

Two North Carolina Public Health Departments Taking Steps Toward Sustainable Communities

John H. Morrow, Beth G. Lovette

Communities Putting Prevention to Work grant funding, provided to the state through the Centers for Disease Control and Prevention since 2010, is aimed at impacting obesity. This has enabled 2 local health departments—Pitt County and the Appalachian District—to make broad, sustainable environmental changes that foster improvements in health outcomes.

North Carolina's Communities Putting Prevention to Work (CPPW) initiative, made possible through Affordable Care Act funding, has given the Appalachian District Health Department and the Pitt County Health Department the opportunity to get a 2-year head start on the future of local public health efforts to improve the health of communities. This is particularly important because both Appalachia and eastern North Carolina have historically lagged behind much of the United States in population health status. The CPPW grant recognizes that population health status is determined not just by the usual health measurements such as morbidity and mortality and access to health care, but also by socioeconomic factors, such as the percentage of children living in poverty, density of fast-food restaurants, and easy access to parks and recreation facilities.

Both health departments used CPPW's 5 evidence-based MAPPS (media, access, point of purchase/promotion, price, social support and services) strategies for improving health behaviors to create a community impact plan. The MAPPS strategies pertain to the following areas: 1) media (eg, restriction of advertising for unhealthy products, production of counter-advertising promoting healthy behaviors), 2) access (eg, usage bans, sales and zoning restrictions, incentives for retailers), 3) point of decision (eg, signage, product placement, menu labeling), 4) price (eg, banning free samples of unhealthy products, subsidizing membership in recreation facilities), and 5) social support and services (eg, smoking cessation assistance). The grant funds have refocused public health efforts toward redesigning an environment that has contributed to and exacerbated poor health outcomes. The grant targets policies, systems, and environmental changes that can lead to and assure population health for the future. When one looks at how population health status has been improved in the past, it is

clear that public health policy has had the greatest impact. Having public health policies (and laws) that require clean water, clean air, safer workplaces, seatbelts, and immunizations has helped to significantly increase not only the length of life, but also the quality of life for people in the United States. A great example is how tobacco-free policies decrease tobacco use and exposure to secondhand smoke. Such policies have been proved to decrease the incidence of tobacco-related illnesses and premature deaths that result from them. In the 2 years since the Smoke-Free Restaurant and Bar law [1] was passed by the North Carolina General Assembly, the weekly rate of visits to hospital emergency departments in the state for episodes of acute myocardial infarction has decreased 21% [2].

In 2006, the city of Greenville in Pitt County was recognized by the restaurant industry as the nation's No. 1 market for fast-food users because 59% of fast-food users there had patronized a quick-service restaurant 12 or more times per month [3]. Pitt County has both food swamps, in which an abundance of unhealthy fast food is readily available, and food deserts, where there is poor access to regular grocery stores or other sources of fresh fruits and vegetables. These swamps and deserts are often located near our poorest populations and minority communities. In response, the CPPW initiative has brought fresh fruits and vegetables to corner stores in both rural and urban locations around the county. The grant helped to purchase refrigeration equipment and encouraged the owner/operators to offer these healthy food options to their customers. Now residents in these communities can walk to their corner store and select healthy options at a reasonable price. In addition CPPW helped establish farmer's markets in the 2 small towns of Grifton and Farmville, which are in the southern and western parts of the county, respectively. The city of Greenville provided a regular Saturday bus route to the large Pitt County farmer's market and CPPW helped make additional improvements at this busy market. Across the road from this farmer's market

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Active Living By Design: Collaborating to Build Healthy Communities in North Carolina

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Active Living By Design (ALBD), a national program created to increase physical activity through community design and policy change, opened its doors in 2002. This new organization started just as public health practitioners, researchers, and funders were beginning to recognize the important influence of built environments on physical activity and health. At that time the nation was also growing increasingly aware of its epidemic of overweight and obesity, a condition closely related to physical activity levels of the population. ALBD was created as a collaboration between the Gillings School of Global Public Health at the University of North Carolina at Chapel Hill and the Robert Wood Johnson Foundation (RWJF). Although it was originally created to serve 25 RWJF-funded community partnerships across the United States, ALBD has worked formally with a variety of funders and with more than 170 communities seeking to promote active living and, more recently, healthy eating. Despite the fact that ALBD was created to provide technical and other assistance on a national level, its efforts in North Carolina are a significant part of the work.

