

Chapter 2

Public Health and Community Planning 101

Abstract This chapter provides an integrated introduction to the history and current practice of two linked fields: public health and planning. The fields of public health and planning have common historical roots, and there is a significant resurgence recognizing this commonality in both theory and practice. This chapter describes the methods, study designs, activities, and results of both public health and planning in the USA; highlights current persistent health and planning issues; and identifies emerging issues for future research and analysis. The chapter includes a case study on obesity and the built environment, highlighting links between urban planning and health. The chapter pinpoints five primary issues in research and analysis requiring greater attention in order to smooth the road for effective interdisciplinary work on health impact assessments (HIAs). It then concludes by identifying key emerging directions for community planning and public health, for which HIA has a direct role.

Keywords American Institute of Certified Planners (AICPs) · American Planning Association (APA) · American Public Health Association (APHA) · Biomedical model · Case-control studies · Chronic disease · Climate change · Cohort studies · Disease outbreaks · Germ theory · Healthy People 2020 · Infectious disease · Natural experiments · Noncommunicable disease · Obesity · Preventive strategies · Public health infrastructure · Public health interventions · Randomized control trials (RCTs) · Sanitary Reform Movement · Sustainability

Public Health: An Introduction

The American Public Health Association (APHA) defines public health as “the practice of preventing disease and promoting good health within groups of people, from small communities to entire countries.” As implied in this definition, health encompasses more than just the absence of illness, and also refers to aspects of social and mental well-being. Public health professionals work to protect, promote, and improve health through population-focused preventive strategies.

Public health has been an important discipline and practice since the first civilizations, and many public health initiatives that remain important today have their origins in initiatives thousands of years old. For example, aqueducts, public toilets, and swamp drainage as public health interventions can be traced back at least as far as the ancient Romans.

As the field progressed, public health improvements became, in many ways, synonymous with development and greater quality of life. Prior to the twentieth century, the burden of disease worldwide consisted primarily of acute infectious diseases and public health efforts were focused on facing these important problems. Since the early 1990s, however, chronic and, particularly, noncommunicable diseases have grown in importance and are now the most significant global cause of death worldwide (World Health Organization 2012; Institute of Medicine 2003). As a result, the field of public health has also undergone a major shift and public health interventions now focus on the conditions associated with chronic disease, such as lifestyle, behavior, social, and environmental factors.

History and Evolution of Public Health

Throughout its history, the USA has generally experienced four periods or phases of public health practice. The first, running from the 1700s to approximately 1850, focused on battling epidemics and widespread outbreaks of infectious diseases such as cholera, smallpox, typhoid, tuberculosis, and yellow fever. The public health response often focused on quarantining individuals or infected areas until the disease subsided.

The second period spanned the years 1850–1949. During this time, influences from Europe—including Edwin Chadwick’s 1837 *Report on an Inquiry into the Sanitary Conditions of the Laboring Population of Great Britain* and John Snow’s use of mapping techniques to demonstrate cholera’s link to specific water sources in London—led public health champions to develop infrastructure- and state-based responses to disease outbreaks. This phase saw the development of state and local health departments and the application of government power over taxation, regulation of commerce, and zoning in order to promote health. To enable these advances, public health officials were charged with ensuring sanitation, controlling communicable infection, educating the masses on personal hygiene, and preventing and diagnosing disease.

Public health infrastructure and the number of actors identified to provide these services expanded during the third period, from 1950 to 1999. This was the result, in part, of society coming to accept government provision of medical services for those in need, beginning in the 1930s. This period also saw a rise in social unrest, race riots, and the view of cities as being somehow toxic. The federal government was seen as an important service provider to address the urban and rural problems

facing the nation, since the resources and coordination necessary to address these large-scale influences were not available at the local level.

Public health in this present-day, fourth period has focused on morbidity and mortality from chronic diseases such as heart disease, diabetes, hypertension, obesity, cancer, and respiratory disease; and the behavioral, social, and environmental risk factors that may lead to them.

One of the most significant issues facing public health today is addressing the inadequate provision of health services to a nation with widening wealth and income disparities, significantly divided along race lines. The large population of poor and disenfranchised people without access (real or perceived) to healthcare creates major challenges for public health. The results can be seen in global health rankings; the USA ranks at number 37 out of 191 nations according to its performance, despite spending a higher portion of gross domestic product (GDP) on health than any other country (Murray and Frenk 2010). This failure is due, in part, to the US health model being based on high-cost procedures and medical service delivery systems, rather than prevention or “health care.” As a result, in public health, thought is now shifting from a focus primarily on medical care to the inclusion of examining social, economic, and physical changes to the built environment.

