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Title: Health Equity as a Guide for Urban Planning

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Abstract

Urban planning has struggled to establish a consensus on what 'good' planning looks like, and instead grapples with balancing competing planning priorities and perspectives. This paper proposes that planners and planning scholars look to health equity as a guiding 'north star'. We justify this proposal by reviewing scholarship that intersects planning and public health. Drawing from empirical and theoretical work linking urban planning, health, and social equity, we recommend planners adopt participatory and anti-racist practices; implement cross-sectoral strategies beyond the professional boundaries of urban planning or public health; and learn from diverse data sources, research methods, and geographic contexts.

1. Introduction

Since its inception as a professional field, urban planning has struggled to define its fundamental charge and create a positive vision against which to judge its own progress. Instead of a well-established consensus on what "good" planning looks like, the field grapples with balancing competing priorities and perspectives. These include outcomes, such as housing production, environmental protection, and economic development (Campbell 1996); as well as stakeholder interests, such as those of local resident populations, businesses, adjacent communities, and others (Healey 1998). Planners also have to juggle different roles, for example, as technical experts, advocates, facilitators, and policy-makers, among others (Campbell 1996; Olesen 2018; Steele 2009).

While planning's interdisciplinary approach and diverse goals are often viewed as a particular strength of the field (Bertolini and Verloo 2020), in seeking to meet a multitude of objectives and stakeholder needs, urban planners have also been critiqued for having no explicit standards by which to assess 'good planning' or what a 'good city' is. By focusing on facilitating consensus without a clear anchoring conception of 'good', planners risk yielding control to actors who seek outcomes counter to public interest, and perpetuating the hegemony of those with power (Fainstein 2010; J. Grant 2005; Friedmann 1987; Talen and Ellis 2002). For example, planning that yields to "Not in my back yard" (NIMBY) efforts to stop the siting of locally undesirable land uses disproportionately benefits advantaged communities with resources to fight against such sitings, and could harm marginalized populations when they block low-income housing and social service centers (Gerrard 1994).

Rather than simply satisfy engaged stakeholders, what then should be planners' central charge? According to the American Planning Association, "the goal of planning is to maximize the health, safety, and economic well-being of all people living in our communities" and to "create communities of lasting value" (American Planning Association 2022). Achieving these goals requires urban planners to support communities in navigating contemporary challenges that are unfolding within highly unjust contexts. By unjust contexts, we refer to the inequitable concentration of power over urban development processes, and its resultant spatialized patterns of risk and resource allocation, which often stem directly from exploitative causes, including environmental extraction, indigenous land theft, imperialism, slavery, and other modalities of (racial) capitalism.

One particularly salient "unjust context" is that of structural racism, which refers to the forces and systems that keep racialized people marginalized so that the beneficiaries of racial privilege can maintain their advantages. Structural racism is embedded in, reproduced, and embodied through, the built environment and spatial processes, such as urban renewal programs in the U.S. which destroyed Black neighborhoods in the name of economic progress; as well as residential

redlining, and other processes that created racially segregated neighborhoods which generate adverse health outcomes among affected residents (Bailey, Feldman, and Bassett 2021; Brand and Miller 2020; Dantzler 2021; Fullilove 2016; Song 2015). Given our field's role in perpetuating such harms, planners need to address and repair at least the spatialized aspects of structural racism. Doing so must be central to a positive vision for planning (R. A. Williams 2020; R. Williams and Steil 2023).

Planning must also help communities respond to emergent threats to their well-being. These include more frequent and stronger disasters along with other effects of climate change, widening socioeconomic inequality, racial violence, ecosystem depredation, housing shortages, and pandemics such as COVID-19. These threats are interconnected and overlapping, sharing roots in our existing unequal economic and social systems.

To guide planners in correcting past injustices and addressing present challenges, the field needs a yardstick by which to gauge its own success of enriching lives for all. While there have been calls for planners to prioritize population health or social equity in their work, we argue that there needs to be a specific, targeted focus on the intersection of the two. Focusing on health alone without explicitly prioritizing a fair distribution of health outcomes can result in exploitation and marginalization. On the other hand, attempting to set 'equity' as planning's primary goal can be challenging as equity is a multi-dimensional, complex, and often ill-defined concept that is difficult to operationalize.

Health equity, which refers to the elimination of unjust and preventable differences in health, both mental and physical, that arise from the unfair distribution of health risks and resources, and attainment of the highest possible standard of health for all people (Arcaya, Arcaya, and Subramanian 2015; Braveman 2014), can function as a useful 'north star' to guide planners. Health equity provides a measurable indicator of planning success which is responsive to planning activities, and which can be translated into a practical roadmap of concrete steps to respond to present and future challenges.

