable to determine why black patients had a lower rate of resection than white patients, whether this difference was due to patient preferences in treatment options, or whether black patients are offered this procedure less frequently.

Investigators at the Cecil G. Sheps Center for Health Services Research at the University of North Carolina at Chapel Hill plan to conduct a follow-up study that surveys both physicians and lung cancer patients to determine why some patients eligible for potentially life-saving surgery do not undergo the procedure. In their preliminary analysis of data from patients treated in Chapel Hill and Greensboro, these investigators have found that a surprisingly high proportion of North Carolina lung cancer patients refused to believe their diagnosis or declined surgery and chose to seek non-medical or alternative medical treatments.[13]

Godley et al. used Medicare reimbursement data merged with Surveillance Epidemiology and End Results (SEER) files from the National Cancer Institute to examine racial differences in prostate cancer treatment outcomes among 43,989 patients with clinically localized disease.[14] The investigators found that unlike the lung cancer study, black patients who received the same treatment as whites (whether surgery, radiation or watchful waiting) continued to experience poorer survival, particularly among the surgery patients (median survival after surgery was 1.8 years less for blacks than for whites). Black patients tended to choose surgery less often, watchful waiting more, and radiation at about the same rates as white patients. The challenge that this study posed is not necessarily why treatment is different, but why mortality differs significantly when treatment is similar, and potential confounders are taken into account. In contradistinction to lung cancer, prostate cancer patients tend to live for many years after diagnosis, even without treatment, allowing non-prostate cancer causes of death to account for a substantial proportion of the racial differences in overall mortality.

A study by Bradley et al.[15] of 70,030 patients with ST-segment elevation myocardial infarction or left bundle branch block, used data from the National Registry of Myocardial Infarction to find that non-white patients, as identified by healthcare workers, had significantly longer waiting times before receiving emergency coronary intervention. African Americans waited 41.1 minutes in door-to-drug times (fibrinolytic therapy) and 122.3 minutes in door-to-balloon (percutaneous coronary intervention), Hispanics waited 36.1 and 114.8 minutes, respectively, compared to whites, who waited on average 33.8 and 103.4 minutes. All of the differences were statistically significant. A third of the difference for blacks and 75% of the difference for Hispanics were accounted for by the differences in the hospitals to which the patients were admitted. However, significant

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[a] The Personal Responsibility and Work Opportunity Reconciliation Act of 1996 (PRWORA) significantly changed the eligibility of non-citizens for Federal means-tested public benefits, including Medicaid and the State Children's Health Insurance Program (SCHIP). As a general rule, only citizens or legally documented immigrants may be eligible for coverage. Most immigrants cannot be eligible for coverage for five years from the date they enter the country as a legally documented and qualified immigrant. In North Carolina, there are several different groups of individuals who qualify for Medicaid benefits. All have income limits and some have resource limits. To be eligible for Medicaid one must meet the income restrictions and be among one of the following groups: older adults (65 and older), blind, or disabled persons; a person in need of long-term care, a pregnant woman, a child (age 18 or younger), age 65 or older, a caretaker/relative of (living with and caring for) a child under age 19 who receives Medicaid.

differences remained even after adjusting for socio-economic characteristics, insurance status, and clinical and hospital characteristics. The disparity in this case is at least partially due to healthcare access, if not quality of care.

Another article by Bach et al.[16] also emphasizes the importance of hospital resources in health disparities. The study used data from 150,391 Medicare patient visits linked to 4,355 primary care physicians who completed the 2000-2001 Physician Survey component of the Community Tracking Study. The authors concluded that black Medicare patients received their medical care from a small group of physicians who, when compared to their colleagues practicing in other settings, were less likely to be board-certified (77.4% vs. 86.1%), less likely to be able to provide high-quality care to all of their patients (19.3% vs. 27.8%), and more likely to "not always" be able to access high-quality sub-specialists for their patients (24.0% vs. 17.9%) or not able to arrange non-emergency hospital admissions (48.5% vs. 37.0%). All of the differences were statistically significant. These findings reinforce the observation by Bradley et al. that black patients not only receive care from physicians with different training, but also receive their care in hospitals that have diminished capacity to access needed healthcare resources.

The findings by Bach et al. suggest that disparities in the allocation of healthcare resources may be due to more than a lack of patient education or bias on the part of healthcare providers. The findings project an image of a "shadow healthcare system" that is largely separate and unequal, often offering blacks suboptimal services from less-credentialed physicians who work at relatively resource-poor hospitals and clinics. If this dual system of healthcare is corroborated by subsequent investigations, alternatives to the usual solutions based on interventions with healthcare professionals and patients, will need to be explored.

One possible area to investigate is the efficacy of increased resources for the subset of physicians caring for minority patients. Equalizing access to specialist referrals and expensive procedures for these physicians may help equalize the disparities documented for their patient populations—a kind of "trickle-down" approach to solving the problem of disparities in healthcare. An editorial accompanying the article by Bach et al. suggests that longstanding societal discrimination plays a role in blunting opportunities for patients to obtain high-quality healthcare. Some problems, such as facilitating the granting of admitting privileges to local well-equipped hospitals, may be easy to address, especially in urban areas. Other issues may be more difficult, particularly in more rural areas of the country like North Carolina, where minority patients and their physicians may be geographically isolated from well-equipped medical facilities and sub-specialist physicians. It is also not clear whether the deficit in board certification among the physicians predominantly caring for black patients contributes to health disparities, or if differential access to healthcare resources alone would explain the differences in utilization of medical services.

## Are Disparities Caused by Structural Inequalities or Biological Differences?

If available evidence (as just cited) indicates that minority populations (African Americans in particular) are served by *different* healthcare providers (who differ by their training and credentials; their ability [not their desire] to arrange for sub-specialty referrals, diagnostic studies, or non-emergency hospital admissions; and by the quality of the hospitals with which they are affiliated), then are these *structural* facts of American healthcare sufficient to explain the wide variations in the health status outcomes that exist among racial and ethnic groups when they experience similar diseases or health conditions as the majority populations? Are there studies that have been conducted in closed healthcare systems in this country that presumably assure access to the same services for all patients, regardless of racial and ethnic status? It turns out that there *are* such studies conducted within the United States Veterans Health System and in large staff-model managed care systems. These studies have documented that patients served in systems that purport to provide the same services to every eligible patient in fact *do* show patterns of lower quality care for persons of color.[17,18,19] It should be noted that while a number of Veterans Affairs hospitals have demonstrated disparities, a number of them have not found disparities. Thus, the differences in the structural systems of care provided to racial and ethnic minorities and the interpersonal bias of health professionals and patients contribute to health disparities. It is essential that in our search for policies to address health disparities that we take *both of these explanations* (or factors) into account and develop approaches that will deal with each.

One of the inescapable conclusions from the existing research in this area is that the socio-economic status of patients has much to do with *where* care is received, *what* care they receive, and of what quality, from *which* healthcare providers. The study by Bach et al., mentioned previously, attempted to adjust statistically for the socio-economic status of patients through the use of postal ZIP Codes of both the physician's practice and the patient's residence. Neither adjustment procedure altered the results of their research, although they point out (in a response to letters to the editor of the *New England Journal of Medicine*)[20] that "ZIP Code-based estimates (of socio-economic status) are imperfect surrogates for measures at the individual level." In the final analysis, the significance of the study by Bach et al. is that it clearly indicates the importance of inequality and race as contributing factors to what we now collectively define as "health disparities."

Recent information has surfaced that has raised the question of whether some of the disparities now seen in outcomes (or the effectiveness) of medical therapeutics are a result of the way (or systems within which) those therapies were delivered, or whether an explanation may lie in the biological differences among racial and ethnic groups that may moderate the effects of pharmaceuticals and other therapies. The November 11, 2004 issue of the *New England Journal of Medicine* included a controversial report,[21] which described a single-race clinical trial of a fixed-dose combination of two drugs previously approved by the United States Food and Drug Administration (FDA), isosorbide dinitrate[b] and hydralazine[c] for the treatment of heart failure among blacks (a condition from which mortality for blacks has been argued to be disproportionately higher than for whites, although the evidence for these differences is now questionable, as noted below). The combination pill carries the commercial name "BiDill®" and the trial of its use was co-sponsored by the Association of Black Cardiologists. Irrespective of the controversies raised by this publication over granting patents for race-based formulations of therapeutic agents, or the way in which the FDA approval of this new combined regimen may have been assured, there are serious questions about the way racial status is defined (or self-identified by study subjects) and the appropriate interpretation of the results of such trials.

This study, the African American Heart Failure Trial (A-HeFT) study, found that the drug combination being evaluated, when combined with conventional therapy, reduced relative one-year mortality for blacks by 43%, a truly remarkable finding. Bloche,[22] in an editorial accompanying the trial's publication, points out problems relying on single-race studies or self-identified race as a crude proxy for clinically-relevant genetic differences among people. First, studies that focus exclusively on the evaluation of therapeutics in a single race or ethnic group are not able to discern whether there are differential effects of these therapies among groups that are attributable to race alone. Second, when research subjects are asked to self-identify their racial and ethnic status, it is likely that such categorizations are influenced by the social and cultural definitions of race, not an index of the genetic or biologic variables that may determine one's response to illness or therapies. Racial groups originating from Africa, as well as other racial groups, are genetically heterogeneous. Focusing exclusively on race as a proxy for genetic predispositions may also mask the psychological, economic, cultural, environmental, and social factors that are known to influence human physiology.

The day after the results of the A-HeFT findings were published, the significance of these controversial findings was underscored by an editorial in the *New York Times*,[23] which offered these observations:

> "...there are reasons to go slow in moving toward race-based medicine. The chief drawback is that race is too superficial and subjective a concept, mostly based on skin color, to match up well with any underlying genetic or physiological differences that may affect how an individual responds to a disease or a drug treatment. Medical scientists are using race as a crude surrogate for what they assume are genetic differences yet to be identified.
>
> But there is considerable genetic variability within any racial group, so it is likely that the new pill may fail some black patients, while white patients who could benefit may not get it because they don't fit the racial profile. The ultimate goal, still years or decades away, is to develop medical treatments based on an individual's genes and life experiences, not on membership in some poorly defined racial or ethnic category. Race-based prescribing makes sense only as a temporary measure."

There are substantial questions about the scientific veracity of statements about the variability of response to treatment among groups defined by self-identified sociologic/cultural criteria, which overlook the genetic variability within "racial/ethnicity" categories.

The controversy over the BiDil® trial did not start with the publication of the trial's results. Nearly two years prior to publication of these findings there were numerous papers in the medical, ethics, and social policy journals questioning the inherent logic and rationale for the study. Kahn[24] demonstrated the fallacy of arguing a clear disadvantage of blacks in regard to mortality associated with heart failure. The 2:1 mortality ratio advanced by so many to justify the search for a race-based therapy has been shown not to be supported by available epidemiological evidence at the time. The ratio established by the Centers for Disease Control and Prevention (CDC) is approximately 1.1:1, but the 2:1 ratio has been repeated in numerous publications without attribution as a rationale for further clinical trials to address this problem.

The real worry about such efforts to find race-specific therapies is that the investment in these endeavors, and the controversies over the meaning and measurement of "race," may deflect attention from the basic problem of inequities in American healthcare—allowing those who may deny the existence or extent of these disparities to advocate for further delays in addressing these issues.[25]

## Steps toward the Elimination of Health Disparities

One of the first steps being recommended by the National Research Council of the National Academies (NRC/NAS) is to strengthen the national informational technology infrastructure through which the data pertinent to health disparities may be documented and tracked for future progress. A recent report of the NRC entitled *Eliminating Health Disparities: Measurement and Data Needs*[26] has called attention to the need for individual-level data on race, ethnicity, socio-economic position, and acculturation (e.g., language use, place of birth, generational status), which are essential to documenting the nature of disparities in healthcare and to developing strategies for intervention. Not only are individual-level data severely limited, but the data that are available suffer from limited accuracy, completeness, and detail. State governmental data collection in programs like Medicaid, the State Children's Health Insurance Program (S-CHIP), and various registry systems, are potentially valuable for tracking health disparities, but data from these programs are collected in non-standardized ways. Hence, the NRC report

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[b] Isosorbide dinitrate is used primarily to prevent and treat angina, and in the treatment of acute heart attacks and heart failure.

[c] Hydralazine is used to treat high blood pressure.

## The University of North Carolina at Chapel Hill Launches ECHO Program to Address Health Disparities in North Carolina

The Program on Ethnicity, Culture, and Health Outcomes (ECHO) has been created at the University of North Carolina at Chapel Hill (UNC-CH) to support and strengthen existing health disparity research, training, and education activities and to develop additional initiatives within the university. Recognizing the importance of an interdisciplinary focus, the deans of the UNC Schools of Public Health and Medicine, as well as the deans of the UNC Schools of Dentistry, Nursing, and Pharmacy and the College of Arts and Sciences, provide the executive oversight for the program.

Directed by Paul A. Godley, MD, PhD, Timothy S. Carey, MD, MPH, and Anissa I. Vines, MS, PhD, the program has employed multiple approaches to address health disparities in North Carolina. The program has helped to sponsor research by UNC-CH faculty on an intervention study of obesity prevention among Latino children, the effects of massage therapy on diabetes control among African Americans, laboratory-based experiments of genetic polymorphisms related to prostate cancer; pilot awards, designed to fund innovative health disparity research and to enhance the careers of young health disparity investigators who are faculty members at North Carolina's historically black educational institutions; a 10-credit hour Inter-disciplinary Certificate Program in Health Disparities open to all UNC-CH graduate, professional, and continuing education students.

One of ECHO's primary goals is to help communities identify and solve community health problems through facilitation of increased student and faculty involvement in community-oriented research. One of the most innovative ECHO initiatives has been to establish Centers for Community Research to facilitate constructive communication between community groups and researchers, and to provide an enduring UNC presence in communities across the state. ECHO's mission is to work with communities to identify and develop resources in the community to meet healthcare challenges and to build strong relationships with community groups. The Centers are based at two of the 13 Area Health Education Centers (AHECs), covering 13 North Carolina counties, and provide continuing education and related services to health professionals in all 100 North Carolina counties. Locating the Centers within the AHECs allows the ECHO program to establish relationships with local healthcare providers as well as faith-based organizations and not-for-profit agencies within the AHEC's catchment area. These relationships will be critical to the success of the Program's community research efforts.

ECHO also provided the administrative and organizational structure for the, "Carolina-Shaw Partnership for the Elimination of Health Disparities," a National Institutes of Health, National Center for Minority Health and Health Disparities (Project EXPORT) center grant. This Center provides $6 million to UNC-CH and Shaw University over a period of five years to address health disparities in North Carolina using novel faith-based interventions. The most innovative Carolina-Shaw Project EXPORT center components include: a recruitment core tasked with building a database of minority candidates who have an expressed an interest in participating in clinical trials; a community outreach core that will connect to the internet 25 African American churches in five regions in eastern and central North Carolina to form a network of congregations interested in participating in health promotion research, and a new survey research unit created at Shaw University that will have specific expertise in surveying minority populations.

The ECHO program is an initial step to develop concentrated research efforts that will build on decades of minority research at UNC-CH. The challenge of eliminating health disparities lies with all of us—health professionals, policy makers, researchers, and citizens. We must move from merely reconfirming the documented disparities to documenting the social inequities that perpetuate these differences. This is necessary in order to disentangle issues of racism, access to care, and mistrust.

makes a number of suggestions for how these informational resources could be made more useful for documenting the extent of current disparities as well as for monitoring the success of efforts to reduce or eliminate disparities.

Administrative data such as those collected through the operations of health service delivery programs often are limited in scope to records of service use, costs incurred, and expenses covered. They rarely give any information about the processes of care (including the range of healthcare professionals with whom a patient may interact, the clinical decision-making processes involved in rendering care, and the types and results of diagnostic studies carried out in making such decisions). If race, or the more obvious race and ethnic characteristics of patients, is but a shorthand index or "place marker"[22] for a much more complex social and cultural set of phenomena, there is a need to know far more about how these shorthand indices lead healthcare providers to presume certain characteristics of patients and then factor these categorical notions into their recommended treatment strategies. There is a need for a much better understanding of the roles of stereotyping, uncertainty, and bias in clinical decision-making by all types of healthcare providers, as well as evaluated demonstration efforts designed to offset the potential influence of these factors in the care of patients.

Because so much of biomedical research in this nation has, until recently, been conducted exclusively among majority populations, the National Institutes of Health mandated, in 1993, following passage of the NIH Revitalization Act, that research funded by any of the National Institutes of Health should include adequate numbers of both women and minorities, or provide substantial justification for their lack of inclusion. This has been an important development in the American health science community. Yet, there remain substantial problems in encouraging minority participation as subjects in health research, for reasons explained by Dr. Giselle Corbie-Smith elsewhere in this special issue of the *North Carolina Medical Journal*.[27] Until there is evidence to clarify the presence/absence of differential effects of clinical interventions among minority populations, we are unable to ascertain the extent to which biological disparities exist, or, if they do, to what extent they matter.

## Low Health Literacy Levels Contribute to the Health Disparity Problem

As previously mentioned, there is growing awareness of the problem of patient "health literacy" in this country that deserves serious attention in any attempt to address issues of disparities in either health status or healthcare access and outcomes. Though language-related problems for non-English speaking population subgroups are significant, issues of health literacy go beyond language facility. There is now substantial evidence to suggest that large segments of the United States population (regardless of native language) simply cannot comprehend, and thereby comply with, disease-related information and other instructions offered by healthcare providers. Even for native English language speakers, there are substantial numbers of United States adults who lack the basic skills to read and understand the information contained on a conventional prescription bottle or in a drug package insert.[28] This is a huge problem that will require broad-sweeping efforts on the part of public education *and* healthcare systems. Efforts currently underway at the University of North Carolina School of Medicine dealing with the health literacy of patients with diagnoses such as diabetes have shown remarkable levels of success in achieving critical clinical outcomes.[29]

## Cultural Differences

Some racial and ethnic groups, especially those who are more recent immigrants to the United States, will require intensive and more focused efforts that offer healthcare services in a manner consistent with cultural patterns to which these populations have been accustomed in their native countries. For example, it appears that Latinos do not experience (and therefore do not interpret) the symptoms of ill health in ways similar to the majority white or African American populations. The matter of Latino culture and belief systems would not be major concerns if we were dealing with the health and medical care needs of this population in their native countries. There, both the patients and their healthcare providers would share the same culture and spoken language. But this lack of a common understanding of the etiology of health—exacerbated by language barriers—may lessen the potential effectiveness of healthcare services and interventions offered by healthcare professionals to the growing Latino population. Language and cultural differences, along with lower education levels, make it difficult for Latinos to access and use the United States healthcare system and may lead them to seek care in inappropriate places (tiendas, emergency departments, etc).These healthcare challenges faced by the Latino population are ripe for more intensive investigation by health disparity investigators. Moreover, the lessons to be learned from these studies may lead to interventions applicable to other racial and ethnic groups in the United States who are not recent immigrants, and for whom teasing apart the cultural, lifestyle, and dietary contributors to health disparities from issues of racism, healthcare access, and mistrust of the medical system may be more difficult.

