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5

PLACING HEALTH INEQUALITIES

Where you live can kill you

Clare Bamba

Today, Americans live three years shorter than their counterparts in France or Sweden. Scottish men live more than two years shorter than English men, and there is a 25-year gap in life expectancy across the suburbs of New Orleans (Bambra, 2016). Why are there such inequalities in health across all geographical scales – between neighborhoods, cities, regions, and countries? Health geographers have traditionally explained these health divides in terms of the effects of compositional (*Who lives here?*) and contextual (*What is this place like?*) factors. The compositional explanation asserts that the health of a given area, such as a town, region or country, is a result of the characteristics of the people who live there (individual-level demographic, behavioral and socioeconomic factors); whereas the contextual explanation argues that area-level health is also in part determined by the nature of the place itself in terms of its economic, social and physical environment. More recently, it has been acknowledged that these two approaches are not mutually exclusive and that the health of places results from the interaction of people with the wider environment (Cummins et al., 2007). This chapter will therefore also examine the *relational* approach (which tries to accommodate this *interaction*) as well as the *political economy* approach (which reconceptualizes *context*, looking beyond the local to the influence of national and international political and economic factors) (Bambra, 2016).

Who lives here: the compositional approach

The compositional view argues that *who lives here* – primarily the health behaviors (smoking, alcohol use, physical activity, diet, drug use) and socioeconomic (income, education, occupation) characteristics of the people living within a particular area (neighborhood, city, region, country) determine its health outcomes: that *poor people* result in *poor places*. Smoking, alcohol, physical activity, diet, and drugs – the five so-called life-style factors or risky health behaviors, all influence health significantly. Smoking remains the most important preventable cause of mortality in the wealthy world and is causally linked to most major diseases, such as cancer and cardiovascular disease (Jarvis and Wardle, 2006). Likewise, excessive alcohol consumption is related to some cancers as well as other key risks, such as high blood pressure. Alcohol-related deaths and diseases are on the increase. Poor diet and low exercise rates can lead to obesity, which, as discussed in Chapters 10 and 11, is a major risk factor for poor health and reduced longevity. Drug abuse is an increasingly important determinant of death among the young (Bambra et al., 2010). People who do not smoke, have only moderate alcohol intake, consume a high amount of fruit and vegetables and engage regularly in physical activity will on average have a 14-year higher life expectancy than individuals achieving no healthy behaviors

(Khaw et al., 2008). So, on average, areas (countries, regions, cities, neighborhoods) with higher rates of these unhealthy behaviors would have worse health than others, all else being equal.

The socioeconomic status of people living in an area is also of huge health significance. “Socioeconomic status” refers to occupational class, income or educational level (Bambra, 2011). People with higher occupational status (e.g., professionals such as teachers or lawyers) have better health outcomes than non-professional workers (e.g., manual workers). By way of example, data shows that infant mortality rates were 16% higher in children of routine and manual workers as compared to professional and managerial workers (Marmot, 2010). Having a higher income or being educated to degree level can also have a protective health effect, where as having a lower income or no educational qualifications can have a negative health impact. The poorer someone is, the less likely that person is to live in good-quality housing, have time and money for leisure activities, feel secure at home or work, have good-quality work or a job at all, or afford healthy food – the social determinants of health (Marmot, 2010).

What is this place like: the contextual approach

So, while the compositional view argues that it is *who lives here* that matters for area health – and that essentially *poor people make poor health*, the contextual approach instead highlights the fact that *what is this place like* also matters for health. Health differs by place because it is also determined by the economic, social, and physical environment of a *place*: in other words, *poor places lead to poor health*. Place mediates the way in which individuals experience social, economic and physical processes on their health: places can be salutogenic (health-promoting) or pathogenic (health-damaging) environments – place acts as a health ecosystem. These place-based effects can also be seen as the *collective* effects of the social determinants of health. There are three contextual aspects to place that have traditionally been considered important to health; these are the economic, social and physical aspects.

The compositional view takes into account the effects of individual socioeconomic position on health status. Area-level economics instead looks at the health effects of the local economic environment, independent of individual socioeconomic position. Area-economic factors that influence health are often summarized as economic deprivation. They include poverty rates, unemployment rates, wages, and types of work and employment in the area. The mechanisms whereby the economic profile of a local area affects health are multiple. For example, it affects the nature of work that an individual can access in that place (regardless of his or her socioeconomic position). It also impacts the services locally available, as more affluent areas will attract different services (such as food available locally or physical activity opportunities) than more deprived areas as businesses adapt to the different consumer demands in each area (see “access to services” in the opportunity structures section below). Area-level economic factors such as poverty are a key predictor of health, including cardiovascular disease, all-cause mortality, limiting long-term illness, and health-related behaviors (Macintyre, 2007).