ALBD is well known in North Carolina for its work on the Fit Community and Fit Together initiatives. In 2005, ALBD partnered with the North Carolina Health and Wellness Trust Fund (HWTF) to develop the Fit Community initiative, along with Blue Cross and Blue Shield of North Carolina Foundation (BCBSNC Foundation) and the Division of Public Health (DPH), North Carolina Department of Health and Human Services. Each Fit Community partnership used ALBD's Community Action Model as the framework to improve physical activity and healthy eating opportunities in communities, schools, and worksites. Between 2006 and 2011, 38 communities were awarded two-year grants of \$60,000 from HWTF plus technical assistance from ALBD. These projects resulted in health-promoting community changes such as a 10-mile nature trail in the Rough Creek Watershed in the town of Canton, a new natural play area in the city of Goldsboro, a trail and policy change to support safer routes to school in the village of Pinehurst, the state's first bicycle boulevard

giving bicyclists priority on certain streets in downtown Wilmington, and a comprehensive worksite wellness initiative involving more than 75 worksites in Mecklenburg County [1]. In addition, 27 municipalities and counties in North Carolina received 3-year Fit Community designation awards recognizing their support for physical activity, healthy eating and tobacco use prevention through environments and policies. In an effort to focus specifically on rural communities in the state, ALBD also provided consultation and technical assistance for Fit Together, a grant program of the BCBSNC Foundation, for which 5 rural counties implemented comprehensive strategies for increasing physical activity. Health-promoting, sustainable outcomes of this initiative include new trails at a church and park in Pitt County, sidewalk improvements enabling children in Walnut Cove to walk safely to school, and a Smart Growth checklist for developers building new subdivisions in Camden County, which prioritizes walkability, compactness, and accessibility to transportation [2]. (More information about the Fit Community initiative and Fit Together initiative is available at http://www.active-living-by-design.org/fit_community_final_case_studies and http://www.activelivingbydesign.org/Fit_Together_Case_Studies.)

Over the past decade, ALBD has had a close collaboration with the North Carolina Department of Health and Human Services (DHHS), which is a national leader in built-environment physical activity initiatives and a public health role model. For example, the Physical Activity and Nutrition Branch within DPH developed and currently conducts the Move More Scholars Institute, an annual intensive 4-day training course that teaches participants how to promote and support physical activity in their communities. The course, which was initially designed for public health practitioners, has taught nearly 100 health educators, recreation supervisors, city planners, youth coordinators, and other professionals about the key elements of comprehensive community active living initiatives. ALBD has contributed to this training by helping conceptualize the learning experience, developing and delivering presen-

and adjacent to the county recreational park, a large Making Pitt Fit community garden was built with support from both CPPW and the Blue Cross and Blue Shield of North Carolina Foundation. Residents can now increase both their physical activity by working in their leased garden plot and increase their consumption of healthy foods by growing their own produce. In addition, residents also have ready access to walking trails and opportunities for other physical activities in the adjacent park. A gardening technician employed with CPPW grant funds through the Pitt County Cooperative Extension provides additional support to groups throughout

the county interested in establishing community gardens. An elementary and middle school are located just across from the garden and down the road from the farmer's market, so these students take regular field trips to learn about growing and eating healthy foods.

Better access to opportunities for physical activity is also a priority of the CPPW initiative in Pitt County. Through CPPW, the Pitt County Health Department has worked with Pitt County Schools and the Boys and Girls Club to recruit 18 sites to use the Move More After-School Standards to increase the amount of physical activity in their after-school

tations on the built environment, and facilitating interactive learning exercises.

In 2010, DPH received a federal Communities Putting Prevention to Work (CPPW) award from the Centers for Disease Control and Prevention. ALBD worked in partnership with DPH to support 11 North Carolina communities that had received CPPW funding as they implemented small projects to make streets safer for walking and bicycling. These communities also provided the state's Healthy Environments Collaborative with local perspectives on policy barriers to creating healthier environments.

In addition to consulting on program development and providing technical assistance to community partnerships, ALBD has advocated for active living by participating in a variety of short-term statewide initiatives, task forces, and ad hoc efforts. For example, ALBD has contributed to review teams for grant programs, including the Bicycle and Pedestrian Planning Grant Initiative of the North Carolina Department of Transportation (DOT) and the Eat Smart, Move More grants of DPH. ALBD staff members have also provided presentations, testimony, and other input for the North Carolina General Assembly's Legislative Task Force on Childhood Obesity, the North Carolina Board of Transportation, the North Carolina Institute of Medicine's Prevention Task Force, DPH's Healthy North Carolina 2020 plan [3], and the DOT's Bicycle and Pedestrian Safety Summit.