To make our case, we first review the historical links between planning and health, which illustrate how evaluating planning in terms of health alone is insufficient. We then recap planning theories and practices relevant to social equity, highlighting the challenges of integrating equity considerations into planning. Drawing from these two discussions, we discuss why planning for health equity can offer better guidance for planning practice than health or equity alone.

Next, we review theories of urban (in)justice and theories of disease distribution that explicate the links between planning, spatial equity, and health equity. We then consolidate a set of recommendations on how planners and planning scholars can further health equity, including learning from non-Anglophone contexts; adopting cross-sectoral strategies; and elevating insights from mixed-methods, participatory and anti-racist approaches in designing planning interventions. Throughout, we draw particular attention to racial justice as a cornerstone of planning for health equity because of the critical role structural racism plays in driving health inequities.

1.1 Planning for health demands an equity focus

Over the past two decades, there has been much interdisciplinary commentary emphasizing how urban planning can improve human health, and which call for the re-integration of fields of public health and planning (e.g. Frank and Kavage 2008; Corburn 2004; Jackson, Danneberg, and Frumkin 2013; Giles-Corti et al. 2016). Many of these exhortations start with the oft-repeated origin story of modern urban planning responding to public health concerns: namely that urban planning developed as a response to overcrowded, unsanitary living conditions and disease outbreaks that stemmed from rapid industrialization and urbanization in the 19th century.

However, while water and sanitation infrastructure did substantially reduce deaths from infectious diseases, planning's commitment to health equity as an imperative in and of itself is questionable. In

fact, many planning interventions carried out since the industrial era in the name of health and safety have prioritized the wellbeing of dominant groups at the expense of marginalized groups. For instance, Chinese workers settling in California in the 1800s were pathologized as dirty and diseased. Such racist hostility led to the passage of laws and restrictive covenants prohibiting them from buying property in certain areas, and the formation of segregated, over-crowded Chinatowns (Chacon 1988; Craddock 1995).

Zoning, which was formally approved as legal in the U.S. through the 1962 Supreme Court ruling *Village of Euclid v. Ambler Realty Corporation*, was also partially justified by public health principles of public nuisance law (Schilling and Linton 2005). While zoning is often portrayed as a neutral tool to separate public nuisances from residential areas, it has been weaponized in countries like the U.S. and South Africa to segregate those who were perceived as undesirable, such as lower-income groups, and/or racial/ethnic minorities, from the rest of the population. Planned segregation leaves a persistent legacy of exclusion and discrimination that has negatively affected the health and well-being of targeted groups (Maantay 2001; Miraftab 2012; Rothstein 2017).

Other examples of discriminatory planning interventions contributing to durable health inequities are the massive urban renewal programs undertaken in the U.S. in the latter half of the 20th century. These programs were partly justified on the basis of improving housing hygiene and health (Zipp 2013), and yet disproportionately wrought havoc on predominantly Black neighborhoods, displacing communities and destroying housing and social infrastructure (Fullilove 2016; Lopez 2009). Similar urban renewal programs played out in the U.K., Australia and Europe, and gave rise to poor short-term and long-term health outcomes amongst displaced groups (Mehdipanah et al. 2018; Lopez 2009).

Even well-intentioned planning efforts that focus narrowly on improving built environment quality to improve health outcomes, such as improving neighborhood access to supermarkets, have been criticized for failing to challenge broader structural factors that generate unjust built environment patterns in the first place. Chrisinger (2023) argues that planners interested in improving health outcomes often focus on changing behavioral norms or correcting market failures – which are interventions more palatable to government agencies and funders – instead of 'justice' oriented actions, such as concerted activism and the redistribution of power to marginalized groups, which seek structural change. Targeting norms and markets, he argues, is insufficient to effect substantial population health improvements. Instead, justice-focused equity planning is needed. Similarly, Williams et al. (2023) observe that "current planning efforts to improve public health mainly consider how social and environmental factors directly affect the health of populations as opposed to evaluating how these decisions alleviate or exacerbate existing inequalities within populations." They argued that intersectionality is an essential tool for understanding how to plan for health equity in a way that adequately addresses how the embodied experiences of people and groups are shaped by positionality along multiple hierarchies of human value, such as race and gender.

In short, health-planning collaborations that ignore issues of equity risk being ineffective or downright harmful.

1.2 Planning for equity requires greater specificity

As with health, some scholars have positioned social equity as a cornerstone of modern urban planning. As described above, 19th century cities were crowded, unsafe and unsanitary, inspiring social reformers to advocate for infrastructural and housing quality improvements on behalf of poor urban populations—which some planning scholars have interpreted as efforts from the earliest urban planners to achieve a more equitable city (P. Hall 2014; Krumholz and Hexter 2018a; Reece 2018).