Healthy People 2020

As referenced above, the scope of public health includes not only biomedical outcomes but also the social, economic, environmental, and infrastructure “determinants” that influence those outcomes. Reflecting this expanded perspective, the US Department of Health and Human Services published *Healthy People 2020*, a comprehensive set of disease-prevention and health-promotion objectives for the nation to achieve by the year 2020. It defines success in terms of improved health status, diseases prevented, scarce resources preserved, and improved quality of life. The overall goals of *Healthy People 2020* are:

1. To attain high-quality, longer lives free of preventable disease, disability, injury, and premature death
2. To achieve health equity, eliminate disparities, and improve the health of all groups
3. To create social and physical environments that promote good health for all
4. To promote quality of life, healthy development, and healthy behaviors across all life stages

In order to achieve these goals, the document identifies 42 specific objective areas for public health improvement (Box 2.1). These objectives span diseases, prevention areas, health-promotion opportunities, and response.

Box 2.1 *Healthy People 2020* public health improvement priorities. (HealthyPeople.gov 2012)

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| 1. Access to health services | 21. Heart disease and stroke |
| 2. Adolescent health | 22. HIV |
| 3. Arthritis, osteoporosis, and chronic back conditions | 23. Immunization and infectious diseases |
| 4. Blood disorders and blood safety | 24. Injury and violence prevention |
| 5. Cancer | 25. Lesbian, gay, bisexual, and transgender health |
| 6. Chronic kidney disease | 26. Maternal, infant, and child health |
| 7. Dementias, including Alzheimer's disease | 27. Medical product safety |
| 8. Diabetes | 28. Mental health and mental disorders |
| 9. Disability and health | 29. Nutrition and weight status |
| 10. Early and middle childhood | 30. Occupational safety and health |
| 11. Educational and community-based programs | 31. Older adults |
| 12. Environmental health | 32. Oral health |
| 13. Family planning | 33. Physical activity |
| 14. Food safety | 34. Preparedness |
| 15. Genomics | 35. Public health infrastructure |
| 16. Global health | 36. Respiratory diseases |
| 17. Health communication and health information technology | 37. Sexually transmitted diseases |
| 18. Healthcare-associated infections | 38. Sleep health |
| 19. Health-related quality of life and well-being | 39. Social determinants of health |
| 20. Hearing and other sensory or communication disorders | 40. Substance abuse |
| | 41. Tobacco use |
| | 42. Vision |

Public Health Infrastructure

The public health infrastructure of the USA today is composed of governmental and nongovernmental organizations providing essential public health services. Service providers such as managed care organizations, hospitals, nonprofit corporations, schools, faith organizations, and businesses are an integral part of the public health infrastructure in many communities. Public health professionals play a variety of roles, from promoting vaccinations at local health departments to advising health legislation on Capitol Hill.

Health care providers and state and local health agencies are the most prominent actors in the public health realm, but there is a wide range of stakeholders. The federal government, through the work of the Centers for Disease Control and Prevention (CDC), plays a large role in public health activities, assuming primary responsibility for public health, regulating private actors, providing economic incentives for health-promoting behavior, and disincentives for risky

Table 2.1 Masters of public health core competencies. (Adapted from Calhoun et al. 2008)

Competency	Definition
Biostatistics	The development and application of statistical reasoning and methods in addressing, analyzing, and solving problems in public health-, health-care-, biomedical-, clinical-, and population-based research
Environmental health sciences	The study of environmental factors including biological, physical, and chemical factors that affect the health of a community
Epidemiology	The study of patterns of disease and injury in human populations and the application of this study to the control of health problems
Health policy and management	A multidisciplinary field of inquiry and practice concerned with the delivery, quality, and costs of health care for individuals and populations. This definition assumes both a managerial and a policy concern with the structure, process, and outcomes of health services including the costs, financing, organization, outcomes, and accessibility of care
Social and behavioral sciences	The study of behavioral, social, and cultural factors related to individual and population health and health disparities over the life course. Research and practice in this area contributes to the development, administration, and evaluation of programs and policies in public health and health services to promote and sustain healthy environments and healthy lives for individuals and populations

behavior. Communities are often involved through public participation and grass-roots initiatives. Businesses are also involved as community members, corporate sponsors or funding sources, and employers. Increasingly, the media plays a major role in public health, educating the public, and providing links between citizens and other entities. The APHA plays a leading role in this realm, as the oldest and largest organization of public health professionals in the world. Academic institutions under the umbrella of the Association of Schools of Public Health (ASPH) are also central to the field, informing it with evidence and training its workers in five key areas including: biostatistics, environmental health sciences, epidemiology, health policy and management, and social and behavioral sciences (see Table 2.1).

