
ARTICLE

Urban Planning and Health Disparities: Implications for Research and Practice

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Introduction

In virtually all cities across the world, the worst health problems and premature deaths are highly concentrated in neighbourhoods that also experience a host of other social inequalities, including lack of basic sanitation and water services, high poverty rates, residential segregation, and concentrations of environmentally noxious facilities. Yet, contemporary urban planning practice, which emerged in the 19th century to address public health crises related to inadequate housing, poor sanitation and infectious disease outbreaks impacting the urban poor, is struggling to address this spatial concentration of disease. This paper frames the problem of health disparities as an urban planning issue by focusing on the urban asthma epidemic in the United States (US). I review the troubling split between public health and planning in the US, evidence for disparities in American cities and leading explanations for these disparities, and conclude with specific recommendations for urban planning research and practice.

Health disparities refer to morbidity and mortality inequalities within and between population groups that are avoidable, unfair and unjust, and systematically burden populations already vulnerable because of inequalities in underlying social, political, economic and legal institutions (Braveman & Gruskin, 2003). Urban planners are increasingly being called on by public health professionals to help address diseases, such as asthma, that appear to concentrate and persist in urban neighbourhoods (Duhl & Sanchez, 1999). In addition, epidemiologists are recognising that *place inequities*—such as residential segregation, urban divestment and environmental injustice—act as social determinants of health that may help explain inequitable distributions of death and disease across population groups (Fitzpatrick & LaGory, 2000). However, little agreement exists over the causes of health disparities or what role urban planning ought to take to help address these inequalities (Corburn, 2004).

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The Separation of City Planning from Public Health

The professions of planning and public health emerged together in the 19th century to address growing urban epidemics of infectious diseases such as cholera, yellow fever and tuberculosis and to understand and address health disparities. In Europe, influential 19th-century studies by Rudolf Virchow, Edwin Chadwick and Friedrich Engels all highlighted that morbidity and mortality were distributed by economic and social class as well as stratified by neighbourhoods similarly divided along class lines. However, there was disagreement over what to do about these inequitable distributions. For example, Chadwick recommended building new public housing and improving sanitation within neighbourhoods, while Engels blamed locally polluting industries and suggested that the antagonistic class relations of capitalism must be resolved in order to improve the distribution of health (Rosen, 1993). In America, the work of late-19th-century planners was coupled with that of Progressive Era sanitarians, as both built drinking water and sewerage systems, advocated for tenement housing reforms, constructed bath houses and designed parks and playgrounds as ‘breathing spaces’ (Duffy, 1990).

However, by the early 20th century American city planning and public health had begun to split. One reason was the rise of germ theory in public health, which shifted interventions from social and sanitary programmes to specific immunisations and the disinfection of food and drinking water supplies (Melosi, 2000). As the Bacteriology Era set in, cooperation between the fields gave way to increased specialisation and focus on the individual patient, as physicians and chemists, not engineers or social planners, became the new public health professionals (Duhl & Sanchez, 1999).

As city planning became a formalised profession, the architects that populated the field aimed to define its niche as a profession committed to comprehensive and aesthetically pleasing urban designs (Peterson, 2003). Seeking legitimacy in the early decades of the 20th century, planning embraced scientific rationality and quantitative analyses were coupled with aesthetically pleasing designs in order to inform dispassionate and value-neutral public decisions. Planning would adopt land-use zoning as its principal rationality tool. Zoning was couched as a theory and practice for protecting public health, since it was supposed to separate people from noxious land uses (Maantay, 2001). However, the tool acted to effectively immunise the well off from the least well off in society through exclusionary zoning techniques that encouraged new suburban development and the removal of ‘urban blight’ to make way for large office buildings (Weiss, 1980).

By the World War II Era, distinct silos emerged in both fields—transportation, housing, economic development, etc. in urban planning and diseases (e.g. cancer, heart disease, diabetes) and individual risk factors (e.g. smoking, drinking, diet) in public health. Issue isolation combined with increased technical rationality and specialisation to further disconnect work in the fields (Susser & Susser, 1996; Peterson, 2003). The social unrest and political movements of the 1960s reconnected some of the work of these fields, such as the development of neighbourhood health centres, but neoliberal economic policies of the 1980s eliminated these connections by divesting from urban areas and social safety net programmes more generally.