## The Role of Institutional Racism

Racism also has links to disparities in health due to race and ethnicity.[30] Racism leads to many stress-related reactions such as changes in eating patterns, a lack of sleep, high blood pressure, and an increased reliance on alcohol and other substances.[31] Institutionalized racism is another factor that impedes the narrowing of the health gap between whites and non-whites. Despite legislation to end segregation and other blatantly racist practices, many structures and policies that shape the health of this nation are racially and culturally biased. In a recent study by Vines et al., 23% of African American women in metropolitan Washington, DC perceived experiences of racism in the medical care setting.[32] The persistence of racism and its manifestation in the built environment are contributors to both physical and mental health problems as well as the persistent racial profiling in medical care.

## Summary

Despite the accomplishments of American medical science and the impressive array of healthcare facilities and service delivery models available in this country, the existence of significant health disparities is a matter of urgent national and state health policy priority. Policies to address these issues should address fundamental problems having to do with access to care (such as health insurance coverage and the availability and the geographic and culturally-appropriate accessibility of personal health services), the educational preparation of healthcare professionals for the challenge of caring for the increasing diversity of patients in a truly "patient-centered" healthcare system of the future, efforts to deal with widespread problems of health literacy that reduce the likely impact and effectiveness of healthcare, and a more aggressive effort to assure that future medial science continues to include minorities and women (and they continue to participate) as subjects in clinical trials of innovative therapeutic interventions.

The policy agenda to address these issues is both broad and demanding, as would be expected of any set of problems which is so widespread and complex. But, America is no stranger to challenges, and few are more worthy of the effort than this. **NCMJ**

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COMMENTARY

# Perceptions of Racial and Ethnic Differences in Access to Healthcare

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Interest in racial and ethnic differences in health and healthcare during the past 15 years has tended to focus, with growing sophistication, on differences in procedure use, referrals, and health outcomes. This research has been accompanied by studies of communication in provider-patient relationships and, more recently, an increasing interest in patients' and physicians' perceptions of barriers to high-quality healthcare for different racial and ethnic groups. In this commentary, we briefly review some recent studies of perceptions of barriers to care. We focus especially on our group's recent research in Durham County as a way of highlighting the importance of focusing on the experiences of local communities in studies of barriers to care.

## Public Perceptions

The Henry J. Kaiser Family Foundation (KFF) conducted a survey in 1999 of a nationally representative sample of 3,884 adults in the United States.[1] The survey explored public perceptions of associations between race/ethnicity and healthcare and found that these perceptions varied by race and ethnicity. Black and Latino respondents perceived greater unfairness in the nation's healthcare system and expressed greater concern about financial barriers to healthcare than did white respondents. Following on the KFF national survey, our group collaborated with The Duke Endowment, El Centro Latino, and North Carolina Central University to conduct a similar survey in Durham County. Friedman et al.[2] sought to understand perceived barriers to care in the Durham County healthcare system and how those local perceptions compared to the national findings of the KFF survey.

The Durham County survey has provided data for several analyses. Van Houtven et al.[3] found that residents of Durham County who perceive that they are treated unfairly in the healthcare system have greater odds of delaying or forgoing medical tests and treatments, controlling for economic constraints such as unemployment and lack of health insurance. Hong et al.[4] examined associations between self-rated health status and barriers to healthcare (i.e., lack of health insurance, lack of a usual source of care, problems with transportation, limited English-language ability, and perceived scarcity of physicians in the area). Greater barriers or perceived barriers on all but the variable for usual source of care were associated with lower self-rated health status. Voils et al. examined levels of concern among respondents that their health would be harmed by disease, diet, lack of exercise, and inability to follow physicians' recommendations.[24] Latino and black respondents in Durham County tended to be more concerned than white respondents about their ability to follow physicians' recommendations.

According to another study by Voils et al.,[5] racial and ethnic groups in Durham County also have differing levels of trust in health institutions, and perceived trustworthiness differs by type of institution. For example, Latinos in Durham County were more trusting overall than white and black respondents. Also, whereas Latinos tended to trust various types of health institutions equally, white and black respondents were less trusting of insurance companies and state and federal governments and were more trusting of physicians, public hospitals, and county health services. Williams et al. recently completed an analysis of respondents' trust in sources of health information in Durham County.[25] They found that black and Latino respondents were more likely than white respondents to trust the health department, ministers and churches, and television and radio as sources of health information. Trust in physicians, nurses, friends, and relatives was similar across racial and ethnic groups; however, Latinos were less likely to trust pharmacies as sources of information.

## Physician Perceptions

Research on physicians' perceptions of racial/ethnic disparities and barriers to healthcare is limited. A study by Schulman et al.,[6] using identical case descriptions presented by patient-actors of

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different races and genders, identified a race-gender interaction term as a significant predictor of referral for cardiac catheterization. The investigators also found racial differences in physicians' perceptions of patients' personality characteristics and socioeconomic status. These secondary outcomes pointed to some additional areas of potential concern.

In a series of reports, researchers examined physicians' and patients' beliefs regarding access to kidney transplantation. They found racial differences in patients' preferences and expectations, but these did not account for differences in referral for transplantation.[7] Epstein et al.[8] found that racial differences in kidney transplantation could be explained both by differences in clinical characteristics and by underuse among black patients and overuse among white patients. The investigators also found that physicians were more likely to believe that black patients would not experience a survival benefit from kidney transplantation.[9] Many physicians also viewed donor availability, patient adherence, and patient preferences as explanations for why black patients are less likely to be evaluated for kidney transplantation.[9]

> *"Latino populations in Charlotte, Greensboro-Winston-Salem, and Raleigh-Durham have experienced 'hypergrowth'—increases of more than 300% (i.e., twice the national average) in the 20-year period from 1980 to 2000."*

Another recent study by Bach et al.,[10] using the 2000-2001 Community Tracking Study Physician Survey, found that primary care visits by black Medicare beneficiaries were concentrated in a small subgroup of physicians and that visits by black patients tended to be with physicians who were not board-certified. Moreover, visits by black patients were more often with physicians who reported limited access to high-quality medical services. In other words, physicians in the study who were most likely to see black patients reported having less training and restricted access to high-quality specialist, hospital, and ancillary services.[10]

Preparatory work for our group's Durham County survey provided some information about physicians' views of racial/ethnic disparities in healthcare. In a small survey of physicians practicing in Durham County, our group asked respondents to identify the "special challenges" they faced in treating patients from different cultures.[11] Three quarters of the physicians identified language barriers as a problem, ranging from some patients' lack of English-language ability to physicians' difficulty understanding regional English-language dialects. Several physicians noted problems obtaining access to translators for Spanish-speaking patients, and others emphasized the lack of Spanish-speaking physicians and other providers.

## Local Research for Local Circumstances

Accompanying the report of the KFF national study in *Medical Care Research and Review*,[1] Waidmann and Rajan[12] reported racial and ethnic differences in access to and use of healthcare resources both nationally and in individual states. They concluded that "efforts to eliminate disparities in access to quality healthcare may need to be tailored to the specific needs of states." Strategies for one racial or ethnic group in one location will not necessarily be successful for other racial and ethnic groups in other locations. For example, the Latino populations of Florida, New York, and Texas differ considerably in their ethnic and cultural characteristics (e.g., national origin). Not surprisingly, their experiences with and demands on the healthcare system also vary.[12]

From 1990 to 2000, for example, the Latino population of the Raleigh-Durham metropolitan area increased by 631% as a proportion of the overall population.[13] Latino populations in Charlotte, Greensboro-Winston-Salem, and Raleigh-Durham have experienced "hypergrowth"-increases of more than 300% (i.e., twice the national average) in the 20-year period from 1980 to 2000.[13] Growth in Latino populations has also been accompanied by growth in Asian-Pacific Islander communities. In Durham County, for example, the proportion of Asian-Pacific Islander residents increased twofold, a trend mirrored in neighboring Orange and Wake Counties.[14]

Because the large majority of Latinos in Durham County were born outside of the United States, compared to only about half of Latinos nationwide, it is reasonable to expect that Durham Latinos have unique attitudes, concerns, and patterns of behavior about health and healthcare. In their effort to identify concerns unique to Durham County, Friedman et al.[2] compared findings from their survey of Durham County residents to findings from the KFF national sample. They found a number of important differences in the perceptions and experiences of respondents from Durham County, as compared to the national survey. These included substantial differences among Latinos with respect to demographic characteristics, English-language ability, and health insurance status. Durham Latinos were relatively young, and a much greater proportion of them were men, compared to the national sample. Latinos in the Durham County survey also expressed greater concern than those in the national survey about their clinical encounters, including perceptions of being treated unfairly because of their ethnicity.

Several studies have documented the unique experiences of Latinos in North Carolina. For example, Buescher[15] describes how the major health problems of North Carolina Latinos can be tied to the population's relative youth and limited access to healthcare services. Many of the recommendations of the

Latino Health Task Force[16] emphasize the need for more bilingual healthcare providers, and several studies have pointed to links between North Carolina Latinos' health needs and the large number of recent immigrants and migrant workers in the population.[15-19]

Heterogeneity at regional, state, and local levels—in racial/ethnic composition, socio-economic status, health infrastructure and resources, and any number of other community characteristics—has important implications for the ways researchers, providers, and policy makers approach public health issues. As readers of the *North Carolina Medical Journal* know, collaborations between community organizations, foundations, academic institutions, and local and state governments can foster important research in these areas. They will also lead to the development of innovative, sophisticated methods for targeted public health interventions.[20-22]

Concern about health disparities in local communities leads to a broader question about meeting the needs of patients in a complex healthcare system. Barriers to high-quality healthcare may reflect, in part, individual encounters with individual providers. However, it is more likely that barriers arise in a series of complicated steps in the medical decision-making process. For example, Einbinder and Schulman[23] described eight steps in the referral process for invasive cardiac procedures—from the patients' recognition of symptoms through the physician's referral for a procedure—and discussed the evidence for racial/ethnic differences and disparities in each step. Healthcare is a process, not a single encounter, and at each step in that process the most vulnerable patients are the least likely to successfully navigate the system and receive the healthcare they need. Efforts to understand racial and ethnic differences and reduce disparities will have to take an account of a broader range of clinical, socio-economic, and structural variables than have been considered to-date. **NCMJ**

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COMMENTARY

# Health Issues Facing the State's American Indian Populations

Ronny A. Bell, PhD, MS

According to 2003 Census estimates, approximately 108,000 North Carolina residents identify themselves as American Indians/Alaska Natives, representing about 1.2% of the state's population.[1] The state's American Indian population is largely represented by eight recognized tribal groups (Coharie, Eastern Band of Cherokee, Haliwa Saponi, Lumbee, Meherrin, Occaneechi Band of Saponi Nation, Sappony, Waccamaw Siouan) and four American Indian Urban Centers (Cumberland County Association for Indian People, Guilford Native American Association, Metrolina Native American Association, Triangle Native American Society).[2] North Carolina represents the largest state concentration of American Indians east of the Mississippi River.

Limited information available from research studies and publicly available data sources indicate that significant disparities exist for many health conditions in American Indian communities. For example, the prevalence of diabetes and other cardiovascular disease risk factors are substantially higher for North Carolina American Indians compared to whites.[3-5] Diabetes-related complications, such as lower-extremity amputation and end-stage renal disease, have been reported to be three and six times higher, respectively, among the Eastern Band of Cherokee Indians compared to the rate for United State whites.[6-7] The diabetes death rate for North Carolina American Indians is three times higher, and the death rates for stroke and heart disease are at least 25% higher, than the rates for non-Hispanic whites.[8] Other health concerns, such as unintentional injuries and homicides, are dramatically higher for American Indians compared to whites.[8] These conditions lead to higher rates of premature mortality; the average years of potential life lost per death (YPLL) in North Carolina is 22.2 for American Indians, compared to 15.2 for whites and 20.5 for African Americans.[9]

> *"The diabetes death rate for North Carolina American Indians is three times higher, and the death rates for stroke and heart disease are at least 25% higher, than the rates for non-Hispanic whites."*

## Disparities in Health Are Linked to Socio-economic Status

These disparities are believed to be reflective to a large extent of the significant socio-economic burden in many American Indian communities. Nearly one-quarter of North Carolina American Indians live below the poverty level, and rates of unemployment are at least two to three times higher in this population compared to whites.[10] About three-quarters of American Indians in the state have a high school education or less, compared to 56% of whites.[8]

Access to healthcare is a major concern in American Indian communities. Only one of the eight tribal groups in the state, the Eastern Band of Cherokee Indians, is authorized to provide healthcare through the Indian Health Service (IHS). However, barriers such as limited resources and inadequate transportation for many tribal members still exist that limit effective appropriation of healthcare. Statewide, American Indians are twice as likely to report that they have no healthcare coverage, and to report they

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were unable to see a doctor in the past year due to costs. Approximately 38% of pregnant American Indian women do not access prenatal care during the first trimester, compared to 18.4% for whites and 21.8% overall.[11] Inadequate healthcare among North Carolina American Indians is likely due, in addition to the high rates of poverty in these communities, to other barriers. For example, nearly 70% of North Carolina American Indians live in rural communities.[8] where access to high-quality healthcare may be difficult. Cultural factors may also contribute to reluctance by American Indians to access the available healthcare system.

## Limited Data

Much is still unknown about the health and healthcare of American Indians in North Carolina. One of the more significant gaps in our understanding is the limited information on the health of American Indian children. Maternal risk factors are very high among American Indian mothers, and the infant mortality rate for American Indian children is higher that the state rate. The asthma hospitalization rate for American Indian children in 1997 was reported to be nearly three times the rate for white children.[8] There is no information currently available on Type II diabetes among American Indian adolescents. This condition is documented as being on the increase among ethnic minority adolescents in general, and among American Indian adolescents in particular.[12] Data on chronic disease risk factors among American Indian children, such as obesity, physical inactivity, harmful tobacco use, and inadequate diet, are not readily available.

Another gap in our understanding of American Indian health in North Carolina is the lack of tribal-specific data. The eight recognized tribal groups in the state are divided not only by geography, but also by unique elements in culture and history. Much of the data on health and healthcare among North Carolina American Indians comes from one tribe, or is not segmented by tribal group, which limits our ability to interpret this information for every tribe. Some tribes are relatively small, and some do not have organized tribal rolls, making research efforts difficult in these communities.

## Cultural Differences

Culture is a significant but often overlooked contributor to health and healthcare in the United States. Culture can influence lifestyle behaviors, attitudes toward health, living arrangements, and receipt of healthcare. The extent to which culture, relative to other factors, such as socio-economic status, contributes to the observed disparities among American Indians in North Carolina is not well understood. Similarly, little is known about whether racism influences health, health behaviors, and healthcare for North Carolina American Indians.

## North Carolina Commission on Indian Affairs

The North Carolina Commission on Indian Affairs, created in 1971 by the North Carolina General Assembly, has been instrumental in advocating for issues related to American Indian health. The Commission was instrumental in organizing three statewide American Indian Summits since 2001. The goals of these conferences have been to raise awareness of the health needs of American Indians, develop and implement healthcare best practices guidelines, and to develop networking opportunities for healthcare providers and organizations interested in healthcare. The Health Committee of the Commission has also been instrumental in identifying and participating in research and health priorities for American Indian communities. These priorities include an initiative to provide diabetes education in American Indian churches and anti-smoking cessation efforts targeting American Indian youth.[13]

## American Indian Health Task Force

The American Indian Health Task Force has been developed as a collaboration between the North Carolina Department of Health and Human Services, the Office of Minority Health and Health Disparities, and the North Carolina Commission on Indian Affairs. The Task Force was initially convened in July 2004. The Task Force is represented by a diverse group of healthcare providers, administrators, and academicians from across the state and from various American Indian tribes. This Task Force is charged with developing recommendations to address the health disparities of North Carolina's American Indian population. This Task Force is examining issues related to the availability of health-related data, sovereignty and governmental issues, and access to prevention and care services.

## Conclusion

Despite substantial gaps in our understanding, the existing information available point to significant health disparities for North Carolina American Indians. Chronic diseases such as diabetes and cardiovascular diseases, and other concerns such as unintentional injury and homicide, contribute substantially to these disparities. The causes of these disparities are more than likely multi-faceted, but our understanding of these factors is limited. On-going efforts in the state involving numerous agencies will hopefully address these gaps and reduce the health burden in this population. **NCMJ**

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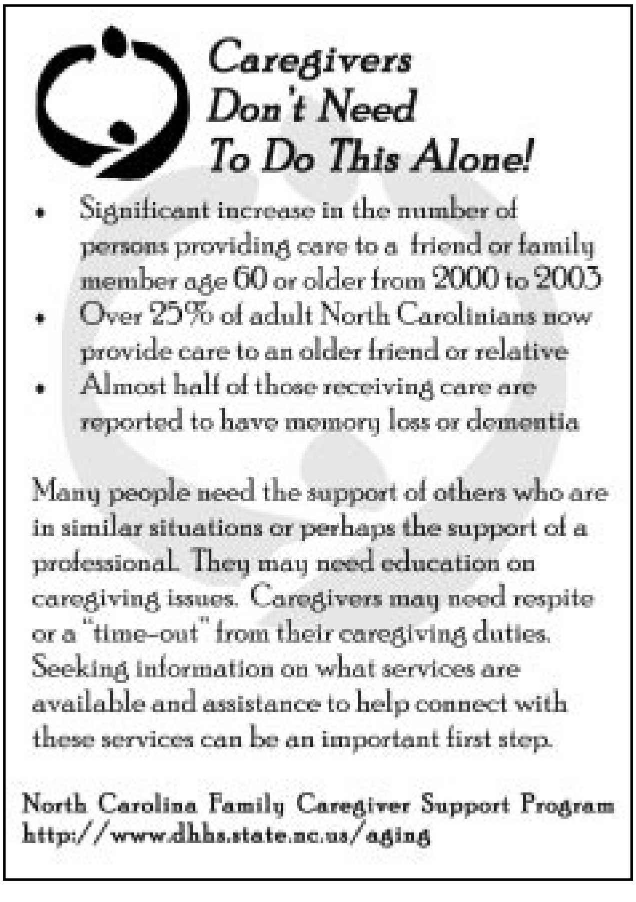

COMMENTARY

# Health Disparities among North Carolina's Latinos:
## Our Point of View

*H. Nolo Martínez, EdD, and Andrea Bazán Manson, MSW, MPH*

The fact that Latinos are a growing presence in North Carolina is well known among the public health community and other sectors. From 1990 to 2000, the state experienced the fastest growing Latino population of any state in the nation. Today, at least 5% of the state's residents are of Hispanic origin. And due to undercounts and the fast growth of the community, it is estimated that the proportion is much higher. The United States Bureau of the Census announced last year that Latinos are now the largest minority group in the country. Latinos are today a vital part of the North Carolina economy, having initially been recruited to work in low-skill jobs and industries, and now settling in with young families in every county of North Carolina.

North Carolina initially began addressing Latino health disparities during the 1990s, at the time when the state began experiencing a large influx in Latinos. The term 'health disparities' had then gained national and local attention, and public health leaders were charged with getting a better sense of the disparities that existed in our own state. But, little was known about the newly arrived population, and basic questions needed to be answered first: Who were they? Why were they coming in such numbers? And what was public health's role in this? Indeed, the state of North Carolina was confronting the health disparities of a community it did not fully understand. Information on ethnicity was not generally collected in the health data systems, so the state did not have an accurate picture of Latino health. To address this gap in knowledge, some initial studies were conducted by the North Carolina Center for Public Policy Research, the then-called Office of Minority Health and the State Center for Health Statistics within the North Carolina Department of Health and Human Services, and other groups. As a state and a public health community, we began to learn more about our new neighbors.