Public Health Study Designs

There are three main stages of studies in public health: surveillance, descriptive studies, and analytic studies.

Surveillance refers to the ongoing collection, recording, analysis, interpretation, and dissemination of data in order to identify or profile the current health status of a specific community or population. Surveillance activities may focus on vital statistics (e.g., births, deaths, fetal deaths) or particular diseases of interest (e.g., H1N1 influenza or HIV infection), effect (e.g., risk and incidence rates, differences, and ratios), and attributable fractions. Surveillance activities attempt to gather

information about all members of a population, rather than just from a representative sample and are usually established by government agencies or other organizations that have the mandate to care for the health and welfare of their population.

Descriptive studies are used to describe patterns of disease or other existing measures of health status across a population at a specific point in time; for example, obesity in the state of Georgia in 2011. Descriptive studies follow three primary designs: ecological, case series, or cross-sectional. Ecological studies characterize exposures and outcomes of groups across populations: for example, rates of diabetes in the USA versus France or in Texas versus California. Case series studies are made up of multiple individual patient case reports. For example, a case series may describe the clinical experience of 100 patients who were admitted to the hospital with a “new” disease. Finally, cross-sectional studies gather information from a representative selection of individuals within a defined population at a specific time, for the purpose of extrapolating the findings to the larger group. For example, a cross-sectional study may survey 1,000 individuals in Massachusetts about their weight and their consumption of fried foods, with the idea that the findings may be representative of all Massachusetts residents. Descriptive studies can be useful for generating hypotheses or for informing policy/program development. However, they are unable to demonstrate causality between an exposure and an outcome of interest (e.g., fried foods and overweight).

Finally, *analytic studies* measure associations between exposure and outcome in order to determine cause. Analytic study types include cohort studies, case-control studies, and randomized control trials (RCTs). Cohort studies follow groups of individuals, exposed or unexposed, over time—prospective, retrospective, or ambidirectional—and measure multiple outcomes and incidence. Case-control studies select subjects based on their having a particular health outcome (such as lung cancer) and look at past exposures to assess what factors may have led to the development of disease. RCTs are considered the “gold standard” of clinical research studies. In RCTs, the exposure (such as the use of a particular drug or the use of a smoking cessation program) is assigned randomly to study participants by the researcher, and the outcome (such as tumor reduction or success in quitting smoking) is assessed between groups with a different exposure. Analytic studies can help determine whether exposures and outcomes are linked; however, they are expensive, time-consuming, and result generalizability is limited.

In addition to these study types, public health practitioners are occasionally presented with *natural experiments*. Natural experiments are frequently referred to as emerging opportunities in built environment and health research. Natural experiments are cohort studies where the assignment to experimental groups is a function of nature rather than of a researcher. Examples of two well-known natural experiments include John Snow’s 1854 finding of cholera contamination of London’s Broad Street pump (Snow 1860) and Taylor’s study of the impact of viewing green space on children’s self-discipline (Taylor et al. 2002). In each study, the exposed and unexposed groups were naturally randomized, by housing choice in London or by the Chicago public housing agency, so comparisons could be made on the outcomes of cholera and behavior, respectively.

Community Planning: An Introduction

The American Planning Association (APA) defines planning as a “dynamic profession that works to improve the welfare of people and their communities by creating more convenient, equitable, healthful, efficient and attractive places for present and future generations.” Planners work closely with governments and the public to help communities create short-term and long-term plans for growth and change. Planners objectively advise communities on how to best utilize their land as well as natural and cultural resources to solve community challenges. Typical products of the planning process include land-use plans, facility and infrastructure plans, and transportation plans. Policy recommendations, in addition to regulatory and financial development strategies, form less physically concrete but equally common variations of plan-making.

As shown in Table 2.2, typical specializations in the planning profession include land-use planning, transportation planning, urban design, planning law, environmental planning, and economic development. Planners work at varying scales ranging from the community or neighborhood to the city, county, state, and regional levels.

The APA/American Institute of Certified Planners (AICP) 2010 Planners Salary Survey indicated that 70% of planners work in public agencies and 23% in private consulting firms. The Bureau of Labor Statistics (BLS) of the US Department of Labor found that local governments employed approximately 66% of urban and regional planners. The BLS also projected a job growth of 19% between 2008 and 2018, which is stated to be faster than average. This boom is in response to rapidly increasing urbanization and the corresponding pressures that cities and regions will face with respect to transportation, environment, housing, employment, and land use.