Places also have social aspects that impact health. Opportunity structures are the socially constructed and patterned features of the area, which may promote health through the possibilities they provide (Macintyre, Ellaway and Cummins, 2002). These include the services provided, publicly or privately, to support people in their daily lives. Examples are child care, transport, food availability and access to a family physician or hospital, as well as the availability of health-promoting environments at home (e.g., good housing quality, access and affordability), work (good-quality work) and education (such as high-quality schools). For example, local environments can shape our access to healthy – and unhealthy – goods and services, thus enhancing or reducing our opportunities to engage in healthy or unhealthy behaviors such as smoking, alcohol consumption, fruit and vegetable consumption, and physical activity. One example is the obesogenic environment. The local food environment – such as the availability of healthy versus unhealthy foods in the neighborhood – as well as opportunities for physical activity – whether there are parks or gyms, whether the outside space is

safe and walkable – are both central components of the obesogenic environment. Research has shown that in some low-income areas, a paucity of supermarkets and shops selling affordable fresh food, alongside an abundance of convenience stores and fast-food outlets selling energy-dense junk food and ready meals has created “food deserts” (Pearce et al., 2007). Low-income neighborhoods – particularly urban ones – may also inhibit opportunities for physical activity. Associations have been found between neighborhood availability of fast food and obesity rates in a number of wealthy countries, including the United Kingdom, the United States and New Zealand (Pearce et al., 2007; Burgoine, Alvanides and Lake, 2011).

A second social aspect of place is collective social functioning. Collective social functioning and practices that are beneficial to health include high levels of social cohesion and social capital within the community. Social capital – “the features of social organization such as trust, norms, and networks that can improve the efficiency of society by facilitating coordinated actions” (Putnam, 1993, p. 167) – has been put forward as a social mechanism through which place mediates the relationship between individual socioeconomic status and health outcomes (Hawe and Shiell, 2000). Some studies have found that areas with higher levels of social capital have lower mortality rates, better self-rated health, better mental health, and healthier behaviors. More negative collective effects can also come from the reputation of an area (e.g., stigmatized places can result in feelings of alienation and worthlessness) or the history of an area (e.g., if there has been a history of racial oppression). Place attachment (an emotional bond that individuals or groups have with specific places), in contrast, can have a protective health effect (Gatrell and Elliot, 2009). Certain places become marginalized by obtaining a spoiled identity and subsequently become stigmatized and discredited. This can be as a result of environment factors, such as air pollution or dirt, as well as from social stigma – such as being labeled the obesity capital of Britain, as happened with Copeland in West Cumbria (in northwest England), or economic stigma, such as low property prices (Bush, Moffatt and Dunn, 2001). Residents of stigmatized places can also be discredited by association with these place characteristics. A notable case of such place-based stigma is Love Canal, New York – the location of a toxic waste dump. Research has shown that such place-based stigma can result in psychosocial stress and associated ill health alongside feelings of shame, on top of the physical health effects of air pollution, such as respiratory disease (Airey, 2003). Local attitudes – say, around smoking – can also influence health and health behaviors either negatively or positively (Thompson, Pearce and Barnett, 2007).

The physical environment is widely recognized as an important determinant of health and health inequalities (World Health Organization, 2008). There is a sizeable literature on the positive health effects of access to green space, as well as the negative health effects of waste facilities, brownfield or contaminated land, as well as air pollution (Bambra, 2016). An infamous example of the latter is the so-called *Cancer Alley* – the 87-mile stretch in the American state of Mississippi between Baton Rouge and New Orleans, the home of the largest petrochemicals site in the country (Markowitz and Rosner, 2002). In 2016 it was estimated that air pollution levels in London accounted for up to 10,000 unnecessary deaths per year (Walton et al., 2015). Another example of how the physical environment of areas varies is in respect to land pollution. A study found that in the American city of Baltimore, mortality rates from cancer, lung cancer, and respiratory diseases were significantly higher in neighborhoods with larger amounts of brownfield land (Litt, Tran and Burke, 2002). Similarly, an English study of differences in exposure to brownfield land found that neighborhoods with large amounts of brownfield land had higher rates of poor health and limiting long-term illness (Bambra et al., 2014).