Despite espousing equity as a core tenet, planning nevertheless has had a conflicted history, hurting marginalized groups in ways

described earlier in this paper, often in the name of economic development (Campbell 1996; Fullilove 2016; R. Williams and Steil 2023). Planning scholars, in efforts to correct the profession's perpetuation of injustice, have generated various recommendations for how to integrate justice considerations into planning processes and policies(for reviews of these efforts, see Reece 2018; Fainstein 2017; Marcuse et al. 2009; Metzger 1996). Whether these efforts have translated into an adequate integration of equity considerations into urban plans today, however, is debatable.

When assessing the climate adaptation and resilience plans of the ten largest cities in US, Chu and Cannon (2021, 91) found positive signs that "a new generation of equity planners are […] mobilizing more participatory action, inclusive decision-making, and progressive, redistributive politics." Their findings here echo Reece's (2018) observation that planning practice has become more inclusive and responsive to the need for equity (Reece 2018), as well as from commentaries from equity planning experts (e.g. Krumholz and Hexter 2018b, 267).

However, other assessments suggest substantial limitations. A 2016 analysis of the equity impacts of land use plans for climate adaptation of eight cities from the global North and South found these plans disproportionately affected or displaced low-income and minority communities, while protecting economically valuable, privileged areas at the expense of disadvantaged neighborhoods—effectively exacerbating socio-spatial inequities (Anguelovski et al. 2016). Loh and Kim (2021), in their evaluation of local comprehensive plans in Michigan, found equity considerations to be "often subsumed by other [economic and environmental] goals". Similarly, Manaugh et al (2015), in their examination of urban transportation plans in the U.S and Canada, observed that more 'tangible' outcomes, such as reduced congestion and greenhouse gas emissions were prioritized over social equity outcomes. They argued this was because the former were easier to measure and present to the public, and thus had more political cachet compared to the more amorphous goals related to social equity.

Even ostensibly progressive planning efforts to improve social inclusion do not always lead to improved equity. Scholars have observed how programs such as the 'Breaking New Ground' housing building program in South Africa, and 'Vila Viva', an informal settlement upgrading project in Belo Horizonte, Brazil, perpetuate racial segregation because these efforts tend to focus only on class without addressing each jurisdiction's existing legacy of racial inequities (Melgaço and Xavier Pinto Coelho 2022).

2. Operationalizing Equity by Focusing on Health

Concerns about the difficulties of operationalizing 'equity' are widely shared by scholars across other domains of public policy, who in turn have highlighted the importance of defining and operationalizing equity goals into clear measures or indicators. Doing so sharpens objectives and priorities, and also facilitates communication of policy objectives to decision makers and the public, which in turn focuses attention and builds support for equity-focused policies (Manaugh, Badami, and El-Geneidy 2015; Blanchard 1986; Österle 2002).

One way to operationalize social equity to evaluate planning's impact is by assessing the relative distribution of socially important outcomes—specifically whether 'equal results' are achievable by different groups, or if there are systemic impediments preventing equal results (Blanchard 1986). Health is a particularly important outcome that functions well as a concise, headline measure of policies' impact on social equity, for several reasons: First, health is central to justice. One of the most notable approaches to defining justice in planning is Susan Fainstein's "just city" framework. Here, Fainstein (2010) suggests that we look to the capabilities approach, a theory of justice rooted in the freedom to achieve wellbeing, to determine how to navigate the competing demands planners face. While Fainstein does not explicitly center health or health equity, proponents of the

capabilities approach have highlighted health and health equity as central elements of justice (Nussbaum 2000; Sen 2002) since "the freedoms and capabilities that we are able to exercise are dependent on our health achievements" (Sen 2002). In other words, health is an essential requirement for one's freedom to live a good life, and an inequitable distribution of this essential capability would give rise to many other inequitable social outcomes. Health equity can thus serve as a leading indicator for social inequity across multiple domains, beyond health alone.

Second, social inequalities in health are inequitable because they are "the expression and product of unjust economic, social, and political institutions," and so understanding the mechanisms by which they are produced may guide efforts to change these various institutions and their practices (Peter 2001). In other words, health equity summarizes how just the multiple dimensions of society are.

Third, individual and population health are directly affected by the urban environment, and thus modifiable through planning interventions. This is the crux of why and how health equity can function as a north star for planning, and is also why other urban planning and public health scholars have called for built environment interventions to reduce health disparities (Corburn 2004; Frumkin 2005; M. Grant 2019; Marmot et al. 2008; Northridge and Freeman 2011; Rydin et al. 2012; Wolch 2011). To substantiate and expand upon this third point, we establish that health equity is a planning-sensitive outcome by reviewing theoretical and empirical literature explicating the link between urban environments and health equity (Section 3), and showing links between urban planning and inequitable spatial patterns (Section 4), before proposing a set of recommendations on how planners can advance health equity (Section 5).

