2010

Obesity, Poverty, and the Built Environment: Challenges and Opportunity

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Public Health Law and Ethics

A Reader
Revised and Updated Second Edition

Edited by Lawrence O. Gostin

UNIVERSITY OF CALIFORNIA PRESS
Berkeley · Los Angeles · London

THE MILBANK MEMORIAL FUND
New York

University of California Press, one of the most distinguished university presses in the United States, enriches lives around the world by advancing scholarship in the humanities, social sciences, and natural sciences. Its activities are supported by the UC Press Foundation and by philanthropic contributions from individuals and institutions. For more information, visit www.ucpress.edu.

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University of California Press
Berkeley and Los Angeles, California

University of California Press, Ltd.
London, England

Library of Congress Cataloging-in-Publication Data

Public health law and ethics : a reader / edited by Lawrence O. Gostin. — Rev. and updated 2nd ed.
p. cm. — (California/Milbank books on health and the public ; v. 4)
Includes bibliographical references and index.
ISBN 978-0-520-26192-1 (alk. paper)
1. Public health laws—United States. 2. Public health—Moral and ethical aspects. I. Gostin, Lawrence O. (Lawrence Ogalthorpe) II. Milbank Memorial Fund.
KF3775.P83 2010
344.73'04—dc22 2010007682

Manufactured in the United States of America

19 18 17 16 15 14 13 12 11 10
10 9 8 7 6 5 4 3 2 1

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which the built and socioeconomic environments interact to fuel the obesity epidemic in the United States.

OBESITY, POVERTY, AND THE BUILT ENVIRONMENT: CHALLENGES AND OPPORTUNITY*

Wendy C. Perdue

Obesity and its associated chronic diseases have become a major health concern in the United States. . . . Approximately two thirds of adults in the United States are either overweight or obese, and the condition is linked to diabetes, high blood pressure and other chronic conditions requiring ongoing medical supervision. Obesity is a particular health concern for the poor. Not only are obesity rates generally higher among those with lower socioeconomic status, but the chronic conditions caused by obesity may present a particular challenge for the poor who often lack access to necessary ongoing medical supervision.

Obesity is linked to behaviors related to food consumption and physical activity. Although the factors affecting [these] behaviors are complex, there is growing evidence that the physical characteristics of many of our communities, and particularly poorer communities, encourage obesity-generating behaviors. . . .

OBESITY AND THE BUILT ENVIRONMENT

Even before researchers began to focus on obesity, the connection between human behavior and physical surroundings was observed and documented. Jane Jacobs' pioneering work on public spaces observed that some parks and public spaces feel welcoming and safe and draw people in, while other spaces, because of their design, have the opposite effect. . . . Except for people inhabiting highly rural and undeveloped areas, the primary features of people's physical environment are man-made, and encompass everything from land use patterns and urban planning, to the design, location, uses and interrelations among buildings, to transportation systems. All of these man-made physical features are known collectively as the "built environment." Increasingly, evidence suggests that the features of the built environment affect behaviors related to obesity. . . .

. . . Studies suggest that proximity to stores stocking healthier food choices has measurable effects on health. Unfortunately, access to healthy foods can be particularly problematic for the poor. . . .

In the United States, small grocery stores and convenience stores tend not to stock much selection of healthier foods, and supermarkets are the primary source of [healthy] foods. However, as supermarkets have moved to larger size store formats, the total number of grocery stores in the U.S. has actually declined. . . . Fewer stores that are larger and further apart may not be a problem for affluent residents with cars, but it can be a challenge for poorer residents. . . .

While healthy food may be relatively hard to find in poorer neighborhoods, less

*Reprinted from *Georgetown Journal on Poverty Law & Policy* 15 (2008): 821–32.

healthy food may be more plentiful. Studies have found that the concentration of fast food restaurants is greater in poorer neighborhoods than wealthier ones—sometimes 2 to 3 times the density. . . . Empirical evidence shows a correlation between higher calorie consumption and obesity rates on the one hand and, on the other hand, proximity to fast food restaurants. Thus, whatever the merits of individual moderation as a response to weight gain, many poorer communities have limited access to healthy foods and abundant access to unhealthy foods.