The health-geography literature has also established the role of natural or green spaces as therapeutic or health-promoting landscapes. So, for example, studies have found that walking in natural, rather than urban, settings reduces stress levels, and people residing in green areas report less poor health than those with less green surroundings (Maas et al., 2005). Research also indicates that green space can increase people’s health by attention restoration, stress reduction and/or the evocation of positive emotions (Abraham,

Sommerhalder and Abel, 2010). Awareness of how such factors differ by place has led to the development of the concept of *environmental deprivation* – the extent of exposure to key characteristics of the physical environment that are either health-promoting or health-damaging (Pearce et al., 2010). Environmental deprivation is associated with all-cause mortality: mortality was lowest in areas with the least environmental deprivation and highest in the most environmentally deprived areas. The unequal socio-spatial distribution of the environmental deprivation has also led to commentators developing the concept of environmental justice (Pearce et al., 2010). The fact that more deprived neighborhoods are more likely to have air and land pollution and less likely to have green space can be seen as an aspect of social injustice (Pearce et al., 2010).

Poor people *and* poor places: the relational approach

The contextual and compositional explanations for how place relates to health are not mutually exclusive, and to separate them is an oversimplification that ignores the interactions between these two levels (Macintyre, Ellaway and Cummins, 2002). The characteristics of individuals are influenced by the characteristics of the area. For example, occupational class can be determined by local school quality and the availability of jobs in the local labor market, or children might not play outside due to not having a private garden (a *compositional* resource), because there are no public parks or public transport to them (a *contextual* resource) or because it might not be seen as appropriate for them to do so (*contextual* social functioning) (Macintyre, Ellaway and Cummins, 2002). Similarly, areas with more successful economies (e.g., more high-paying jobs) will have lower proportions of lower-socioeconomic-status residents.

Further, the collective-resources model suggests that all residents, and particularly those on a low income, enjoy better health when they live in areas characterized by more/better social and economic collective resources. This may be especially important for those on low incomes, because they are usually more reliant on local services. Conversely, the health of poorer people may suffer more in deprived areas where collective resources and social structures are limited, a concept known as deprivation amplification: that the health effects of individual deprivation, such as lower socioeconomic status, can be *amplified* by area deprivation (Macintyre, 2007). Figure 5.1 shows an example of these interaction effects. This figure shows how a healthy lifestyle score in a study in the east of England is affected by both individual occupation (compositional) and area-level deprivation (contextual): people from all occupational backgrounds fare worse in areas of higher deprivation than when living in more affluent areas (Lakshman et al., 2011).

Composition and context should therefore be seen not as separate or competing explanations – but as entwined. Both contribute to the complex relationship between health and place – an ecosystem made up of people, systems and structures. As Cummins and colleagues argue, “there is a mutually reinforcing and reciprocal relationship between people and place” – a relational approach should therefore be taken to understanding how compositional and contextual factors interact to produce geographical inequalities in health (Cummins et al., 2007, p. 1826). Table 5.1 provides an example of the relative role of compositional and contextual factors individually and collectively in explaining health inequalities between the most and least deprived neighborhoods of a case-study town – Stockton on Tees in the northeast of England. Stockton on Tees has a 17-year gap in life expectancy for men and 11 years for women between its most and least deprived neighborhoods. This is the largest gap in life expectancy within a single local authority in England. Table 5.1 shows the results of statistical modeling of household survey data that examines how much of the health gap in Stockton is explained by compositional and contextual factors – and their interaction. The compositional factors used relate to individual-level socioeconomic factors (income, unemployment, etc.), psychosocial factors (loneliness, isolation, etc.), and behavioral factors (smoking, drinking, diet, exercise). The contextual data relates largely to the physical environment (noise, pollution, dirt, crime, safety, housing quality). Three different measures of health are used: general well-being (EQ5D and EQ-VAS scales) and

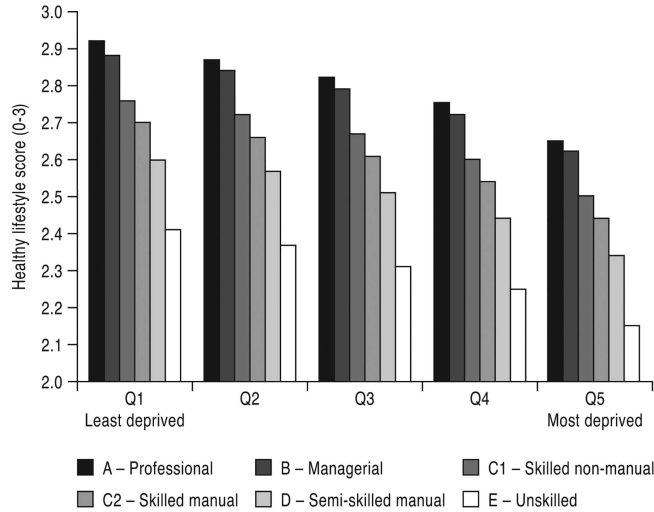


Figure 5.1 Mean healthy lifestyle score across quintiles of neighborhood deprivation and six categories of occupational social class