Evidence of Health Disparities

One result of the split between urban planning and public health is health disparities expressed by class, ethnicity and residential location. Public health research over the last century has shown that health disparities: (1) exist in all countries, industrialised and developing; (2) are growing, despite the fact that people in all groups are living longer; and (3) are expressed linearly, in that increases or decreases in health occur at every point in the class structure¹ (Davey-Smith, 2000; Link & Phalen, 2000). Beyond these generalities, little agreement exists over the causes of disparities or whether they are expressed similarly across disease outcomes. A brief review of recent data from the US highlights the magnitude of the issue.

Health disparities in the US cut across every health outcome, from life expectancy to heart disease to infant mortality to poor mental health (Centers for Disease Control and Prevention (CDC), 2004; National Institutes of Health (NIH), 2004). Perhaps most disturbing is that by almost all measures, disparities in health are *growing* between the advantaged and least advantaged groups, despite gains in medical technology and increased access to medical care. According to the CDC report *Health, United States*, persons living in poverty are more than three times as likely to rate their health as poor than are persons with incomes twice the poverty level (CDC, 2004, Table 57). The CDC report also notes that people living in poverty are four times as likely as non-poor persons to report serious psychological distress (Table 58). In addition to economic position, health disparities in the US are routinely documented between African-Americans and Whites, but there is ample evidence that similar disparities exist for other racial and ethnic groups that too often get lumped into the crude categories of Black, Hispanic, American-Indian and Asian (Davey-Smith, 2000).

Life expectancy is an indicator of how healthy a population is over a lifetime. The mortality rate for African-Americans in 1998 was 60% higher than that of Whites, identical to what it was in 1950 (NIH, 2004). In New York City, life expectancy in the poorest neighbourhoods is eight years shorter than in the wealthiest neighbourhoods (Karpati *et al.*, 2004). In 2000, life expectancy for African-Americans across New York City was 69 years for men and 77 for women, while White males were living to 75 and females to 80.

Heart disease is the leading cause of disability and death in the US for all groups and in all regions of the country. Yet, death rates for congenital heart disease were 50% higher for African-Americans than for Whites in 2003 (CDC, 2004). In New York City, the death rate from heart disease is 55% higher for Blacks than Whites.

Infant mortality is a measure of how well a society cares for its most vulnerable, specifically pregnant women and newborns. African-American infant mortality rates in 1998 were 13.8 deaths per 1000 live births compared with a White rate of 6, a disparity of 130% (NIH, 2004). In the three poorest neighbourhoods in New York City, the South Bronx, Harlem and Central Brooklyn, infant mortality rates per 1000 live births are 8, 12 and 9 respectively, compared with the city average of 6.1 (Karpati *et al.*, 2004).

Disparities persist for other tracked health outcomes across urban neighbourhoods. For example, in New York City rates of diabetes are 13% in the South

Bronx, 12.5% in Harlem and 11.2% in Central Brooklyn, compared to a 7.9% city-wide average. The number of people living with HIV and AIDS is 17/1000 in the South Bronx, 20/1000 in Harlem and 13/1000 in Central Brooklyn, compared to 9.2 for the city as a whole and 3.2 for the nation. Hospital admissions for mental illness are roughly 99/10 000 residents in the South Bronx and 101/10 000 in Central Brooklyn, while the New York City average across all neighbourhoods is 66.5/10 000 (Karpati *et al.*, 2004).

Asthma Disparities

Asthma is the most prevalent chronic disease afflicting low-income urban children in the US (CDC, 2004). For children under 14 years old, asthma is 26% more prevalent for African-Americans and 24% more for Puerto Ricans than for non-Hispanic Whites. Hospitalisation rates for African-Americans and Latinos are three times the rates for Whites (Mannino *et al.*, 2002). While deaths from asthma are rare because the disease is generally treatable with medications and other therapies, the death rates per million persons also reflect a disparity: 38.7% for African-Americans, 20.4% for Latinos and 14.2% for Whites. Children living in poor New York City neighbourhoods bear the heaviest burden of the disease and are three times more likely to be hospitalised for asthma than are children who live in wealthy neighbourhoods (Claudio *et al.*, 1999). Asthma is the leading cause for emergency room visits, paediatric hospitalisations and school absenteeism for impoverished New York City children (New York City Department of Health and Mental Hygiene, 2003). The prevalence and impact of asthma is similar in other poor, urban communities of Colour, including the South Side of Chicago, Detroit's East Side and Boston's Roxbury neighbourhood.

