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Viewpoint

Developing and implementing the Active Design Guidelines in New York City[☆]

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ABSTRACT

Physical inactivity is a leading cause of death in the United States and globally and is also associated with several additional leading causes of death, including obesity, high blood pressure and high blood glucose. The built environment plays a critical role in promoting or discouraging physical activity among adults and children. To create a healthier and more physically active city, a working group comprising several New York City agencies, including the Departments of Design and Construction, Health and Mental Hygiene, Transportation and City Planning, and in collaboration with design organizations and academics, published the Active Design Guidelines (ADG; www.nyc.gov/adg) in January 2010. The ADG is a manual of evidence-based and best-practice strategies for increasing physical activity in the design and construction of neighborhoods, streets and buildings. The commentary discusses key activities and events leading up to the publication as well as current implementation activities. It also shares the lessons learned that could assist other communities interested in improving their built environments in developing and implementing similar activities and initiatives.

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1. Introduction

In NYC, obesity and Type 2 diabetes are epidemic and continuing to get worse. Childhood obesity rates are particularly high, with ~40% of NYC elementary and middle school children overweight or obese (Egger et al., 2009). These childhood obesity rates exceed those in the US where ~30% of elementary and middle school children are overweight or obese (Egger et al., 2009).

Obesity is the second leading cause of deaths in the US after tobacco, and physical inactivity is the fifth leading cause. Physical inactivity also contributes to the second, third and fourth leading causes of deaths—obesity, high blood pressure and high blood glucose, respectively (Danaei et al., 2009). Globally, non-

communicable diseases have also overtaken infectious diseases as the leading causes of death, accounting for over 36 million deaths annually around the world. Four risk factors are named by the World Health Organization as being responsible for approximately 80% of these deaths: tobacco, physical inactivity, harmful use of alcohol and unhealthy diets (World Health Organization, 2011).

There has been accumulating evidence, particularly over the last two decades, of the important role that the built (or human-made) environment—our buildings, streets, neighborhoods and their amenities—plays in increasing or inhibiting physical activity. The Task Force on Community Preventive Services convened by the US Centers for Disease Control and Prevention (CDC) has concluded that sufficient to strong levels of scientific evidence now exist for several policy and environmental approaches to increase physical activity, including the use of stair prompt signage at points of decision such as elevators and escalators, the creation or enhancement of access to places for physical activity, and community-scale and street-scale urban design policies and interventions (Centers for Disease Control and Prevention, 2011).

1.1. Creating a built environment program at the NYC Department of Health and Mental Hygiene

In 2006, in light of the above, the NYC Department of Health and Mental Hygiene (DOHMH) began prioritizing built

[☆]Guest Editor's note: Active Living Research has awarded the fourth annual Translating Research to Policy Award to the Active Design Guidelines Team: New York City Departments of Design and Construction, Health and Mental Hygiene, Transportation, and City Planning. The purpose of the award is to recognize innovative teams or individuals representing research, policy, and/or advocacy who have had success in catalyzing policy or environmental change of relevance to youth physical activity, sedentary behavior, and obesity prevention. The goal is to celebrate achievements, understand how success occurs, and share these stories so others will be inspired to use or adapt new and effective approaches. The commentary that follows describes the work that is being recognized by the Award. Active Living Research commends the awardees on their success in changing policy, and we commend this as a model to others.

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environment interventions to improve the city's buildings, streets and neighborhoods to support active living, and healthier food and beverage access. The DOHMH hired a director responsible for planning and implementing a Built Environment Initiative in NYC.

