

Planners and Public Health Professionals Need to Partner...Again

Mitchell Silver

The planning profession traces its origins to the efforts of 19th century reformers to improve public health by addressing problems resulting from urbanization. So it is fitting that in the 21st century, planners are once again working with public health professionals to make communities healthier, this time by addressing problems caused by suburbanization.

Planning (also known as urban and regional planning) did not officially emerge as a profession in the United States until 1909. However, its origins can be traced to the sanitary reform movement that began in the 1840s and the housing reform movement of the last third of the 19th century. The explosion of growth in the United States in that era, fueled by immigration and the industrial age, brought opportunity and challenges to America.

The biggest challenge was rapid urbanization. In 1800, the United States had a population of more than 5 million people, more than 300,000 (approximately 6%) of whom lived in urban areas. By 1900, the population had swelled to 76 million people, more than 30 million (approximately 40%) of whom lived in urban areas [1]. The lack of transportation in the rapidly growing cities meant that workers had to live within walking distance of their places of employment. Houses were poorly constructed, poorly maintained, and overcrowded. Most households lacked access to clean water and sanitation. Contagious diseases spread easily under these conditions.

The first partnership among public health and planners started due to the need to improve sanitary and housing conditions. John Snow, a London physician in the mid-1800s, is credited as one of the first to make a scientific connection between poor housing and public health. (He developed a plotting technique—still used today—to identify a polluted public well that was the source of a cholera outbreak. Because of this work, he now is recognized as one of the first planners and public health professionals) [2]. While the terms *public health professionals* and *planners* were not used at the time, it's fair to say that groups interested in public health and those interested in urban planning came together to consider ways of improving sanitary conditions and housing. They considered themselves reformers and were dedicated to improving the health, safety, and welfare of city dwellers. Lessons from England's sanitary reform

movement were introduced and implemented in American cities. Housing reform followed. Over the 50-year period from 1860 to 1910, reformers were instrumental in advocating for public sewer and water systems, housing reform, and building codes that required tenements to have fire escapes and adequate light, air, and ventilation.

Birth of the Planning Profession

By the beginning of the 20th century, it had become clear that the influx of migrants and immigrants to cities demanded a managed approach to planning and development. Several forces converged to make this apparent. The World's Columbian Exposition, a World's Fair held in Chicago in 1893, contained a section called the White City, which gave Americans a glimpse of the city of the future—clean, orderly, efficient, and modern. The White City also suggested what comprehensive city planning and design could accomplish. As America grew, the reformers, who included public health advocates, civic groups, and city officials working to improve urban conditions, were joined by business and real estate interests, and by architects and landscape architects. Although each group had its own agenda, they all realized that cities needed orderly growth and management.

In May 1909, the first national conference on city planning took place in Washington, DC. Progressive reformers, public health reformers, architects, landscape architects, and pioneer planners attended the conference. The 2 most influential people in attendance, Benjamin Clarke Marsh and Frederick Law Olmsted, Jr, had different agendas [3]. The schism between them would create a rift in the young profession that would take decades to heal.

Marsh was a progressive social reformer interested in housing and in social welfare issues, including the problem of congestion of population (ie, overcrowding). Olmsted, son of the famous landscape architect Frederick Law Olmsted and a landscape architect himself, wanted cities to be more

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The Blue Ridge Corridor Experience

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During the 33 years that have passed since moving to Raleigh at age 16, I have witnessed a dramatic increase in the population of the Piedmont and the influence of that growth on land use. As a primary care practitioner with the rare benefit of living within walking distance to my office on Blue Ridge Road in west Raleigh, I have also become aware of the lack of attention in the modern urban environment to the health and safety of those not traveling by motor vehicle. I am now privileged to be involved in a project that is trying to bring about land-use decisions designed to make our community healthier and more sustainable.

In the mid 19th century, landscape architect Frederick Law Olmsted Sr was a pioneer in recognizing that urban planning should take public health concerns into account. (Olmsted Jr, discussed in Silver's commentary, did not share his father's passion for public health.) Olmsted Sr envisioned New York City's Central Park as the "lungs of the city" [1]. This synergy—between public health and city planning—continued for about a century, and improvements in community infrastructure generally resulted in public health benefits. However, these two disciplines were separated for many reasons over the years, one of which was the advent of automobile-centric urban sprawl during the last half of the 20th century. Indeed, urban planning during this period had unintended negative consequences for individual and population health.