The two most critical challenges of the twenty-first century, (1) globalization and the economic crisis and (2) climate change, put planners in the forefront of the quest for a sustainable world. Globalization has led to economic competitiveness and in the USA this has meant the loss of several traditional employment sectors including manufacturing and information technology services. As a result, a number of cities (Detroit, Pittsburgh) are losing population, and planners are increasingly called upon to revitalize these previously thriving communities. One of the greatest consequences of the economic crisis has been the housing market collapse and resulting foreclosures. As a result, planners have been asked to lend their expertise to guide newly emerging real-estate and economic-development trends.

Climate change is another area in which planners are increasingly lending their expertise. Planners contribute to this conversation by championing smart growth principles as an antidote to suburban sprawl and other resource-consumptive land-use patterns that consequently increase greenhouse gas production and cause secondary public health impacts. Other emerging fields include the study of urban heat islands and other climatological phenomena that might be specifically caused by the way cities are planned.

Table 2.2 Planning discipline specializations defined. (Adapted from Association of Collegiate Schools of Planning 2013)

Specialization	Definition
Land-use planning	Land-use planning is the most traditional kind of planning. These planners do a range of jobs including encouraging or discouraging growth, conducting long-range comprehensive plans, developing or administering local regulations, and evaluating the impact of proposed residential or commercial development and suggest alternative responses.
Environmental planning	Environmental planning focuses on enhancing the physical environment and minimizing the adverse impacts of development. This includes both addressing scientific and technical questions and developing policies and programs to clean up, protect, and manage natural resources.
Economic development planning	Economic development planning focuses on improving a community or region by expanding and diversifying the economic activities that support the families living there. Such actions include developing plans, finding financing, and addressing regulatory and other barriers to attract new business, enhance community features (like tourism or recreation), or retain current businesses.
Transportation planning	Transportation planning serves to address the current and future transportation needs of families and businesses, locally and across a region. The scope includes technical analysis of transportation needs, addressing the social and economic aspects of movement across space, and focus on specific or multiple modes (cycling, public transit, etc.).
Housing planning	Housing planning focuses on strategies to improve the supply of affordable housing and expand home ownership among low-income or disadvantaged groups. Mixed-use and mixed-income developments are often used to realize success.
Social and community-development planning	Social and community planning focuses on improving multiple aspects of often distressed neighborhoods in an effort to increase the overall quality of life. This requires combining skills from other planning specialization areas and working with housing, landuse, and transportation planners. Such actions may include improving transit services or providing better public health facilities in low-income neighborhoods.

Ultimately, several critical planning issues of today fall under the umbrella of *sustainability*. Seen as systemic equilibrium between environmental, economic, and social dimensions framed around equity, sustainable planning signals an altered approach to comprehensive planning. Armed with an environmental ethic, the theme of sustainability might be the unifying substantive and normative goal to inform the urban planning of today and the future.

History and Evolution of Planning

Historically, planning has been a primarily public enterprise. The planning profession emerged at the turn of the twentieth century in response to the “physical squalor

and political corruption of the emerging industrial city” (Klosterman 1996). As with public health, planning has gone through several distinct phases as the American society has evolved. Rational planning, also known as synoptic or comprehensive planning, emerged in the 1930s and dominated the first half of the century. It was considered the planning model appropriate for decision-making and the most efficient allocation of resources, formalized by research done at the University of Chicago’s School of Sociology on sociology, economics, urban environments and political science. The rational planning model has come under heavy criticism since the 1960s, blamed for several social injustices that can be witnessed in cities today. The demolition of low-income inner-city communities and their subsequent relocation into housing projects, under the guise of “urban renewal,” created concentrations of poverty and crime. Sprawling land-development patterns as well as social and environmental injustices are now attributed to segregated zoning, a product of rational planning. Today, a new emphasis on public participatory processes, as well as collaborative and communicative planning, has transformed land planning into a more democratic process of deliberation and negotiation. Planning processes of the future aspire to be more inclusive, based on a shared or collective understanding for a pluralistic society.

Contemporary physical planning involves problem identification and goal setting, information gathering and analysis, design of alternatives, and synthesis (Malizia 2005). The process usually involves extensive public participation and community approval in order to increase community buy-in, raise constituent support, and bring about solutions encouraging more sustainable communities.

Historical Connections between Planning and Public Health

The profession of urban planning is rooted in nineteenth century medical theories of disease and the quest for salubrious landscapes. Disease was seen as a result of effluvium (miasma) released from certain pathogenic sociological (crime, “loose” morals) and environmental (industry, poor housing conditions, improper sanitation, marshes, cemeteries) elements that characterized urban living. The sanitary reform movement marks the first formal collaborative effort between city planning and public health, both from an ideological and methodological perspective. Housing reform, urban parks, rural cemetery movement, zoning, and the later City Beautiful movement represented physically deterministic interventions to public health problems (Corburn 2007; Duhl and Sanchez 1999).