What Explains the Distribution of Health Disparities?

Understanding the key explanations for health disparities can help planners develop research and intervention strategies that target specific scales (i.e. individual, neighbourhood, region), domains (i.e. home, school, workplace) and participants (i.e. public and private sector, community members, etc.). Public health has a history of searching for the *one big cause* or explanation for differences in health outcomes across populations, as evidenced by the almost universal acceptance of miasma, contagion and germ theories throughout the 19th and early 20th centuries (Rosen, 1993). Popular contemporary explanations for health disparities, including those blaming genetics and health care, also seek a single cause.

The genetic basis for health differences has not only lacked evidence for over a century; the mapping of the human genome has confirmed that there is no genetic basis for health differences among any ethnic group (Goodman, 2000). *The New England Journal of Medicine* declared in 2003 that racial categories do not act as a useful categorisation of genetic information about the response to drugs, diagnosis or causes of disease (Cooper *et al.*, 2003). Differences in health care, including access, quality and delivery of medical services, are likely contributors to health disparities, but the health-care hypothesis does not explain why disparities exist in countries with universal access to health care, such as Canada and the UK. Importantly, the

Institute of Medicine has documented that, in the same health-care setting, racial and ethnic minorities routinely receive less medication and fewer preventative interventions, including life-saving surgeries, than Whites, regardless of income (Institute of Medicine (IOM), 2003). Health care tends to emphasise treatment, not prevention, of disease, and it seems clear that neither genes nor health care alone can explain why some populations living in some neighbourhoods are sick and others are not (Evans *et al.*, 1994).

Instead of searching for the one cause, planners ought to understand health disparities as the result of complex and overlapping interactions between and differences among population groups in relation to the social, economic and physical conditions in which they live and the resources they have to engage in health-promoting activities. At least three public health frameworks help elucidate this complex jigsaw and offer hypotheses for the mechanisms by which social, economic and physical differences and inequalities drive health disparities. The frameworks include the biomedical model, materialist framework and social epidemiology.

The Biomedical View

The biomedical model suggests that the *compositional* characteristics of people—a combination of biology, genetics and individual lifestyles—combine to explain health disparities (Mishler, 1981). The biomedical model asks ‘why did this individual get this disease at this time’, in seeking the *causes of cases* by trying to isolate individual susceptibility. According to this view, what matters most for determining health is an individual’s lifestyle and how this acts as a risk factor (e.g. smoking) to induce disease, not the context within which a person lives or works. The strength of this model is its emphasis on individual risk factors, but its weakness is its inability to explain different distributions of disease across populations and geographic areas.

Disparities in asthma, according to the biomedical view, focus on the biological traits of groups with the disease and how their lifestyles interact with innate characteristics. Advocates of the biomedical model suggest that asthmatics tend to be more atopic (genetically susceptible to allergies that impact the airways) than non-asthmatics and that certain allergens, including cockroach dander, moulds, dust, pet hair and pollen, trigger the disease in these groups. The immune system is thought to ‘over-react’ to the suspect allergens, producing chemicals called leukotrienes, which cause an asthma attack (Gergen *et al.*, 1999; Platts-Mills, 1999).

In order to explain the distribution of asthma in poor, inner-city neighbourhoods, advocates of the biomedical model suggest that groups living in these places are more likely to live in cockroach-infested, mouldy, dusty and damp housing. These conditions can cause children in these homes to be highly exposed to the dangerous allergens at an early age and trigger the disease (Platts-Mills, 1999). The biomedical view stresses individual-level policy responses such as early-life medical intervention and reductions of in-home asthma triggers as the two most effective treatments to minimise the impact of urban asthma.