Locally, Raleigh's land use increased more than 10-fold between 1950 and 2000, growing more than 3 times as fast as the population [2]. Long considered "a city within a park," Raleigh earned another nickname: "Sprawleigh" [3]. Although the city has a nationally renowned greenway system primarily designed for recreational use, pedestri-

ans, bicyclists, and those traveling by public transportation have rarely been considered during development of the city's major corridors. During the second half of the 20th century, Raleigh's thoroughfare plan and buffering and landscaping requirements also created barriers to physical activity through an imbalance of preferred transportation modes [4].

Over the past few years, the pendulum has begun to swing in the opposite direction both locally and nationally. The economic downturn has forced a reassessment of existing resources, with developers and the public now more likely to join urban planners in recognizing the need to coordinate land use, transportation, and infrastructure. At the same time, a growing body of evidence has developed documenting the role of the built environment in health problems associated with physical inactivity [5]. Additionally, the Centers for Disease Control and Prevention, in conjunction with the US Department of Health and Human Services, has begun to promote the use of health impact assessments as a means of identifying the potential effects of proposed projects on the health of a population. In fact, the national Healthy People 2020 goals incorporate measures of the built environment [6].

I became interested in the literature on these topics while serving as chair of a group of stakeholders in the Blue Ridge Corridor (BRC) that is focused on coordinating the area's rapid growth. In my office, I was seeing first-hand the rise in obesity and associated diseases such as diabetes over the past two decades and noted that minimal attention was being paid to the root causes of obesity within the medical literature. Ultimately, my professional interests began to overlap with my role in the BRC planning process.

efficient, more livable, more attractive, and less chaotic. The planning conferences held in 1909 and 1910 were both called the National Conference on City Planning and the Problems of Congestion. But by 1911, Olmstead had persuaded the planning association to drop the phrase "the Problems of Congestion" from the name of the conference. Olmstead wanted to develop city planning as a field of physical planning and knowledge. Unlike Marsh, he was not interested in mounting a national campaign for social reform [3]. So city planners took their leave of social reformers and public health advocates and went in a different direction. In 1917, the American City Planning Institute was formed as a professional society [4].

The history and purpose of planning and public health are clearly intertwined. In the early 20th century, policymakers also recognized this interconnectedness. Congress passed the standard state enabling acts for zoning and planning in the 1920s [5]. Section 1 of the zoning legislation states that the act is for regulating land use "for the purpose of promoting

health, safety, morals, or the general welfare of the community..." [6] Then and today, any local government with a zoning code has language in it that ties zoning to public health. Although, public health is one of the pillars of zoning, it had lost its connection with the planning profession until recently.

Planning and public health, which had once had much in common, became very specialized and separate fields in the 20th century. The 2 professions are once again joining forces to tackle a common problem: the public health consequences due to suburbanization.

Planners Get Interested in Public Health Again

The Futurama exhibit at the 1939 New York World's Fair sold Americans on the dream of highways and suburbs; they bought the vision hook, line, and sinker. Congressional action, including passage of the National Interstate and Defense Highways Act of 1956 [7], helped build more than 40,000 miles of highways. By the 1950s, the suburbanization of America was in full swing. By the end of 20th cen-

The BRC group began as a small-scale effort to leverage the expansion plans of Rex Healthcare and the North Carolina Museum of Art into improvements in connectivity, including pedestrian access, on Blue Ridge Road. Over the past 4 years our group has grown, and it now includes stakeholders representing some 2,000 acres in west Raleigh, including the Centennial Authority's PNC Arena, the North Carolina State Fairgrounds, and North Carolina State University's Centennial Biomedical Campus. During the course of our discussions, the BRC stakeholders group realized that this district could serve as a statewide model for 21st-century urban planning. This was confirmed by the first-place ranking given to the corridor in the 2011 grant program of the North Carolina Sustainable Communities Task Force, a multiagency group created by the North Carolina General Assembly in 2010 to lead and support the state's sustainable community initiatives [7].

In keeping with the goals of the Sustainable Communities Task Force, the corridor offers the potential to bring together the components of land-use planning, transportation, and affordable housing while preserving open space and the environment, enhancing economic development, and optimizing public health. As part of the planning process for the corridor, one of North Carolina's first comprehensive health impact assessments (funded by the Blue Cross and Blue Shield of North Carolina Foundation) will be conducted through the Gillings School of Global Public Health and the Department of City and Regional Planning at the University of North Carolina at Chapel Hill with the cooperation of the city of Raleigh.

