

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

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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.

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).

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

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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%; undiagnosed 18.5%	1.0 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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