3. How Urban Environments Affect Health Equity: Theories and Evidence

Typical explanations for inequitable health outcomes emphasize biological, medical and "lifestyle" factors such as individual health behaviors, consumption choices, and habits. Corresponding policies target individual-level changes, like lifestyle modifications or the provision of medical care (Krieger 2011a; Pons-Vigués et al. 2014; Bambra et al. 2010). However, prioritizing "downstream" individual-level explanations and interventions does not sufficiently address more "upstream" causes of health inequity. For example, exhorting people to be more physically active without also providing quality green space and safe sidewalks is likely to be futile.

Scholars in health-related fields have theorized how structures of power, politics and economics determine individual and population health. These theories are useful in explicating the connection between environments, socioeconomic inequities, and health inequities. We summarize several key concepts from health literature relevant to urban planning, which conceptually link the various scales of environment that urban planners typically operate at (such as regional, city, neighborhood scales) to health, and which thus better cohere with planning field's sphere of influence than individualistic explanations for health (Corburn 2004).

i. Sociopolitical theories of disease distribution: This set of theories emphasizes how social conditions, processes and relationships affect the social patterning of health, and attribute health inequalities to the unequal distribution of social, economic, political, and environmental resources (Cockerham 2014; Krieger 2001; Link and Phelan 1995). Structural factors typically included in sociopolitical theories of disease are systems of governance; social and economic policies; and political and economic relationships with other societies. Sociopolitical theories of disease distribution are supported by clearly observed differences in the incidence and prevalence of disease between groups which fall along socioeconomic (Braveman et al. 2010; Kim et al. 2018), racial/ethnic (D. R. Williams and Mohammed 2009) and gender lines (Braveman et al. 2011; Sen 2001).

One sociopolitical theory of disease is the

political economy of health perspective**,** which originates in the work of mid-nineteenth century social reformers and thinkers like Rudolf Virchow, Louis-René Villermé, and Friedrich Engels. It emphasizes the interactions between political and economic systems and how these produce differential health outcomes (Krieger 2001) . A political economy of health perspective would highlight how high-resource, high-status actors utilize political institutions to maintain economic and social dominance, and how mechanisms like racial residential segregation created durable inequalities in neighborhood resources and unhealthy exposures like substandard housing and unsafe public spaces (Trounstine 2021).

ii. Ecological theories of health and the concept of embodiment: To bridge the divide between sociopolitical and biological approaches to understanding health, social epidemiologists have developed holistic "ecological" models of health that integrate broader considerations like resource distribution, social structures, and ecosystems. One of the most comprehensive ecological theories of health is "ecosocial" theory (Krieger 2011b). Ecosocial theory posits that people biologically embody their material and social worlds as they engage with the biophysical world and each other(Krieger and Davey Smith 2004).

The ecosocial framework encompasses many pathways of embodiment including adverse exposure to social and economic deprivation, hazards, trauma and other hurts which are diverse, concurrent and interacting over time and space. By explicating the processes of embodiment, ecosocial theory provides a useful framework to guide inquiry towards modifiable features of people's environments. As purely sociopolitical theories focus on the role of dominant social, political, and economic systems in producing health inequities with relatively less focus on biological processes and individual level phenomena, they offer little insight about what specific actions might ameliorate health inequities besides the herculean task of dismantling said systems. In contrast, ecosocial theory draws the chain of impact from large systems down to individual bodies and thus offers a range of avenues for intervention along the chain of causation (Krieger 2001).

Empirical research comports with the concept of embodiment, demonstrating a direct link between our environments and bodily health. Studies have established the negative health implications of exposure to pollution (Basner et al. 2014; Chen et al. 2015; Khreis et al. 2017), and poor housing quality (Shaw 2004; Vásquez-Vera et al. 2017), amongst others. Exposures to racism, ranging from experiences of interpersonal discrimination (R. Clark et al. 1999; Pal 2015), discriminatory housing markets (Bailey et al. 2017; D. R. Williams and Collins 2001) and adverse encounters with the criminal justice systems (Deivanayagam et al. 2021; Geller et al. 2014) are also embodied through material and psychosocial stresses, manifesting as racial/ethnic mental and physical health disparities(Nazroo, Bhui, and Rhodes 2020).

More recently, the study of epigenetics, which focuses on gene-environment interactions, has provided fascinating insight into how social and environmental exposures are translated into physiologic outcomes via changes in gene regulation and expression. Epigenetic studies have shed light on how early experiences influence health over the life course, and how epigenetic modifications might be passed on to future generations (Guthman and Mansfield 2013; Thayer and Kuzawa 2011; Walters et al. 2011). Developments in epigenetics have shifted our understanding of genetic inheritance from being biologically inevitable and natural to something that is socially transmitted and therefore intervenable (Meloni 2015).