Furthermore, the BRC can also serve as a pilot program for the North Carolina Department of Transportation's new Complete Streets Policy (which intends to make streets useable by all transportation modes), by collaborating on multimodal transportation options needed to serve the community, including pedestrians, bicyclists, and public transit users. Ultimately, the corridor provides a possible paradigm for statewide healthy development

that does not compromise natural systems or the needs of future generations of North Carolinians. NCMJ

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tury, suburban sprawl and an environment designed for cars rather than for pedestrians had resulted in lower levels of physical activity and a rise in obesity. These emerging trends have led public health professionals and planners to recognize that they once again have in common a problem that needs to be addressed. This time the threat is not urbanization, but suburbanization.

The health trends attributable to sprawl are troubling. According to the Centers for Disease Control and Prevention (CDC), only 43.5% of adults are highly physically active, and 25.4% engage in no leisure-time physical activity whatsoever [8]. Based on 2007-2008 data, it is estimated that 68% of people in the United States are either overweight or obese, and this proportion is rising rapidly [9]. The CDC estimates that nationally, more than one third of adults are obese, and in 2008, medical costs associated with obesity amounted to \$147 billion [10]. In North Carolina in 2010, 29.4% of adults were obese [11], and a 2012 study estimated that the state

spends \$4.6 billion a year on medical care associated with obesity-related illnesses [12]. Further, it should be noted that certain groups of people tend to be more at risk for obesity, including those with less household income, less education, and those of certain racial/ethnic groups such as African Americans and Latinos [11].

Although some planners are beginning to work with public health professionals to address concerns about physical activity levels and obesity, many are not yet doing so. A 2011 survey conducted by the American Planning Association (APA) and funded by the CDC found that most cities do not consult public health professionals when creating comprehensive plans. It is noted that the survey "was intended as an information-gathering tool to inform further case-study research" and will be used to "help develop a policy report that will feature tools and strategies planning and health professionals can use to integrate health into the plan-making process" [13].

Economics, Physical Activity, and Community Design

David Chenoweth

The direct medical care cost of physical inactivity in North Carolina in 2010 was \$3.67 billion [1]. When lost productivity costs such as those resulting from absenteeism and presenteeism are factored in, the economic tab rises to more than \$8.38 billion. Yet these costs would actually have been even higher had it not been for a slight improvement in physical activity rates among North Carolina adults over the preceding few years [2]. And when medical care and lost productivity costs for excess weight—which typically coexists with physical inactivity—are added into this cost equation, North Carolinians are saddled with additional costs of \$17.60 billion per year [1].

Certainly many factors contribute to the high prevalence of physical inactivity in North Carolina. Social, cultural, economic, and technological factors are commonly cited. We know that the inextricably interwoven nature of these factors shapes our ever-changing built environment and has profound influences on our health. The importance of these factors becomes apparent when one considers the inverse relationship between the substantial growth in our roadways (and dependence on motor vehicles) and the decline in physical activity rates over the past 50 years. Yet in contrast to the well-documented connection between physical activity and health, the effect of the built environment on physical activity levels is a relatively new area of inquiry [3]. Thus, it is fair to ponder the question of whether a community's built environment—its land use patterns, transportation systems, building designs, and natural resources—influences the physical activity patterns and levels of its citizens.

The relationship between the built environment and physical activity is complex and operates through many mediating factors such as social and demographic characteristics, personal and cultural variables, safety and security, and time allocation [3]. Yet, physical activity levels tend to increase when physical activity venues are in close proximity to the places where people live, go to school, recreate, and work [4]. A study on the cost-effectiveness of readily-available bicycle and pedestrian trails found that the per capita annual cost of using the trails was nearly \$210 compared to a per capita annual direct medical benefit of using the trails of approximately \$564.

This benefit-cost ratio of 2.94 to 1 means that every \$1 investment in trails for physical activity led to \$294 in direct medical benefit. The sensitivity analyses indicated the ratios ranged from 1.65 to 13.40. The most sensitive parameter affecting the cost-benefit ratios were equipment and travel costs; however, even for the highest cost, every \$1 investment in trails resulted in a greater return. Therefore, building trails is cost-beneficial from a public health perspective. [5]. Other researchers, using actual construction and maintenance cost values provided by state recreational officials in Colorado, reported a benefit-cost ratio of nearly 3 to 1 (for the local economy) tied to existing bike and pedestrian trails [6]. And, a 2004 study of the annual economic impact of bicycling tourists on the northern Outer Banks of North Carolina found that an initial \$6.7 million expenditure of public funds to construct bicycle facilities was yielding a return each year of 9 times the original investment [7].