Indeed, the work of the early to mid-1990s contributed significantly to our understanding of health disparities among Latinos. It is disappointing, however, that although some progress has been made in translating this knowledge into practice, North Carolina does not yet have the infrastructure, including bilingual personnel and culturally appropriate policies, to fully tackle disparities among Hispanics in the state. Latino health disparities in most cases have been addressed independent of policy change. North Carolina Latinos are at a disadvantage when it comes to sound healthcare policies that address their unique health and healthcare needs.

> *"...North Carolina does not yet have the infrastructure, including bilingual personnel and culturally appropriate policies, to fully tackle disparities among Hispanics in the state."*

And the disparities persist. Latino children are more likely to be obese than other children. They are more likely than whites and other minorities to have asthma. National data indicate that Latino children and adults are more likely to have dental caries than those from other races or ethnic groups. Latinos are more likely to die in car crashes than any other group. Although not much concrete data exist to support it, we are aware that mental health issues are becoming increasingly serious among Latinos—and that they are largely untreated. Latinas in North Carolina have the highest rate of adolescent pregnancy in the country. Of concern, too, is the number of Latino adolescents

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who are reporting depression to their peers and teachers. And among the North Carolina Latino worker population, there are disproportionate rates of injuries and deaths.

These are serious differences. But beyond specific healthcare issues, we see language barriers as the principal healthcare 'problem,' as defined by both the provider and the Latino community. Until the language differences are addressed, we will make no progress in addressing health disparities for the North Carolina Latino population.

And, in order to fully address the healthcare challenges among Latinos, not just the healthcare access problem, it is critical to recognize that policy plays an increasingly vital part.

## Federal Laws Complicate the Provision of Healthcare to Latinos and Other Immigrants

Although Latinos have lived in North Carolina for generations, the 'core' of the community is a newly arriving one. The large immigration wave that occurred over the past ten years is due to the need for low-skilled workers in industries such as poultry plants, construction, restaurants, and agriculture. Many of these workers are not documented. An increasing number of them have young children who were born in North Carolina, and who make up 'mixed-status families.' Some workers may be here on temporary visas and may stay beyond their allotted time. The legal status of a family is crucial, and influences every aspect of a person's life in this country—including access to healthcare.

Immigration policy, however, is mainly an issue that is addressed at the federal level. It is one of the most controversial and complicated issues to tackle. It is also capricious—often influenced by politics, campaigns, and money. Immigration policies impact on the ability of Latinos to access healthcare services.

For example, undocumented immigrants, and other lawful permanent residents who recently arrived in this country, are generally ineligible for publicly funded health insurance coverage, such as Medicaid or NC Health Choice. Medicaid will pay for emergency services provided in a hospital for these immigrants. In addition, the Medicare Modernization Act has funding to pay for emergency services for other undocumented immigrants (who would not otherwise qualify for Medicaid). The Centers for Medicare and Medicaid Services (CMS) earlier this year initially proposed rules that would require hospitals to ask immigrants about their immigration status in order to qualify for these new funds. While this policy may appear innocuous on its face, it would have discouraged immigrants from seeking hospital services for fear that their status would be reported to the Office of Homeland Security (formerly known as Immigration and Naturalization Service). It would put healthcare providers in the role of immigration agents. This policy also could have created public health hazards if people with communicable diseases failed to obtain needed healthcare services. And, it could have cost states more in the long run if emergency healthcare issues were not treated immediately.

Hospitals, providers, and advocates criticized this proposal, and CMS eventually backed down. The proposal, however, re-ignited the debate of uncompensated care for immigrants.

The state did recently receive some good news. A Medicaid family planning waiver to expand Medicaid income eligibility for family planning services to 185% of the federal poverty level was approved on November 5, 2004. This expansion will provide Medicaid funding to cover family planning services to Latinos who would otherwise be eligible for Medicaid. It also addresses a vital need among the young population—family planning.

## Title VI of the Civil Rights Act Requires that Healthcare Providers Make Their Services Linguistically Accessible

Title VI of the Civil Rights Act of 1964 states that organizations or providers that receive any amount of federal funds cannot discriminate against people because of race, ethnicity, or national origin. The federal government has interpreted this "national origin" provision to mean that individuals have a right to receive services in a language they understand. This means that patients who go to such facilities should be able to communicate effectively with their providers, and should be able to comprehend the written instructions as they walk out with their prescribed medicines.

In 2001, the Office of Civil Rights within the United States Department of Health and Human Services reviewed North Carolina for its compliance under Title VI, and the state did not receive a good grade. Under the leadership of the Secretary of the North Carolina Department of Health and Human Services, North Carolina has been working hard to ensure that local plans are in place to meet the language needs of both providers and the community. In addition, the Department is also exploring ways to pay for interpreter services for individuals with limited English proficiency who receive Medicaid services. However, more work is needed to make sure that language barriers are removed so that individuals with limited English proficiency can communicate effectively with health and human services providers.

## A State Plan

North Carolina has done some groundbreaking work in establishing priorities for the Latino population. *The 2003 Task Force on Latino Health Report*,[1] produced by the North Carolina Institute of Medicine in collaboration with El Pueblo, Inc., is perhaps the most comprehensive summary of Latino health status produced to-date. It also contains specific recommendations on how to improve that health status. The most important premise of the report is that, if North Carolina adopts the recommendations of this comprehensive plan, Latino health disparities will be significantly reduced and/or removed. The report answers the following questions. What are some challenges and opportunities that Latinos face? How can we change the challenges into opportunities? What are some actions and activities (e.g., policy, legislative, and administrative) that can be implemented to improve the health of Latinos? Which agencies and organizations are responsible for making these recommendations happen?

The report provides a thorough explanation of the gaps between services and programs provided by local health departments, community health centers and migrant clinics, other state programs, and the current local Hispanic community. The strong collaboration, inclusion, and partnership built and maintained by those involved in the Task Force guaranteed that North Carolina healthcare professionals, advocates, and policy makers would be aware of the wide range of health issues facing Latinos. On November 10, 2004, the North Carolina Institute of Medicine and El Pueblo re-convened the Task Force to review progress since the Report's publication. Positive steps have been taken to begin implementation on more than three-quarters of the recommendations. It is commendable work for such a diverse group of agencies, policy makers, and advocates.

However, the General Assembly has not made the level of commitment needed to ameliorate the access barriers and healthcare disparities faced by the growing North Carolina Latino population. While the General Assembly did recently enact legislation to expand the availability of services offered to the uninsured through community health centers, health departments and rural health clinics (many of whom are Latino), these funds are not sufficient to meet the growing needs. For example, there are some estimates that health departments are providing more than $10 million in uncompensated prenatal care, largely to Latinos; yet only $1 million was allocated to health departments to meet the primary care needs of the uninsured. Further, no funds were allocated to train interpreters or to assist in recruiting bilingual providers.

There are some local programs that exemplify collaborations among sectors that have been implemented, thanks to private funding. The most promising are the lay health advisor programs. They utilize models that take into account Latinos' native language as well as their strong sense of community and family. Lay health advisor programs do this by training local volunteers to become advocates for health. El Pueblo began such an initiative in March 2004 with funding from The John Rex Endowment. The initiative has trained a group of "promotoras," or health promoters, to work directly with families at the community level. Promotoras become formal leaders in Latino communities across the state. They receive needed up-to-date health information and develop connections with existing health services, which were once unfamiliar to them. The Chatham Hospital Immigrant Health Initiative has been implementing a lay health promoter program for several years. It has been able to establish a positive and effective collaboration among the hospital, local churches, two local poultry factories, and the University of North Carolina Department of Family Medicine.

In language training, too, there are some promising efforts. "A Su Salud," a recently-launched program at the University of North Carolina at Chapel Hill, provides hands-on Spanish-language training for healthcare providers and students. Area Health Education Centers across the state continue to offer an array of courses for providers who are interested in improving their knowledge about the Latino culture and learning the Spanish language, as well as training programs for interpreter services.

## A Commitment to System Change Is Needed

There is a lot of activity from the North Carolina Latino community itself. English classes are offered by various centers and volunteer groups and church-sponsored English classes are usually filled to capacity. Latino non-profit organizations are creating innovative programs to help engage the community in state affairs related to health and human services. The Spanish-language media has emerged as a crucial source for information and is actively utilized by Latino leaders and providers.

Some of the efforts described here are promising, but they are not enough. We have a plan to ensure that all North Carolinians have the same chances. A set of policy recommendations that can take care of our disparities has been developed. We have been challenged by the report, the initial collaborations, and the groundbreaking work of many organizations across the state.

The reduction of Latino health disparities will require North Carolina leaders, elected officials, business and healthcare administrators to commit themselves to system changes. Any efforts will have to take federal immigration policies into account.

Latinos represent more than demographic changes. Latinos represent an important part of North Carolina, contributing significantly to its economic development and culture. It is due time that the Latino community be recognized for this, and that we continue the initial work that has begun. **NCMJ**

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COMMENTARY

# North Carolina's Response to the Challenge of Health Disparities

*Barbara Pullen Smith*

The North Carolina Department of Health and Human Services has embraced the national public policy agenda to eliminate health disparities by the year 2010. Key state and national policy decisions have played a pivotal role in elevating the issue of eliminating health disparities in our state.

## History

North Carolina has a long history of defining and addressing these issues. Focused attention on the disproportionate burden of disease among racial/ethnic minorities has been gaining momentum since the first minority health report was published in 1987, "The Health of Minorities in North Carolina."[1] That report initiated a response by the former State Health Director, Ronald H. Levine, MD, MPH, who established a workgroup to study the issues surrounding minority health in North Carolina and make recommendations for action. As a result of this early work, two entities were created by the North Carolina General Assembly in 1992: House Bill 1340, part 24, Section 165-166 led to the establishment of the Office of Minority Health and Health Disparities (OMHHD) and the Minority Health Advisory Council (MHAC). The fifteen member advisory council is charged with advising the Governor and cabinet Secretary of Health and Human Services on minority health issues. The mission of the OMHHD and MHAC is to "promote and advocate for the elimination of health disparities among all racial and ethnic minorities and other underserved populations in North Carolina." Both entities provide leadership to increase resources for addressing health disparities, advocate for policies to improve minorities' access to prevention and care services, identify promising practices in target communities, improve the collection of health data by race/ethnicity, inform leaders and policymakers about the issues, and engage minority leaders in new ways of promoting health.

> *"The mission of the OMHHD and MHAC is to "promote and advocate for the elimination of health disparities among all racial and ethnic minorities and other underserved populations in North Carolina."*

In 1998 the elimination of health disparities became a national priority. That year, President Bill Clinton and his Surgeon General, Dr. David Satcher, articulated the goal of eliminating disparities in six key health categories by 2010.[2] This important public policy challenged states to increase efforts to address the persistent disparities in health between racial/ethnic minorities and whites. The national initiative focused on cardiovascular disease, cancer screening and management, infant mortality, diabetes, HIV/AIDS, and immunizations. These six health areas were selected for emphasis because they reflect areas of disparity that are known to affect multiple racial and ethnic minority groups at all life stages. Resources were allocated to invest in disparate communities and seek solutions to the nation's growing disparities. Addressing "health disparities" is the cutting edge of public health practice.

The year 2001 marked an important milestone in North Carolina's efforts to address the health challenges facing racial/ethnic minority populations. With the appointment of Carmen Hooker Odom as Secretary of the North Carolina Department of Health and Human Services (DHHS) came a heightened focus on eliminating health disparities. Secretary Hooker Odom included eliminating health disparities as one of her top four priorities, along

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with early childhood development, mental health, and long-term care further emphasizing the fact that the cutting edge of public health practice includes addressing health disparities.

The vision guiding the Department's work is for "all North Carolinians to enjoy good health regardless of their race and ethnicity, disability, or socio-economic status." In order to achieve that vision, the Department recognizes that all state sectors will have to embrace and invest in efforts to address and eliminate health disparities. The solutions are local. All sectors including individuals, families, the professional medical community, academic institutions, business/industry, faith-based, and other community leaders must play an active role. Although one department cannot do it alone, the Department of Health and Human Services has assumed a key leadership role in addressing these issues and serves as a model for other state Departments. Leadership and commitment are key elements to systems change.

Secretary Hooker Odom challenged all Divisions/Offices in the Department of Health and Human Services to participate in efforts to identify service gaps and come up with creative solutions to increase access to programs and services for racial/ethnic minorities and other underserved populations. The OMHHD was directed to lead the Department in the systems change process. An integrated, comprehensive, and coordinated approach has been outlined to identify and reduce service barriers throughout the Department's programs and services. The approach is driven by the concept that eliminating health disparities is not another "special initiative," but must be incorporated as an integral part of good business and public health practice for Department of Health and Human Services. Three overarching principles guide the systems change process: integration, investment, and accountability. The process has been implemented in three phases.

## Phase I. Internal Capacity-Building/ Team-Building

The Eliminating Health Disparities (EHD) Steering Committee was organized and includes representatives from 14 Divisions and Offices of the Department. This internal team has been mobilized to build the capacity of the Department to identify and address access and service disparities. The mission is to use health disparities data to guide program and funding decisions and to establish priorities for effective outreach to diverse communities, with a major emphasis on creating culturally competent services and programs, workforce diversity, and investments in community strategies.

During the initial phase, considerable time and effort was spent to build the capacity of staff within the Department through in-service training sessions on health disparities, Healthy People 2010 goals/objectives, promising practices, and organizing disparity teams within each organization. Building the capacity of the Department was a critical first step to ensure that the staff, programs, and services are effective in reaching and engaging racial/ethnic minority communities throughout the state. The training was effective in demonstrating the importance of integrating health disparity intervention programs and services of the Divisions and Offices of DHHS.

To establish baseline information, the selected Divisions and Offices completed a Disparity Assessment Tool that provided an internal perspective of the Department's existing strategies to identify and address disparities within each program area. Divisions/Offices were directed to assess current data, resources, and programs focused on reaching underserved and minority populations; identify gaps in services/programs/resources; identify issues around workforce diversity and current processes for making funding decisions.

## Phase II. Plan Development

Developing a comprehensive, coordinated, Department-wide action plan with a systematic approach was the goal. A strategic process was implemented to ensure broad-based input into the Department's action plan. Community leaders, service providers, researchers, policy makers, administrators, educators, and faith leaders were engaged using multiple strategies, including, but not limited to, two focus group sessions and three regional forums. Minority health experts consisting of community leaders, researchers, service providers, and agency administrators were invited to participate in the focus group sessions. The focus group participants provided insights on recommended state and local strategies for addressing the ongoing health challenges experienced by racial/ethnic minorities in our state.

The Healthy Carolinians Program sponsored three regional forums with support from the OMHHD to hear directly from communities impacted by health disparities. Forum participants included local public health departments, human service agencies, medical clinic/hospitals, educators, and faith leaders as well as other community leaders. Local solutions to eliminate health disparities were documented. The forums increased awareness about health disparity issues and generated recommendations for action at the local and state levels.

Information collected by the Disparity Assessment Tool, focus groups, and regional forums was incorporated in the Department's action plan. The resulting document is entitled, "From Disparity to Parity in Health: Eliminating Health Disparities Call to Action."[3] The plan serves as the operational framework for the North Carolina DHHS Division/Offices. The nine recommendations contained in the plan focus on increasing awareness, championing best practices, enhancing community capacity, monitoring progress, promoting customer-friendly services, investing in eliminating the gaps, building a diverse workforce, advocating for key public policies, and ensuring accountability. Using the nine recommendations as a guide, each Division/Office developed an implementation plan that includes action steps tailored to their programs and services. Priority areas have been determined; internal/external resources identified and timelines/evaluation measures are included.

## Phase III. Implementation/Accountability

Keeping the issue of eliminating health disparities in the forefront is key to continued progress. The EHD Steering Committee meets monthly to learn about each other's programs/services, discuss progress, talk about challenges, solicit suggestions, share innovative strategies, and identify opportunities to share resources and develop joint projects. To ensure accountability, Division/Office progress reports are submitted every six months to the OMHHD. Regular meetings are held to brief the Secretary on progress.

## Moving in the Right Direction: State Progress

The North Carolina DHHS Divisions/Offices continue to operate at different stages in this systems change process. However, Divisions/Offices have demonstrated progress in building the Department's internal capacity to identify and address disparities and to engage minority communities as evidenced by the following short-term impacts:

- Improved data on the health status of racial/ethnic minorities continues to be a priority. Strategies are in place to increase access to health information for all minority populations. The State Center for Health Statistics and OMHHD published two reports, "Racial and Ethnic Disparities in North Carolina: Report Card 2003" and "Racial and Ethnic Differences in Health in North Carolina: 2004 Update."[4,5]
- Programs have completed internal assessments of their service history. The resulting reports document current gaps in data, existing disparities, and service gaps. For example, the Division of Mental Health, Developmental Disabilities, and Substance Abuse Services' (MH/DD/SAS) report in 2003 documents racial and ethnic disparities in the delivery of mental health services in North Carolina. The draft report is entitled "Health Disparities by Race and Ethnicity: Access to Care, Expenditures and Consumer Satisfaction."
- Disparity issues are incorporated in policies, program guidance, and contract language with local agency partners. For example, Title VI of the Civil Rights Act of 1964 requires that language services be provided for limited English Proficient (LEP) clients. This requirement is included in the service contracts for local public health departments. The Governor's Healthy Carolinians Task Force has incorporated a focus on eliminating health disparities in their standards for certification and re-certification for local Partnerships.
- Workshops on minority health, cultural competence, and health disparity issues are included in conferences/forums on an ongoing basis. The result has been increased awareness among audiences outside of the traditional public health and healthcare arenas. An increased understanding of the impact of all health and human services on the health of the people in our state is a fundamental first step in the systems change process.
- The Department has established key policy initiatives around the provision of language services for Limited English Proficient Clients. A team, lead by the Division of Medical Assistance is in the process of establishing protocols for Medicaid reimbursement for language services.
- Health disparities data are included in grant proposals to leverage additional funds. Additional funds have enabled Divisions/Offices to invest in disparity issues in new ways. For example, the OMHHD was awarded an AmeriCorps grant from the North Carolina Commission on Volunteerism and Community Services. The grant will support 21 full-time AmeriCorps members. The majority of the members, called "Health Disparity Fellows," are placed in local health and human service agencies, community-based organizations, and faith-based organizations throughout the state. These new partnerships will expand our efforts to identify promising practices to eliminate health disparities.
- DHHS Division/Offices have established internal teams to organize their systems change process and discuss strategies across programs/services. The Disparity teams have been instrumental in keeping disparity issues in the forefront of Department of Health and Human Service program planning and operations.
- Disparity issues have become a part of the routine work of program managers and a part of regular discussions by management teams. DHHS Divisions/Offices have incorporated eliminating health disparities activities in staff work plans and in job descriptions. This level of accountability has been key to ensure that Divisions/Offices maintain eliminating health disparities as a priority issue for staff.
- New partnerships have been formed between Divisions/Offices around health disparity issues and joint projects are underway. For example, a regional health disparities elimination project focusing on diabetes prevention and control among African Americans received a grant from Bristol Myers Squibb. Partners in this demonstration project include the Office of Rural Health, OMHHD, Division of Public Health, and the Old North State Medical Society (the professional organization of African American physicians in North Carolina).
- Department of Health and Human Services divisions are implementing cultural competence training and minority recruitment strategies to increase the availability of culturally and linguistically appropriate programs and services. The Division of Mental Health, Developmental Disabilities, and Substance Abuse Services has enhanced its efforts to reduce barriers to services and improve access for diverse communities through cultural competence training and skill development of staff in all levels of the organization.