The germ theory redefined the origins of disease in the early part of the twentieth century. The knowledge that disease was caused specifically by microbes led to the public health paradigm of specific immunization and other biomedical models. These biomedical models led to the divergence between urban planning and public health and a concurrent separation between social and medical causes of disease (Corburn 2007; Duhl and Sanchez 1999). Planners continued to contribute indirectly to healthy urban planning, however, in areas such as community and environmental safety (building codes, roadway design, pollution control), zoning codes

(building setbacks and height regulations enabling adequate exposure to sunlight), and sanitation and infrastructure planning.

Health is a state of complete physical, mental and social wellbeing and not merely the absence of disease or infirmity. The enjoyment of the highest attainable standard of health is one of the fundamental rights of every human being without distinction of race, religion, political belief or economic and social condition. (World Health Organization 1948)

The new definition of health as put forth by the constitution of the WHO, coupled with a resurgence of ecosocial epidemiology,¹ heralded a renewed connection between health and the social, cultural, and physical context of the individual. The inability of the biomedical model to explain disease and mortality due to social and community factors prompted this reconsideration of the established notions of health and disease.² The limitations of the biomedical model, as well as the realization that health is affected by a multitude of social, environmental, and economic factors, have made the pursuit of good health an interdisciplinary enterprise.

The interconnected disciplines of public health and urban planning parted ways in the mid-twentieth century, but Kochtitzky et al. (2006) report that a reintegration of the two professions is evident both in academic (Botchwey et al. 2009) and professional circles. Their research findings report that public health and medical journals such as the *American Journal of Public Health* (AJPH) and *The Journal of the American Medical Association* (JAMA) have several articles featured in the top 50 most-cited/read list that are of common interest to planners and public health professionals alike. Topics include social capital, effect of housing on health, neighborhood-level effects on health, and others. Other collaborative efforts have included transportation planning and air quality improvement, urban sprawl and health, and the encouragement of physical activity in order to combat obesity. The CDC and other public health agencies have also begun to employ planners to create an integrative approach to better health.

Of particular significance to the reconnection of public health and urban planning (health and built environment) is the concept of the human being as an “embodiment” of the physical and psychosocial environment. The interpretation of the body as an incorporation of the material and social world provides us with the understanding of health as a “continual and cumulative interplay between exposure, susceptibility and resistance,” all of which occur at multiple scales and domains of the built environment (Corburn 2004).³ Socio-ecological models define health as a

¹ Ecosocial epidemiology was first coined by Nancy Krieger in 1994 and “fully embraces a social production of disease perspective while aiming to bring in a comparably rich biological and ecological analysis” (Krieger 2001).

² The nonspecific immunization phase in public health (1980–present) reflects on causes of death due to suicide and crime, which lie outside the realms of traditional disease causation (Duhl and Sanchez 1999).

³ Ecological systems theory, a contextual approach to studying human development, was developed by Urie Bronfenbrenner in the 1970s. He placed the individual within four hierarchical nested systems—the microsystem (e.g., the home or classroom of a child); the mesosystem (two interacting microsystems, e.g., the effect of the home on the classroom); the exosystem (external environments which indirectly influence development, e.g., the mother’s place of work); and the

multidisciplinary and multilevel endeavor, bridging individual health and population health (the basic tenet of complexity theory being that the whole is greater than the sum of its parts)⁴ and situates health within “place,” explaining distributive aspects of health within populations.

Socio-ecological models of health encourage multidisciplinary research efforts and draw from fields as diverse as psychology, anthropology, urban planning, social work, engineering, psychiatry, nursing, education, criminal justice, epidemiology, and/or public health (Lounsbury and Mitchell 2009). A recurrent theme in the literature is the study of obesity in relation to elements in the built environment such as landuse, walkability, and green space (see Box 2.2).

Box 2.2 Obesity and the built environment: Links between urban planning and health

A study of obesity and the built environment provides an interesting example of how public health and planning remain connected today.