The Materialist View

The materialist view, sometimes called the political economy of health framework, suggests that health disparities mirror a society's distribution of economic resources (Marmot & Wilkinson, 1999). In this view, socioeconomic resources act as the 'fundamental cause' of health disparities, so that persons and groups with more wealth enjoy a wide range of resources, including money, knowledge, prestige, power and beneficial social connections, all of which are used to improve health (Link & Phelan, 2000). Health disparities result when groups with more material resources avoid risks or minimise the consequences of disease once it occurs, while those with fewer resources can do neither. Material resources also shape health behaviours because they influence whether groups know about, have access to, can afford and are supported in their efforts to engage in health-enhancing behaviours. According to Link & Phelan (2000), a vicious cycle of material inequality drives disparities in health; economic resources structure educational attainment, which in turn can force poorly educated populations to take hazardous, low-wage jobs, requiring these groups to spend more time at work to earn a living wage, increasing hazardous exposures and decreasing time spent in family and/or community social support networks.

The materialist view also suggests that a series of overlapping economic inequalities, often expressed at the neighbourhood level, explain the distribution of urban asthma. First, neighbourhood concentrations of poverty, the result of residential segregation, red-lining and discriminatory lending policies, limit the health-promoting resources for both families and community residents, including wealth accumulation from home ownership and appreciation, a vibrant local economy and essential services such as hospitals. Second, concentrated neighbourhood poverty contributes to declining infrastructure, including housing, since there are fewer resources for improvements and areas are less attractive to banks and private development. As housing deteriorates, asthma-triggering allergens increase (Eggleston, 1999). Third, poverty creates housing instability, including fear of eviction, residential displacement and homelessness. Chronic stress can damage the immune system, making the body less able to fight allergens, and can contract the lungs, triggering an asthma attack (Miller, 2000). Fourth, a lack of material resources leads to less political clout for a community, resulting in a lack of political power to stop the siting of environmentally noxious facilities (that contribute to outdoor air pollution, another asthma trigger) and demand improvements in basic municipal services (Wallace & Wallace, 1998). The materialist view suggests that poverty creates a cascading effect on individuals, families and the entire community, leading to asthma and other illnesses.

Social Epidemiology

A third framework, social epidemiology, is closely linked to the materialist model because it similarly acknowledges that economic inequality is a key determinant of health, but offers a different set of mechanisms to explain disparities in health outcomes. Social epidemiologists suggest that increased economic inequality reduces group and area social capital,² that reduced social capital results in poorer

health by increasing psychosocial stress, and increased stress harms health by biologically compromising the immune system (Berkman & Kawachi, 2000; Pearce & Smith, 2003). Building on the work of Emile Durkheim and the Chicago School of Sociology, social epidemiologists also emphasise that ‘places’ have characteristics that are more than the sum of the individuals living or working in them, but rather exhibit a patterned regularity of disease rates over time even though individuals come and go (Macintyre *et al.*, 2002). Research in social epidemiology aims to identify the characteristics and features of places that strengthen or weaken social support, capital and cohesion, and how a lack of these social resources becomes biologically ‘embodied’ as a set of adverse health outcomes. Social epidemiologists also take a historical view in attempts to understand how inequities in places manifest themselves biologically over a lifetime and across generations (Krieger, 2001).

A key idea in social epidemiology is embodiment, or how the human body biologically incorporates the material and social world in which we live, from *in utero* to death (Krieger, 2001, p. 694). The idea is that area characteristics (e.g. income distribution, population density, or absence of facilities, such as supermarkets, libraries or health centres) can be *pathogenic exposures* as much as biologic agents. Health disparities result because some social groups, such as those experiencing chronic discrimination by gender or race/ethnicity, have a biologic imprint of these experiences and they are manifested in health disparities. As groups that are already disadvantaged embody multiple hazardous social experiences, a cumulative or ‘weathering’ effect occurs, increasing their biologic vulnerability, making them more susceptible to diseases and early death (Geronimus, 2000).