Of course, the design and availability of various transportation modes within a built environment is an important consideration when studying physical activity levels. For example, communities adopting "smart growth" street designs (ie, those incorporating designated bike lanes, pedestrian-friendly sidewalks, below-ground utilities, tree-lined streets, a designated median for light rail, and mixed use [residential and commercial] zoning) generally show substantially higher rates of physical activity than areas without a smart-growth approach [3]. Some of the impetus for these particular smart-growth designs is provided by research showing that designated bike lanes can substantially increase the number of commuters bicycling to and from work and are likely to generate substantial health care cost savings and fuel savings [8, 9].

Worksites also make up an important part of our built environment, and their structural design and policies can spur or suppress physical activity. Many larger organizations have onsite fitness centers. Also, many worksites have successfully promoted the use of stairways as a viable strategy for boosting employees' physical activity levels [10]. Innovative building design features such as "skip-stop" elevators, which stop only at every third floor, can increase stairway use [11].

In 2006, Marya Morris, in a Planning Advisory Service Report published by the American Planning Association, reminded planners that public health professionals and advocates are their allies and have useful information about how the built environment affects health:

Supporters of good planning and smart growth have a new ally—public health practitioners and advocates. In the mid to late 1990s, noting the tremendous increase in the rate of obesity in Americans and limited success of the medical profession's efforts to persuade people to change their eating

habits and get regular exercise, public health policy makers and researchers turned their attention to factors of the built environment that affect peoples' eating habits, and exercise habits. In particular, they are focusing on patterns of development at the neighborhood, communitywide and regional level as well as transportation mobility options [14].

After decades of sprawl and poor eating habits, obesity has increased dramatically among adults and children. That emerging trend has compelled the CDC and public health advocates to examine ways that the built environment con-

North Carolina is one of the fastest-growing states in terms of population. This fast growth brings into question the level of prospective planning needed to ensure the built environment keeps pace with the size of the population so that physical activity can be adequately fostered. After all, the slight annual improvement (+1.045%) in physical activity rates over the past few years among North Carolina adults still lags behind the rate of annual population growth in the state (+1.85%). Taken together these trends imply an increase in the absolute number of physically inactive adults, rendering the importance of developing an infrastructure that supports physical activity even more critical. And based on physical activity percentage rates among North Carolina adults over the past decade, there is no guarantee that the slight improvement seen in the past few years will continue. Moreover, as the state's population of older adults continues to grow, the prevalence of chronic diseases will also grow, and the need for increased access to physical activity will become even more important for citizens of all ages. Indisputably, these evolving forces provide us with a provocative opportunity to think about establishing appropriate venues in the built environment.

Of course, creating an expanded built environment that fosters physical activity for all ages is a logical, and essential, first-step toward meeting this challenge. At a minimum, a unified and sustained commitment from key decision makers, policymakers, and individual citizens will be needed to push the needle forward. Now is the time for decision makers in education, government, transportation, real estate, and industry to form nonpartisan partnerships in order to achieve this universal goal. Given that all of these individuals have the potential to positively influence the quality of our ever-evolving built environment, it is absolutely crucial for them to work together for the betterment of all North Carolinians. Of course, physicians and other health care practitioners can play an important role in addressing this evolving challenge as well. They command a high level of respect among their patients and thus should continue to push them to understand that exercise is the best medicine in preventing and mitigating many illnesses. As we navigate a new path to tackle today's lifestyle and health care challenges, is it not time to transform the Good Roads State into a Good Health State? Building an environment for physical activity is a good start. **NCMJ**

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tributes to the problem. Not only are public health, planning, and design professionals coming together, but state and local agencies are also joining forces to collaborate and plan for a more sustainable and healthier future. And the federal government has begun to require collaboration and a regional approach on the part of those seeking to secure certain types of federal funding for planning.

University courses in planning now teach emerging professionals that communities are interconnected and inter-

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related and that social and physical issues are connected and related as well. Clearly, this is a shift away from the philosophy the profession embraced in the early 20th century at Olmsted's urging. It is now clear that ignoring the relationship between social and physical issues can produce poor results and health disparities.

The American Planning Association, an organization of 40,000 members, has created a research center dedicated to planning for healthy communities. The American Planning

Association's Planning and Community Health Research Center is intended to help planners, health professionals, and citizens create healthy communities and shape better places for future generations [15].