1.2. Creating buy-in and momentum for cross-sectoral collaboration in NYC

The work in NYC was launched with a half-day conference in 2006 held jointly with the American Institute of Architects New York Chapter (AIANY). At this first Fit City conference, six of which have now been held (American Institute of Architects New York Chapter, 2007, 2008, 2009, 2010, 2011), health, design, planning and construction professionals and academics brainstormed joint solutions to combat the epidemics of obesity, Type 2 diabetes and non-communicable diseases affecting the city. Then Commissioner of NYC DOHMH, Thomas R. Frieden, opened the conference and presented the dire situation faced by New Yorkers regarding these health conditions. Other speakers from CDC and academia reinforced the issues and presented the evidence base for built environment solutions. NYC presenters and participants from public and private sector architecture and planning groups were asked to brainstorm built environmental solutions and to identify opportunities for action in NYC. The AIANY released a Fit City Report of recommendations (American Institute of Architects New York Chapter, 2007). Two key themes that arose during the conference were the need to find synergies with the priority of environmental sustainability, including the Mayor's PlaNYC initiative for long-term planning for population growth and environmental sustainability in NYC (The City of New York, 2007, 2011), and to ensure that barriers to universal accessibility would not occur for people with disabilities.

Momentum was continued after the Fit City conference through development of intersectoral initiatives from ideas generated at the conference. For example, designers suggested creating an incentive for incorporating physical activity-promoting strategies into built environment projects that would take advantage of NYC's Local Law 86 taking effect in 2007, which would require all major public sector-funded construction and renovations to become green buildings through processes such as Leadership in Energy and Environmental Design (LEED) green building certification. Since up to four Innovation in Design Credits are allowed to contribute points toward LEED certification outside of the standard set of credits, NYC DOHMH began working with the NYC Departments of Design and Construction (DDC), and Buildings, and the Mayor's Office of Management and Budget on the creation of a LEED Innovation in Design Credit for Health through Increased Physical Activity. Private sector architects and LEED consulting firms were also engaged. The US Green Building Council (USGBC) Head Office and Board were consulted on development of the credit, now approved in two DOHMH buildings, two affordable housing buildings and a grocery store in NYC. The LEED Innovation Credit is currently being used and/or discussed for use in over 20 other projects across the US, and NYC DOHMH and DDC are working closely with USGBC headquarters and active living academics nationally, the CDC and American Public Health Association to develop an Active Design Index to measure the physical activity-promoting potential of different projects using various credits across LEED rating systems.

1.3. Creating the Active Design Guidelines

In 2007, David Burney, the Commissioner of NYC's Department of Design and Construction (DDC), was the closing keynote speaker at the Fit City 2 conference (American Institute of

Architects New York Chapter, 2008). Commissioner Burney, FAIA, winner of the 2011 American Institute of Architects Thomas Jefferson Award for Public Architect of the Year in the US, announced that the city would lead efforts to improve its buildings and streets with the creation of the Active Design Guidelines (ADG; The City of New York, 2010). The ADG is a manual of evidence-based and best-practice strategies for increasing physical activity in the design and construction of neighborhoods, streets and buildings.

Building on the series of guidelines that DDC has created to promote Design+Construction Excellence for a range of issues, the ADG would be the next in the series to promote designing and constructing for active living in public and private sector projects in NYC. Following the Fit City 2 conference, Commissioner Burney convened a working group consisting of staff from NYC DDC, DOHMH and the Departments of Transportation, and City Planning, along with the Mayor's Office of Management and Budget. Coordinating the working group, including monthly meetings and deliverables, was a built environment coordinator hired by the NYC DOHMH built environment director. Nationally known academics with research expertise in architecture, planning and health were engaged to assist with literature reviews. These reviews were the basis for most of the strategies in ADG. Over the course of the next year, the draft ADG was written and reviewed by many city agencies, including the NYC Departments of Parks and Recreation; Buildings; Housing Preservation and Development; Aging; City-wide Administrative Services; School Construction Authority; and the Mayor's Offices of Long-Term Planning and Sustainability, and People with Disabilities. A design charrette (workshop) was held in January 2009 for private sector architectural and planning practitioners to test the feasibility of use of the ADG through design exercises. Feedback from that workshop included adding ideas not originally in the draft ADG due to lack of available research evidence. The Active Design Working Group, working with the academic consultants, grappled with this issue and decided that a system with three levels of evidence would be presented: strategies with strong and emerging evidence, as well as strategies for which the evidence base was lacking but which designers believed could work. The latter represented strategies that were opportunities for future research by academics.