At the same time, scholars have critiqued aspects of epigenetic research. For example, Geronimus (2013) questioned epigeneticists' emphasis on the role intrauterine conditions play, arguing that this emphasis on the body neglects fundamental causes of harm, such as structural racism. Critics have also argued that epigenetics can lead to intense moralizing around behaviors, putting the onus of change for health on the individual (Mansfield 2012; Meloni and Testa 2014).

This debate holds valuable lessons for planners: both that environmental experiences have cumulative and intergenerational health impacts,

and that individual-level responses to these impacts risk neglecting their true structural causes. . Instead, planners must recognize and explicitly address systemic racism and ethnicity-based discrimination's role in generating health inequities (Mansfield and Guthman 2015; C. L. Martin et al. 2022; Saulnier and Dupras 2017).

iii. Social marginalization as a modifier of environmental effects: Disease conditions cluster in marginalized populations because of spatial disparities in the distribution of environmental risks and amenities among socioeconomic and racial/ethnic groups (Guthman and Mansfield 2013; Kruize et al. 2014). However, the link between environment and health inequities is not a straightforward spatial distribution problem because of the interactive, multiplicative impacts of the co-occurrence of social and health conditions. Social marginalization changes the health implications of environmental exposures (Gelormino et al. 2015). Populations already burdened by social disadvantage and disproportionate exposure to harmful environments are likely to experience larger health effects from the same levels of environmental exposures than more advantaged counterparts – a 'triple jeopardy' (Jerrett et al. 2001). For example, a study found that, for the same level of disaster damage inflicted by Hurricane Katrina and Rita in 2005, single mothers suffered substantially worse mental health outcomes than the general public (Zahran et al. 2011).

We present some often-cited explanations for why environmental effects differ by social disadvantage.

First, proponents of **constrained choices theory** argue that individuals' decisions and priorities are influenced and constrained by the context in which they are formulated (Bird and Rieker 2008; Vuolo, Kadowaki, and Kelly 2016). Marginalized people experience worse effects from environmental exposures because they face a more constrained set of options to mitigate or buffer against risks than more advantaged people (Deng et al. 2020; Sun, Kahn, and Zheng 2017). For economic survival, they are more likely to engage in risky activities such as performing "high-contact" jobs during the COVID-19 pandemic (McClure et al. 2020; Rother 2016).

Other scholars have explored the phenomena of **allostatic overload**, by which cumulative disadvantage exposes individuals to multiple, accumulated stressors, such as racial discrimination, material deprivation, and community violence, and thus changes their neurobiological mechanisms of stress regulation in ways that reduce their bodies' resilience to negative environmental exposures, and generate poor mental and physical health outcomes (Berger and Sarnyai 2015; Gelormino et al. 2015; Kim et al. 2018).

Relatedly, scholars have explored the phenomena of **John Henryism** where lower socioeconomic status individuals in general, and African-Americans specifically, repeatedly utilize high-effort coping strategies to overcome daily stressors and barriers to economic and social mobility, which in turn generate adverse health consequences (Felix et al. 2019; James 1994; Subramanyam et al. 2013).

4. The evidence linking urban planning and policy to spatial inequality

Just as people embody their environment, the urban built environment incorporates the broader social, economic, and political context it is situated in. Space is "socially produced" (Lefebvre 1991) by administrative policies, social conventions, and technological systems, in ways that embed asymmetries of power relationships into "unjust geographies" and spatial design (Soja 2010; Tickamyer 2000). Social, political and economic inequalities are embedded into space and manifested as patterns of spatial inequalities through urban planning—this section illustrates two ways this occurs.

i. Globalization and Racial Capitalism: Capitalism drives uneven development and spatial inequality across global and regional scales (Harvey 1992; Israel and Frenkel 2018; Smith 2008). Globalization, flows of capital, economic neoliberalization and growing income inequality have aggregated spatial inequality,

