

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

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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

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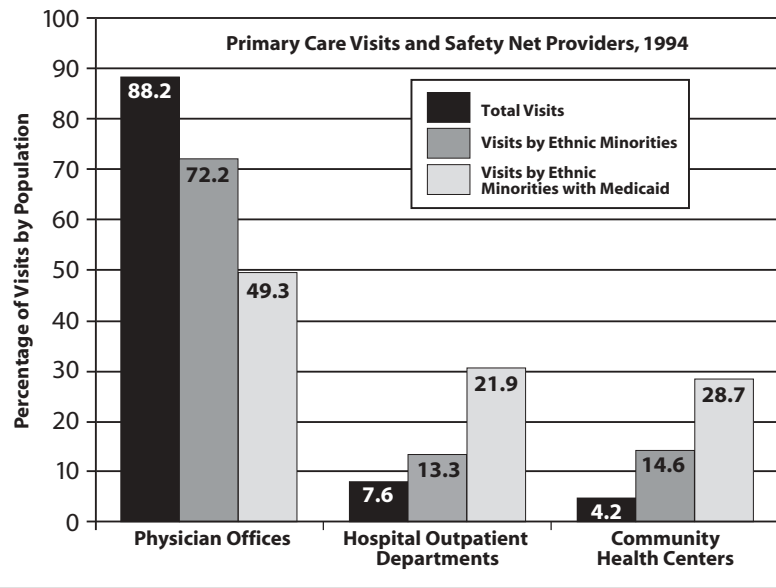
these percentages are even more dramatic now.⁷

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

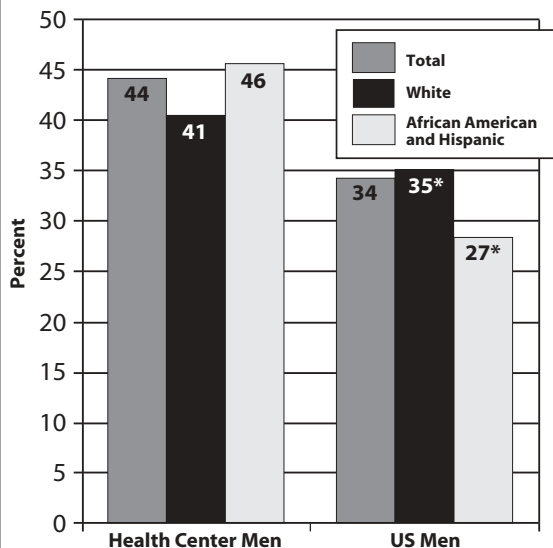
Community health centers were shown to provide better continuity of care than other providers in a 2000 study. A CHC patient is nearly twice as likely to return to the CHC for a new problem than they are likely to return to private physician or a hospital outpatient department (See Figure 3).¹³

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

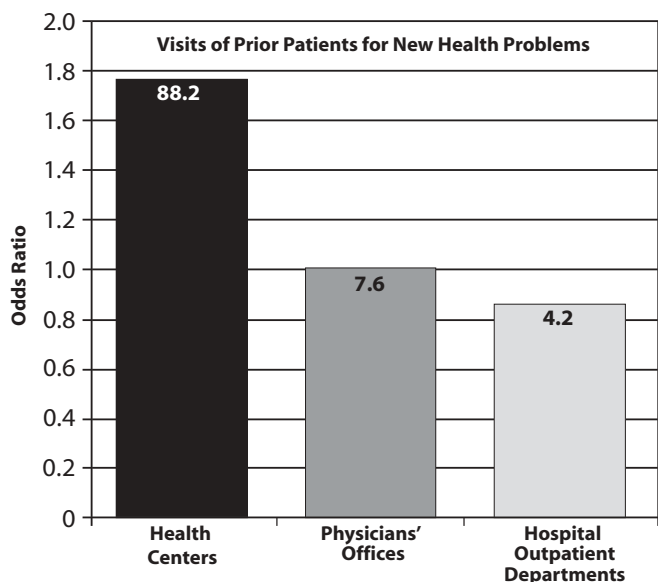
In addition to increasing access to primary and preventive care services, community health centers have been designated

Figure 2.
Health Centers Do Not Show Racial/Ethnic Disparities in Digital Rectal Examination Rates.¹⁰



*Statistically significant 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

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.

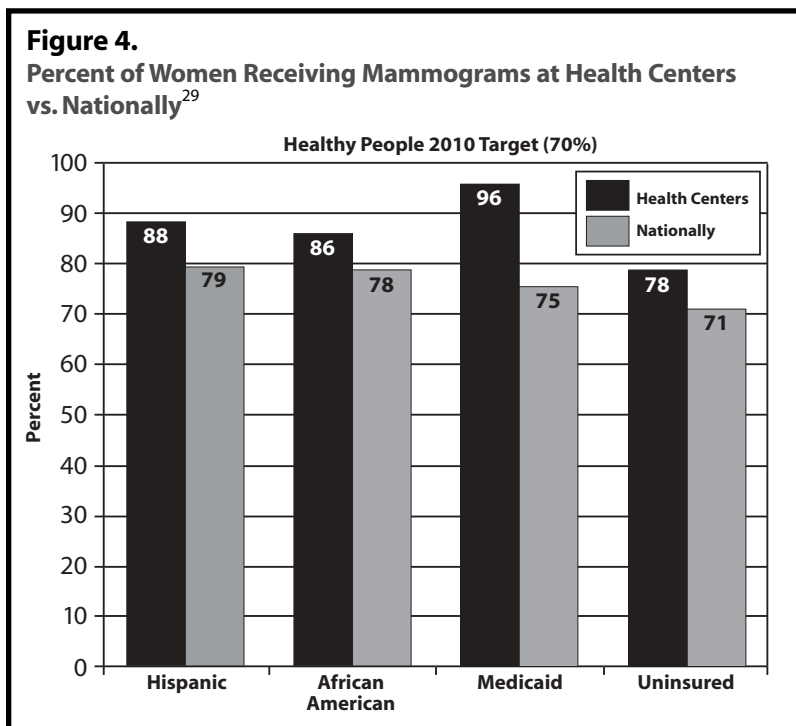
A study published in the *Journal of the American Medical Association* in 2002 showed that community health center patients with chronic disease were more likely to be healthier than white, insured patients with chronic disease in the private sector because of the prevalence of collaborative care and 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 Model³¹ 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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