



South Carolina

Rural Health Research Center

Diabetes & Cardiovascular Disease in Rural African Americans

**Arch G. Mainous III, PhD
Dana E. King, MD
David R. Garr, MD
William S. Pearson, MHA**

**South Carolina
Rural Health Research Center
220 Stoneridge Drive, Suite 204
Columbia, SC 29210
Phone: 803-251-6317
Fax: 803-777-1836**

**Janice C. Probst, PhD, Director
Saundra Glover, PhD, Deputy Director
Charity Moore, PhD, Associate Director**

August, 2002



**UNIVERSITY OF
SOUTH CAROLINA**

**Arnold School of Public Health
Department of Health Administration
Columbia, SC 29208**

Diabetes & Cardiovascular Disease in Rural African Americans

Authors:

Arch G. Mainous III, PhD
Dana E. King, MD
David R. Garr, MD
William S. Pearson, MHA

Published by:

South Carolina Rural Health Research Center

220 Stoneridge Drive, Suite 204
Columbia, SC 29210
Phone: 803-251-6317
Fax: 803-777-1836

Janice C. Probst, PhD, Director
Saundra Glover, PhD, Deputy Director
Charity Moore, PhD, Associate Director

August, 2002

Funding Acknowledgments:

This report was prepared under Grant No. 6 UIC RH 00045-01 with the Federal Office of Rural Health Policy, Health Resources and Services Administration.



Jan Van Nostrand, Project Officer

Executive Summary

Evidence indicates that rural individuals are more vulnerable to poor health outcomes and undiagnosed disease. Limited access to health care services results in fewer medical visits, under-diagnosis, and less optimal health outcomes. Rural and minority populations are particularly vulnerable to the consequences of lower access to care. This project investigated the association of race and rural residence on rates of diagnosis of diabetes and cardiovascular disease and indicators of good medical control among people with diabetes, hypertension and cardiovascular (CV) disease.

We analyzed of the National Health and Nutrition Examination Survey (NHANES) III, 1988-1994. NHANES III collected multi-stage, stratified, clustered samples from the US civilian, non-institutionalized population. This data allowed us to make population estimates for US adults. With assistance from the National Center for Health Statistics, we classified non-Hispanic white and non-Hispanic African American adults as living in a metropolitan statistical area (urban) or outside a metropolitan statistical area (rural). Significant findings:

- Among rural African Americans with diagnosed diabetes, 60.6% have inadequate diabetic control, versus 42.5% of urban whites.
- A quarter of rural African Americans with diagnosed diabetes (24.5%) have diabetic retinopathy, compared to only 11.6% of urban whites.
- Rural African Americans (7.5%) and urban African Americans (8.6%) were more likely than rural (2.8%) and urban (3.8%) whites to have *undiagnosed* diabetes.
- Nearly a quarter of rural African Americans who had been diagnosed with hypertension still had elevated diastolic blood pressure (23.2%), versus 13.5% of urban whites.

- Rural African Americans had the highest prevalence of *undiagnosed* diastolic hypertension (4.4%), and the second highest prevalence of undiagnosed systolic hypertension (6.2%).

The study documents the need to improve access to health care services in rural areas. Programmatic efforts to increase access would include:

- Increasing the number of health services access points in medically underserved rural and inner-city areas through the expansion of the FCHC program. Providers offering a full range of support services, such as health education, and providing such services to low income persons, are needed.
- Regulatory reform and provision of technical assistance to facilities in rural areas wishing to become certified as diabetes education providers under Medicare, as a means of increasing the number of facilities providing this service.
- Continued support for rural Area Health Education Centers, both for training of new professionals and as a vehicle for providing continuing education to physicians, nurses and health educators currently serving in rural areas.
- Continued support for the Quentin N. Burdick Program for Rural Interdisciplinary Training. Both diabetes and hypertension require multiple disciplines for effective patient education and management. Practitioners who can develop and maintain such environments in rural practices continue to be needed.

It is unclear whether differences in diagnosis and control stem from cultural differences in diet, presentation of illness, adherence to treatment or even adequacy of treatment. Potential research questions include:

- What factors affect the quality of care provided by practitioners in rural areas? Some research suggests that rural primary care physicians are less likely to adhere to

appropriate standards of diabetes care (Zoorob, 1996). More research addressing the role of rural residency tracks, continuing medical education, and the surrounding practice community in fostering adherence to current guidelines in the treatment of disease is needed.

- What socio-cultural factors can serve as barriers between rural, African American populations and local practitioners? Differences in control persisted even when respondents could name a “usual” provider, suggesting that factors in the patient/practitioner relationship, as well as absence of such a relationship, may affect care. Additional qualitative research is needed to define such problems and suggest effective interventions.