through the hyper-concentration of economic and human resources within a few major economic centers that have been labelled as "superstar", "global', or "world" cities (Florida 2020; Gyourko, Mayer, and Sinai 2013; Peter Hall 1998; Sassen 2016). The same stratification can be observed at various scales: for example, Singapore, Kuala Lumpur and Jakarta enjoy disproportionately high levels of economic and infrastructural development in Southeast Asia, while in China, economic reforms benefit already-prosperous cities like Beijing and Shanghai (Liu, Dai, and Derudder 2017; Wei 2017). Others have also observed how super-rich transnational investors have spiked property values in select neighborhoods within globalized cities like Singapore, London, and Vancouver (Pow 2017; Sassen 2018). Some have also drawn links between global capitalism and racism—in the U.S., "spatial fixes" that seek to exploit new locations as a remedy for capital overaccumulation are often anti-Black because locations inhabited by Black communities as treated as essentially "empty" and available for exploitation. Black people experience serial forced displacement from these spaces through state-led urban renewal, gentrification, policing and incarceration (Bledsoe and Wright 2019; Fullilove and Wallace 2011). Such analyses demonstrate how racism and capitalism co-produce spatial inequalities. To this end, urban scholars have applied the concept 'racial capitalism' to analyze how 'global cities' have developed through racially exploitive urban regeneration, policing, and gentrification processes (Danewid 2020). Racial capitalism refers to how "the development, organization and expansion of capitalist society pursued essentially racial directions" (Robinson 1983, 3). Instead of viewing capitalism as an economic system operating independently of politics and culture, this framework suggests that racism is foundational to capitalist societies, and that neither race nor capitalism can be adequately understood independent of the other. The enslavement of Africans, extractive colonization of indigenous populations and lands by European powers, and global flows of indentured migrant labor are past and present-day manifestations of how capitalism has exaggerated and cemented social differences into racial hierarchies. Such codification of racial categories further justified and enabled the continued exploitation of non-White people (Jenkins and Leroy 2021; Dantzler, Korver-Glenn, and Howell 2022).

ii. Residential Segregation: Residential segregation refers to the physical separation of individuals based on their membership in socially constructed categories such as race, ethnicity, gender, class, or religion (Kramer 2018; Massey and Denton 1988).

One oft-cited theory for residential segregation is the **spatial assimilation model,** which posits that class status differences and lifestyle preferences drive the spatial clustering of different groups (W. A. V. Clark 1991; Schelling 1971). Such explanations have been critiqued for failing to account for the experiences of Black populations in the U.S., for problematically elevating 'white' suburban spaces and proximity to white populations as a normative ideal, and for overemphasizing socioeconomic class as a driver of segregation (Dantzler, Korver-Glenn, and Howell 2022; R. Wright, Ellis, and Parks 2005; Charles 2003). Instead, scholars have called for a more explicit centering of how racism is integrated in urban processes that generate segregation.

An alternative explanation for residential segregation that underscores the role of discriminatory actions is **place stratification.** This theory draws primarily from experiences in the U.S. where years of red-lining, discriminatory bank lending and real estate market practices, and federal housing policy generated a highly segregated landscape of unequal opportunity split along racial/ethnic lines, where access to desired spatial characteristics and amenities are reserved for the powerful groups while marginalized groups are systemically excluded (Charles 2003; Iceland and Wilkes 2006; Rothstein 2017). The source of such discriminatory actions has been attributed to White populations' aversion to living together with Black people —an aversion that has been cited as the cause of 'white flight' from American cities to suburbs in the 1950s and 1960s when Black populations grew within urban centers (Rose 1970; 1969; Wilson 1989). Relatedly, scholars have also argued that negative emotions, neurobiological, and physiological responses to

blackness stem from a shared, normalized, racialized belief system that casts antiblackness as common sense (McKittrick 2021, 156). Such normalized fears of racialized 'others' have been used to justify spatial segregation for 'safety reasons' (Low 2001), and also explains why minority groups might view being spatially segregated as being protective against racist violence (Hopkins and Smith 2008). Other scholars have also characterized these discriminatory efforts as tools of racial capitalism, deployed to extract value from communities of color via displacement and dispossession (Dantzler 2021; Melgaço and Xavier Pinto Coelho 2022)

Spatial separation along social categories can have profoundly negative implications on the health and well-being of marginalized groups. We highlight three possible pathways: First, residential segregation generates an uneven **geography of opportunity** where the outflow of jobs from central cities and job growth in White suburban communities render Black minority, urban neighborhoods spatially isolated from economic opportunities (de Souza Briggs 2006; Kain 1992). Another mechanism is that of **environmental racism**, where pollutive industries are disproportionately located in and near communities of color (Brulle and Pellow 2006; Hill Collins 2010; Mohai and Saha 2015), affecting physical and sociodemographic characteristics of neighbourhood, and entrenching social and health inequities (Kruize et al. 2014; Sharkey 2013; D. R. Williams and Collins 2001). Scholars have also demonstrated how patterns of over-policing and vigilante violence against Black communities generate individual and collective stress, fear, trauma and humiliation–which affect various aspects of health and wellbeing (Downey and Mark 2021; W. J. Wright 2021). Third, sociologists have found neighborhoods to be good avenues for the cultivation of "**bridging" weak social ties** important for obtaining jobs and other opportunities (Granovetter 1983; Henning and Lieberg 1996). Socioeconomic segregation thus ensures that social ties formed in neighborhoods are often between people of similar socioeconomic status, which translates into restricted opportunities for upward economic mobility in poorer neighborhoods (Krivo et al. 2013).