Healthier Communities

Today, planners and public health professionals are finding common ground and are now engaged in tangible efforts to create healthier communities. The most recent type of intervention to build the alliance between the professions is the health impact assessment (HIA). An HIA is a process that is used to evaluate the potential health effects of a policy or project by finding ways to maximize positive health benefits [16].

Other points of collaboration include designs for active living and improved development patterns; access to parks and greenways that promote more exercise, such as walking, biking, and hiking; and urban agriculture, to address food deserts and provide healthier food choices.

Active living is a way of life that integrates physical activity into daily life, and includes such activities as walking or biking to work or school. Active living is also a movement that involves urban planners, architects, transportation engineers, and public health professionals. Current trends suggest that obesity will get worse unless all of these groups intervene. Fortunately, emerging markets of boomers and millennials are demanding walkable communities. Businesses are seeking healthier communities to ensure a better quality of life, a healthier workforce, and reduced health care costs.

In June 2010, the American Dietetic Association, the American Nurses Association, the American Planning Association, and the American Public Health Association met to develop a set of shared food-system principles. It was the first time that national leaders in the nutrition, nursing, planning, and public health professions had worked collaboratively to create a shared platform for system-wide food policy change [17].

Raleigh's Blueprint for a Healthy City

A good example of the planning and public health professions working together successfully can be found in Raleigh, North Carolina. The city is known for its access to recreation and its quality of life, but it is in a region known for its sprawled development pattern.

When developing a comprehensive city plan, Raleigh used both an outreach strategy and an inreach strategy. The outreach strategy sought to engage external stakeholders. The inreach strategy focused on engaging city-department stakeholders. The intent was to avoid a silo approach to planning. The planners shared emerging issues and trends with the public in order to reach agreement on shared values and a shared vision for Raleigh's future. These emerging trends included the graying and browning of America, the changing

size and composition of households, and other demographic issues. Through public meetings and online bulletin boards, public health professionals, advocates, and educated citizens underscored the need for a healthier community.

Six core themes emerged that included public health as a core principle, and a number of policies were developed to advance public health. A new development pattern was proposed that would curb sprawl over the next 20 years by shifting 60% to 70% of all new development to 8 growth centers and 12 transit corridors. These corridors would accommodate multiple modes of transportation, such as cars, light rail, buses, walking, and biking. It was decided that parks and greenways should be expanded. The intent was not just to enhance scenic beauty and address the recreational needs of residents, but also to use the 80-mile greenway system as a transportation route for people who want to bike or walk to work. Health Impact Assessments were introduced. Thanks to Leah Devlin, former state health director, Raleigh is exploring how it can adapt HIAs to analyze the health implications of new projects. The city is undertaking its first HIA on Blue Ridge Road near Rex Hospital. Raleigh is rewriting its development code to require connectivity standards, usable open space, and sidewalks on both sides of the street in new subdivisions, with connections to the greenway system where possible. The city council passed a new pedestrian access requirement for all new development, especially commercial projects. The transportation planning staff is working on creating safe routes for walking and biking to schools and on promoting urban agriculture and community gardens.

Thus it comes as no surprise that the survey on Comprehensive Planning for Public Health conducted by the American Planning Association in March 2011 found that Raleigh was the only city in the country to address at least 50 percent of specific health topics in its comprehensive plan [13]. The only jurisdiction that addressed more public health issues in its plan was the Oneida Nation of Wisconsin.

Furthermore, many publications and media outlets, such as Reuters, Businessweek, and the magazines Men's Health and Women's Health, consistently rank Raleigh as one of the top cities for overall health for men and women [18].

It's Time to Come Home

Public health professionals and planners share a "professional DNA", and an urgent need to respond to trends that surfaced in the mid-1990s is bringing us back to together. A half-century of suburban development patterns has made Americans less healthy and has limited their choices. Now more than ever, professionals need to form new alliances or revive old ones to address the enormous challenges of the 21st century.

Planners and public health professionals need to work together. They must work together. It's time to come home. Our communities need us. NCMJ

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Unfortunately, its motor is inside playing video games.

Kids spend several hours a day playing video games and less than 15 minutes in P.E. Most can't do two push-ups. Many are obese, and nearly half exhibit risk factors of heart disease. The American Council on Exercise and major medical organizations consider this situation a national health risk. Continuing budget cutbacks have forced many schools to drop P.E.—in fact, 49 states no longer even require it daily.

You can help. Dust off that bike. Get out the skates. Swim with your kids. Play catch. Show them exercise is fun and promotes a long, healthy life. And call ACE. Find out more on how you can get these young engines fired up. Then maybe the video games will get dusty.



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