Progress has also been made at the community level. The network of minority, community-based, and faith-based organizations have expanded tremendously throughout the state. More and more minority leaders are taking on the health challenges in their communities. Their focus is on prevention, early detection, linking to existing resources, forming new partnerships with health providers, reducing access barriers, and holding local healthcare and human service providers accountable for the community's health. These community groups have created effective avenues for engaging and reaching racial/ethnic minority groups included among the targeted populations of the Department.

North Carolina DHHS Divisions/Offices have demonstrated success in working more closely with communities across the state, with increased funding going directly to support minority community-based and faith-based projects. The many promising practices funded throughout North Carolina focus on a variety of health disparity issues, including increased access to prevention and early detection services for diabetes, HIV/AIDS, cancer, and infant mortality to name a few. The ongoing challenge continues to be the fact that many of the projects can demonstrate improved health outcomes among the population reached, but the projects are often limited in duration, funding, and scope. As a result, good projects are not able to affect county-level health status data over time. However, without these community-based efforts, the health disparities data would be even worse.

While there is significant work to do to reduce and eliminate health disparities, North Carolina is moving in the right direction. We are challenged to mobilize all sectors of our state around these issues. We are challenged to engage racial/ethnic minority communities in new ways. We are challenged to invest in closing the gaps. **NCMJ**

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3 NC Department of Health and Human Services: From disparity to parity in health: eliminating health disparities call to action 2003. Available at http://www.ncminorityhealth.org
Recommendations from this Call to Action:
(1) Increase awareness of health and service disparities, especially disparities related to race/ethnicity, disability, and socio-economic status.
(2) Communicate, document, and champion best practices in eliminating health disparities.
(3) Promote, develop, and enhance communities' capacity to engage in healthy living and elimination of disparities in health status.
(4) Monitor progress towards the elimination of health disparities.
(5) Promote customer-friendly services that meet the needs of underserved populations (i.e., the poor and minority groups).
(6) Increase resources and investments to eliminate health status gaps.
(7) Build, support, and fully utilize a diverse workforce capable of working in cross-cultural settings.
(8) Identify and advocate for public policies that aid in closing the health status gap.
(9) Demonstrate accountability and ownership for health outcomes.

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# Community Health Centers and Their Role in Reducing Healthcare Disparities in North Carolina

*D. Alden Smith, MBA, CEO, and E. Benjamin Money, Jr, MPH*

## INTRODUCTION

One of the most effective national strategies for reducing health disparities in the United States has been the development of community health centers. Community health centers are not-for-profit organizations partially funded by the federal government and have local boards of directors, the majority of whose members must be users of the center's services. Community Health Centers, also known as "Federally Qualified Health Centers (FQHCs)," base their fees on locally prevailing rates. Community Health Centers (CHCs) use a sliding-fee schedule to discount their charges to patients with incomes of 200% of Federal Poverty Guidelines and below. There were 890 community health centers in the United States with over 3,400 sites in calendar year 2003 providing a medical home for 15 million Americans.[2] North Carolina has 23 community health centers with over 73 sites serving more than 260,000 North Carolinians every year; about 50% of these patients have no insurance.[3]

Community health centers were born in the crucible of the 1960s to serve Americans regardless of race, religion, insurance status, or ability to pay. The first centers were the migrant health centers created by the federal government in the aftermath of Edward R. Murrow's documentary "Harvest of Shame." Shortly thereafter, the Office of Economic Opportunity created neighborhood health centers. Rural health centers were soon developed under a federal rural health initiative. One of the earliest documentaries showing the impact of these centers on rural communities was Dr. Jack Geiger's "Out in the Rural." These unique public-private partnerships have been studied extensively since their inception. A recent paper by the National Health Policy Forum described CHCs as the "dominant model of federal grant funding for primary care in the healthcare safety net" and reviewed the background, services provided, people served, financing, and high quality care provided by community health centers.[4]

Community health centers serve the most vulnerable populations. The national patient population of CHCs in 2003 was represented by 64% from racial and ethnic minorities. About 90% of this patient population had household incomes under 200% of the federal poverty level.[5]

A 2000 study showed that health centers provided 4.2% of the total primary care visits in the United States. However, they provided 14.6% of the visits by ethnic minorities and 28.7% of the visits by ethnic minorities with Medicaid or no insurance (See Figure 1).[6] Since this study used 1994 data, and given that the number of uninsured patients at CHCs has grown from 3.5 million in 1998 to 5.9 million in 2003, we would expect that these percentages are even more dramatic now. [7]

> *"One of the most effective national strategies for reducing health disparities in the United States has been the development of community health centers."*

At community health centers, 74% of the patient population is uninsured or covered by Medicaid. In private medical practices only 19% of the patients are uninsured or on Medicaid.[8]

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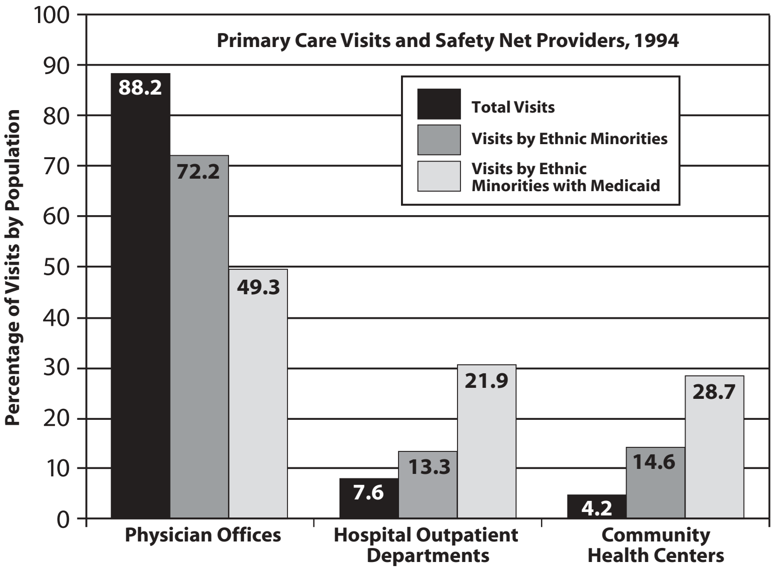
**Figure 1.**

**Health Centers Serve a Greater Proportion of Racial/Ethnic Minorities and Those on Medicaid and Uninsured than Other Providers.[6]**



Numerous studies have examined the quality of care provided by community health centers. One study in 2001 showed that community health centers exceeded the national average for providing appropriate pap smear screenings.[9] Another study showed that racial/ethnic disparities in the provision of digital rectal examinations seen in other primary care practices were not evident in community health centers (See Figure 2).[10]

A 1996 study by the Office of Data Evaluation and Research (ODEAR) in the Bureau of Primary Health Care, Health Resources and Services Administration, United States Department of Health and Human Services showed that diabetics receiving care at community health centers were more than twice as likely to receive appropriate glycohemoglobin testing than a United States comparison group.[11] Another study by ODEAR showed that African American and Hispanic hypertensive patients at CHCs were three times as likely to report controlled blood pressure than a United States comparison group.[12]

Community health centers were shown to provide better continuity of care than other providers in a 2000 study. A CHC patient is nearly twice as likely to return to the CHC for a new problem than they are likely to return to private physician or a hospital outpatient department (See Figure 3).[13]

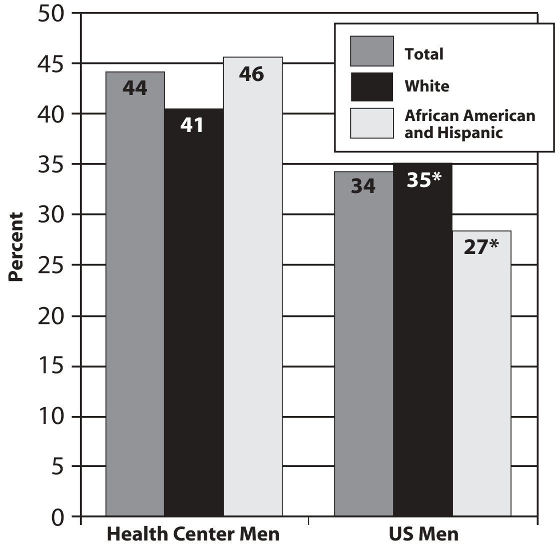
Numerous studies of community health centers have documented their role in improving the health of the communities that they serve.[14] A recent study by George Washington University School of Public Health and Health Services showed that greater levels of health center penetration in a given market "were associated with significant and positive reductions in minority health disparities."[15]

Community health centers have shown significant success in improving prenatal care and infant health outcomes.[16,17] Communities served by a CHC have infant mortality rates between 10 and 40% lower than communities that do not have a CHC.[18-21] Community health center patients have also been shown to have higher immunization rates than the general population.[22]

In addition to increasing access to primary and preventive care services, community health centers have been designated

**Figure 2.**

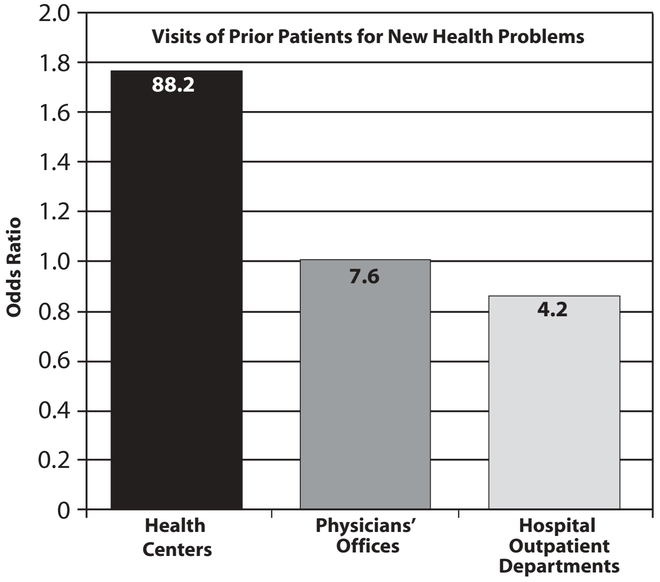
**Health Centers Do Not Show Racial/Ethnic Disparities in Digital Rectal Examination Rates.[10]**



*Statistically signifigant at $p<0.05$*

**Figure 3.**

**Health Centers Provide More Continuity of Care Than Other Safety-Net Providers.[13]**



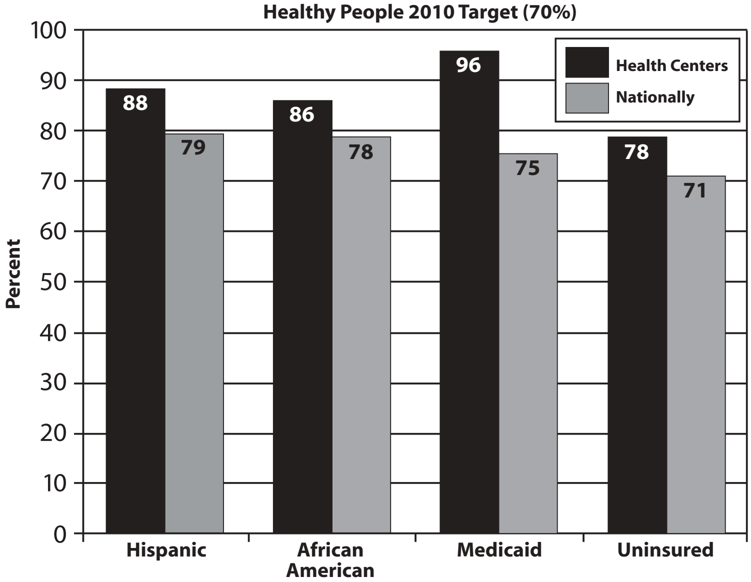
by the federal Office of Management and Budget as one of government's ten most successful and cost-effective programs.[23] In fact, the same study ranked the community health center program as the most effective program in the federal Department of Health and Human Services. These centers also have been recognized as a very effective vehicle to reduce health disparities by the federal General Accounting Office.[24-25]

In fact, these health centers have been called the "most important in the country for serving underserved populations... CHCs run the best primary care delivery systems in the United States."[26] The reasons for these successes are varied and include community boards, culturally-appropriate services, outreach, case management, eligibility assistance, partnerships with other local and faith-based organizations, and other health and human services located in one comprehensive system.

In the late 1990s, health centers refocused their efforts on health disparities through the development of the chronic care collaboratives. The Institute for Healthcare Improvement (IHI) trained the community health centers in the chronic care model with the support of the Bureau of Primary Health Care, Health Resources and Services Administration, a division of the United States Department of Health and Human Services. Clinical foci have included diabetes, asthma, cardiovascular disease, depression, and cancer. In each collaborative, appropriate clinical outcome measures are tracked and reported back to the health center providers. Some of the data from individual health centers around the country have been remarkable, for example:

- Grace Hill, Neighborhood Health Centers in St. Louis, Missouri has achieved an average decrease of HbA1c levels from 10.76 to 8.23.
- La Clinica Campesina in Lafayette, Colorado reduced average HbA1c levels from 10.5 to 8.5.[27]

**Figure 4.**
**Percent of Women Receiving Mammograms at Health Centers vs. Nationally[29]**



These collaboratives have both formalized and provided the theoretical underpinning for the system of care long provided by CHCs. The results from the collaboratives initiative show further improvement in quality over the earlier studies. More than half of the CHCs participated in these collaboratives as of 2003.

A study published in the *Journal of the American Medical Association* in 2002 showed that community health center patients with chronic disease were more likely to be healthier than white, insured patients with chronic disease in the private sector because of the prevalence of collaborative care and self-management education in community health centers versus the traditional care model used in most private practices.[28]

A 2002 study compared the percentages of CHC women over 40 receiving mammograms to all women under 200% of federal poverty level. The study showed that CHCs exceeded both the national averages and the Healthy People 2010 targets for both minorities and Medicaid uninsured populations (See Figure 4).[29]

## METHODS

Since racial and ethnic health disparities remain a major problem in the United States, particularly in the southeast, we designed this study to present preliminary data from individual community health centers in North Carolina in order to investigate whether there were improvements in the state that mirrored the national data. Health Centers in North Carolina in 2003 served a patient population that was 40% African American, 27% white, 25% Hispanic, and 8% other.[30] Through clinical work groups in the 1990s, health centers began tracking clinical indicators. In recent years, health centers participating in the various federal and state chronic disease collaboratives have entered data into clinical tracking and reporting systems called Cardiovascular and Diabetes Electronic Management System (CVDEMS) or Patient Electronic Care System (PECS). These systems generate reports on a quarterly basis. CHCs in North Carolina were asked to submit copies of these reports to the North Carolina Community Health Center Association. These reports were submitted by five of 11 (45% response rate) community health centers in North Carolina.

In addition, the North Carolina Community Health Center Association and the North Carolina Diabetes Prevention and Control program have partnered to implement the models of the national Health Disparities Collaboratives (HDC) in a state-based collaborative. University health systems, integrated delivery systems, health departments, rural health clinics, free clinics, health education centers, and other settings involved in healthcare delivery are also able to participate and learn the Chronic Care Model[31] and the rapid cycle improvement model. For Community Health Centers, the state-based initiative serves as a mechanism to support North Carolina CHCs in ramping up for HDC participation; it also serves as a vehicle to sustain and spread after participating in the initial year of learning with the HDC.

## RESULTS

The results as of September 2004 are presented in numbered form below:

1. Greene County Health Care in Snow Hill reported a diabetic patient population that was 70% minority with an average HbA1c level of 7.8.
2. Person Community Health Center in Roxboro reported that over the two years in the collaborative, the average HbA1c rate dropped from 12 to 7.8 and that blood pressures dropped from 140/110 to 120/70's to mid 80s.
3. Tri-County Community Health Center in Newton Grove reported that they joined the diabetic collaborative in November 2000 with an average HbA1c level of 9.5. By the end of September 2004, the average had dropped to 8.3.
4. Robeson Health Care Corporation in Robeson County reported lowered HbA1c levels from 9.1 to 7.9 with 1,763 patients in the registry.
5. Robeson Health Care Corporation also reported that among cardiovascular patients, 50% of 2,304 cardiovascular patients had blood pressures under 140/90.
6. Lincoln Community Health Center in Durham reported its diabetic patient population of 2,354 patients (76% minority) had an average HbA1c rate of 8.2, down from 8.5, last year and from over 9.0 five years ago.

These results mirror large studies including the one that showed a lowering of the HbA1c level from 9.0 to 8.0 in 23 health centers with 8,000 diabetes patients and a January 2004 article, which analyzed a diabetes quality improvement initiative in 19 midwestern health centers and found that the collaboratives dramatically improved diabetes care in one year using a variety of outcome and process measures.[32,33]

Also, the North Carolina Diabetes Collaborative, the pilot state-based collaborative, was able to mirror the successes of the national Health Disparities Collaborative. With 13 participating centers during the 2003-2004 year, 1,379 patients were entered into the registry. The aggregate HbA1c declined from 7.96 to 7.81, with the number of patients receiving two HbA1cs annually increasing from 4.4% to 24.7%. Significant strides were made in the following measures: annual foot exam rates increased from 15.1% to 48.8% and annual dilated eye exams increased from 6.2% to 24.2%.[34]

## DISCUSSION

CHCs clearly play a major role in reducing or eliminating health disparities, as the numerous examples already cited have shown. Some of the reasons for this include: the CHC mission; federal grant requirements; frequent location in areas with large minority populations; provision of culturally-sensitive care; federal mandate to serve all regardless of race, religion, country of origin, or ability to pay; community involvement; and diversity in staffing.

The improvements in the control of chronic disease at North Carolina CHCs measured by specific clinical outcome measures mirror the improvements shown in the national literature. More formal studies need to be conducted. Longitudinal studies would be particularly useful in tracking improved clinical outcomes over time. Data from the North Carolina CHCs participating in federal and state collaboratives should be published as soon as it becomes available.

