

The Public Health Challenge of Obesity in North Carolina

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Obesity is one of the most important public health issues of our time. Just as infectious diseases threatened the health and well being of communities in the early 20th century, chronic diseases are now the greatest threat of the 21st. The risk factors for obesity, physical inactivity and poor nutrition have begun to approach the public health impact of tobacco use.¹ The resulting rise in chronic diseases that is directly attributed to these three risk factors threatens to undo much of the progress made to improve health in the last century and worsen existing health disparities. At no other time in our history have we had the majority of our population affected or threatened by an epidemic; over 67% of American adults are overweight.²

As with any public health epidemic, we must take aggressive steps. Progress in containing infectious disease epidemics of the past occurred when epidemiologists shifted focus from identifying afflicted individuals to resolving the underlying environmental causes of infectious outbreaks by ensuring adequate access to clean water supplies and appropriate disposal of sewage. The same approach must be taken with obesity. While physical inactivity and poor quality dietary practices are the immediate causes of obesity, our society must shift from a focus on individual responsibility and look to the root factors in our societal environment that have led to this unprecedented increase.

Responsible public health practice is based on population-based surveillance and the use of evidence-based interventions. Much can be learned from our experience with tobacco control.

After evidence emerged that tobacco use could best be controlled through societal and environmental approaches, interventions were implemented to make the product less available, more expensive, and less appealing. Rates of tobacco use and worksite exposure to second-hand smoke are now declining across the nation, including in North Carolina.^{3,4} Evidence-based approaches for obesity are also emerging. Using the same approach as the *Guide to Clinical Preventive Services*,⁵ *The Guide to Community Preventive Services*⁶ has convened a scientific committee to review the evidence for effective community-based interventions (www.thecommunityguide.org). In 2005 the national Institute of Medicine (IOM) convened an expert task force to make recommendations on how to control childhood obesity based on scientific reports, review of previously successful public health campaigns, and expert testimony.⁷ The recommendations

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of these two expert groups (the US Preventive Services Task Force and the CDC Task Force on Community Preventive Services) require complex approaches to impact obesity in multiple sectors of our society. An emphasis is placed on policy and environmental change as more efficient and sustainable approaches than focusing solely on

personal responsibility.

Eat Smart, Move More...North Carolina is an ambitious statewide initiative to encourage healthy eating and physical activity wherever people live, learn, earn, play, and pray. The North Carolina Division of Public Health provides staff support and funding for the Eat Smart, Move More leadership team, a

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group of over 100 public and private partners. The focus of the initiative is on seven evidence-based strategies:

- reducing time spent watching television;
- increasing physical activity;
- increasing fruit and vegetable consumption;
- decreasing sugar-sweetened beverage consumption;
- decreasing portion sizes of foods and beverages;
- preparing and eating more meals at home; and
- breastfeeding.

Consistent with national recommendations, Eat Smart, Move More...North Carolina is a comprehensive, multi-level initiative to effect policy and environmental change across the state, within organizations and among communities and to support interpersonal and individual changes in health behavior.

Across the State: Public Policy and Social Norms

An educational campaign through television, radio, and print presently targets mothers aged 25 to 54 with all seven Eat Smart, Move More messages. The campaign is running currently in the Raleigh-Durham and Charlotte media markets, and will expand statewide in the late fall. The re-designed Website, www.EatSmartMoveMoreNC.com, was re-launched in January 2006 with a new consumer-focused Website, MyEatSmartMoveMore.com. The Website features tools and resources for professionals, news tips for journalists and helpful information for individuals trying to make simple lifestyle changes.

Based on the work of the North Carolina Health and Wellness Trust Fund Obesity Study Group, legislation was passed in the 2005 session to implement nutrition standards for school meals and vending machines as well as a state Board of Education policy to make physical activity mandatory for grades K through eight. North Carolina has recently been identified as a national leader for its use of federal Preventive Health and Health Services Block grant funds to support policy and environmental change interventions through every local health department in the state. Local progress in effecting such change has been well documented. Legislation has been introduced this year to fund a community grants program to make neighborhoods, towns, and cities more pedestrian friendly. In August 2006, the NC Division of Public Health will host an obesity summit in collaboration with the Trust for America's Health with the goal of committing prominent leaders to support a public policy approach to obesity prevention and control.

Organizations: Policies and Environments

The HealthSmart Worksite Wellness Tool Kit has been developed for state employee worksite wellness committees in

collaboration with the North Carolina State Employee's Health Plan. Employee groups across the state have been trained in how to organize an effective committee to develop policies and resources that will improve nutrition, physical activity, tobacco cessation, and stress management among the state employee workforce. A demonstration project has been started in the Department of Health and Human Services. Policy and environmental changes in the Division of Public Health include availability of healthy vending machine snacks, a stairwell project, local walking routes and a breastfeeding room.

Eat Smart: North Carolina's Recommended Standards for All Foods Available in School and Move More: North Carolina's Recommended Standards for Physical Activity in School are curriculums available to all school districts and have been implemented at varying levels to incorporate healthy eating and physical activity in the academic environment.