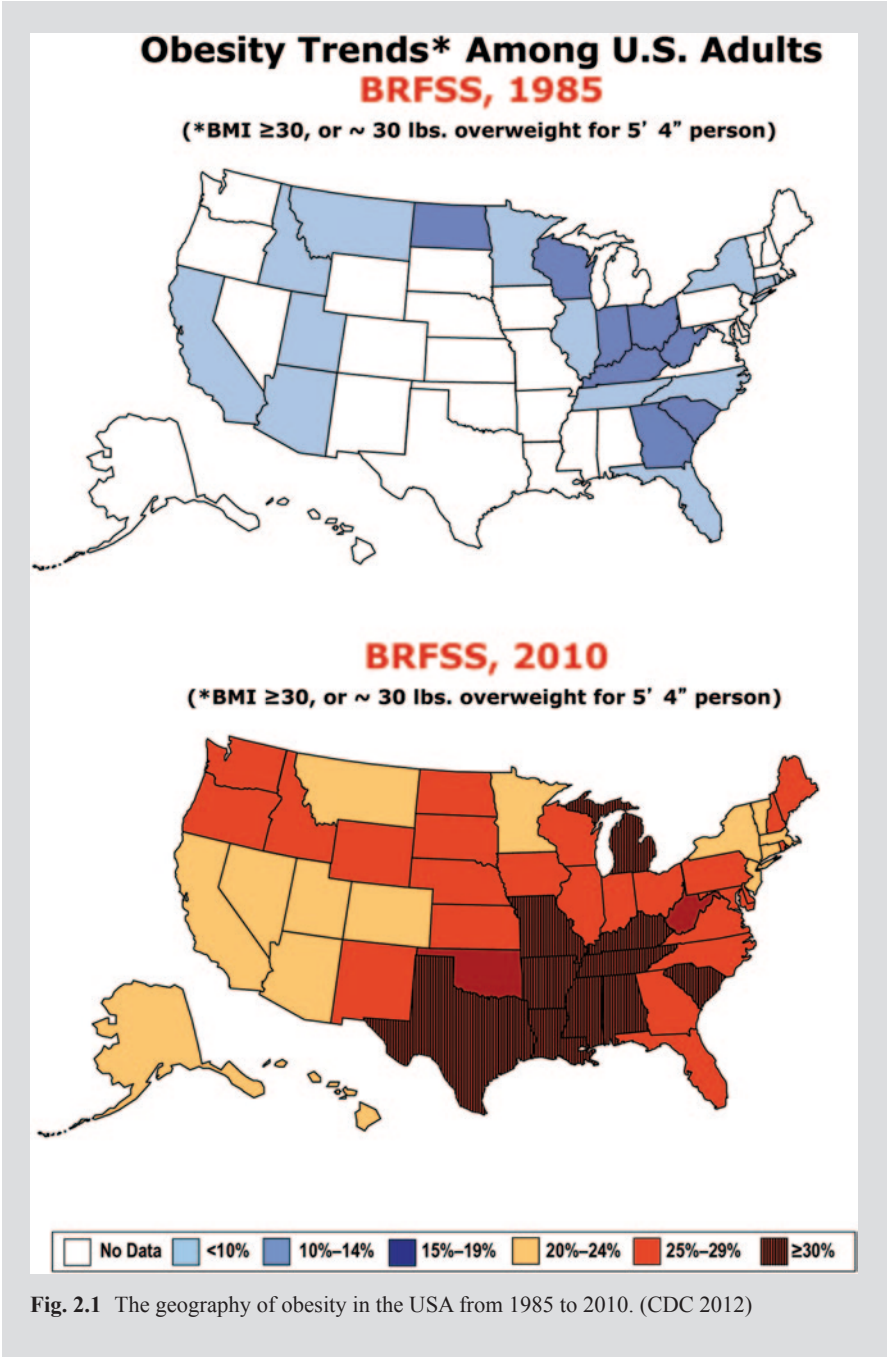
Overweight and obesity constitute perhaps the most important health challenge of the day. Childhood obesity has tripled in the past 30 years. It is referred to as “the gravest and most poorly controlled public health threat of our time” (Hammond 2010). Two-thirds of Americans are now considered overweight, and over one-third of US adults are obese (see Fig. 2.1).

The exponential growth of obesity over the last 25 years has significant implications for public health, as obesity is a primary risk factor for diseases such as hypertension, type 2 diabetes, certain kinds of cancer, arthritis and heart disease, as well as premature mortality (Flegal et al. 2010; Ogden et al. 2007).

The reasons why obesity rates have risen so dramatically and remain uncontrolled are complex. It may be partially due to the multifactorial nature of obesity, which is affected by a combination of genetics, neurobiology, psychology, family and social environment, physical environment, economic markets, economics, and public policy (Ogden et al. 2007). However, the role of the built environment and the way in which people act within it appear to be paramount. The CDC state that America has become an “obesogenic” nation, a country that has built into its structure factors that tend to make people obese.

macro system (the larger socioeconomic cultural context). By applying socio-ecological systems concepts to health, we can deduce that health can be a state produced by the constant interaction and mutual influences between the individual as agent and his or her surrounding environments.