A major research opportunity has been created by five community health centers in Eastern North Carolina. Beginning in 2001, these centers began to implement a common electronic health record system and build a clinical data warehouse to track clinical outcome measures using sophisticated report writing software. The record systems for three CHCs are currently operational and two more will be operational within the next six months. As more patients are enrolled in this system, the data will be both readily accessible and comprehensive. By 2006, there will be data on nearly 75,000 patients. These data present a major research opportunity to improve and disseminate outcome documentation among all community health centers serving these highly diverse, and underserved, populations in North Carolina. **NCMJ**

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# Churches, Academic Institutions, and Public Health:
## Partnerships to Eliminate Health Disparities

*Moses V. Goldmon, EdD, and James T. Roberson, Jr., PhD*

## Introduction

The disproportionate burden of preventable illness and death suffered by racial and ethnic minorities and/or other persons from low-socio-economic status backgrounds—health disparities —came into focus with the release of the 1986 landmark document titled the Report of the United States Secretary's Task Force on Black and Minority Health (the Heckler Report). This report, along with *Healthy People 2000 and 2010*, has spurned a number of research, education, and service initiatives aimed at eliminating health disparities. Despite many efforts to address these disparities, health professionals continue to experience difficulty reaching minority populations with sustainable research, education, and service initiatives. Obstacles include, but are not limited to, mistrust due to past misuse and abuse, culturally insensitive methods and materials, and one-way research and intervention efforts that benefit academic and public health institutions, but fail to provide tangible benefits to church and community members.[1] These obstacles hinder progress in addressing health disparities. African American and other racial and ethnic minority populations continue to suffer a disproportionate burden of preventable disease and death.[2]

Broad partnerships between community-based, academic and public health institutions have emerged as a plausible solution to overcoming the obstacles to engaging hard-to-reach populations in efforts to eliminate health disparities. Interdisciplinary and/or inter-institutional partnerships (involving pastors, physicians, parish nurses, lay health advisors, chaplains, community leaders, theological educators, health educators, researchers, and other stakeholders) engage a diverse group of people in the discovery and transfer of new knowledge that could provide solutions to the complex issues that cause health disparities. More specifically, research suggests that engaging the black church in health disparities partnerships is an effective way to develop sustainable culturally-appropriate research, education, and service projects that are acceptable to African Americans.[3,4,5]

Drawing upon current literature and our experiences as pastors, health and theological educators, and practitioner-researchers[6] who are actively engaged in several health disparities partnerships, this commentary explores the development of sustainable partnerships between African American churches and academic and public health institutions.

> *"churches are uniquely situated to facilitate participation of people from hard-to-reach populations."*

## Why Churches?

Community members, universities, and government agencies see churches as institutions that should be included in public health partnerships.[7,8,9,10] Reasons include: (1) churches share a mutual concern with public health institutions about the issues that impact the health knowledge, attitudes, behavior, access, and outcomes of racial and ethnic minority, low-income, and other underserved populations, (2) the faith tenets of most churches encourage the promotion of holistic health, healing, and living, (3) churches are the historical center of comfort, guidance, and inspiration, particularly in African American communities, (4) churches offer a variety of resources (human, intellectual, capital, social, and spiritual), and (5) churches are uniquely situated to facilitate participation of people from hard-to-reach populations.

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### Increasing Emphasis on Church Involvement in Health Initiatives

Recently, the number of health research, education, and service initiatives implemented by or including churches has increased. For example, the number of "faith and health" initiatives in North Carolina that have some connection to the North Carolina Office of Minority Health and Health Disparities has increased by 78% (from 11 to 48 over the past five years).[11] Health disparities partnerships that include churches are encouraged and participated in by state and local governments, universities, corporations, hospitals, professional associations, and community groups.[1,7,12,13,14,15]

The increased emphasis on partnerships in general, and the engagement of churches specifically, as a mechanism to effectively address health disparities is encouraging. However, concerns about the difficulty associated with effectively engaging and sustaining African American churches has been expressed by church, community, university, public health, and government representatives. These concerns highlight the need for a strategic approach to the development of broad partnerships that include churches. Below is a set of principles that could help to address these concerns.

## Principles for Engaging African American Churches in Health Disparities Partnerships[i]

These principles are informed by the current literature and our experiences as pastors, health and theological educators, and practitioner-researchers.[10,16,17,18,19,20]

### Principle Number 1: Identify and Prioritize Potential Partner Churches

Identification of churches begins with a deliberate choice to prioritize churches that will comprise a pool of *potential* participants. A common mistake associated with efforts to engage the "the church" is a failure to recognize the diversity that exists among churches. This diversity stems from the fundamental beliefs that people of faith have about "their god" and the corresponding doctrine, polity, and denominational structure employed to guide their understanding, devotion, worship, and service. There is also a great deal of diversity within and among churches that share the same doctrine and to a lesser degree polity and denominational affiliation. For example, there are eight different *historical* denominations categorized as African American Protestant churches.[ii] In recent years, we have also experienced a boom in the growth of other denominations as well as "Non-Denominational" Protestant Churches. A working understanding of the basic doctrinal beliefs, polity, and organizational structures of the various churches that are potential partners is a pre-requisite to recruiting and forming trusting relationships with churches.

### Principle Number 2: Develop Trusting Relationships that Lead to Sustainable Partnerships

Sustainable or "true partnerships" include trusting relationships, mutually beneficial collaborations, participatory processes and shared governance. The people who are sent to interact with representatives of the potential partners are key to establishing trusting relationships. Identifying the "right representative(s)" is not merely a matter of race and ethnicity. The primary factor is a willingness to understand and develop an appreciation for the perspectives of others. When seeking to engage churches, it helps to have a translator—persons with knowledge of and experience working with both churches and public health institutions.

Previously, we mentioned the doctrinal, political, and denominational diversity within "the black church." Attempts to establish partnerships with churches without an appreciation for these fundamental tenets increase the risk that something might breech church polity. Such activities, although often unspoken, tend to deepen the mistrust that pastors and other church leaders have of "secular organizations." Mistrust stifles the reflective dialog that is essential for sorting through the inter-institutional (churches, universities, healthcare and government agencies) and interdisciplinary (public health, medicine, theology, and religion) differences and similarities. Identifying the similarities coupled with efforts to understand and appreciate the differences precede the identification and

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[i] (a) The principles are designed to assist public health representatives as they engage faith-based organizations in sustainable health disparities research, education, and service partnerships. While the premise of the principles discussed in this commentary represent a framework for engaging "the faith community," they are most applicable to collaborations that include historically African American Protestant churches. The emphasis on African American Protestant churches does not insinuate that this or any other particular faith tradition is inherently more applicable for involvement in health disparities partnerships than others. However, since our knowledge and experiences are centered in African American Protestant church and theological education traditions, we are most qualified to adequately represent this perspective.

(b) We use the term "faith community" to refer to a diverse group of people who believe and trust in a god or a religious system whose existence cannot necessarily be proven with tangible evidence. Further, we emphasize our view that African American churches are part of the larger "faith community." Similarly, we use the term churches generically to refer to organized religious fellowships. The term is inclusive of synagogues, mosques, and parishes and other fellowships.

(c) While this discussion is limited to broad principles, we distinguish *principles* from *practices*. Principles are fundamental presuppositions designed to guide the process of identifying, recruiting, and selecting churches (as well as church leaders) as partner participants. Principles are used to promote reflective dialog among a diverse group of partner participants that will lead to the establishment of mutually beneficial practices. Thus, practices are mutually agreed upon activities derived by the principles.

[ii] African Methodist Episcopal (AME); African Methodist Episcopal Zion (AMEZ); Christian Methodist Episcopal (CME); Church of God in Christ (COGIC) National Baptist Convention of America, Inc. (NBCA); National Baptist Convention, USA, Inc (NBCUSA); National Missionary Baptist Convention of America (NMBCA); and the Progressive National Baptist Convention, Inc. (PNBC)

prioritization of areas of mutual concern, which enable partnerships to build upon the strengths and minimize the weaknesses of each partner organization. Partnerships established without cultivating trusting relationships and mutually agreed upon policies and practices simply transfer traditional models of health disparities research and interventions from academic, government, and healthcare settings to churches.

Sustainable partnerships founded on trusting relationships reduce the likelihood that this will occur by ensuring that pastors and other church leaders are engaged as equal partners with other professionals.[21] This provides pastors and other church representatives an opportunity to influence and be influenced by the policy and practices of public health institutions and vice versa. Ultimately, true partnerships produce changes in the policy and procedures of all participating institutions that will lead to culturally relevant health disparities research, education, information dissemination, and service/ministries.

When engaging churches in partnerships, it is important to involve pastors from the outset. Pastor "buy in" legitimizes church and community involvement in a manner that facilitates adoption, participant recruitment, and decision-making.[22] As respected leaders in the community, pastors can help to: (1) design and plan culturally-appropriate research and interventions; (2) serve as advocates that will bridge the communication gap between health professionals, church, and community members; (3) develop comprehensive sustainable ministries of health; and (4) help to ensure a more culturally diverse healthcare workforce by encouraging church and community youth to pursue careers in the health professions.

### Principle Number 3: Identify and Respect Institutional Priorities, Traditions, and Boundaries

Churches and public health institutions, particularly research-intensive universities, have divergent perspectives of how to effectively address an issue of mutual concern—health disparities. These perspectives grow out of the priorities, traditions, and boundaries (professional, intellectual, and ethical) of the respective institutions. They are rooted in the central differences between theology and science, particularly epidemiology.

Epidemiology is *the systematic, objective study of the natural history of disease within populations and the factors that determine its spread.*[23] *The core functions of public health agencies... are assessment, policy development and assurance.*[24] These functions are carried out in order to promote health and prevent disease. Theology is the science of God, and of the relations between God, *[humans]*, and the universe.[25] In African American churches, theological constructs are applied in ways that are sensitive to the language, concepts, and issues of the folk [in the African American community] in a manner that leads to edification and liberation.[26] An emphasis is placed on ministry (the provision of service) that liberates destitute, oppressed, and marginalized people.

Interestingly, the desired outcomes of both institutions focus on eradicating *dis-ease*. However, the priorities and traditions that undergird the practices appear disparate. For example, churches tend to measure the success of projects by how they helped to provide immediate solutions to "felt needs." To this end, churches desire the provision of tangible and sustainable service. Unlike the scientific process, the measures employed to determine success are sometimes "discernable," but not necessarily quantifiable. On the other hand, public health institutions (particularly research-intensive universities) often measure success by the discovery of new knowledge, theories, models, policies, and/or procedures that may not necessarily help the participants of an existing study, but will be of benefit to others in the future. Therefore, efforts can be considered successful in the public health arena without the provision of direct service that provides "immediate" solutions to the felt needs of the prioritized populations.

These divergent perspectives must be reconciled if sustainable partnerships are to be developed. A failure to recognize or respect the institutional priorities, traditions, and professional boundaries of other partnership participants hinders reconciliation. For example, health disparities research, education, and service interventions that involve churches often focus on assessment and planning. Many pastors and church leaders have often expressed concern, if not frustration, over the fact that their involvement in health projects has resulted in their "being assessed to death." However, both assessment and service are necessary if innovative ways to reduce health disparities are to be developed and sustained.

### Principle Number 4: Promote the Transfer and Local Control of Tangible Power

Power refers to the knowledge, privilege, force, influence, authority and strength to accomplish a desired action. Power comes in various forms including social, mental, physical, spiritual, moral, political, and economic. These forms can be categorized as tangible and intangible. Tangible power is easy to recognize and measure, while intangible power is often invisible and difficult to measure. However, both forms are essential to the elimination of health disparities. Generally those possessing tangible power (money, budgetary authority, decision-making —particularly with respect to personnel and project goals, facilities, fund-raising ability, organized networks, the ability to determine legitimate and valid forms of knowledge, etc.) exert the greatest influence on the policies and practices that govern partnerships. In order to overcome the barriers to sustainability and to foster participation of persons from hard-to-reach populations, some tangible power should be transferred to church and community leaders where feasible.

## Summary and Conclusion

The four principles represent a framework for improving the process of establishing sustainable partnerships between research, public health, and faith-based institutions that seek to eliminate health disparities. To improve the efficacy of partnerships with churches identification of potential partner churches must be deliberate, trusting relationships must be built, divergent perspectives must be communicated and reconciled, and some tangible power should be transferred to church and community leaders where feasible.

We applaud the National Institutes of Health, through the National Center on Minority Health and Health Disparities', efforts to "promote coordination and collaboration among the agencies conducting or supporting minority health or other health disparities research."[15] We recommend that the North Carolina Office of Minority Health and Health Disparities be charged with and provided adequate resources to facilitate this type of coordination and collaboration among North Carolina Department of Health and Human Services agencies that are conducting or supporting minority health and health disparities research. A special emphasis should be placed on partnerships that seek to engage communities of faith.

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## The Data Collection/Data Distribution Center $(DC)^2$ Model of Engagement

The Data Collection/Data Distribution Center $(DC)^2$ is a network of 25 churches located in five prioritized regions of North Carolina. The regions and associated counties are: Northeast (Warren, Vance, Granville, and Franklin Counties); Eastern (Northampton, Bertie, Halifax, and Hertford Counties); Central (Wake, Durham, Orange, Chatham, and Johnston Counties); South Central (Duplin, Sampson, Cumberland, Bladen, and Robeson Counties) and Southwest (Mecklenburg, Gaston, Anson, and Scotland Counties). The network includes pastors and other church leaders, educators, researchers, and healthcare administrators representing various disciplines. Academic and governmental partners include Shaw University (a historically black liberal arts university), the University of North Carolina at Chapel Hill (a research-intensive majority institution), and the North Carolina Office of Minority Health and Health Disparities (established by the NC General Assembly to promote and advocate for the elimination of health disparities).

Spearheaded by the Shaw University Divinity School, $(DC)^2$ engages African American churches as an integral part of the Excellence in Partnerships for Community Outreach and Research on Health Disparities and Training (EXPORT) partnership. Funded by the National Center for Minority Health and Health Disparities, (grant #R24/P20/P60), the Carolina-Shaw Partnership seeks to eliminate health disparities between racial-ethnic minority and majority populations in a variety of ways. $(DC)^2$ is the hub of the partnerships community outreach activities. The primary goal is to investigate whether church-based information technology is an effective way for educators and researchers to communicate health issues to and receive feedback from communities about their health that could help make research, education, and service/ministry efforts more relevant. The network emphasizes a two-way flow of information where: (1) the health concerns and priorities of African American church and community members are communicated to educators, researchers, health policy makers, funding agencies, and healthcare providers to inform and influence their practices; and (2) practically useful health information is developed and disseminated to church and community members. The network also provides a mechanism for recruiting church and community members into health disparities research studies as partner-participants rather than as mere subjects. This ensures that a voice representing African American churches is included in academic research, education, information dissemination, and service projects that seek to identify solutions to African American health disparities in North Carolina.

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# Health Disparities, the Faith Agenda, and Health Promotion/Disease Prevention:

## The General Baptist State Convention of North Carolina Model

*M. Anita P. Holmes, JD, MPH*

### Faith and Health and the African American Experience

As increased emphasis has been given to holistic health and lifestyle issues in American health and healthcare policy, faith-based entities are more frequently viewed, or acknowledged, as one of the "players." The intersection of faith and health to address societal "ills" has a rich history. This health and healing agenda is strongly rooted in the African American experience. Historically, "the black church" has been on the forefront of this movement as advocate for education, health, and justice. C. Eric Lincoln, a noted theologian and historian of the black church in America stated: "To understand the power of the Black Church, it must first be understood that there is no disjunction between the Black Church and the Black community. The Church is the spiritual face of the Black subculture, and whether one is a 'church member' or not is beside the point."[1]

> *"To efficiently and effectively engage 'the black church' as a partner in health promotion, requires an understanding of organizational leadership, structure, demographics, and faith orientation."*

Prior to the more formally organized black church, religious ceremonies and worship services provided a mechanism for African Americans to come together in a setting that not only facilitated worship, but enabled "messengers" to carry out human rights and freedom agendas.[2] This agenda continued as the church emerged as a leading societal institution and is well documented during the Civil Rights Movement.

Self-help movements were encouraged since resources to address emerging health and social needs were always in short supply. Various auxiliaries were established to facilitate the church's health and social ministries. For instance, nurse aide groups consisted of women appointed to help the elderly and others coping with disabilities. At a time when many insurance companies considered African Americans a poor risk for life insurance, church affiliated mutual benefit and burial societies filled this void for service immediately after slavery and gave rise to the emergence of African American insurance companies. Services were not limited to church members, but were provided to every community member as acts of goodwill and good citizenship.

Today, the need for grassroots church and community activism continues. The gains the science community has made in health knowledge are not matched with successful modes of application. Faith-based initiatives, with several notable exceptions (e.g., the Seventh-Day Adventist and Mormon churches have focused on health promotion over many years), are at the pioneering level. To address today's concerns and the greater emphasis on lifestyle issues will require mobilizing diverse community partners and resources and shifting focus from sick care to "well care" or health promotion.

Morbidity and mortality data reveal the African American population is one of the leading disparate groups. While it is increasingly common for health service organizations to enlist the support of "the black church" in attempts to reach the African American community, most are limited in scope and frequently ineffective. These efforts generally do not meet the

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definition of partnership. For instance, churches may be requested to provide assistance by announcing the availability of important health and human services, displaying exhibits and/or distributing educational materials, participating in research, and/or conducting presentations on health-related topics. There may be beneficial outcomes from these activities; however, the impact usually falls far short of need and potential. Too often, services are provided in a manner that diminishes the possibility for participation in the planning and decision-making processes and do not enable sustainability, capacity building, and/or empowerment.

More appropriate use of faith-based resources will require changing the rules of engagement. To efficiently and effectively engage "the black church" as a partner in health promotion, requires an understanding of organizational leadership, structure, demographics, and faith orientation. There must also be a conscious awareness of past history and a willingness to accommodate. Partnerships should be based on cooperation, communication, commitment, clear understandings, trust, and caring.[3] This model enables the development of working relationships that best use the strengths and resources of both churches and health advocacy organizations.

## Early Scientifically-Designed Faith-Based Health Promotion Initiatives in North Carolina

One of the first scientifically-designed and evaluated health promotion initiatives utilizing black churches was a North Carolina project targeting diabetes, hypertension, and maternal and child health. Through the use of lay health educators, the project was designed to raise the level of technical understanding and to encourage beneficial lifestyle changes. This initiative, based in the Department of Health Behavior and Health Education of the University of North Carolina School of Public Health (UNC-SPH), led to discussions with the leadership of the General Baptist State Convention of North Carolina, Inc. (GBSC) and the founding of the Convention's Health and Human Services (HHS) Program.[4]

Health professionals provided technical knowledge during church-based training. Learning took place at two levels: (1) the lay leaders and (2) the health professionals. Lay leaders gained increased understanding of diabetes and hypertension, including current information regarding disease prevention and control and available disease-related resources. Healthcare providers met community leaders and learned about community perceptions of healthcare issues and concerns.[4-6]

GBSC is a voluntary association of approximately 2,000 churches and 600,000 congregation members. Sixty-two geographically dispersed Associations facilitate the work of this statewide organization. It is estimated that, on any given Sunday, approximately half of the African American worshippers in North Carolina attend a GBSC church. In addressing health promotion issues within the African American community, GBSC and its churches build on an organizational structure that formally started in 1867. For instance, one of the lay health advocates presently involved with a Faith and Health Initiative, is from the family of deacons that are direct descendents of her church's founder. The founder was a slave who gained permission to organize a church in 1838.

The first GBSC health promotion project was funded by Z. Smith Reynolds Foundation and focused on enabling selected church members/leaders to serve as lay health educators and health advocates within their respective congregations and the broader community. The GBSC Office of Health and Human Services (HHS) was established to facilitate the development of this demonstration project. Staff from HHS, with technical support from UNC-SPH, designed training programs and recruited health professionals to teach volunteers about the causes, prevention, and management of selected health problems (e.g., hypertension, diabetes, and infant mortality).

The Convention created the Health and Human Services Advisory Committee to provide oversight and guide the overall development of this evolving ministry. A Technical Advisory Committee was also formed. The Technical Advisory Committee included among its members clergy, lay leaders, health professionals from local universities (North Carolina Central University, Duke University Medical Center, Shaw University Divinity School, UNC-SPH and UNC School of Medicine), North Carolina State Division of Public Health, and civic leaders. The Committee, which included persons of other faith and ethnic backgrounds, was very helpful in identifying resources and allies from within the broader community. Through this process, learning took place at several levels. The professionals learned about church style, protocol, and church members' values. Church leadership learned the value of critical review, evaluation, and the overall assets health professionals could bring to the table.