Important lessons have emerged from ALBD's experiences with North Carolina communities, funders, state agencies, and nonprofit organizations. First, it is apparent that the most effective "active living leaders" often operate outside the public health profession. They include city planners, transportation officials, school principals and superintendents, mayors, recreation directors, disability advocates, community development professionals, nonprofit partners, and community members with no formal training in public health. Also, community engagement in active living initiatives is critical to ensuring that the most appropriate built-environment approaches are identified, prioritized, implemented, and sustained. For example, an engaged grassroots public is more likely to advocate for long-term investment in healthier streets, playgrounds, schools, and neighborhoods. Finally, communities may feel that they work in isolation from, or in competition with, other municipalities and counties in the state and their region, particularly when funding opportunities are

limited. Collaborative peer learning networks facilitate the exchange of ideas and innovations among communities and connect newly emerging health advocates with experienced professionals and local leaders.

As ALBD celebrates its 10-year anniversary, it looks to a future filled with persistent challenges and considerable work to be done, particularly in addressing health disparities related to physical activity and transforming environments so that they support this essential behavior. North Carolina trails the nation in nearly all measures of physical activity, and the state is playing catch-up to meet its physical activity targets for 2020. In fact, the North Carolina Prevention Report Card for 2012 gave the state a grade of D for physical activity [4]. As health care costs escalate, it is even more critical that North Carolina communities support active living among children, older adults, and other vulnerable populations. NCMJ

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References

1. Fit Community case studies. Active Living by Design Web site. http://www.activelivingbydesign.org/fit_community_final_case_studies. Accessed May 14, 2012.
2. Communities on the move: Fit Together case studies. Active Living by Design Web site. http://www.activelivingbydesign.org/Fit_Together_Case_Studies. Accessed May 14, 2012.
3. Healthy North Carolina 2020: a better state of health. North Carolina Division of Public Health Web site. <http://publichealth.nc.gov/hnc2020>. Accessed May 14, 2012.
4. North Carolina Prevention Report Card: Measuring North Carolina's Progress in Prevention and Health toward 2020 Goals. Chapel Hill, NC: North Carolina Prevention Partners; 2012. <http://www.ncpreventionpartners.org/ncpp/Document/Download?id=92007136-34e0-4e6d-8e13-1dea68c907d3>. Accessed May 14, 2012.

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programs. This program incorporates at least 30 minutes of physical activity into after-school programs for children. The grant has also helped the schools create safe routes to schools for both walkers and bicyclists.

The Greenville-Pitt County Chamber of Commerce has been instrumental in working with local employers to improve worksite wellness initiatives. The Chamber leadership recognizes the critical role that health plays in attracting new business to a community and in maintaining healthy and happy workforces.

The Pitt County CPPW leadership team is made up of a

broad coalition from the Greenville-Pitt County Chamber of Commerce, East Carolina University, Pitt County Cooperative Extension, Vidant Medical Center, Pitt County Schools, municipal and county planners, and public health staff. These leaders have helped to bring about significant changes in policies across the county. The Pitt County Board of Health first adopted a resolution that broadly promotes improved nutrition and physical activity in policy formation for municipalities and local government. This resolution was then taken to planning boards and city and town councils throughout the county where it was also adopted.

This then led the way for the modification of the Pitt County comprehensive land use plan to include improving health as an overall goal. This comprehensive land use plan was later approved by the county commission and helps to assure that future policy decisions around planning will always consider the impact on public health before adoption. In June of 2012 the town of Ayden updated their comprehensive land use plan in response to these CPPW efforts and placed special emphasis on the relationship between access to healthy foods, physical activity opportunities, and the health of the public. The town of Winterville is now working on a similar update.