While acknowledging an interaction between physical and social characteristics of places, social epidemiologists tend to focus on social resources when attempting to explain and alleviate asthma disparities. They note that geographic variation in asthma outcomes exist among large cities and among neighbourhoods within cities, suggesting that variation in asthma morbidity across urban neighbourhoods cannot be explained by socioeconomic factors alone. From the social epidemiologic standpoint, asthma disparities are explained by a lack of neighbourhood social capital, which limits the ability of families to obtain health-promoting information, access primary care services, avoid environmental triggers in the home or ambient environment, and organise others to demand physical improvements and social services that might mediate the impact of the disease. Social epidemiologists also emphasise that asthma leads to familial and neighbourhood ‘social disruption’ that perpetuates disease disparities. The social disruption caused by asthma might begin with missed work or school days due to a child’s asthma attack, forcing a parent or kin care-taker to stay home, leading the adult to miss work (or get fired), decreasing income for an already impoverished family, leading to high-stress coping behaviours aimed at managing the disease, further exacerbating asthma and perpetuating the social disruption cycle.

Social epidemiologists also emphasise that exposure to violence helps explain asthma disparities, because the stress experienced by those who witness or are victims of violence may trigger the disease. Children who grow up in violent neighbourhoods are thought to internalise, or embody, the violence and stress

around them, inducing asthma. Neighbourhood violence may also influence health by increasing risk-taking behaviour, resulting in the adoption of coping practices (e.g. smoking) that can lead to increased exposure to another known environmental trigger of asthma, tobacco smoke. Regular violence may also contribute to a fatalistic life outlook, undermining community-organising efforts aimed at securing future neighbourhood improvements.

Planning's Role in Eliminating Asthma Disparities

Drawing from the biomedical, materialist and social epidemiology frameworks, planners can find ways to address health disparities in their research and practice. Asthma disparities lend themselves to interventions in at least three traditional planning domains, including housing, land-use planning and community building. However, I will show that planning interventions aimed at addressing asthma can reduce the spatial concentration of health disparities more generally.

Housing and Asthma Disparities

Substandard housing contributes to asthma by concentrating allergens that trigger the disease (Hynes *at al.*, 2000). Unaffordable and/or unstable housing also triggers asthma by increasing stress and fear of displacement, homelessness and family safety (Krieger & Higgins, 2002). Gentrification and resulting residential displacement can also contribute to asthma, as displaced families lose health-protective kin and community care-taking and social networks.

Planners can intervene in homes, the entire neighbourhood and across a region to address asthma. In-home environmental interventions to reduce asthma triggers, such as integrated pest management, can improve asthma outcomes in the short term. Planners can advocate physical housing improvements and more affordable and public housing in neighbourhoods hardest hit by asthma. And, as planners have long recognised, housing quality, affordability and stability must be linked to changes in regional policy, such as eliminating residential segregation (Massey & Denton, 1993).

Residential segregation contributes to health disparities by shaping socioeconomic opportunities for minorities not only at the individual and household levels but also at the neighbourhood and community levels (Williams & Collins, 2001). Residential segregation can also lead to racial differences in the purchasing power of a given level of income for a broad range of services, including those that are necessary to support good health. Since commercial enterprises tend to avoid segregated neighbourhoods, the available services in these areas are typically fewer in quantity, poorer in quality and often higher in price than those available in less segregated, particularly suburban areas. On average, African-Americans and Latinos pay higher costs than Whites for housing, food, insurance and other services, and minority neighbourhoods typically lack supermarkets that stock fresh and healthy foods. The lack of safe and affordable housing in a region also creates a geographic housing–employment mismatch, where job opportunities are inaccessible or far distances for low-income groups, further reducing the health benefits that come from employment.

Planning strategies to eliminate asthma and health disparities more generally must include policies that address housing quality and affordability in the context of segregated neighbourhoods and regions. For example, achieving a jobs – housing balance is now part of state law in California (Assembly Bill 857, Environmental Goals and Policy Report, State General Plan Guidelines [California State Assembly, 2002]). The social benefits of a jobs – housing balance include lower transportation costs to businesses and commuters and public expenditures on facilities, and greater family stability and quality of life. Public health benefits of a jobs – housing balance derive from increased opportunities for walking and bicycling, cleaner air, reduced stress and increased leisure and recreation time.

Improving the jobs – housing balance in regions will require planners to build on strategies already in place in some areas around the US. Programmes such as *inclusionary zoning*, which requires developers to build a percentage of new affordable units in return for other benefits such as increased densities, and Fair Share housing ordinances are two tools available to planners. Planners will also need to engage in more place-based research to understand the regional health impacts of a jobs – housing imbalance. Several indicators used by transportation and regional planners, including the jobs-to-housing ratio, the distance of home-to-work trips (origin/designation), and the number of jobs per capita, can be exploited by planners to highlight their role in health disparities research.