## The GBSC Model

The GBSC-HHS ministry is grounded in an awareness that many African Americans do not fully benefit from pioneering gains in health that new knowledge, medical technology, and research have made possible. The ministry is designed to build on the strengths present within the Convention and its member congregations through a strategy that draws on the combined resources, talent, and leadership of clergy, laity, and health professionals. The key methodology employed is training church-based volunteers to inform others about the causes of selected health problems, and then helping them to change behavior and gain access to necessary resources for prevention and control.

The role of the pastor is pivotal in this process.[7] GBSC-HHS programs seek the counsel and advice of clergy in determining the overall course of implementation for local and regional activities. Pastors offer sanctioning and best ways to define, refine, and reshape faith-based health models. The life experience of the pastor and lay leaders is very influential in determining interest and support. Of the six pastors responding to a local diabetes initiative, five either had diabetes or had a spouse with the disease.

Most of the work of the Convention's health ministry is carried out by volunteers and is premised on theories, research, and best practices developed in other settings.[8] These volunteers are trusted and respected persons that others come to for advice. They are a part of the web of support systems in their communities. Most have resided in their community for over 20 years.

An essential factor to the long-term success of faith-based models is the education and empowerment of clergy and lay leaders.

*"The church can serve a role in bringing about a much better lifestyle, a much better health condition for all concerned. But, it has to be a situation where the ministry and the key laity in churches are educated and empowered with all the information about particular diseases and all the things that the health community would like to impart so that they might play the ambassadorial role that you [the public health community] seek."*[9]

Orientation and training congruent with project goals and objectives are provided for staff and volunteers. Sessions usually take place on Saturdays or evenings, when the majority of congregation members are available. In addition to technical health information, education sessions integrate faith and theological understandings to support the technical teachings. Hours of training vary by project with initial training generally averaging about 15 hours. Following the initial orientation and training, lay health advisors provide education and social support to the congregation and other community members. Continuing education and programmatic support are provided by GBSC-HHS staff and local and area healthcare professionals throughout the project.

Lay health advisors are asked to serve a minimum of two years. However, the majority continue for the duration of the project (generally three-to-five years). Most importantly, these volunteers remain health promotion advocates within their congregation once the formal funding period has ended.

An essential role for GBSC-HHS is to serve as a support to projects after outside funding has ceased. HHS maintains contact with prior externally-funded GBSC projects in an effort to continue services. Some groups have established support systems with local resources to enable continuation.

Faith-based models provide a unique opportunity for team building between congregation members and healthcare providers. Individuals have an opportunity to learn from and support each other as they share their experiences. Healthcare providers who assist with the training gain increased understanding of community concerns and priorities and an enhanced ability to involve community leaders. During training sessions, providers come on the "turf" of congregations in a setting controlled by members. This facilitates discussion that is more open and enables the building of trust.

## Successes

Evaluation has been a continuous component of GBSC-HHS projects. Many noteworthy accomplishments have been made since the ministry's inception. These have included (1) increased knowledge and understanding of beneficial health information, (2) identification of knowledge transmission patterns, (3) diffusion across faith, race, and neighborhood boundaries, (4) lifestyle and policy changes at the congregation level, and (5) increased awareness and use of healthcare resources. The basic elements identified with the importance and success of the first GBSC project funded by the Z. Smith Reynolds Foundation,[10] continue to be reflected in Convention initiatives.

There are many anecdotal stories that relay changes in behavior, lifestyle, access to healthcare resources, and effective healthcare utilization. In 1997, on a Saturday morning in Creedmoor, North Carolina, approximately 200 persons representing 20 or more churches attended a diabetes awareness session. Attendees told personal stories about what led to their diabetes diagnosis and encouraged others to be checked. A substantial number of the persons telling their story indicated that it was another individual in their network that recognized they had the symptoms of diabetes (not a physician) and encouraged them to be tested. The following Monday, in response to a significantly increased diabetes screening load, a health department staff member questioned one of the diabetes awareness session participants/screenees about the unusually large number of people coming in for testing.[11]

It is well documented that education and income make a difference in health status. During two fatherhood projects in economically deprived areas, pastors, male congregants, and other supporters mentored unemployed fathers and fathers without a high-school degree. Six months following project initiation, 100% of 25 previously unemployed fathers were employed and 100% of 18 fathers previously without a high school diploma were enrolled in a GED program.

The Convention's Health Ministry continues to sponsor health promotion programs to: (1) reduce health risks, (2) promote health, (3) improve disease states through increased knowledge, improved practices, and improved access and utilization of healthcare services, (4) increase community involvement/participation in the healthcare delivery system, (5) build and expand the helping and social support role of the church, and (6) increase community capacity to initiate and sustain health promotion programs. These goals are carried out through programs reaching congregation members and the communities they serve.

In addition to focusing on specific diseases, lifestyle modifications, and service delivery concerns, special seminars/summits have been held with GBSC leadership to address current and cutting edge issues, such as stress in ministry and end-of-life decision-making. The Office has also served as an information and referral source for congregation and community members.

Since the inception of the program, GBSC has provided about 20% direct and lots of in-kind support. The Convention has continued to seek the support of a broader range of donors from both the public and private sectors. Following the Z. Smith Reynolds funding, the W. K. Kellogg Foundation funded two major projects. In more recent years, the Convention has received funding from the Kate B. Reynolds Charitable Trust, the North Carolina Hospital Foundation, the State of North Carolina (including the North Carolina Division of Public

Health, North Carolina Health and Wellness Trust Fund, and federal funds received through state-funded projects), direct church contributions, and private donations.

## Sustainability

The HHS program has gone through several stages of development, from demonstration project to permanent program. In 2002, the Center for Health and Healing, a 501(c)(3) IRS-recognized nonprofit entity, took on the health and human services agenda of the Convention. This legally independent and structurally autonomous organization is similar in character to the relationship between the Catholic Church and the Catholic Relief Society and the relationship between the Unitarian Church and the Unitarian Universalist Service Committee. Advantages include access to a broader funding base and reduced liability for the Convention.

Capacity to sustain health promotion initiatives is essential to health status change. We believe the church in the African American community can play a major supportive role in the nation's effort to encourage and sustain healthy lifestyles. This must include all the prerequisites necessary to assure the institutionalization (e.g., ownership, commitment, and resources) of faith-based health promotion initiatives. Dr. John Hatch, a UNC-Chapel Hill professor of health behavior and health education at the time, has stated that he believes the project would not have survived had resources not been placed with the Convention.[12] Evidence of sustainability at the Association and local church level is evident in several GBSC models (e.g., Faith and Wellness Auxiliaries as part of formal Associations; inclusion of the health ministry in some Association and church budgets; inclusion of ministry functions on church, Association, and Convention agendas).

In addition to building the internal capacity of communities, faith-based health programs enable the provision of community healthcare promotion programs at a time when resources are limited. A partnership with a local agency was compromised when the agency experienced the loss of a staff person that would have been able to assist with GBSC lay training. The agency director suggested a local community member to serve as a resource person. The individual she recommended was a GBSC grassroots Facilitator trained by GBSC-HHS.

## Conclusion

The continued survival and growth of faith-based health initiatives will likely be dependent on a number of factors, including interest, financial, and programmatic support available from the faith-based organization, government, and private philanthropy. These ministries may vary in scope (e.g., lifestyle modification, advocacy and policy development, education, social support, self-help, information and referral, environmental change [inclusive of the church environment], demonstration/research, and career development) as a reflection of interest and resources.

However, as faith-based and other organizations continue an agenda of pursuing reductions in health disparities, partnerships between faith-based groups and health-interest organizations (public and private) are likely to continue. **NCMJ**

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# Northeastern North Carolina Partnership for Public Health and Health Disparities in Northeastern North Carolina

*Curtis W. Dickson, MEd, Janet G. Alexander, MSPH, Barbara H. Earley, RN, MSN, and Erin K. Riddle, MPH*

The Northeastern North Carolina Partnership for Public Health (Partnership) is a collaboration of public health agencies formed in 1999 to improve the health of people in the northeastern region of the state. The Partnership's specific goal is maximizing the available resources and service potential of local health departments through cooperation with each other on public health issues. Economic and health disparities in this region provided the impetus leading ten health departments to form this collaboration and continue to guide the activities of the Partnership. The Partnership hopes that these disparities will now become the motivation for the adoption of healthy behaviors by community members and for policy and environmental changes by decision makers that will improve the health status of northeastern North Carolina.

*"These disparity gap coordinators help to link the Partnership to community coalitions in each of the counties, such as Healthy Carolinians partnerships."*

The Northeastern North Carolina Partnership was formed when health directors in the region recognized that each of their agencies faced similar challenges in their work to protect the health of their constituents. Specifically, how could these health departments improve the health of a region that is entirely non-metropolitan, has a high rate of poverty, and a high rate of medically uninsured? How could a health department maximize its impact, given its limited resources? In 2000, 13 of the 19 counties included in the partnership were designated as *Tier One* counties by the North Carolina Department of Commerce, meaning that they are among the most economically depressed counties in the state.[1] Nineteen percent of the population in northeastern North Carolina is living in poverty,[2] between 16 and 24% do not have health insurance,[3] and 29% of adults do not have at least a high school education.[4] It has long been recognized that there is a positive correlation between economic health and physical health. These demographics became the starting point for the health departments in northeastern North Carolina to discuss innovative ways to collaborate and improve the health status of the region.

These discussions evolved into the creation of a well-structured partnership. The Partnership is currently guided by a governing board that consists of now 11 local health directors (Pamlico County recently joined) and of representatives from both the North Carolina Division of Public Health and the North Carolina Institute for Public Health at the University for North Carolina at Chapel Hill (NCIPH). The Partnership region covers 19 counties: Bertie, Beaufort, Camden, Chowan, Currituck, Dare, Edgecombe, Gates, Halifax, Hertford, Hyde, Martin, Northampton, Pamlico, Pasquotank, Perquimans, Tyrell, Warren, and Washington. The partnership has demonstrated how health departments can share some resources, such as staff, and therefore increase the capacity of all the health departments. In 2002, the partnership received a federal grant that allowed them to hire a regional epidemiologist, a regional health educator

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(regional health disparity coordinator), and eventually a paid, half-time project director. Annual membership dues for each participating agency help augment the partnership's activities. In addition, each of the health departments has allocated an existing health department staff member (a health educator) to serve as their department's disparity gap coordinator. These disparity gap coordinators help to link the Partnership to community coalitions in each of the counties, such as Healthy Carolinians partnerships. The disparity gap coordinators are also the target audience for regional training focused on cultural competencies and public health practice.

Health disparities data have continued to guide the activities of the Partnership. In 2003 the Partnership published, "Health in Northeastern North Carolina: Assessing Health Disparities of an 18-County Region," that was researched and developed by the Partnership's regional epidemiologist, the regional health disparities coordinator, and University of North Carolina School of Public Health graduate students (only 18 counties were in the Partnership at the time). The Partnership governing board used this report to help them identify priority public health problems that the partnership is now moving to address through the development of regional public health programs. This regional health report highlighted health conditions where geographic or race and gender disparities exist. Health disparities were evaluated by comparing overall disease rates for northeastern North Carolina to the state rate (geographic disparity), and by comparing rates for race and gender groups within the region to their respective state rates (race/gender disparity). Health conditions examined included: accidents, perinatal mortality, heart disease, stroke, HIV disease, diabetes mellitus, lung cancer, breast cancer, colorectal cancer, prostate cancer, chlamydia, gonorrhea, teen pregnancy, low-birth weight infants, asthma, child obesity, untreated tooth decay among kindergartners, and untreated tooth decay among fifth-graders. This regional assessment for 18 key health indicators found geographic disparities for northeastern North Carolina in relation to state rates in general in 17 of the indicators, and race/gender disparities in 13 of the indicators (See Table 1).

> *"Diabetes is one of the leading causes of death and disability in northeastern North Carolina. Each year there are 640 deaths due to diabetes as a primary or a contributing cause of death in these counties."*

After studying these and other data for the northeast region (including county health assessments, focus groups' results, and key informant interviews), the governing board of the Partnership determined three strategic priorities for further studies and activities: (1) diabetes, (2) heart disease and stroke, and (3) AIDS and HIV.

The Partnership has just completed an intensive analysis of the first chosen priority—diabetes—and a similar process will be used to investigate the two other priority health issues. The purpose of the diabetes investigation was to assess the strengths and gaps of current public health efforts to reduce the burden of diabetes in northeastern North Carolina. This synthesis has been helpful to the Partnership as it plans regional diabetes prevention efforts.

## Diabetes in Northeastern North Carolina

In its analysis of diabetes, the Partnership first reviewed, in-depth, the diabetes data that are currently available for the region. Since 2003, the Partnership has been participating in the Behavioral Risk Factor Surveillance System conducted by the North Carolina State Center for Health Statistics. This has proven to be an asset to the Partnership in its ability to monitor the burden of diabetes in the region. Because the Partnership paid for the northeastern North Carolina counties to be over-sampled in the survey, region-specific prevalence data on diabetes and its related lifestyle risk factors are available. Results of the 2003 survey showed that 12.5% of adults (39,205 people) in northeastern North Carolina reported that they have been told they have diabetes. Because about one-third of diabetes cases are undiagnosed, the true number of adults with diabetes in northeastern North Carolina is most likely higher. Diabetes is more prevalent in northeastern North Carolina than in any other region of the state (12.5% in northeastern North Carolina versus 7.9% in western North Carolina, and 7.5% in the piedmont region), and is 67% higher than the overall national rate (7.5% of adults in the United States).[5]

Region-specific diabetes mortality and hospitalization data are also available. Diabetes is one of the leading causes of death and disability in northeastern North Carolina. Each year there are 640 deaths due to diabetes as a primary or a contributing cause of death in these counties. The overall age-adjusted mortality rate for northeastern North Carolina is 1.4 times the state rate (132.2 compared to 95.1 deaths per 100,000 people). In northeastern North Carolina each year there are more than 11,000 hospitalizations, and more than 250 amputations related to diabetes, with costs totaling $126,295,426 and $5,530,115, respectively. African Americans and other minority groups are disproportionately affected by diabetes. The age-adjusted mortality rate for African Americans, Native Americans, and other non-white races combined was 1.9 times higher than for whites (189.7 compared to 98.9 deaths per 100,000).[6]

After examining the existing health data, the Partnership assessed the current diabetes programs in each of the region's

**Table 1.**
**Health Disparities Summary Table, Northeastern Region, North Carolina, 2004.**

| Condition | Number Affected | Comparison of Rates | | | | |
|---|---|---|---|---|---|---|
| | | NENC Total ÷ NC Total | NENC White Male ÷ NC Male | NENC Black Male ÷ NC Male | NENC White Female ÷ NC Female | NENC Black Female ÷ NC Female |
| ACCIDENTS | 207.7 deaths/year | 1.1 | 1.0 | 1.4 | 0.9 | 1.0 |
| PERINATAL MORTALITY | 33.3 deaths/year | 1.3 | — | — | 0.8 | 1.7 a |
| HEART DISEASE | 1,384.7 deaths/year | 1.1 | 1.2 | 1.2 | 1.2 | 1.2 |
| STROKE | 379.3 deaths/year | 1.0 | 0.9 | 1.5 | 1.0 | 1.2 |
| HIV DISEASE | 91.6 new cases/year | 1.1 | 0.4 | 2.1 | c | 2.4 |
| | 35 deaths/year | 1.5 | 0.5 | 2.9 | 0.5 | 3.4 |
| DIABETES MELLITUS | 154.7 deaths/year | 1.2 | 0.9 | 1.9 | 0.8 | 1.9 |
| LUNG CANCER | 329.4 new cases/year | 1.0 b | 1.5 b | 1.8 b | 0.7 b | 0.4 b |
| | 325.3 deaths/year | 1.1 | 1.1 | 1.3 | 1.3 | 0.7 |
| BREAST CANCER | 315.8 new cases/year | 0.9 | — | — | 0.9 | 0.9 |
| | 73.3 deaths/year | 1.1 | — | — | 1.0 | 1.3 |
| COLORECTAL CANCER | 257.4 new cases/year | 1.2 b | 1.5 b | 1.4 a,b | 0.91 b | 1.1 a,b |
| | 115 deaths/year | 1.2 | 1.2 | 1.3 | 1.1 | 1.6 |
| PROSTATE CANCER | 289.2 cases/ year | 1.0 | 0.8 | 1.4 a, b | — | — |
| | 69.7 deaths/ year | 1.1 | 0.7 | 1.9 | — | — |
| CHLAMYDIA | 1,570 cases/year | 1.3 | 0.1 | 1.5 | 0.4 | 2.8 |
| GONORRHEA | 1,558 cases/ year | 1.7 | 0.1 | 3.8 | 0.3 | 3.6 |
| TEEN PREGNANCY | 346 pregnancies/year | 0.5 - 1.6 | — | — | | |
| LOW BIRTHWEIGHT INFANTS | 555.6 births/year | 1.2 | — | — | 0.8 | 1.6 a |
| ASTHMA (8th graders) | diagnosed 10%;<br>undiagnosed 18.5% | 1.0<br>1.1 | — | — | — | — |
| CHILDHOOD OBESITY | 13.7% to 18.9% | 1.1 to 1.2 | — | — | — | — |
| UNTREATED TOOTH DECAY | 24.9% of kindergarteners | 1.1 | — | — | — | — |
| UNTREATED TOOTH DECAY | 5.6% of 5th graders | 1.4 | — | — | — | — |

*a Other non-white races compared to all women or all men in NC*
*b compared to NC total population*
*c unstable rate due to small number of cases among white females in NENC*

**KEY to COMPARISON OF RATES**

| | |
|---|---|
| 1.1 - 1.3 | Slightly Elevated Rate compared to NC |
| 1.4 - 1.7 | Modestly Elevated Rate compared to NC |
| 1.8 to 3.0 | Moderately Elevated Rate compared to NC |
| 3.1 to 8.0 | Highly Elevated Rate compared to NC |

public health departments. Six of the ten health departments in the region have primary prevention programs to increase awareness about diabetes (health communication). Many of these take place in various community settings, such as health fairs, senior centers, schools, civic groups, or at the health department. However, none of the health departments described a multimedia approach using radio, newspapers, and/or television, or a social marketing approach to determine elements or messages that could bring about behavior change within our region. As a result, the Partnership is preparing to launch a major social marketing campaign aimed at diabetes prevention utilizing funds recently appropriated by the state legislature to the NCIPH to establish "public health incubators" across the state. Social marketing campaigns aimed at heart disease, stroke, and AIDS/HIV prevention will be developed in subsequent years.

The Partnership strengths and gaps assessment of diabetes programs also determined that five of the ten health departments have primary prevention programs that are intended to increase physical activity and improve nutrition in the community (community intervention). All health departments reported they provide screening or testing for diabetes. Eight of the ten health departments have tertiary prevention programs or diabetes self-management and education programs to prevent the incidence of diabetic complications.