The ADG was released on January 27, 2010. Its effectiveness has been evaluated with funding from RWJF's Active Living Research program (ALR). Preliminary results from this pre-post evaluation just five months after the launch of the ADG (even before the start of training efforts) showed that self-reported confidence, knowledge and intention to incorporate active design increased among architects and designers. The ADG can be downloaded for free at <www.nyc.gov/adg>.

2. What is happening now? Implementing the Active Design Guidelines

The NYC ADG Team, consisting of the core city agencies of DOHMH, DDC and City Planning and Transportation, is now working together with other city agencies to implement the ADG. Three current areas of work in NYC are: (1) policy efforts to integrate the ADG into all city building and street construction projects and contracting processes, as well as greening of construction codes (US Green Building Council Urban Green Chapter, 2010); (2) outreach to building managers, schools and community groups to encourage elements of the ADG such as adoption of stair prompts and PlayStreets and (3) trainings of architects and planners.

Trainings were developed based on surveys of architects and designers that revealed continuing education seminars as the

leading way these professionals obtained new knowledge and information. From September 2010 to August 2011, over 1300 architecture, planning, design and real estate professionals in the NYC area were trained with > 70% of surveyed trainees reporting not having read the ADG previously, > 95% reporting increased knowledge and 85% reporting plans to incorporate strategies into projects.

NYC's Departments of Transportation, City Planning and DDC, have been working to increase bicycle infrastructure and to further pedestrianize NYC streets through creation of pedestrian plazas and through streets temporarily closed to cars. Seven community PlayStreets – single street blocks closed weekly or daily to cars and organized by schools and community groups to inexpensively and quickly create active playspaces for children and families – were piloted in summer 2010. Intercept interviews of parents by NYC DOHMH showed children coming to the PlayStreets recurrently for an average of over 1–2.5 h. The majority of parents reported their children would most likely have been inside or watching television had they not been at the PlayStreet. PlayStreets have also been incorporated into the recently released second version of PlaNYC (*The City of New York, 2011*).

There is also a study underway supported by a second RWJF ALR grant to assess the cost of implementing the ADG in affordable housing in NYC, Atlanta and San Antonio. The report of this study is anticipated to be released in 2012. Finally, NYC has been provided funds from CDC to mentor 14 other US communities in active design.

3. Lessons learned

There were several key lessons learned in NYC about successfully moving forward evidence-based built environment policy and practice initiatives to increase physical activity. First, cross-sector partnerships – across disciplines as well as public–private sector partnerships – were absolutely necessary since health sectors do not design or build our built environments. Although a large number of partners were engaged in brainstorming and to give input on final products, a small number of core partners met frequently to get the work done based on priority ideas brainstormed. To rely on an extensive set of partners for every stage of work on every initiative would have likely slowed the process.

There were complementary roles for health partners and built environment partners. Health partners created forums, such as the Fit City conferences, for dialog with design and planning professionals. Such forums were planned and held in partnership with design and planning organizations such as the local chapter of the American Institute of Architects, the American Planning Association and the US Green Building Council. Health partners used such forums to share information about health priorities and available evidence-based built environment strategies as solutions. Specific ideas of what could be done within the city in both public and private sector built environment projects and policies, however, were generated by those working in architecture, planning, transportation, parks, housing and school construction, among others. As such, ideas for initiatives were those deemed feasible by the people who designed, constructed and managed our built environments. The Health Department then played a key role in assisting with and supporting the development and

implementation of intersectoral initiatives from ideas generated, including provision of city- and grant-funded staff.

Research played a key role in providing the evidence base for the initiatives and in informing implementation and evaluation. Academic researchers were engaged as partners in the review of the evidence for strategies and initiatives. Researchers were also partners in the garnering of grants and the development of methods to evaluate initiatives. Finally, although the priority is for implementation of evidence-based strategies, innovative ideas from practitioners that lack an evidence base can present opportunities for partnership between practitioners and researchers in evaluation to create the next generation of needed evidence.

The NYC approach of cross-sectoral collaboration for improving the built environment, drawing from the expertise of different disciplines across public and private sectors, is a model that can be feasibly adapted to other local jurisdictions. Given the current epidemics of obesity and non-communicable diseases, and the evidence for effectiveness of built environment interventions, it is also a needed model.

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