Planners can also partner with public health professionals to perform assessments of the impacts of housing affordability, displacement, gentrification and regional housing markets in the environmental review process mandated for many large development projects by the National Environmental Policy Act (NEPA) and state ‘little NEPAs’. For example, the San Francisco Department of Public Health (SFPDH) produced a report entitled *The Case for Housing Impact Assessment*, that detailed why and how impacts on housing affordability and residential displacement might be included in the process of environmental review (Bhatia, 2004). The report included: (1) a review of social and health consequences of housing affordability and residential displacement; (2) a review of the California Environmental Quality Act (CEQA) policy and guidelines with regard to the analysis of social, health and environmental justice impacts; (3) examples of public agency guidelines for affordable housing and displacement impact assessment; and (4) a model scope for housing impacts analysis (Bhatia, 2004). The report also highlighted how housing impact analysis is crucial for non-NEPA-reviewed projects, since small, neighbourhood-level building demolitions and the redevelopment or conversion of residential property from rental to ownership housing can inflate land costs and adjacent rents, and have serious displacement impacts on low-income populations.

Land-Use Planning and Asthma

Planners can also address asthma and health disparities generally by improving land-use decisions beyond those impacting housing. Environmental justice research has shown that toxic exposures from hazardous waste facilities, bus depots, auto-body chop-shops, waste transfer stations and other small waste-generating facilities are more likely to be located in poor, minority, inner-city neighbourhoods (Environmental Protection Agency (EPA), 2003). These land uses, while separately

only emitting small amounts of toxins, often combine to create cumulative environmental health risks disproportionately burdening residents of already disadvantaged neighbourhoods. Environmental justice research has also highlighted that poor neighbourhoods and communities of Colour have fewer environmental assets that can promote health, such as parks, access to open space and street trees (Hurley, 1995; Pellow, 2002). Land-use planning, or lack thereof, also contributes to the social determinants of health, as concentrations of abandoned buildings, empty storefronts and vacant lots give a tooth-gap appearance to neighbourhoods and contribute to a 'social miasma' that leads to violence, reduces social cohesion and is shown to increase premature death, tuberculosis, cardiovascular disease and HIV/AIDS (Greenberg & Schneider, 1994; Wallace & Wallace, 1998; Fullilove, 2003; Fagen & Davies, 2004).

A set of land-use practices aimed at alleviating asthma might also reduce health disparities more generally. First, planners might consider using *zoning performance standards* to specify air pollution goals, pollution prevention requirements and design guidelines for neighbourhoods, and hold the small, largely unregulated, noxious land uses that populate urban communities of Colour accountable to these standards. The current environmental regulatory system does not regulate by place. Instead, most environmental regulation focuses on large industries (i.e. power plants), media (i.e. air) or an individual chemical. Performance standards might include *environmental health buffer zones* that require noxious land uses that want to operate in a buffer zone to offset their pollution with tangible health improvements for the community and locate at a safe distance from sensitive land uses, such as schools, day-care centres and public housing developments. This may be particularly important to limit exposure to hazardous air pollutants and volatile organic compounds (VOCs), both of which can have acute, street-level impacts on the respiratory system and trigger asthma (Rumchev *et al.*, 2004).

Other physical land-use approaches to address urban asthma include planning for neighbourhood elementary schools, supermarkets and safer streets and playgrounds. Neighbourhood elementary schools that are within a safe walking distance can improve asthma outcomes for children. The adverse asthma-related health impacts of long commutes to school for children include loss of sleep, exposure to diesel and other air toxics from bus and vehicle pollution, and fewer opportunities for exercise. Planners can intervene to ensure that school construction is accompanied by traffic calming, sidewalk and crosswalk widening, improved lighting and other streetscape safety improvements. Being overweight or obese is also suspected to trigger asthma; safer streets, playgrounds and rezoning that encourages the construction of affordable supermarkets, which are less prevalent in low-income urban neighbourhoods, can all reduce obesity.