5. Translating theory to practice: planning interventions for health equity

Health equity should act as a north star for urban planning because it provides a good measure of what constitutes "just" planning and because it is responsive to and dependent on, planning activities. However, to actively follow this north star, planning researchers and professionals need a practical roadmap. Next, we offer recommendations on how planners and planning researchers can advance health equity.

5.1. Build a stronger research base for policy: Combine multiple methods of analysis and data, across different geographic contexts, for multiple audiences

As the determinants of health inequities are complex, planners will need a broad and multi-faceted knowledge base to support planning processes and decision-making.

First, planners must value findings from multiple types of studies. Causal inference techniques and experimental approaches—ostensibly gold standards in public health research—are inherently limited and difficult to apply to urban planning problems for several reasons. Potential causes of health inequities are tightly correlated, complicated, dynamic and hard to parse out.

Furthermore, designing and sustaining experimental studies over time poses significant practical and ethical challenges that may not align with planners' needs for actionable context-specific knowledge (Diez Roux and Mair 2010; Jeffries et al. 2019). Because cities are complex, dynamic systems, planners should "move away from the risk-averse evidence hierarchy used in public health with its medical provenance and agree on a new approach to evidence that supports creative city change and experimentation" (M. Grant et al. 2017). Given the urgency of urban health challenges, requiring experimental evidence before acting would take too long.

To overcome these shortcomings, we recommend that health equity-oriented planners draw on a broader evidence base, including experimental and quasi-experimental studies, longitudinal observational studies, and qualitative studies (Arcaya et al. 2016; Diez Roux and Mair 2010). Evidence based on mixed-methods research can be particularly useful for deriving deeper understanding of how social and cultural factors that might affect built environment determinants of health in complex ways (Steinmetz-Wood, Pluye, and Ross 2019).

Second, environment-health relationships are sensitive to national and regional differences in culture, and economic and political power structures (Napier et al. 2017; Stauber et al. 2018; Van Tuyckom, Van de Velde, and Bracke 2013). Currently however, there is an overconcentration of on health and place research within the U.S., U.K and other 'Anglophone' contexts (Moon and Pearce 2020; Wang and Yang 2019; Zhang et al. 2020). To address this important geographic gap, potentially via comparative analyses between the 'Anglophone' cities and the rest of the world, will test the faulty assumption that Western-centric research findings are readily generalizable to other understudied contexts.

Third, while much research explores the link between place and health, less progress has been made translating these research findings into concrete interventions (Amaro 2014). One reason for this translation gap is that researchers often falsely assume results alone can compel action from practitioners when it is but one factor amongst others like ideology and political pressure. Furthermore, there is often a communication gap between academics and policymakers. To effectively influence policy making, researchers should distill research findings into 'digested evidence' and disseminate accessible narratives beyond academic publications (Gentry, Milden, and Kelly 2020; K. Martin, Mullan, and Horton 2019)

5.2: Identify and test practical, cross-sectoral strategies

Currently, planning and policy-making around health and the environment are compartmentalized along disciplinary and professional boundaries. Such a siloed approach runs counter to ecological models of health which call for an integrated approach to tackle the multiple pathways of embodiment (Crane et al. 2021; Reis et al. 2015).

Adopting a broader, cross-sectoral understanding of how 'upstream' factors, such as housing, jobs and education, affect health allows one to conceptualize strategies with greater population-level impact (D. R. Williams et al. 2008). Taking a broader perspective also supports the channeling of funds earmarked for healthcare towards providing infrastructure critical for health. For instance, given the entrenched challenges in increasing overall housing stock for low-income people in the United States, advocates have argued that Medicaid should fund housing for at-risk populations, to quickly provide a much needed resource for improving health and reducing mortality (Bamberger 2016; MACPAC 2021).

Taking a cross-sectoral perspective on infrastructure financing and development can also support better, more equitable health outcomes. In 2021, the U.S. government passed a $1 trillion infrastructure bill into law.The infrastructure bill represents a golden opportunity to pilot, research and implement cross-sectoral strategies that can rectify and compensate for negligent and/or discriminatory actions so often part of infrastructure planning.

Professionally, urban planners often balance competing and complementary concerns and requirements of various stakeholders, across multiple public, private and governmental sectors (Campbell 1996; Healey 1998). Urban planners and scholars are thus well-placed to play an important integrative role in pulling together multiple sectors in search of innovative, interdisciplinary solutions.