A partnership with the North Carolina Cooperative Extension Service provides preschools with *Color Me Healthy*, a nutrition and physical activity education program for four to five year-olds that has been implemented in 5,500 child care centers across North Carolina. Through the use of color, music, and exploration of the senses, *Color Me Healthy* teaches children that healthy food and physical activity are fun. The Nutrition and Physical Activity Self-Assessment for Child Care (NAP-SACC) is a pilot intervention in child care centers aimed at improving nutrition and physical activity policies and practices. Center staff complete self-assessments and receive consultation on improving the center's feeding and physical activity programs. This program will be expanded statewide in the coming year.

African American Churches Eating Smart and Moving More: A Planning and Resource Guide is designed to create healthy eating policies and physical activity programs among church congregations. This tool builds on the existing Black Churches United for Better Health program and is helping churches form wellness committees, start walking clubs, and institute healthy food potlucks. Statewide train-the-trainer workshops are helping interested church members become agents for change in their church communities.

Communities: Policies and Environments

All local health departments receive capacity funding for health promotion efforts focused on policy and environmental change. Local Physical Activity & Nutrition Coalitions (LPANs) promote physical activity and healthy eating opportunities at the community level. Currently, 68 out of 100 North Carolina counties have an LPAN, usually as a subcommittee of their Healthy Carolinians partnerships.^a These coalitions initiate and coordinate local programs and interventions to increase opportunities for physical activity and healthy eating. Coalitions are encouraged to focus on policy and environmental approaches. *Winning with ACEs! How You Can Work Toward*

a Healthy Carolinians, a network of public-private partnerships representing public health, hospitals, schools, churches, businesses, community members, and elected officials, address North Carolina's 2010 health objectives through a collaborative planning process.

Integrating A Focus on Overweight and Obesity in Clinical Practice: Practical Suggestions

The U.S. Preventive Services Task Force found good evidence to support assessment of Body Mass Index (BMI, weight in kilograms divided by the square of height in meters) of all adults when primary care visits occur. The task force recommended that if BMI is greater than 30, healthcare providers should arrange for, or provide, intensive counseling about nutrition and physical activity.¹

Measuring BMI

Accurate BMI measurement requires an office system that supports regularly obtaining accurate heights and weights (e.g., shoes off, stadiometer, calibrated scale) and includes one of the easy-to-use tools to calculate and record the BMI (e.g., table, wheel, website, PDA, or by hand calculator). Making room for these measurements in the routines of a busy primary care practice requires special attention to staff orientation and the scheduling of intake procedures.

As a practice routinely begins to document BMI for all of its patients, it is important to plan or identify appropriate patient follow-up recommendations depending on the results obtained from these measures. One very simple office protocol is shown in Table 1, but this can be modified to a practice's particular level of counseling ability and local resources.

Introducing Brief, Targeted Counseling about Nutrition and Physical Activity

With access to the Internet, a great place to start is the newly redesigned website: www.eatsmartmovemorenc.com. This site includes an entry portal that takes one to a site for professionals that includes a drop-down menu of downloadable, ready-to-use tools. There are several handouts for patients that provide practical strategies to address each target behavior in the Eat Smart Move More program. Office staff could prepare a few packets ready for specific issues, or customize packets that will best fit specific patient populations. Although handouts by themselves are not likely to be effective, they do facilitate discussion of a patient's motivation to make changes and focus on one or two behaviors that they may be most successful at changing. If available time does not allow for personalized messages at each visit, it may be best to focus on one behavior at a time for several weeks, and simply discuss that issue with all patients, with a goal over a

Table 1.
Basic Office Protocol Based on Patient BMI Calculation

BMI Result	Action Plan
Underweight BMI < 18	• Communicate the BMI result, • Schedule follow up for further work-up as indicated
Healthy 18 < BMI < 25	• Communicate the BMI result, • Reinforce healthy behaviors
Overweight BMI = 25-30	• Communicate the BMI result, • Provide introductory counseling, • Plan follow up
Obese BMI > 30	• Communicate the BMI result, • Schedule any appropriate lab work, • Plan follow-up for more intensive counseling or refer for further intervention

year of reaching many patients with different, but important, messages.

Another way to reinforce behavior change messages is the "Big Five Prescription Pad" available as a customizable pdf from the tools menu. (Figure 1) This tool can be used as a take-home prescription for patients to emphasize the behaviors discussed, or perhaps to contract with them on 1-3 behaviors on which they may agree to focus after the visit. The key is not to overwhelm the patient with what may appear to be expectations of

sweeping changes that must be made all at once, but support them in the idea they can target their efforts to selected issues.

Additionally, a computer for patient education use in the office can be an advantage, and it can be set to this site for easy patient access.

More ideas

If the goal is to provide more than the simple handouts discussed above, an individualized, but still brief, tool is "Starting the Conversation," available for a modest price through NC Prevention Partners (www.ncpreventionpartners.com). This tool can be completed by the patient while waiting for the provider. The tool helps illustrate to both patient and provider which behaviors may be problems and provides suggestions as to how to support the behavior change which can be reinforced by the provider. Therefore, this easy to use, brief, "handout" also serves as an interactive, individualized counseling tool.