The Appalachian District Health Department is tackling obesity in 3 rural counties in Western North Carolina: Alleghany, Ashe, and Watauga. These counties are home to nearly 90,000 residents. Approximately 64% of the residents living in Western North Carolina are overweight or obese [4], and only 24.1% of adults in the region meet the current recommendations for fruit and vegetable consumption [5]. Contributing to this problem are limited access to fresh, healthy food and a lack of opportunities for physical activity, in part because the Appalachian District is a rural, geographically large area with narrow mountain roads, and also experiences severe winter weather. The Appalachian District Health Department has worked for years to build community partnerships with both traditional and nontraditional health partners in each community in the district. But with the CPPW grant, the department was given an opportunity to expand these partnerships and create a district-wide leadership team to increase the impact of our work.

The leadership team includes high-level community leaders from multiple sectors, who have the combined resources and capacity to make it easier to live healthfully. Members of the Appalachian District's leadership team are key agents for change in their community. The leadership team includes people from Alleghany, Ashe, and Watauga counties who represent county governments, schools, hospitals, Partnerships for Children, the District Board of Health and Health Department, Appalachian State University, boards of education, county offices of the North Carolina Cooperative Extension, the Be-Active Appalachian Partnership, the Children's Council of Watauga, the town of Boone, the town of Sparta, the town of West Jefferson, county departments of parks and recreation, the Watauga Tourism Development Authority, and the Western Youth Network. The mountainous terrain and the distances between towns across the 3 counties presented some challenges in keeping team members connected. However, the project provided political cover for those wanting to make changes (but experiencing resistance from others within their organizations) and wonderful opportunities for support and cross-sector learning.

As the CPPW leadership team began work, it became apparent that education of team members would be critical to achieving the buy-in that would be needed if they were to think differently about their communities. Even though

the teams were made up of people with a strong background in thinking creatively about solutions to problems, it was not intuitive for them to understand that our society has engineered physical activity right out of its towns. Mark Fenton, who describes himself as "a public health, planning, and transportation consultant who is trying to help America find its way to more active and more livable cities, towns, and neighborhoods," visited both Pitt County and the Appalachian District. Leadership team members in Appalachia spent 3 days riding and walking around their communities with Mr. Fenton, as he pointed out things they had never given much thought to before. Here are just a few highlights of what they learned: (1) A downtown that is walkable and bikeable has a positive impact on the economy, because it encourages shopping and dining downtown. Exchanging traffic signals for stop signs, improving crosswalk visibility, and adding buffers between the sidewalk and traffic slows down cars and improves walkability and bikeability. These changes can be seen in downtown West Jefferson. (2) Goat paths (informal trails) from the sidewalk to a destination, like the ones in Sparta that lead to a town park and a walking track, can help communities identify needed sidewalk improvements. (3) Even in tough economic times, it makes sense to consider improving streets for pedestrians and cyclists. As municipalities and the state repave existing streets, improvements can be made, some without adding to the cost; for example road surface markings can be painted differently. (4) Team members had thought that initiatives encouraging walking or biking to school were impractical in the District's rural, mountain communities, but observing Harden Park Elementary School at pick-up time changed their minds. They learned from the principal that 80% of the students live within 2 miles of the school, yet fewer than 5% of students walk or bike to school.

This 3-day event gave area planners, engineers, and municipal and county officials all an opportunity to learn more about how to think about active transportation and make it an important goal of comprehensive planning and development guidelines. The time that Mr Fenton, municipal and county staff members, and North Carolina Department of Transportation (DOT) staff members spent together during the event was invaluable. The occasion provided an opportunity for towns and the DOT to focus on shared priorities. It also opened lines of communication for further discussion about potential future projects using the new concepts.

The Appalachian District Board of Health decided to adopt a "complete streets" resolution that encourages municipalities in the district to keep all users in mind—including bicyclists, pedestrians, and public transportation vehicles and riders—when designing, constructing, operating, and making improvements to roadways. To date, 3 municipalities in the Appalachian District—West Jefferson, Boone, and Sparta—all have adopted their own resolutions stating their support of complete streets. All have indicated that it was

politically important that other nearby communities and the District Board of Health also made the resolution.

The importance of making health concerns a priority when planning the built environment has not always been readily apparent. In 2008 there was an opportunity to use funds from the North Carolina Obesity Prevention Demonstration Project to connect the Boone greenway with the neighborhood adjacent to Watauga High School. Fears over unsupervised walking and biking and potential stranger danger almost derailed the project. Fortunately, community collaboration and discussion overcame opposition to the project, and there is now a direct connection used both by cross-country teams and by community residents. When a group from the CPPW leadership team was last on the greenway, a sports team was spotted trotting out of the school gate and onto the greenway on their way to the community soccer complex. Just a few years ago, that trip would have required several cars maneuvering through congested traffic, which would have been much more dangerous than that jog. The CPPW grant is offering another opportunity to enhance this connection by placing better signage and emergency call boxes along multiple sites on the trail beyond this new link that is three quarters of a mile long.