Planners can also fill a research void by documenting how health-promoting neighbourhood amenities, such as parks and supermarkets, can help reduce health disparities. The *Green Envy* report prepared by the San Francisco Neighborhood Parks Council revealed that the lowest-income neighbourhoods in the city had the fewest parks and the longest distances from residences to green space (Neighborhood Parks Council, 2004). The Denver Parks department mapped the

distance between parks and all Denver residences using geographical information systems (GIS), and now uses the proportion of residences within one-quarter mile of a park as a performance measure of park accessibility (Trust for Public Land, 2003). The Community Mapping Assistance Project of the New York Public Interest Research Group documented that communities of Colour and low-income neighbourhoods in New York City have the fewest square feet of grocery stores per person, the fewest number of supermarkets, the least access to farmers' markets and the greatest number of McDonald's restaurants (McMillan & Woodward, 2004).

Land-use planners must also recognise that new public processes are necessary to ensure that land-use decisions are accountable to the communities experiencing the greatest health disparities. Most US states and federal agencies have implemented environmental justice requirements into project planning and reviews (Bullard & Johnson, 2000). These guidelines vary in scope and enforcement, but most include language instructing planners in every domain to broaden the scope of public participation in reviews, to analyse potential disproportionate environmental health burdens on low-income and minority communities, and to include mitigation to offset current or future burdens. For example, the US Department of Transportation (DOT)'s *Order on Environmental Justice* states that the local population must be involved in determining whether an action will have a disproportionately high or adverse impact on low-income and minority residents (US DOT, 1998). Planners are well situated to offer new public process and impact assessment methods for place-based environmental justice reviews.

While new environmental justice guidance documents encourage planners to expand the scope of impact assessments to include disproportionate analyses on disadvantaged neighbourhoods, environmental reviews mandated under NEPA continue to systematically ignore public health issues (Steinemann, 2000). New practices that bring analyses of health into planning reviews, such as Health Impact Assessment (HIA), are necessary to supplement NEPA reviews. HIA is a process that aims to understand the existing and future health impacts from policies, plans and programmes that are not explicitly geared toward health, such as housing, transportation and economic development. HIA takes a precautionary approach to planning practice: setting health performance goals, exploring less harmful alternatives, involving impacted populations, considering impacts on future generations and suggesting preventative actions (Barnes & Scott-Samuel, 2002). In the US, the SFDPH has used HIA to evaluate the health impacts of a proposed living wage ordinance, new housing proposals and re-zoning plans (Bhatia, 2003). In 2005, the SFDPH partnered with the city planning department to conduct a community-based HIA of a series of re-zoning proposals for the Eastern Neighbourhoods, the largest ongoing planning effort in the City of San Francisco. Since the HIA is being performed in a separate, parallel process to the environmental review, it will inform the more traditional land-use review process and act as a forum for community members to express concerns about health and social justice in land-use planning more generally (SFDPH, 2004). While no panacea, HIA offers practising planners an alternative paradigm to environmental impact and risk assessment processes that currently fail to adequately consider health disparities in land-use planning reviews.

Building Community from the Ground Up

As noted earlier, asthma is a disease that requires a close and long-term collaboration between patient and physician. Asthma sufferers need to be able to reach their health-care provider with ease in order to avoid unnecessary emergency room visits. Since medications have side effects, patients must understand the drugs' long-term benefits while also feeling that their concerns and questions will be taken seriously. Yet, for urban populations living in poverty and for new immigrants, overseeing regular medication regimes and scheduling regular physician visits can get lost in daily struggles to meet the basic needs of housing, food and employment. Individualised asthma management programmes often prove ineffective in these settings. Instead, collective asthma management and interventions have proved to be more effective in low-income neighbourhoods and communities of Colour (Ledogar *et al.*, 1999).

Planners can work to offset barriers to collective asthma management and contribute to alleviating health disparities generally by initiating and supporting community building efforts. Community building includes locally focused approaches to collective problem solving that aim to improve existing material and physical conditions, promote socially valuable forms of connectedness and organise greater institutional capacity to prevent problems and advocate for benefits in the future. One way in which planners have traditionally promoted community building is to organise public processes that allow neighbourhood groups to weigh-in on economic development projects, recognising that community voices are crucial for making development accountable to the needs of local people. Yet, public participation alone rarely ensures that the poor and people of Colour are able to influence public processes or advocate for collective problem solving.