5.3 Supporting Community Action, Participation, and Empowerment

Achieving health equity will require planners to support communities operating within contexts where power over urban development is inequitably concentrated, through the

redistribution of power over planning processes and outcomes from the 'powerholders' to those who have hitherto been excluded from urban development decisions (Arnstein 1969). Meaningfully including and centering community members in planning processes, such that they possess the power to make actual decisions about plans and policies, can help build social capital, trust, sense of ownership over the plans enacted, greater community capacity and agency to formulate and implement decisions, and may be health-promoting (Binet et al. 2022; P Healey 1998; Slotterback and Lauria 2019). Advocates of participatory planning have thus called for co-production models, where citizen participation is sustained throughout the entire planning process, stretching from beyond merely 'engagement' towards adaptive and substantive long-term involvement (Rosen and Painter 2019).

Community participation and empowerment can be supported through participatory, community-engaged approaches to research, such as Participatory Action Research (PAR). Community-engaged inquiry can enhance the accessibility, context-specificity, and methodological diversity of the knowledge we use to interpret planning problems and make planning decisions. Such approaches are especially relevant to planning because they explicitly link research to action and prioritize usability across research design and data analysis. In PAR, all phases of the research process are conducted in collaboration with those affected by the issue being studied, to produce knowledge for community-led action (Binet et al. 2019). With respect to health equity, participatory research build community capacity and thus enhance a community's control over its own destiny, reducing power imbalances between the community and policy-makers (Speer, Gupta, and Haapanen 2020; Binet et al. 2022). Participatory approaches also create a network of relationships between community members and other actors in the policymaking process which can be strategically deployed to capture the attention of policymakers, through evidence-provision, civic and political engagement (Cacari-Stone et al. 2014; Freudenberg and Tsui 2013).

5.4: Adopt Anti-Racist Approaches

Racial justice is a central component of achieving urban health equity (King et al. 2022). Song (2015) argues, and we agree, that race plays a "constructive function" in envisioning and enacting transformative planning efforts. Thus, to achieve transformative planning goals like equity and justice, our field must reckon with its legacy of racist exclusion and dispossession. Scholars have advocated for a reparative form of planning that repairs the economic consequences of white supremacy, and fundamentally transforms the societal structures scaffolding white advantage in the first place (Goetz, Williams, and Damiano 2020; Song 2015; R. A. Williams 2020). Reparative planning include both government-led and grassroots strategies. Government-led strategies include changing housing policy to increase fair and affordable housing, such as eliminating exclusionary zoning, increasing funds for affordable housing development, and expanding access to low-risk credit (Dantzler and Reynolds 2020). Grassroots strategies include building cooperative economic institutions, community organizing and education, and developing participatory decision-making systems (R. Williams and Steil 2023).

Another anti-racist approach to planning for health equity is to utilize 'racial impact analysis'. Like environmental impact assessments, racial impact analyses can be systematically incorporated into planning processes, to ensure that actions of planners do not increase racial inequality (Goetz, Williams, and Damiano 2020). Requiring rigorous evaluations of the effects of any potential intervention or policy on historically disadvantaged groups would be a critical component of what Steil (2018) terms an 'antisubordination approach', which holds that planning must directly address durable categories of social inequality.

To support these and other anti-racist planning approaches, urban scholars should conduct research that explicitly engage with the ways white supremacy shape how our field knows and acts, using frameworks to understand how structural racism produces social, economic and health inequalities. One such framework is Public

Health Critical Race Praxis (Ford and Airhihenbuwa 2010), which calls on scholars to explicitly engage with the role of racialization in shaping both the problems that undergird health inequities, and how researchers think about linking their research to actions. Relatedly, it instructs researchers to be attentive to social location, including their own, and the role of racialization in shaping disciplinary practices.

6. Conclusion

Planners need a guiding 'north star' to assess whether their interventions have successfully improved people's lives. We argue that the pursuit of health equity can, and should, guide urban planners in correcting past injustices perpetuated by the field, and in addressing current and emergent challenges. Health equity offers a clear and measurable indicator of planning success; is responsive to planning activities; and can be translated into concrete interventions. To guide the formulation and implementation of effective planning interventions, we offer several recommendations: Researchers should conduct more empirical research in understudied contexts, to ensure wider application of their research. Given the complexity and multi-causal nature of place-health interactions, planners should also combine multiple forms of data and methods of analysis, and adopt practical, cross-sectoral strategies that cut across disciplinary silos. Specifically, adopting participatory, community-engaged approaches rebalances existing unjust concentrations of power in urban developmental processes and increase communities' capacity to advocate for their wellbeing. Given the planning field's legacy of racist exclusion and dispossession, we stress the need for explicitly anti-racist approaches.

7. Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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