One of the most exciting changes to the built environment now under way in the High Country—thanks in large part to the new relationships developed between the CPPW Team and the DOT—is a project widening a stretch of Highway 421 North leading into Boone. This busy stretch of highway connects area hotels and apartments that house Appalachian State University students with shopping, downtown Boone, and the campus. Historically, this road had only spotty stretches of sidewalk. Initial plans for the road-widening project called for complete sidewalks, but no bike lanes. As the CPPW project continued and the group learned more about the importance of making the healthy, active choice the easy, safe choice, the DOT division engineer invited town leaders and a member of the CPPW leadership team to discuss making improvements in the design plan before construction of the project was completed. Through the CPPW partnership and commitment by the leadership team, multiple opportunities have been realized across the region. In Watauga County, the Watauga Tourism Development Authority has expanded opportunities for hiking, mountain biking, and more at Rocky Knob Bike Park. Nearby, the Town of Boone is extending partnership to support engineering and design work to help connect Highway 421 to New Market Boulevard with sidewalks, so that children can walk to school and people living in public housing nearby can access the bus system safely. West Jefferson has instituted new designs to slow traffic patterns using stop signs and has created a more inviting downtown corridor by increasing signage and redesigning curb bump-outs to increase pedestrian visibility. Sparta has created a new brand for the town and has newly engineered plans ready for implementation to create a vital, active Sparta.

The town has also partnered with the newly established Alleghany County Farmer's Market by locating the market in the town's Crouse Park.

These projects have created lasting impressions and are the leadership team's legacy. They have supported additional development in built-environment capacity in each municipality. They have also demonstrated the value of a community that has active transportation on health and, and notably, on economic development.

Both the Appalachian District Health Department and the Pitt County Health Department, in partnership with the Division of Public Health, North Carolina Department of Health and Human Service have launched a Take Step Two campaign (more information available at <http://www.takesteptwo.com>), to help would-be advocates take the next step toward building their own healthy communities. The momentum is spreading: In April, a group of elementary school students presented their plans to promote biking to school to the Boone Town Council, and other partners have leveraged additional funding opportunities to expand their good work.

The issue of obesity is a challenge statewide. A report based on Centers for Disease Control and Prevention (CDC) data for 2008 through 2010 found that North Carolina ranked 14th in the nation for adult obesity (29.4% of the adult population had a body mass index of 30 or higher) and 18th in the nation for physical inactivity (25.6% of adults classified as physically inactive) [6]. And on the 2007 National Survey of Children's Health, North Carolina ranked 11th in the nation in the percentage of children ages 10 through 17 who were obese (18.6%) [6]. To address this public health problem, it is important that we change the environments in which we live, work, learn, play, and pray. The CPPW initiative is changing the policies of governments, employers, schools, parks and recreation facilities, and places of worship. North Carolina also recently received a Community Transformation Grant from the CDC. This new grant will spread much of what has been learned in these 4 counties to other counties across the state. NCMJ