## Correcting the Problem Will Take a Financial Commitment from the State

It is clear that while these 11 local health departments are mounting community responses to tackle the overall diabetes problem in their respective communities and the disparity issue among people of color, the resources available to them are not adequate to deal with a health problem of this magnitude. Public health departments in the northeastern North Carolina region have come together to find creative solutions to tackle these tough issues across jurisdictional lines with limited resources. The major social marketing campaign aimed at diabetes has the potential for great impact with a limited amount of new resources. Much more must be done. The health disparities data can now serve as an advocacy tool. While knowledge of a problem alone may not be sufficient for change to happen, information on health inequalities is a good place to begin the discussion with community members and decision makers about what can be done to improve the health of northeastern North Carolina. The Partnership is attempting to convince state legislators and state public health leaders to make an ongoing commitment of funding resources to this impoverished area of the state to tackle not only the diabetes, heart disease, stroke, and AIDS/HIV health issues of pressing concern, but also strengthening the local public health infrastructure and its ability to assess, address, and assure the public's health.

The northeastern North Carolina region has been innovative in its collaborative approach to health concerns and health disparities in this hard-impacted area of the state and has a significant capability to impact health disparities in northeastern North Carolina. **NCMJ**

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# Numbers of Minority Health Professionals:
## Where Do We Stand?

*Thomas C. Ricketts, III, MPH, PhD, and Katie Gaul, MA*

Should race and ethnicity matter in the supply of health professionals? Given that we know there are demonstrated differences in patterns of care and outcomes for racial and ethnic minorities in the United States,[1] the answer is yes. But what should be our workforce goals in eliminating these differences? The simple answer to this question is that there should be equal representation among health professionals according to the race and ethnicity of the population to be served. By that standard, we have failed by a large margin.[2,3] All health professions fall well short of "population parity" measured against the proportion of under-represented minorities (URMs) in the overall United States population. According to 2000 United States Census data, African Americans, Latinos, and American Indians are 26% of the United States population. URMs constitute 20% and 16%, respectively, of the students in public health schools and baccalaureate nursing programs, with URMs constituting less than 15% of students in all other health professions. The late 1990s through 2002 saw a reversal in promising trends in increasing minority enrollment in United States medical schools, but that seems to have abated to some degree. In its review of applications for the fall of 2004, the Association of American Medical Colleges noted a second consecutive year of increase in minority applications to medical schools. The number of black and Hispanic applicants was up 2.3% and 2.5%, respectively, and actual enrollment increased by 2.5% for blacks and 8% for Hispanics, reversing decreases in first-year enrollment in 2003. This change may reflect admissions policy changes or the re-application of existing policies in the wake of the June 2003 United States Supreme Court decision on affirmative action.[4]

Underrepresented minorities comprise 25% of the nation's population, but only 10% of all health professionals. Only 3% of medical school faculty, 17% of all city and county health officials, and 2% of senior leaders in healthcare management are minorities.[5] Table 1 provides an overview of the national racial and ethnic distribution of selected health professions compared to the United States population. Among blacks and Hispanics, the two largest minority groups, only in nursing is there close to parity with the population distribution, with

**Table 1.**
**Race/Ethnicity of United States Population Compared to United States Healthcare Professions, 1999-2000[6]**

| | Non-Hispanic White | Non-Hispanic Black | Hispanic | American Asian/ Pacific Islander | Indian/ Eskimo Aleutian |
|---|---|---|---|---|---|
| US Population >18 years | 72.0 | 11.2 | 11.0 | 3.8 | 0.7 |
| Dentists | 88.8 | 1.5 | 2.4 | 7.1 | 0.2 |
| LPNs | 72.9 | 18.9 | 4.6 | 2.8 | 0.8 |
| Managers (med. & health) | 82.6 | 8.4 | 5.3 | 3.2 | 0.4 |
| Pharmacists | 75.9 | 6.2 | 3.4 | 14.2 | 0.3 |
| Physicians | 73.1 | 5.5 | 3.8 | 17.5 | 0.1 |
| Physician Assistants | 88.2 | 2 | 5.3 | 4.1 | 0.4 |
| RN's | 81.7 | 9.2 | 3 | 5.7 | 0.4 |

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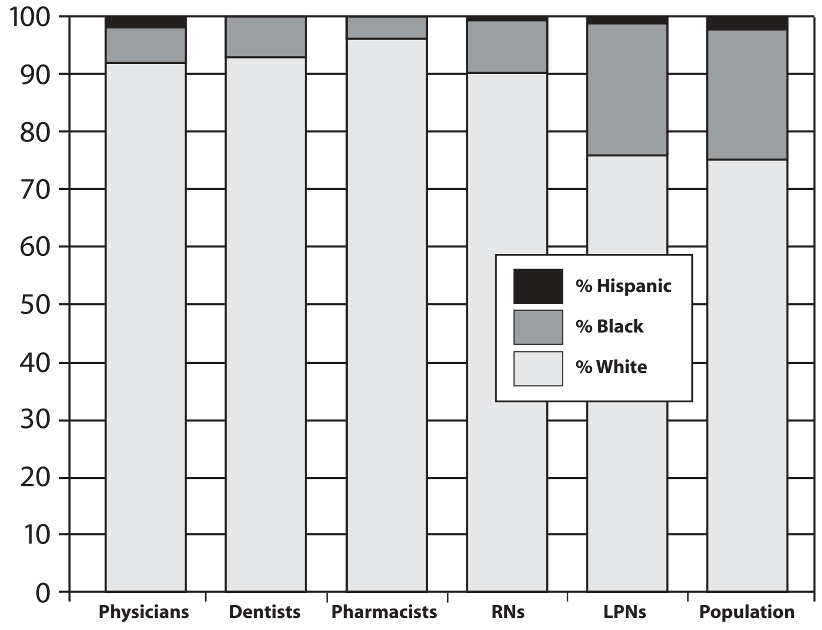
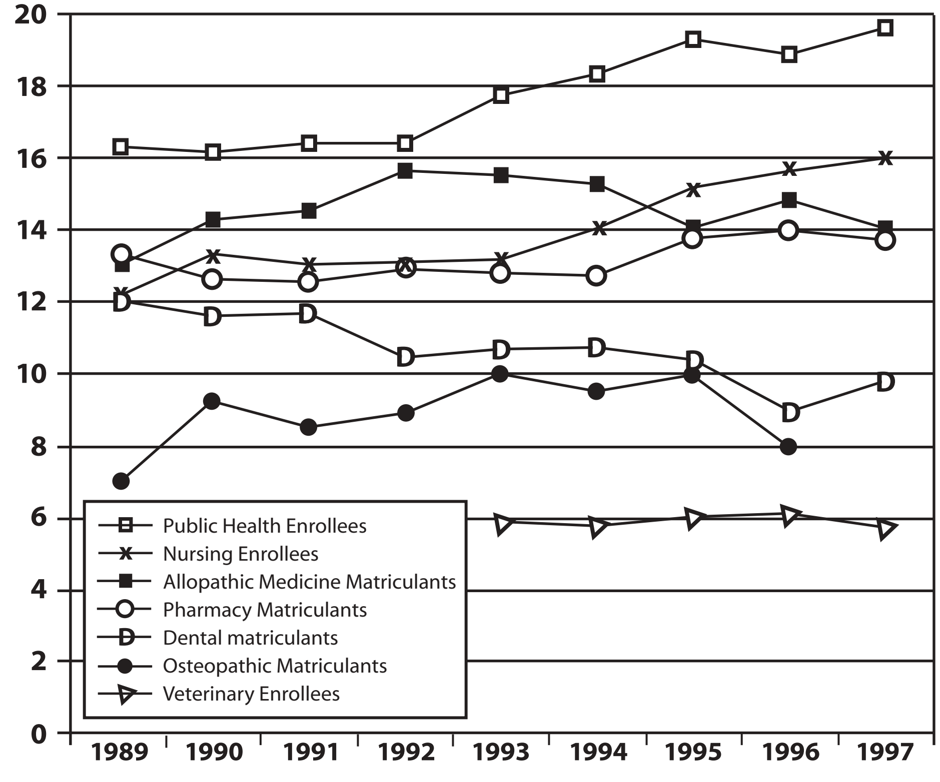
**Figure 1.**
**Race and Ethnicity of North Carolina Population Compared to North Carolina Health Professionals**[7]



licensed practical nurses (LPNs) exceeding their overall population representation among blacks. Asians/Pacific Islanders are often "over-represented" among health professions, reflecting the more complex nature of their immigration patterns.[6]

In North Carolina, minority representation in the health professions matches national rates despite higher proportions of minorities in the population. For example, in 2002, 21% of the state's population was black, but only 5.5% of active physicians in the state were black. The 2002 estimate for the Hispanic population in North Carolina is 4.7%, and Hispanics make up 1.5% of the North Carolina physician supply. In contrast, 22.8% of the state's licensed practical nurses (LPNs) are black, but only 9% of registered nurses (RNs) and 6.9% of dentists are black. The data displayed in Figure 1 graphically compare these proportions to the state's population for selected professions. These proportions are likely to remain at their current levels due to a leveling off of minority applications and enrollments in health professional education programs.[7] Figure 2 tracks numbers of enrolled and matriculated students in selected health disciplines in North Carolina. Only public health has shown a sustained pattern of increase in the numbers of minority students and trainees.[8]

**Figure 2.**
**Underrepresented Minorities as a Percentage of Enrollees and Matriculants in Health Professionals Schools, United States, 1989-1997**[8]



*Recently reported data on enrollments (see Table 2) indicate that the percentages in Figure 2 have not changed substantially over the most recent five years.*

## Minority Representation Enhancement Programs in the United States and North Carolina

There have been efforts on the part of the state's health professional associations and health professional schools to reduce these disparities in minority representation. Since the 1970s, the federal government, through its Title VII and VIII programs that support medical, dental, and nursing training, has given priority funding to programs that increase minority representation. These programs support a full range of interventions intended to modify the "pipeline" into the health professions. The pipeline (See Figure 3) is the metaphor used for the process of career preparation, education, and training that starts at birth and continues through

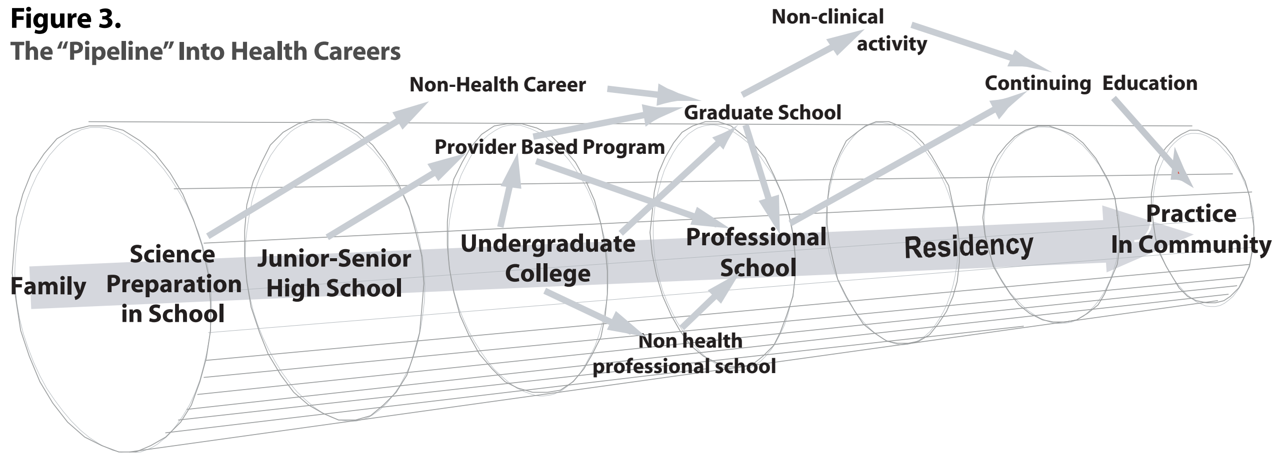
**Table 2.**
**Medical School Graduates by Race/Ethnicity, North Carolina and United States, 2003[9]**

| | NC | US |
|---|---|---|
| White | 249 (66.4%) | 9880 (63.7%) |
| Black | 53 (14.1%) | 1018 (6.6%) |
| Hispanic | 6 (1.6%) | 944 (6.1%) |
| Asian | 56 (14.9%) | 3164 (20.4%) |
| Native American | 2 (0.5%) | 107 (0.7%) |
| Unknown | 9 (2.4%) | 398 (2.6%) |
| Total | 375 | 15,511 |

early exposure to health professionals and science courses, through counseling, scholarship, placement, recruitment, and retention in careers and practice in underserved areas. These programs have, for the last several years, been the targets of both Congressional and Administration efforts to reduce federal outlays. Each year, however, the Congress has voted to restore funds roughly at the levels established in the late 1990s. For North Carolina, these programs are important because they support family medicine residencies, the statewide Area Health Education Centers Program (AHEC), basic and advanced nursing education, and the Health Careers Opportunity Program (HCOP) that focuses on minority recruitment into health careers.

A range of "best practice" programs have been highlighted in a report recently released by the Sullivan Commission (www.sullivancommission.org/). That report describes the multiple ways in which educational institutions can increase minority presence in health professions and provides a comprehensive guide to funding sources and currently active programs and initiatives.[10]

**Figure 3.**
**The "Pipeline" Into Health Careers**



One section of that report describes professional school involvement in "pipeline" programs. These efforts attempt to modify individuals' perceptions of their career options early in their schooling and help them prepare to move toward health careers sometime in the future. Nationally, 92.9% of medical schools and 100% of dental and nursing schools report doing some form of "pipeline" programming.[10] In medical schools, more of that effort is targeted to grades nine through 12, 78.6% of medical schools, 40% of dental schools, and 100% of nursing schools report programs for those grades with only 42.9% of medical schools, 40% of dental schools, and 80% of nursing schools reporting working with grades six through eight.

The University of North Carolina sponsors a multi-campus collaborative effort that supports pipeline programs under its HCOP funding. The North Carolina Health Careers Access Program (NC-HCAP) brings together the University of North Carolina at Chapel Hill (UNC-CH) School of Dentistry; the North Carolina Health Careers Access Program; the Student National Medical Association chapters in North Carolina; East Carolina University; Fayetteville State University; North Carolina Central University; North Carolina Agricultural and Technical State University; University of North Carolina at Pembroke; the school systems of Chapel Hill-Carrboro, Durham, and Orange Counties; and the state's nine regional Area Health Education Centers. In 2002-2003, through programs supported or affiliated with the North Carolina AHEC Program, 39,000 individuals participated in Health Careers and Workforce Diversity activities. These projects included shadowing and mentoring activities, summer work experiences and placements, health careers fairs, and cultural sensitivity training.

Individual schools also sponsor focused minority health career development projects. East Carolina University sponsors the Ventures into Health Careers Institute that provides two-week experiences for minority students from eastern North Carolina to observe practicing and in-training physicians, nurses, therapists, and technicians. The Pathways to Health Careers and Health Careers Awareness Programs also support local schools in developing curricula and learning modules to improve the chances of minority and rural youth to enter health careers. Wake Forest University Medical School and the Northwest AHEC sponsor several similar programs under a "Health Careers Pipeline" program. An elementary school program called “Drew Academy” works with young minority males students to develop lifestyle and learning skills; the program is held at the Rowan Regional Medical Center and Winston-Salem State University. Programs for middle school and high school students focus on the development of science and mathematics skills, SAT preparation, and financial aid.

The Wake AHEC program supports a Health Careers Academy that provides educational experiences for students from elementary through and beyond high school. The interventions are mostly workshops or involve specific health professions-related experiences including skills-building, CPR and first-aid certification, job shadowing, and recruitment fairs. The Wake AHEC also sponsors a Summer Youth Enrichment Internship and the Carolina Visions Health Careers Summer Camp, both of which offer structured exposure to health careers for young people.

North Carolina is also home to a statewide Spanish Language & Cultural Competency and Training Program funded by The Duke Endowment. This project brings together the North Carolina Department of Health and Human Services (DHHS) Office of Minority Health, the UNC-CH School of Public Health, the UNC-CH Health Sciences Library, and the North Carolina AHEC system into a coordinated approach to teach Spanish language to practitioners and increase cultural awareness and sensitivity among professionals. This program includes an online translation facility supported by the Duke University AHEC (www.hhcc.arealahec.dst.nc.us/).

At UNC-CH, the Health Professions Partnership Initiative and the Research Apprenticeship Program are designed for pre-college students to support and direct them into health careers. Established in 1996 with start-up funding from the Robert Wood Johnson Foundation and the UNC-CH Schools of Dentistry, Medicine, and Nursing, the Health Professions Partnership Initiative works with local school systems to offer information, experiences, and skills development for middle and high school minority students to better prepare them for health professions education programs. Students with the potential to pursue health careers come to UNC-CH for summer programs.

Federal efforts are supplemented by national, state, and local programs sponsored by professional associations and societies, foundations, and state government. In North Carolina The Duke Endowment and The Kate B. Reynolds Health Care Trust have been actively supporting diversity and recruitment projects. A national collaboration among the Association of American Medical Colleges, the W.K. Kellogg Foundation, and the Robert Wood Johnson Foundation has set a goal of increasing minority enrollments and minorities in practice in medicine and other health professions through its Health Professions Partnerships Initiative (HPPI). The Association of American Medical Colleges also sponsors the Herbert W. Nickens Scholarships and Faculty Awards, along with other recruitment and retention programs sharing the support with foundations and individuals schools.

## Summary

This overview has pointed to a continuing racial and ethnic imbalance in the health professions that applies to North Carolina as well as the nation. Great strides have been made early in the development of programs to enhance racial and ethnic representation, but they have generally reached a plateau in terms of growth and progress. Resistance to affirmative action programs and subsequent uncertainty over their legal standing can be cited as one factor thwarting progress, but that issue has been resolved and schools, professions, and the North Carolina General Assembly can move forward with a clear understanding of how to proceed.

A full generation has matured with the benefit of positive emphasis on increasing the proportion of minorities in the health professions. The coming generations must build and expand on the programs and initiatives that brought the nation and the state to where we are now. But these goals must be re-stated, and intensified efforts are required if any reasonable parity in representation of minorities among the health professions is to be achieved. **NCMJ**

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**COMMENTARY**

# Minority Recruitment and Participation in Health Research

*Giselle M. Corbie-Smith, MD, MSc*

Since 1993, all investigators funded by the National Institutes of Health (NIH) to conduct clinical research have been expected to demonstrate appropriate inclusion of racial and ethnic minorities and women in their research or clearly demonstrate why they should be excluded in order to pursue a specific research objective. This mandate, the NIH Revitalization Act, was a response to the realization that women and minorities were underrepresented in clinical research. These guidelines have mandated the inclusion of minorities in clinical research in an effort to better understand disparities in health and to improve the generalizability of research findings. While few would argue with the goals of this mandate, investigators have been challenged in its implementation. This article gives an overview of some of the challenges raised by minority participation in research and describes some of the consequences of a lack of minority involvement in research.

## Challenges Raised by Mandated Inclusion of Minorities

Most of the scientific literature on minority participation in research has focused on the barriers to minority participation. The factors that impede the participation of minorities in research can be specific to the participant, the investigator, or the study. For example, since African Americans are over-represented in lower socio-economic strata; race, as a commonly measured variable, may be a proxy for other socio-demographic factors. Socio-economic status can influence the decision to participate in a number of other ways. For example, access to transportation[1] and the location of study sites significantly impact the recruitment and retention of patients in clinical trials.[2] Educational level,[3] age,[4] and marital status all have been shown to be associated with various aspects of decision making.[5,6] Among the economically disadvantaged, competing subsistence needs may outweigh any anticipated benefits of participation. Psychosocial factors such as perceived stress, community involvement, and social isolation may be powerful factors in a patient's decision to participate in a clinical trial and ability to maintain adherence to a research protocol, particularly in an older population.

