

Healthy People and the Design Sciences

The Robert Wood Johnson Foundation

Advances the Frontier

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The concerns addressed in the papers of this supplement to the *American Journal of Preventive Medicine*—the science of understanding and mobilizing community action around the health implications of our built spaces and places—are central to our health futures.^{1–16} Our most fundamental national aspirations for improving the human condition simply cannot be achieved without deeper insights into the ways the built environment shapes peoples' lifestyles, health, and well-being. The importance of this reality was once again underscored with the release in December 2010 by the Secretary of Health and Human Services of *Healthy People 2020*,¹⁷ the nation's health objectives for the decade.

Under the banner slogan "Healthy People in Healthy Communities," *Healthy People 2020* establishes overarching goals for national progress related to longer, healthier lives for all: eliminating health disparities, creating health-promoting physical and social environments, and improving the quality of life and lifestyles across all ages. In support of these goals, *Healthy People 2020* also presents measurable objectives for the nation in 42 topic areas. Progress toward each of the goals, and in at least 18 of the topic areas, depends substantially, or in part, on initiatives targeting the design of our built environments (Table 1).

This is not a novel notion. Nearly 2500 years ago, Hippocrates observed that "whoever wishes to investigate [health] properly," must, when examining a new city, "consider . . . most attentively . . . the mode in which the inhabitants live, and what are their pursuits."¹⁸ But if the admonition was ever taken seriously, sometime between 400 BCE and today, it was lost to our civic leaders—not to mention the leadership of the health and medical communities. As forces of technology and modernization have taken hold—proliferation of the automobile, school busing, housing concentration, and sidewalk elimination—physical activity systematically has been engineered out of people's lives. In synergy with the

parallel leaps in the availability and consumption of food, this rapid decline in activity patterns has ushered in the obesity epidemic.

The consequences are visible, not only across America's cityscapes but in the physical and health profiles of the American people. Between 1980 and 2009, the proportion of American adults who were obese more than doubled. Among children aged 6–19, the trend has been even more alarming, with rates tripling over the same period.^{19,20} The effects on health have been severe, with ripples seen in multiple conditions. From 1981 to 2007, when the mortality from all leading causes of death were declining, the death rate from diabetes rose by more than 30%, and is now number five on the list.²¹ In 2003, type 2 (typically adult-onset) diabetes, previously virtually unknown in children, was newly diagnosed in one of every 20,000 children, a number that grows with every passing year.²² Further jeopardizing the health of our nation's youth, adolescent hypertension is rising steadily.²³ Among what have been termed the *actual* causes of death—etiologic elements with fatal consequences—diet and physical inactivity patterns now virtually match tobacco at the top of the list.²⁴

Whether in the ways buildings are designed to discourage the use of stairs, neighborhoods are zoned to place incentives for driving ahead of those for walking, or cities are laid out without green space or bicycle lanes, the structural and cultural barriers to physical activity are pervasive. All things considered, it may now be that architects, urban planners, parks and recreation heads, transportation authorities, school board members, and zoning commissioners have greater potential influence over the health of Americans than do physicians. However, scientific understanding of the character of this influence is shallow and its assessment complicated by the complex, intersecting factors involved in any community-wide intervention.

Hence, the clear and compelling importance of the Active Living by Design (ALbD) program launched a decade ago by the Robert Wood Johnson Foundation (RWJF), and the progress report on the scientific front presented in this issue. The papers review the results from the 25 RWJF-sponsored community demonstration projects mobilizing cross-stakeholder initiatives

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Table 1. Topic areas of goals in *Healthy People 2020*

Access to health services
Adolescent health
Arthritis
Cancer
Chronic kidney disease
Diabetes
Educational and community-based programs
Environmental health
Health-related quality of life and well-being
Heart disease and stroke
Immunization and infectious diseases
Injury and violence prevention
Nutrition and weight status
Occupational safety and health
Older adults
Physical activity
Preparedness
Social determinants

on behalf of changes in the built environment designed to increase community-wide physical activity levels.^{1–16} The 5P Community Action Model was oriented around a stratified focus on five key elements: preparation, promotions, programs, policy influences, and physical projects.

The ALbD program's evaluation strategy tracked these elements, and the results are instructive on both the dimensions of the individual interventions and for the general design and interpretation of broad community-wide interventions. With respect to the ultimate outcomes—improved physical activity levels—certain ALbD communities, such as Isanti County MN¹⁰ and Somerville MA,¹¹ offer encouragement, despite the fact that such progress was not universal.^{14,15}

With respect to the primary focus of the evaluations—the process elements—there are similarly encouraging results on the mobilization of partner stakeholders. Reports contain clear indications for follow-up evaluation, building, for example, on the observations related to cross-stakeholder community partnerships with the capacity to effect change^{2,3,9} and on the power of social marketing in mobilizing broad-based community support for physical activity programs.¹²

Throughout the papers, many other valuable hints can be found to inform and motivate activities in other places. But the real importance lies in their contribu-

tions to the scientific capability so important for multisectoral contributions to health: the knowledge base to sharpen action on our rapidly growing appreciation for the health implications of our built environments and to improve our sophistication in designing and interpreting the wide range of community-wide interventions vital to health progress.

With the care taken by RWJF in the design and implementation of Active Living by Design, and the findings reported here in the Journal, important steps have been taken in the march of science on behalf of better health. Given the trend line in our challenges, if the aspirations embodied in *Healthy People 2020* are to be realized, the activities and their pace must not only be sustained but quickened. The consequences will be felt not alone today, tomorrow, or in 2020, but for generations to come.

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