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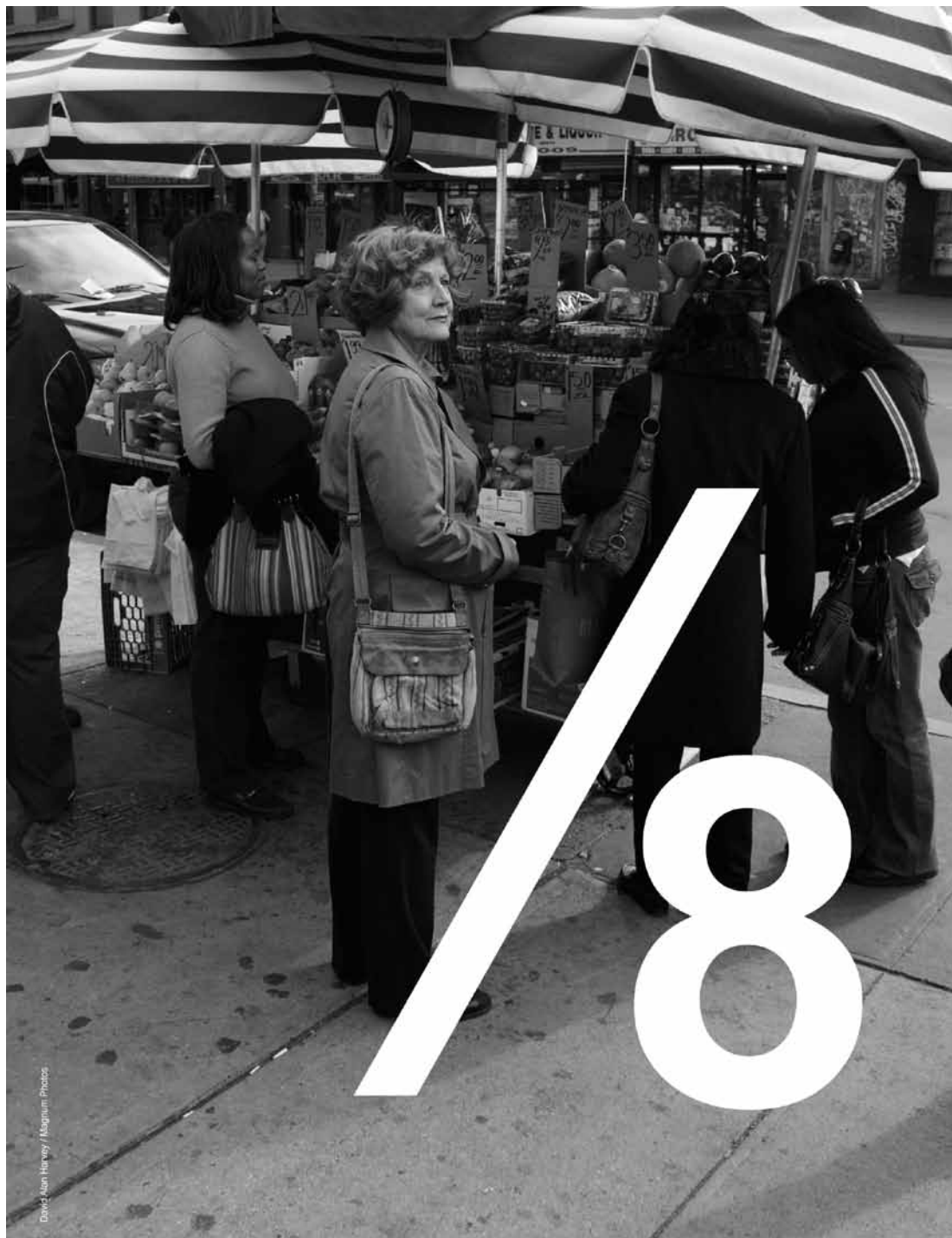
Potential conflicts of interest. J.H.M. and B.G.L. have no relevant conflicts of interest.

References

1. 2009-27 NC Sess Laws 130A-496.
2. Epidemiology and Evaluation Unit, North Carolina Tobacco Prevention and Control Branch, North Carolina Division of Public Health. The North Carolina Smoke Free Restaurant and Bars Law and Emergency Department Admissions for Acute Myocardial Infarction: A Report to the North Carolina State Health Director. November 4, 2011. <http://tobaccopreventionandcontrol.ncdhhs.gov/smokefreenc/docs/TPCB-2011SFNCReport-SHD.pdf>. Accessed May 14, 2012.
3. Southeast and Southwest: top 10 fast food markets. QSR Magazine, April 11, 2007. <http://www.qsrmagazine.com/news/southeast>

-southwest-top-10-fast-food-markets. Accessed May 14, 2012.

4. North Carolina State Center for Health Statistics. Behavioral Risk Factor Surveillance Survey. <http://www.schs.state.nc.us/schs/brfss/2010/west/rf2.html>. Accessed July 18, 2012.
5. North Carolina State Center for Health Statistics. Behavioral Risk Factor Surveillance Survey. http://www.schs.state.nc.us/schs/brfss/2009/west/_FV5SRV.html. Accessed July 18, 2012.
6. Levi J, Segal LM, St. Laurent R, Kohn D. F as in Fat: How Obesity Threatens America's Future 2011. Trust for America's Health and the Robert Wood Johnson Foundation; July 2011. <http://healthyamericans.org/reports/obesity2011/Obesity2011Report.pdf>. Accessed May 13, 2012.



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