Data from Lakshman et al. (2011), with permission from Oxford University Press.

physical health (SF8-PCS). Compositional factors account for by far the majority of the gap, 47% across all three of the health outcomes. Contextual factors account for between 3% and 11%. Of course, the different causes of health gaps often cluster together – people who experience poor material factors often also experience poor psychosocial factors and poorer environments, and they are more likely to engage in less healthy behaviors. This interaction of compositional and contextual factors is also shown in Table 5.1, and it accounts for between 18% and 30% of the gap. As often happens with statistical models, there is a certain proportion of the gap that remains unexplained. However, this analysis shows that both contextual and compositional factors matter and that their interaction is an important cause of geographical inequalities in health – supporting a *relational* approach to health and place (Bhandari et al., 2017).

Beyond the individual and the local: the political-economy approach

The political-economy approach to explaining health divides focuses on the social, political and economic structures and relations that may be, and often are, outside the control of the individuals or the local areas they affect (Krieger, 2003). Individual and collective social and economic factors such as housing, income, and employment – indeed, many of the issues that dominate political life – are key determinants of health and well-being (Bamba, Fox and Scott-Samuel, 2005). Why some places and people are consistently privileged while others are consistently marginalized is a political choice – it is about where the power lies and in whose interests that power is exercised. Political choices can thereby be seen as the *causes of the causes of the causes* of geographical inequalities in health (Bamba, 2016).

By way of example, we can examine the causes of stroke or heart disease (Bamba, 2016). The immediate clinical *cause* could be hypertension (high blood pressure). The *proximal cause* of the hypertension itself could be compositional lifestyle factors, such as poor diet, of which the contextual cause might be living in a low-income neighborhood. The causes of the latter are political – low-income neighborhoods exist because the political and economic system allows them to exist. Wages could be regulated so that they are higher (an

Table 5.1 The relative role of compositional and contextual factors in explaining the health gap in Stockton on Tees

% gap explained	Health measure		
	Measure 1 (SF8PCS)	Measure 2 (EQ5D)	Measure 3 (EQVAS)
Compositional	47%	47%	47%
Contextual	8%	11%	3%
Interactions	18%	30%	24%
Total Explained	73%	88%	74%
Unexplained	27%	12%	26%

Data adapted from Bhandari et al. (2017)

example being the living wage), or food prices could be controlled/subsidized (e.g., in the United States it is meat and corn oil that receive government subsidies, not fruit and vegetables; likewise, in the European Union, farmers are encouraged to produce dairy) and neighborhood food provision does not have to be left to the vagaries of the market (which leads to clustering of poor food availability in poor neighborhoods).

In this sense, geographical patterns of health and disease are produced by the structures, values and priorities of political and economic systems (Krieger, 2003). Area-level health – be it local, regional or national – is determined, at least in part, by the wider political, social and economic system and the actions of the state (government) and international-level actors (supra-national government bodies, such as the European Union, interstate trade agreements such as the Transatlantic Trade and Investment Partnership [TTIP], as well as the actions of large corporations): politics can make us sick – or healthy (Schrecker and Bambra, 2015). Politics and the balance of power between key political groups – notably labor and capital – determine the role of the state and other agencies in relation to health and whether there are collective interventions to improve health and reduce health inequalities, and also whether these interventions are individually, environmentally or structurally focused. In this way, politics (broadly understood) is the fundamental determinant of our health divides, because it shapes the wider social, economic and physical environment and the social and spatial distribution of salutogenic and pathogenic factors both collectively and individually (Bambra, 2016).

An example of the influence of politics on health is demonstrated in Figure 5.2. This shows how the gap between the most and least deprived neighborhoods increased through the 1980s and 1990s. Collins and McCartney (2011) argue that this is a result of the Thatcher government's (1979–1990) neoliberal approach to the economy and society and constituted a political attack against the working class, of which Scotland (particularly Glasgow and the west of Scotland) became a particular target (Collins and McCartney, 2011). The Thatcher government radically altered the social settlement: mass unemployment became normalized via deindustrialization at the same time as trade unions and workers' rights were curtailed; there were significant reductions in welfare benefits, leading to the intensification of poverty and wage compression, as well as vast reductions in the availability of social housing (Scott-Samuel et al., 2014). While neoliberalism spread across wealthy countries in the 1980s, the United Kingdom was exposed in a way that other European nations were not – in a very rapid and intense manner that adversely affected health through unemployment, poverty, alienation and associated increases in risky health behaviors. For example, deindustrialization was implemented as a *shock doctrine* with very rapid loss of employment within a few years in the United Kingdom, while in other Western European countries it was phased in more gradually and often with more safety nets (such as employment services or inducements for new industry to come to the affected areas). A more recent example is the effects of austerity and the resulting reductions in welfare benefits and public services on social geographies and health inequalities (Pearce, 2013).