⁴ Arah (2009) discusses the inaccuracies of making deductions between individual health and population health within the biomedical model of epidemiology. Biomedical models do not explain the dynamic relationships between the cumulative health effects of an individual embedded in an intricate social and environmental web, and the larger health of the population. The socio-ecological model offers an alternative by attempting to understand those connections.



In a review of 63 studies on the built environment and obesity, Feng et al. (2010) identified physical activity potential, landuse/transportation conditions, and food environments as primary domains of the built environment that impact obesity.

Physical activity potential: The built environment includes factors that can enhance or diminish the likelihood for physical activity and exercise. These include both *personal barriers* and *environmental barriers*. *Personal barriers* are subjective considerations that influence an individual's motivation or ability to exercise like lack of time, disabilities, and lack of social support. *Environmental barriers* are objective conditions that dissuade physical exercise such as lack of infrastructure like sidewalks, bike lanes and pathways, unsafe distances between vehicles and pedestrians, obstructions, lack of physical activity-related facilities, and unequal access to these features for all segments of the population.

Land use/transportation: It refers to the way in which cities, towns, or regions are structured, including elements such as density, sprawl, and connectivity, often regulated through zoning codes. Low-density patterns, or sprawl, are often associated with decreased walking and bicycling rates and increased automobile dependence. These in turn are associated with decreased physical activity and increased overweight and obesity (Frank et al. 2004). In addition, increased car use results in higher per capita emissions of volatile organic compounds (VOCs) and other pollutants that decrease air quality and increase risks of respiratory and cardiovascular disease, thereby creating secondary impediments to physical activity (Frank et al. 2006; Lopez-Zetina et al. 2006; Frank et al. 2007; Samimi et al. 2009).

Food environment: It is defined as the availability, quality, health, and accessibility of food options in a given area. The specifics of one's food environment have strong implications for health, particularly concerning obesity/overweight, coronary heart disease, and other chronic conditions. The literature has established a link between unhealthy lifestyles and fast-food restaurants (Li et al. 2009) as well as convenience stores (Morland et al. 2006). Various interventions in the food environment have been effective, including the introduction of farmers' markets (Larsen and Gilliland 2009). The interactions taking place in food environments are complex; for example, Cummins et al. (2005) found that while introducing a large supermarket into a neighborhood did not increase fruit and vegetable consumption, it did have a positive effect on the community's psychological health. Recently, the dominant model for describing areas with poor access to healthy food options, which are disproportionately low-income neighborhoods and/or neighborhoods of color, has been that of the "food desert." Some have begun to criticize this

framework, proposing new ways of looking at food environment inequities, such as the emerging idea of the “food hinterlands” (Leete et al. 2012).

Proposed interventions to address the obesity problem

As shown above, research has determined that the built environment influences individual behaviors, such as levels of physical activity and dietary choices. Interventions in the built environment provide a population-based strategy to improve social and physical contexts that can be supportive of healthy lifestyles. A population-level preventive intervention may extend health benefits to both the obese and nonobese population and further reduce the prevalence of obesity (Flegal et al. 2010).

Form-based interventions: Form-based interventions for healthier communities advocate common principles of denser, mixed-use environments, and gridded streets for better connectivity, collectively promoting walkability. These include: Traditional Neighborhood Development (TND), Transit-Oriented Development (TOD), New Urbanism, and Transect Planning.

Policy-based interventions: Interventions based in economic policy include federal- and state-funding opportunities that promote smart growth as well as greater quality and availability of public transit. Some approaches include the Obama Administration’s *Partnership for Sustainable Communities Initiative*⁵, Growth Management (anti-sprawl), and both environmental impact assessment (EIA) and HIA methods.

In order to address and solve the current built environment and health concerns faced today, both the community planning and public health fields will need to include more cross-disciplinary work. The use of HIA to facilitate these interactions is an effective means of collaborating to create a healthier community. Five primary issues in research and analysis require greater attention in order to smooth the road for effective, more interdisciplinary work on HIAs. These include the following:

1. *Unclear evidence in the link between compact urban form and healthful outcomes*
Lopez-Zetina et al. (2006) state that “ecological studies suggest rather than provide definitive answers for the associations among complex factors related to the urban environment.” For example, all studies evaluating the correlation of obesity with multiple environmental attributes stop short of confirming causation,

⁵ A promising policy initiative. A federal interagency partnership between the Environmental Protection Agency (EPA), Department of Housing and Urban Development (HUD), and Department of Transportation (DOT), it is guided by six livability principles: *provide more transportation choices, promote equitable, affordable housing, enhance economic competitiveness, support existing communities, coordinate and leverage investment, and value communities and neighborhoods* (EPA-HUD-DOT 2010).

and it is also unclear how much the built environment affects body mass index (BMI).