Figure 1.
Example Blank "Big Five Prescription" Pad, modifiable PDF available at www.eatsmartmovemorenc.com/

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Active Community Environments (referred to as the ACEs Guide) is a tool specifically developed to help community coalitions promote changes in community design that make opportunities and facilities for physical activity more available and accessible.

Funding for specific physical activity and nutrition programs has been available through the Eat Smart, Move More...North Carolina Community Grants program, which has funded approximately 15 counties each year for the past six years to implement evidence-based programs in their communities. These grants, together with grants from the Kate B Reynolds SELF project, and the Fit Together Initiative of the NC Health and Wellness Trust Fund and Blue Cross and Blue Shield of NC (both programs described elsewhere in this issue of the *North Carolina Medical Journal*) provide resources for communities to adopt evidence-based policies and practices that improve access to and increase opportunities for healthy eating and physical activity in various settings.

Interpersonal and Individual: Lifestyle Changes

Families Eating Smart and Moving More is an interactive curriculum offered in communities and through physicians' offices to help families find simple solutions to eat more nutritious meals and be more physically active. Community health professionals and para-professionals use this formal curriculum to teach families the skills to eat more meals at home, make healthy food choices when eating out, incorporate exercise in their everyday routine, and watch less television.

Traditional public health programs also promote healthy lifestyles. The Women, Infants and Children (WIC) program serves over 230,000 individuals across North Carolina to assure that pregnant women and infants have access to healthy foods. WIC nutritionists instruct families about good nutrition and promote breastfeeding. Recent expansion of the North Carolina School Nurse program has provided opportunities to identify children who are overweight and counsel their families about healthy physical activity and nutrition practices.

Future Directions

Obesity is a complex problem that will require complex solutions. Changing the societal and institutional factors that have contributed to this problem will also require strong political will and the investment of significant resources. Three areas need particular attention if we are to continue to make progress.

1. Statewide capacity for health promotion.

Competitive grants for community-based obesity prevention have increased significantly over the last few years from a variety of North Carolina funders. Interest in preventive interventions remains high among local philanthropies. However, recent reductions in federal funding have decreased the baseline level of general health promotion funding that has traditionally been made available to every local health department in the state.

This may ultimately undermine the capacity of local health departments in lower wealth counties to pursue competitive funding, resulting in increased geographic disparities within the state. The North Carolina Public Health Improvement Plan from the Public Health Task Force 2004 is now being updated for 2006. The plan recommends a health promotion coordinator in every local health department to assure a basic level of health promotion capacity across the state.⁸ State and local funding strategies must be identified to reach this goal.

2. Social Marketing to Change Social Norms

Community-wide campaigns are evidence-based approaches to increase physical activity when combined with local interventions.⁹ This is an integral component of the Eat Smart Move More...North Carolina initiative and local and regional efforts have shown that these campaigns have great promise in North Carolina communities. The Centers for Disease Control and Prevention's *Best Practices for Comprehensive Tobacco Control Programs* recommended spending between \$1.00 to \$3.00 per capita on tobacco prevention and control public education campaigns to obtain a meaningful result.¹⁰ Applying this same formula to a comprehensive obesity prevention campaign would cost the state a minimum of \$8.25 million. While this is a significant sum, it represents only 1.2% of the \$600 million annual cost to the North Carolina Medicaid program that has been attributed to the treatment of obesity related illnesses.¹¹

Land Use and Transportation Policy

The connection between land use, transportation policy, and physical activity is one of the most compelling evidence-based opportunities to impact obesity.⁷ Much of the current effort to create better infrastructure for physical activity has focused on regional and local programs. Efforts should also focus on transportation policy and planning at the state level. Assessments of traffic performance and environmental impact must be prepared for most transportation projects. Assessments could also be required to document the impact of state and local transportation plans on pedestrian access and potential use. Less than four percent of North Carolina students currently walk or ride a bicycle to school one or more days per week.¹² Safe routes to school projects have been implemented in other states by assessing and improving sidewalks and road crossings. Similar projects should be developed and funded across North Carolina. Placing greater priority on pedestrian and bicycle improvements in the State Transportation Improvement Plan would increase resources available to fund local projects. However, transportation changes will not be effective without supportive land use changes. People are more likely to walk or ride a bicycle if popular destinations can be reached safely and efficiently. Local land use planning is highly variable, and often dismissed or ignored. Efforts should be made to set land use planning performance standards across the state and local health departments must begin to be more involved in the planning process.

The complexity and multi-dimensional nature of the over-

weight and obesity problems will require a multitude of approaches and collaborative efforts across multiple sectors of society. Using the framework of the Eat Smart, Move More...North Carolina initiative, NC public health agencies and programs are working closely with foundations, media and policy makers, business and

industry, schools and preschools, faith-based organizations, communities, and individuals to reverse the rising rates of obesity in North Carolina. We must continue to focus our efforts and resources on this important public health problem. Public health is a public responsibility. **NCMedJ**

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