In addition to impacting food consumption, characteristics of the built environment may impact levels of physical activity. Studies showed that less dense, automobile-dependent patterns of development correlate with lower levels of physical activity and an increased risk of being overweight. This research has significant implications in light of changing demographic patterns—notably the "suburbanization of poverty." As one study notes, "by 2005, the suburban poor out-numbered their central-city counterparts by at least 1 million" (Berube and Kneebone 2006, 12). Thus, the poor are increasingly located in communities that are spread out and unwalkable. The poor located in urban communities also confront neighborhood characteristics that discourage physical activity. Crime and perceptions of crime are affected by features such as abandoned buildings, vacant lots and poor lighting and may be significant deterrents to outdoor activity such as walking or using parks or playgrounds. . . .

Another factor which may impact levels of physical activity is access to recreation facilities. Although . . . empirical studies do not show consistent results among all populations in all locations, some studies show a clear association between greater proximity to recreation facilities and frequency of exercise or lower weight. . . . One study of over 20,000 adolescents found that not only were private facilities more plentiful in wealthier communities, public and quasi-public facilities including schools, parks, YMCAs and youth organizations were as well.

This brief summary highlights that the behaviors associated with obesity do not occur in a vacuum. The choices that people make concerning food and physical activity are significantly influenced by the environment in which those choices are made. . . .

CHALLENGES TO CHANGING THE BUILT ENVIRONMENT

In light of the studies on food and physical activity, a growing chorus of researchers has begun to argue that changing our built environment may be an important component to our public health strategy. [However,] there are some practical, political, and empirical challenges to such a strategy. . . .

First, the empirical data on the correlations between health, healthy behavior, and particular aspects of the built environment are sometimes inconsistent and, among some populations in some locations, these correlations are weak. Even where there is reasonably strong correlation evidence, we lack data that would allow one to draw general conclusions concerning priorities with respect to changes in the built environment. . . . As one study observes, the data on diet and exercise are "disappointingly ambiguous about the contribution of eating vs. that of a lack of physical activity to the obesity epidemic, much less the contribution of specific behaviors" (Jeffery and Utter 2003, 135). . . . .

Second, changing our physical environment can be slow and expensive. For

example, bringing a supermarket to a community requires finding a site, securing financing and [a] permit, and then designing and constructing the facility. It is a process that can easily take five years or more. Efforts to improve public facilities can be similarly slow and, even with the best of intentions, small design defects can doom the effectiveness of the changes. . . .

Third, the complex web of land use and other laws that impact the built environment may be far outside the expertise of public officials. At the same time, improvements in the built environment will require the collaboration of a variety of professionals for whom public health is outside their training. . . . Most issues concerning land use, transportation and development are allocated to urban planners, architects, engineers and offices of economic development. Although there is a growing academic literature on the connection between public health and the built environment, this literature has not necessarily penetrated into the day-to-day focus of those who make land use decisions. . . .

Fourth, to the extent land use and transportation decisions turn on input from surrounding neighbors, poor communities may be at a disadvantage. Language barriers, lower education levels, lack of information, and the inability to get child care or time off from work negatively affect the ability of poorer communities to organize effectively. In addition, poorer citizens may have come to expect less and therefore demand less. For all these reasons, land use processes that are dependent on neighborhood-initiated requests or complaints may be less effective in addressing the needs of poorer communities. For example, some have advocated that fast food restaurants be subject to a special use permit process that would require a showing of need or a demonstration that there is not already an undue concentration. Yet, if this process is structured as a quasi-adversarial proceeding that requires communities to come forward in opposition, such a process may not be particularly effective in slowing the expansion of fast food restaurants into poorer communities. . . . The point is not that planning decisions should be disconnected from the community, but rather that attention must be paid to the procedures used to assure both that the community's voice can be effectively heard and that needed change is not *dependent* on communities becoming politically engaged. . . .

Finally, it is important to appreciate that efforts to change the built environment may encounter some resistance from entrenched interests that have a stake in the status quo. The built environment as it currently exists has been structured by a complex web of laws, regulations, and incentives, and private property and investment decisions may have been made in reliance on these rules. Changes in these rules can create a complex "politics of 'place making'" (Corburn 2004, 543). . . . Moreover, efforts to alter the built environment are sometime understood as an inappropriate government intrusion into the private sphere. Thus, some public officials have questioned whether encouraging supermarket development in underserved communities is properly within their mission. . . .

OPPORTUNITIES TO CHANGE THE BUILT ENVIRONMENT

Notwithstanding these challenges, there are several reasons why attention to the built environment should continue as a component of our public health agenda. First, small changes in behavior may yield significant long-term benefits to obesity and other such chronic diseases and conditions. . . . Noting that a pound of body weight

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typically represents 3500 calories, one research study has estimated that "most of the weight gain seen in the population could be eliminated by some combination of increasing energy expenditure and reducing energy intake by 100 kcal/day" (Hill et al. 2003, 854–55). . . . One hundred calories is equivalent to walking a mile . . . or drinking a 12 ounce serving of Coca-Cola. Thus, environmental changes that cause people to be even a little more active or to eat a little more healthy diet, can produce overall public health benefits. . . .