2. *Inconsistencies in measuring and modeling the built environment make results difficult to interpret.* Built environment metrics are numerous and range from single measures such as density to composite measures like the sprawl index. Metrics are also created from a variety of data sources and computational methods. Standardized metrics, environmental attributes and scales will help strengthen associations between the built environment and obesity as well as increase comparative opportunities between studies (Feng et al. 2010).
3. *Models tend to measure quantitative variables.* Variables included in the data are often constrained by data availability. Often, variables such as accessibility to parks or sidewalks and qualitative variables such as climate, topography, and crime are excluded from models, as are some important health outcomes such as quality of life and mental well-being. Most models also do not take into account personal preferences for physical activity and dietary choices (Ewing et al. 2003).
4. *Better understanding of place.* Space and place are as much cultural constructs as measurable areas determined by predefined political boundaries. Feng et al. (2010) state that the greatest challenge in health and place research is the use of “administratively defined spatial units and acknowledgement of their limitations as surrogates for more sociologically valid places”. These units include counties, census tracts, census blocks, etc. Thus, future studies need more context-specific definitions of place that can provide less generic explanations of local phenomena.
5. *Greater number of longitudinal studies required.* Most studies in health and place research are cross-sectional at a defined point in time. More longitudinal studies are required, for example, to examine changes in land use and corresponding changes in obesity prevalence over time. Additionally, more quasi-experimental research design such as pre- and posttest methods that study the impacts of policy (zoning regulations) or projects (smart growth, sidewalk construction) on physical activity and obesity are required.

There are also three *emerging directions* for community planning and public health. These involve the significant demographic shifts in the USA that are already changing the way we live, the role of local organizations in promoting health, our access to food and tensions in promoting walking while working to decrease pedestrian injuries.

1. *Aging, health, and the built environment.* Cities in the USA are dealing with increasing aging populations. Public health, particularly environmental health, sets thresholds for environmental toxins based on its most vulnerable populations (children). Likewise, sustainable cities need to accommodate their most vulnerable populations (the elderly, children, people with disabilities, etc.). Principles of universal design are being employed in communities to provide equal access to all demographic groups, with differing health status and disability levels. “Aging in place” is another important concept currently being integrated within

the principles of smart growth, new urbanism, and redevelopment. Its aim is to create multi-generational communities offering appropriate living environments for families in different phases of the lifecycle.

2. *The role of community institutions such as hospitals, churches, and community health organizations in promoting community health.* Local-, state-, and federal-level planning processes increasingly require citizen input in decision making. Additionally, the value of individual experiences in guiding the diagnosis, recommendation, and implementation of public health approaches, especially for the most vulnerable, is of growing importance. Unfortunately, citizens with the least access, typically low-income and minority residents, are left with little capital to influence these planning and health-promoting processes. Local institutions like churches, schools, and community organizations are best positioned to understand and speak on behalf of these communities (Martin et al. 2004). Their institutional capital serves as a proxy for residents who are politically, socially, and economically disenfranchised. As a result, they meet the needs of the most vulnerable populations while adding their valuable voices to shape interventions (Botchwey 2007).
3. *Food access, land use and socioeconomic factors.* Research has found that obesity rates are directly associated with access to retail food. Lower-income and minority communities have poor access to high-quality food products as retailed at supermarkets and chain grocery stores. These communities also have higher concentrations of fast-food restaurants. Current urban planning practices enable residential segregation by income and ethnicity, making it easier to create poor access to healthy food. The HIA of the Atlanta BeltLine provided clear evidence of these inequities: Unequal access to nutritious food promotes health disparities (Ross et al. 2012).

Public health and community planning, as disciplines, have taken different historical paths but arose out of similar attitudes and concerns. The resurgence of socio-ecological approaches to health, as well as a renewed interest in interdisciplinarity on the part of both fields, has opened up dialogues on how best to work together in tackling the enormity of today's challenges. Emerging fields such as planning for "aging in place" and healthy food access necessitate the engagement, cooperation, and knowledge bases of community planning and public health professionals in pursuit of positive outcomes. Each field has much to teach the other and as society undergoes a number of swift and significant demographic changes, successful interventions will increasingly depend on our ability to break down professional silos.

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