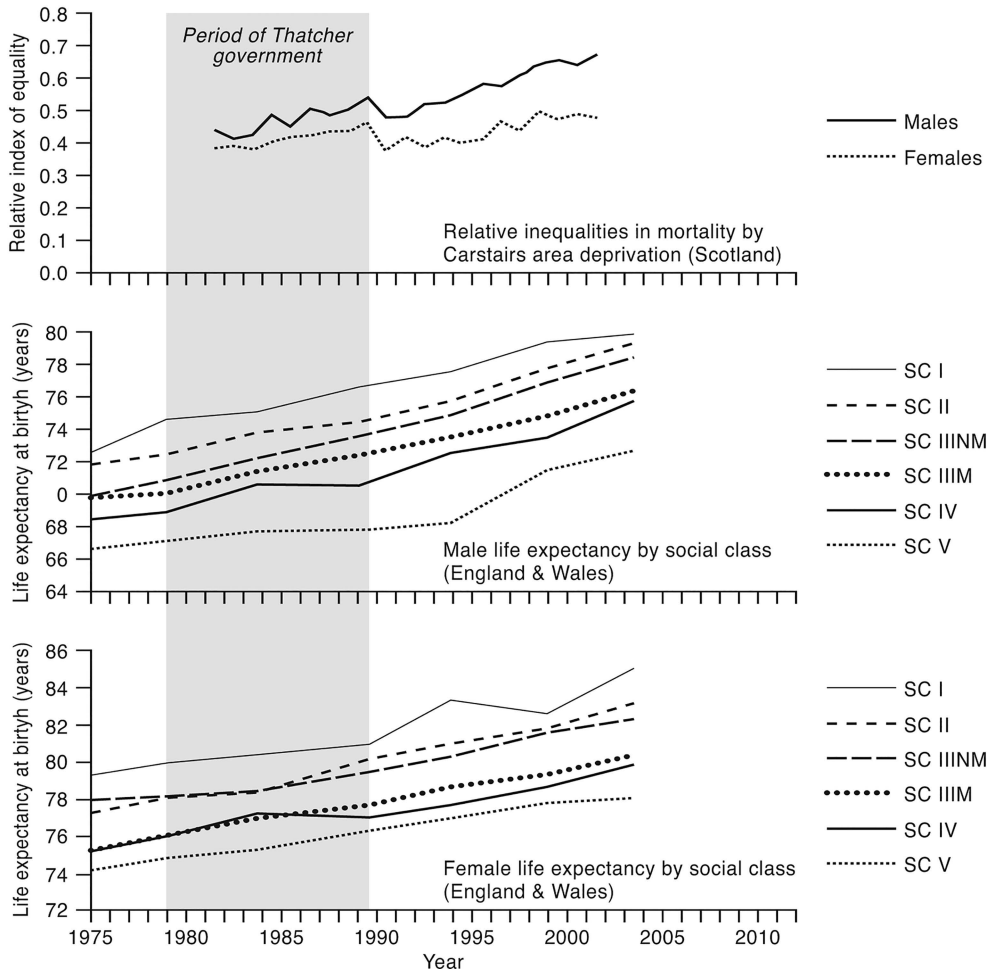


Figure 5.2 Geographical trends in health inequalities in Scotland, 1981–2001 (by Carstairs area deprivation)

Reproduced, with permission of the Sage publishing group, from Scott-Samuel et al. (2014).

Note: RII (relative index of inequality) – for further information, see Regidor (2004).

Future directions

To date, health geography has conventionally presented two main explanations – *compositional* and *contextual* – as to why there are such stark geographical inequalities in health. More recently, though, these approaches have been reconciled via the *relational* understanding of place and health. Further, a *political economy* approach has recently been taken up within the discipline so that the role of the wider macro-political, economic and societal context is beginning to be examined. The future directions and frontiers for research into geographical inequalities in health lie in taking this political-economy approach forward by examining such things as the effects of continuing austerity in southern Europe on geographical inequalities in health; the effects of major global changes, such as the migration crisis and the emergence of right-wing populist governments, on the social inequalities underpinning health inequalities; and the global economy, which is facing sudden shocks such as Brexit.

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