Second, while some changes to the built environment can be slow and expensive, changes are constantly occurring and will continue to occur, regardless of the engagement of the public health community. . . . Roads are constructed or repaired, government facilities, private homes and business are all being sited and constructed. To the extent that these changes are happening anyway, there may be an opportunity to locate and build in ways that are more likely . . . to be health promoting. Some improvements may not require new money but may be accomplished by spending old money more wisely. [Thus, where] projects are likely to occur anyway, we can locate, design and construct them so that they are more likely to contribute to a healthy environment. Moreover . . . focusing on the potential health benefits of such investments may bring renewed urgency and funding priority to the infrastructure needs of neglected communities. If parks, sidewalks and recreation facilities are understood as an important part of a broader agenda to improve public health, maybe that can provide a justification for further necessary fiscal resources. Finally, not all useful changes are necessarily large and expensive. Small improvements, such as adding lights to pathways, may increase safety and therefore increase usage.

In addition to public projects, private owners are also constantly building and changing their properties. What and where owners build is influenced by a complex web of zoning, land use, and environmental laws, building codes, and tax laws. Changes in the legal framework that shape these incentives can change what gets built. Indeed, some of our current zoning and land use laws may have the effect of discouraging a healthy environment. . . . Building codes written for new construction that are applied to existing buildings may have the effect of discouraging the rehabilitation of old properties and thereby contribute to neighborhood deterioration. Thoughtful reexamination of these laws can encourage a redirection of private investment without necessarily requiring an infusion of public money. . . .

Third, the challenge of gaining institutional expertise of other critical players is beginning to be addressed. . . . City and state planning departments have begun to try systematically to integrate planning and public health. For example, San Francisco convened a multi-stakeholder process that brought together community representatives as well as professionals from multiple fields. The group developed the Healthy Development Measurement Tool which identifies a number of health related data such as neighborhood proximity to grocery stores and recreation facilities along with basic health data. . . . The Tool is not intended to be regulatory but nonetheless applies "a community health 'lens' to planning" (San Francisco Department of Public Health 2006). The San Francisco experience is noteworthy not only for the tool that was ultimately developed but also for the inclusive process that was used. As one commentary by a public health official observed, "Public health, by definition, is a group activity."

Finally, although most of the physical components of the built environment are

privately owned, those components are profoundly affected by government investments, incentives, and laws. Zoning and building codes, the home mortgage deduction and other tax provisions, how and where roads, highways and transportation systems have been built, environmental laws, and urban renewal projects all have changed the parameters of private decisions and private investments with respect to the built environment. Government laws and policies help shape a world that encourages unhealthful behaviors. Those same laws and policies can be restructured to shape a different, more healthful physical environment. . . .

CONCLUSION

A hundred years ago, progressive reformers concerned about the health of the poor understood that they needed to focus considerable attention on the built environment. In an age of infectious disease, frequent epidemics, and squalid tenements, it became apparent that improving health of the urban poor required improving the physical environment in which they lived and worked. For the poor in the United States today, the health crisis is more likely to be chronic rather than infectious diseases, but attention to the physical environment should remain as an important public health tool.

. . . . . .

Beyond the built, economic, and informational environments, the social environment appears to play a significant role in determining obesity levels. Social connectedness and the social capital that such networks yield are correlated with obesity rates—those with greater social capital are less likely to be obese than those who are socially isolated. In a further complication, being overweight or obese seems to contribute to social isolation, thereby promoting a vicious cycle in which weight gain and its psychosocial correlates fuel one another.

Some researchers have begun to examine the nature of social networks and their impact on obesity more closely. In 2007, Nicholas Christakis and James Fowler, two well-regarded social scientists, published a study tracking the weight patterns of participants and of persons within their social networks. The results indicated that obesity is "socially contagious." The likelihood of an individual becoming obese jumped by 57 percent if a friend within his or her social network was obese. Christakis and Fowler's work suggests that overweight and obesity are closely linked to social norms and interpersonal relationships. If so, social networks might also be useful for spreading "good" behaviors, such as a healthful diet and active lifestyle. Although Christakis and Fowler's study remains controversial, it "highlights the necessity of approaching obesity not only as a clinical problem but also as a public health problem" (2007, 378).

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