In addition, trust or lack of trust is an important factor when deciding to participate in research. Fear, mistrust, and lack of knowledge were cited by minority respondents as the main reasons they didn't participate in oncology research.[7] The history of clinical experimentation on blacks during slavery laid the foundation of distrust among blacks toward medical research.[8] Yet, it is the Tuskegee Syphilis Study (1932-1972) that has become the contemporary metaphor of research that violates human rights of vulnerable groups. Several medical historians have asserted that this study, where 400 poor black men with syphilis were left untreated for 40 years, validated suspicions about ethical treatment in the context of research.[9-11] Awareness of the Tuskegee Syphilis Study among minority and other underserved groups contributes to pervasive distrust of physicians and the medical research establishment.[8,12-14] The dissemination of oral histories about the Tuskegee Study and fictional dramas may reinforce distortions in the historical record and provide moral justification for refusal to participate in any clinical research.

> *"Fear, mistrust, and lack of knowledge were cited by minority respondents as the main reasons they didn't participate in oncology research."*

The influence of culture on health-seeking behavior is

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another important influence on minority participation as research subjects. Health-seeking behavior influences where, when, and how one accesses the healthcare system. Bailey describes six culturally-based steps in health seeking behavior among African Americans.[15] He noted that patients are active participants in their health, from the perception of symptoms to eventually seeking formal medical care (whether or not their actions are considered appropriate to the biomedical model of disease). Other authors have demonstrated that the combination of socio-economic factors and culture can account for racial differences in the stage of presentation of disease.[16] Cultural differences in how the healthcare system is accessed and utilized can impact the availability and opportunities to participate in medical research.[17] In addition, expectations of medical roles and responsibilities, explanatory models of disease, and verbal and non-verbal communication patterns are all influenced by the culture framework of patients.[17,18] Investigators' cultural competency, not just their ability to speak another language or dialect, but their desire to respectfully address the patient's needs within the framework of that person's health beliefs, religious background, cultural philosophy, and social customs will ease the transition in recruiting individuals that may hold beliefs and attitudes toward health that are discordant with those of clinical researchers.

However, empirical data are lacking on how well investigators understand and are able to negotiate these cultural differences. There have been no studies of investigators' knowledge of the barriers to minority participation in clinical trials or how these recommendations have been translated into successful recruitment strategies. At the introduction of the NIH mandate, researchers were quite vocal about their concerns. Editorialists likened the mandate to include minorities and women in clinical research trials to affirmative action[19] and quota systems.[20] Investigators raised concerns about the potential added costs to recruiting more diverse study samples.[19-21] Investigators also described the ethical consideration of mandating the inclusion of women and minorities. Some authors described the potential to give minorities the "hard-sell" and therefore not fully respecting an autonomous decision not to participate in a trial.[22]

In the research community there is a general belief that minority groups may be more difficult to recruit into clinical trials,[18,23] less likely to adhere to study protocols, and more difficult to retain in clinical studies.[23] While there is some evidence that race alone is not a predictor of recruitment success,[24] the belief that minority groups are hard to reach may affect some investigator's willingness to recruit minority participants. In fact, when investigators take more innovative approaches to recruitment, these efforts have been more successful.[25-30] Community-based strategies can elicit and address differing cultural beliefs while informing the design of recruitment strategies that lead to successful minority enrollment and improved investigator-participant relationships.

## Consequences of Lack of Minority Involvement in Research

While investigators have been conducting clinical research for a decade under this mandate, minorities are still underrepresented in areas of known disparities in health research relative to the prevalence of disease in minority communities.[31-33] Underrepresentation of minorities as subjects in research and lack of minority involvement in research partnerships may adversely affect minority communities in a number of ways.

Clinical research is the basis of advances in all areas of medical knowledge and clinical care. The lack of minority participation in research limits the generalizability of study results to those groups that are included in research. More diverse research populations allow the generation and testing of research hypotheses that may enhance our understanding of disparities in health by race and ethnicity and the development of interventions to address these disparities.

Minority participation in research also increases the likelihood that research results are more relevant to the needs of minority communities. If minority communities are not involved in the process of research, as participants, staff, or as community advisors, interventions are less likely to be culturally-relevant and therefore less likely to be sustainable once the study has ended. Research that actively engages target communities leads to interventions that are more likely to be successful and sustained[34,35] and, more likely to lead to program institutionalization.[35,36] In addition, involvement of the target communities also enhances the relevance and usefulness of the data, as well as data quality and validity.[35,37,38] Finally, community involvement in research can also strengthen the research and program development capacity of the individuals and organizations in undeserved communities. The lack of active engagement of minority communities in research severely limits the potential of improving the health and well-being of minority communities, either directly through examining and addressing disparities in health, or indirectly through increasing the power and influence of minorities over the research process affecting the health and healthcare they receive.[35,37,38] **NCMJ**

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# Running the Numbers

*A Periodic Feature to Inform North Carolina Healthcare Professionals*
*About Current Topics in Health Statistics*

From the State Center for Health Statistics, North Carolina Department of Health and Human Services
www.schs.state.nc.us/SCHS

## The Health of American Indians in North Carolina

North Carolina has the eighth largest American Indian population among all states. The 2000 Census counted 99,600 residents of North Carolina who reported their race as American Indian alone, and also more than 20,000 who reported American Indian in combination with another race. More than one-half of the American Indians in North Carolina are of the Lumbee Tribe. American Indians in North Carolina experience a relatively high rate of poverty, which is associated with more health problems. The percentage of American Indian families in North Carolina living below the federal poverty level in 1999 was 21.0, compared to 22.9 for African Americans and 8.4 for whites.

American Indians in North Carolina experience worse outcomes for many health measures, compared to other racial groups. Two recent publications are available that profile the health of American Indians in our state: *Racial and Ethnic*

| | American Indian | African American | White |
|---|---|---|---|
| AIDS deaths per 100,000 population | 4.0 | 21.5 | 1.5 |
| Homicide deaths per 100,000 population | 18.1 | 17.0 | 4.6 |
| Motor vehicle deaths per 100,000 population | 41.6 | 20.7 | 19.2 |
| Diabetes deaths per 100,000 population | 52.7 | 55.6 | 21.5 |
| Kidney disease deaths per 100,000 population | 20.7 | 34.9 | 13.4 |
| % of mothers with a live birth who smoked during pregnancy | 25.3 | 11.0 | 15.2 |
| % of mothers with a live birth reporting an unintended pregnancy | 65.2 | 66.8 | 36.7 |
| % of live births with no prenatal care or where prenatal care started late | 23.5 | 24.1 | 12.1 |
| Infant deaths per 1,000 live births | 11.2 | 15.4 | 6.3 |
| Deaths ages 1-17 per 100,000 population | 53.8 | 37.5 | 30.0 |
| Pregnancies per 1,000 teens ages 15-17 | 63.2 | 72.4 | 38.0 |
| % of adults with arthritis | 36.3 | 29.5 | 29.1 |
| % of adults with diabetes | 14.1 | 12.6 | 6.8 |
| % of adults ever having asthma | 16.4 | 12.9 | 11.1 |
| % of adults with high blood pressure | 40.2 | 38.6 | 26.6 |
| % of adults who are obese | 33.2 | 37.2 | 20.9 |
| % of adults reporting no leisure time physical activity | 32.4 | 33.8 | 23.7 |
| % of adults with no health insurance | 19.2 | 19.0 | 13.4 |
| % of adults reporting a disability | 38.5 | 29.7 | 24.9 |
| % of adults reporting fair or poor health | 25.9 | 25.1 | 17.5 |

*RUNNING THE NUMBERS—continued on page 390*

*RUNNING THE NUMBERS—continued from page 389*

*Disparities in North Carolina: Report Card 2003* (available at http://www.schs.state.nc.us/SCHS/pdf/FinalReportCard.pdf) and *Racial and Ethnic Differences in Health in North Carolina: 2004 Update* (available at http://www.schs.state.nc.us/SCHS/pdf/RaceEthnicRpt.pdf). We briefly summarize here some of the results from these publications, emphasizing areas where health disparities are the largest. See the publications for a more complete definition of the indicators, including time periods for the data. We also use selected 2002-2003 age-adjusted percentages from the North Carolina Behavioral Risk Factor Surveillance System (BRFSS), a statewide random telephone survey of adults in North Carolina.

American Indians in North Carolina experience outcomes on many chronic disease measures (such as rates for heart disease, stroke, cancer, and chronic liver disease) similar to or only slightly higher than those for whites, and therefore these measures do not appear in the table above since the apparent disparities are not large. But these measures often rely on death certificate data, where there is probably substantial under-reporting of American Indian as the race of the decedent.

The North Carolina American Indian Health Task Force was created in 2004 by the North Carolina Commission of Indian Affairs and the Secretary of the North Carolina Department of Health and Human Services. The purpose of this Task Force is to identify and study Indian health issues in North Carolina and to evaluate and strengthen programs and services for American Indians in the state. The Task Force will be issuing a final report with recommendations for action in the Spring of 2005.

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*Contributed by Paul A. Buescher, PhD*
*State Center for Health Statistics, North Carolina Division of Public Health*

# Reader's Forum

## Quality Care and Performance Improvement

*To The Editor:*

I am writing in reference to the fine special article "Remembering Cecil" that appeared in the September/October 2004 issue of the *North Carolina Medical Journal.* I was one of the young physicians participating in the Rural Practice Project to whom the author, Donald Madison, MD, referred in the last paragraph of his remembrance to Dr. Cecil Sheps.

After I graduated from Duke Medical School and completed my family medicine residency, I joined a public health service practice in Tooele, Utah with little appreciation of what I would confront. I had the good fortune to work with a terrific team of dedicated people in our small practice, and together we learned many important lessons about how to provide healthcare to the people we served in our rural community.

We applied for a grant from the Robert Wood Johnson Foundation (RWJF) in 1975 and were fortunate to be selected as one of the 13 grant recipients. Donald Madison was the director of this national program called the Rural Practice Project. It was established to help improve the ability of rural practices to survive in the face of some of the significant challenges that they faced at the time. Our participation as a member of the Rural Practice Project resulted in our having visitors on occasion who might not otherwise have found their way to Tooele. Cecil Sheps was one of those visitors and, in fact, one of the most memorable and notable.

I fondly recall Cecil's visit and believe it was 1978. He was stopping at several rural practices as part of a study he was conducting. He sat in my office as I was speaking with a consultant in Salt Lake City about a dying hospitalized patient I wanted the consultant to evaluate to make sure I was not overlooking a potentially reversible cause for her illness. She was an older woman and did not want to leave Tooele, but she was willing to do so at my request provided she did not have to remain in the Salt Lake City hospital for more than two days. I told the consultant over the phone what I was seeking from him both from my and from the patient's perspective. Cecil reflected after hearing the conversation that it would certainly help introduce more sanity into our healthcare system if those in primary care could "call the shots" on a more consistent basis as advocates for their patients and their patients' families.

It was inspiring for me to see Cecil's passion and observation skills. Although his time in our community was short, and although our paths crossed subsequently for only brief periods, I still remember the validation I felt as a result of his positive comments. Needless to say, we certainly could benefit from more leaders like Cecil Sheps in our world today.

*David Garr, MD*
*Executive Director, SC AHEC*
*Associate Dean for Community Medicine*
*Professor of Family Medicine*
*Medical University of South Carolina*
*Charleston, SC*

*To The Editor:*

I was amused at the frequency with which the authors in the current issue of the *North Carolina Medical Journal* bemoan unnecessary and duplicative paperwork as a detriment to the delivery of quality medical care and the improvement thereof. As a perpetrator and victim of quality improvement efforts in my own practice and hospital since such became fashionable in the late 1980s, I can report from experience that most of the unnecessary and duplicative documentation and reporting is a result of poorly conceived quality improvement efforts imposed on those at the bedside by governmental agencies and their surrogates like JCAHO. Such requirements are usually not supported by clinical science, but "seem like things we ought to be doing" by bureaucrats or the residents of think tanks and their accomplices at the local hospital. Thus, as those of us at the bedside continue to cope with the increasing demands of an older, fatter, sicker population, ever more belligerent attorneys, stingier paymasters, and fewer physicians in practice, we can look forward to more forms, checklists, signatures, meetings, and ever more imaginative intrusions all in the name of quality. Sadly, I have seen nothing in the last 22 years of practice to assure me that efforts at quality improvement in medicine, as laudable as they may be, can produce anything more than that.

I hope I am wrong.

*Randy A. Peters, MD*
*Winston-Salem, NC*

# The North Carolina Institute of Medicine

## Since January 2002,
## Publisher of The *North Carolina Medical Journal*

In 1983 the North Carolina General Assembly chartered the North Carolina Institute of Medicine as an independent, nonprofit organization to serve as a non-political 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 healthcare 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, policy makers 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.

Members of the North Carolina Institute of Medicine are appointed for five-year terms by the Governor, and each task force convened by the Institute typically includes at least one-third of its membership from among the appointed members. Topics to be addressed through task force efforts are chosen following requests from the Governor, the General Assembly or agencies of state government. In some cases, topics are selected on the basis of requests from a number of stakeholder organizations across the state where this type of analytical process is considered to have potential value.

The North Carolina Institute of Medicine assumed the role of publisher of the *North Carolina Medical Journal* in January 2002 through an agreement with the North Carolina Medical Society, which founded the Journal in 1845. The Institute views the *North Carolina Medical Journal* as an extension of its mission. The Journal provides a forum for stakeholders, healthcare professionals, and policy makers and shapers to study and discuss the most salient health policy issues facing our state. Like many states, North Carolina is grappling with issues such as an increasing number of uninsured, the unmet health needs of the growing Latino population, a critical shortage of nursing personnel, the health risks of tobacco and obesity, rising prescription drugs costs, mental health system reform, the increasing societal burden of chronic illness care, the threat of bioterrorism and the necessity of assuring adequate public health preparedness—all in the midst of an economic downturn. Each of these issues presents unique challenges to healthcare providers and state policy makers. Yet, a fully implemented task force to consider each of these sets of issues is not feasible. The Journal makes it possible to present an organized and balanced overview of some of these issues, six times per year, and allows interested persons the opportunity to engage in the ongoing discussion of these issues throughout the year. The Institute hopes that our readers of the *Journal* will, in this way, become involved in the continuing debate about the most promising avenues for assuring the highest standards of health and healthcare for all North Carolinians.

health policy

*North Carolina Institute of Medicine*

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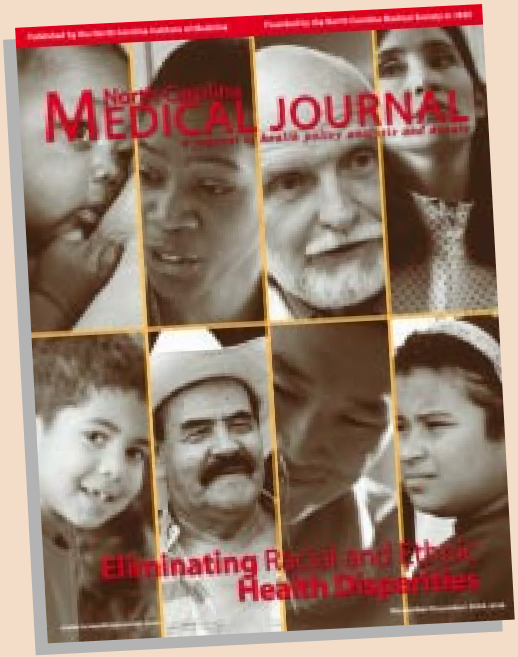

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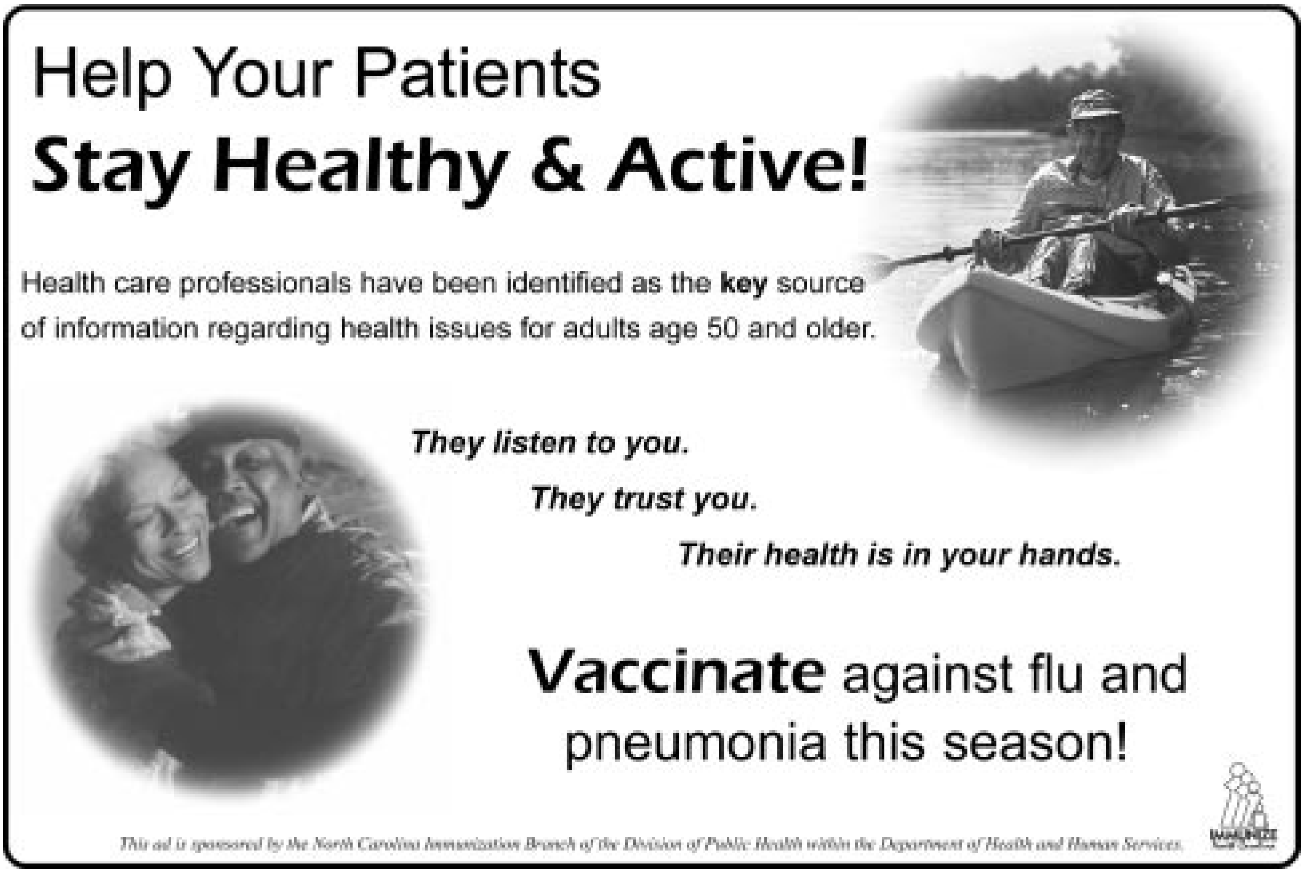

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*Jeff Anderson, M.D.*
*BeachCare Urgent Care Centers of*
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