However, community health workers (CHWs), often called *promotoras de salud*, have proved to be effective in organising collective disease management for the poor and hard-to-reach populations and building the necessary social capital for collective efficacy. CHWs are front-line lay health outreach workers that organise neighbourhood residents around health issues and provide health education, basic disease screening and translation services. CHWs are effective in reaching families with asthma, helping them confront the medical, social and institutional barriers to disease management, and assisting disease sufferers to link up with community groups poised to advocate for neighbourhood structural improvements (Parker *et al.*, 2003). CHWs not only act as the bridge builders between poor, minority and immigrant communities and professional health services and institutions, but can also tap the local knowledge of disease sufferers and their care-givers that often reveals how macro social structures impact the daily lives of local people (Witmer, 1995). Community building is facilitated by CHWs when they stimulate informal networks, formal associations and other connections between socially dissimilar persons or groups that can be crucial for both securing immediate health-promoting resources and organising long-term policy advocacy coalitions (Satterfield *et al.*, 2002).

Planners can also promote community building and reduce disease disparities by partnering with community groups to help them demand that development projects be accountable to the multiple needs of disadvantaged neighbourhoods. In

New York City, the health department and city planners have revitalised a dormant neighbourhood health centre programme that is not only opening new clinics in low-income neighbourhoods, but also paying attention to transportation access, housing, cultural and language issues that impact on whether or not local people will benefit from health services (Karpati *et al.*, 2004). Planners in Los Angeles have assisted the Figueroa Corridor Coalition, a group of community organisations, to negotiate a community benefit agreement with the private developers of the Staples Center Phase II project in downtown Los Angeles (Gross, 2002; Goodno, 2004). The agreement was a legally binding, project-specific contract between the developers and community organisations that guaranteed that the economic benefits of the development project would be tailored by residents to meet their most urgent needs—including housing, quality jobs and health (Gross, 2002). While achieving short-term gains for communities, these processes hold the prospect of building more transparent and responsive relationships between private developers, government and community members over the long term. Planners can act as facilitators of these new experiments in local democratic practice.

Planning Equitable and Healthy Places

As public health disparities are increasingly understood as a product of social, economic, political and physical inequalities in places—not just between people—the field of urban planning will need to play a more active role in understanding and addressing these inequities. Addressing health disparities will require planners to re-embrace their social justice and public health roots, collaborate with practitioners and researchers from other disciplines, and integrate public health theories and practice into planning pedagogy. This paper has offered evidence for the existence of neighbourhood-based health disparities, how theories of disease causation shape health promotion strategies, and specific research and intervention practices for planners to address urban asthma and health disparities more generally.

Clearly, more work is necessary to explicate the links between place characteristics and health, and whether particular planning interventions are effective in reducing health disparities. For example, planning research might weigh-in on identifying which specific characteristics of places are detrimental to health and which characteristics might act as buffers or mediators of disease and death, and, working with public health partners, design studies to understand how individual biology can act to exacerbate or mitigate place-based hazards. Further research is also necessary in order to understand how the characteristics of places might have different impacts on a population's health depending on the specific disease, the age of the population, the time groups have spent in a particular place and the availability or absence of coping or buffering resources. Planners will be called on to offer their specific expertise to these efforts, such as land-use surveys, community visioning exercises, and GIS spatial analytic techniques. Importantly, planners can bring a comprehensive and regional vision to both research and action, having long recognised that community improvements often require simultaneous attention to neighbourhood, city, regional, national and global policies. Whether or not planners can meet the challenges that urban health disparities present for research and

practice is yet to be determined, but the health of the least well off hangs in the balance.

Notes

1. This last feature is particularly important for developing interventions for disparities, since it implies that there may be no 'threshold' or level of basic needs and wealth that enables groups to avoid the health effects of inequality.
2. Social capital, as used here, includes the features of social organisation, such as civic participation, norms of reciprocity, and trust in others, that facilitate cooperation for mutual benefit. Social capital is thus a community-level variable whose individual-level counterpart is measured by a person's social networks, although social capital is probably more than just the sum of individual-level social networks.

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