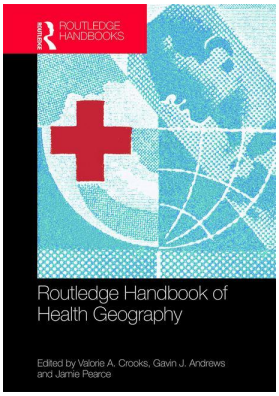

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Valorie A. Crooks, Gavin J. Andrews, Jamie Pearce

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Sarah Wakefield
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FOOD IN HEALTH GEOGRAPHY

Sarah Wakefield

Food is fundamental to health, so it is no surprise that food and food-related issues, such as nutrition and obesity, have been important topics of inquiry for health geographers. While food adequacy (and the geographical and logistical challenges associated with the production and distribution of food) have been preoccupations of governments since the beginnings of human society, the modern era has exacerbated these challenges (e.g., through increasingly globalized supply chains, a human population that is likely to reach 11 billion, and a changing climate). It has also created new challenges, such as the widespread concerns about overnutrition and obesity and food contamination.

This chapter examines the engagement of health geographers with food issues, tracing the historical and intellectual trajectory of the topic within health geography but also in the broader related disciplines of public health and food studies.

Food environments: access in the deserts and the swamps

Perhaps the most obvious application of health geographers' skills in the study of food is the issue of food environments. Not surprisingly, geographic access – for example, the distance a person has to travel to access a supermarket or other food retail outlet – has been a central feature of health geographers' work in this area. The term *food desert* was coined to describe areas where geographic access to food was limited. Importantly, food deserts were envisioned as urban, low-income neighborhoods – while distance from food retail locations in other areas, particularly rural and some suburban areas, could be significantly longer than those observed in many food deserts, the low-income character of these neighborhoods was seen as prohibiting car ownership and, thus, limiting residents' options for accessing food. Other researchers observed that food deserts were often inner-city neighborhoods and that the food landscape there was a result of changes in the retail environment: the closing of many smaller groceries and niche sellers (e.g., bakeries, butchers, and greengrocers) in the urban core, paired with the consolidation of food retail in superstores in suburban and periphery locations served by major road (but not generally transit) infrastructure. More sinister was the apparently disproportionate relocation of food outlets out of racialized neighborhoods. The utility of geographic methods in this context has provided an important opening for health geographers to engage with public-health practice, as food deserts have been the subject of government interest and intervention in a variety of contexts.

The food-desert literature has been beset with measurement controversies and methodological challenges. Key questions have included not only where (and if) food deserts exist, but also how far is too far

to have to travel for food, and how we should measure that distance. Can any kind of food be sold, or does only healthy food count? And above all, does simple geographic access to healthy food mean that people are actually buying it? Significant efforts have been made to characterize and refine the methods and measurements used in studies of food deserts along these lines (see Charreire et al., 2010, and Shaw, 2014, for reviews of the various techniques used). For example, some studies have begun to map daily activity spaces to create a more accurate picture of how and where people shop for food (e.g., Cetateanu and Jones, 2016; Widener et al., 2013). Researchers have also used both quantitative and qualitative methods to attempt to trace the connection between food availability and purchasing choices (e.g., Thompson et al., 2016; Vogel et al., 2016).

Research has suggested that food deserts are not observable across all urban areas or in all high-income countries. Indeed, a systematic review by Beaulac, Kristjansson and Cummins (2009) found little evidence of food deserts outside of the United States. This raises questions about the utility of the food-desert concept in explaining patterns of hunger and obesity in urban areas. At the same time, the framework is being adopted, albeit with significant caveats and reimaginings, in other contexts: for example, in Africa (Battersby and Crush, 2014), Central Europe (Cerovečki and Grünhagen, 2016), South America (Gartin, 2012) and the Middle East (Mosammam et al., 2017). A growing recognition that many low-income areas had access to considerable numbers of food outlets, particularly fast-food restaurants and convenience stores, led to the coining of the term *food swamp* to describe these areas (Ver-Ploeg et al., 2009). Ultimately, however, many researchers have tried to move away from the evocative but somewhat inaccurate language of "desert" and "swamp" to more generally characterize the food environments of communities.

Much of this work has suggested – not surprisingly – that the connections between food environments and healthy diet decisions are complex (e.g., Caspi, Sorensen and Subramanian, 2012; Sadler, Gilliland and Arku, 2016). Improved access to food (for example, through the introduction of new supermarkets or healthy corner store initiatives) appears to have a limited – albeit generally positive – impact on the diet decisions and health outcomes of most residents.

The explosion of work on food environments (as well as more generally connecting food, physical activity and obesity within geography – Rosenberg, 2014) is not surprising, given the clear relevance of geographic methods and preoccupations (e.g., with place) to the issue. The emphasis on environment in understanding diet has been seen by some as a welcome change from public-health discourses that emphasize personal choices without recognizing the importance of structural and contextual factors. Still, the importance of having sufficient income to purchase nutritious food is often neglected in the literature on food deserts, despite considerable research demonstrating that lack of money, not geographic access, is the most significant cause of food insecurity. In addition, the focus on food environments – particularly when the behaviors of low-income and racialized communities are scrutinized without reference to the structural factors that have led to the reshaped food retail environments we see today – has the potential to reembed (and re-stigmatize) inner-city, low-income and racialized communities as deprived and in need of external intervention. For example, Joassart-Marcelli, Rossiter and Bosco (2017, p. 1642) highlight the food-desert concept, which implies an absence of food, as:

> misleading and potentially detrimental to the health of poor and racially diverse communities because it ignores the contribution of smaller stores, particularly that of so-called ethnic markets. Current applications of the food desert concept in this setting reflect classed and racialized understandings of the food environment that ignore the everyday geographies of food provision in immigrant communities while favoring external interventions.

Shannon (2014) goes further, suggesting that "work on food deserts is a spatialized form of neoliberal paternalism that bounds health problems within low-income communities" (p. 248). This reembedding of marginality can also occur in discussions of obesity, a concern that has been identified by health geographers,

among others. Health geographers have made many interesting contributions to discussions of diet and obesity, and it is to this issue that we now turn.

Overnutrition and obesity

Health geographers have increasingly engaged with food issues through the lens of obesity and obesity prevention. Studies by health geographers have characterized obesity patterns in a variety of contexts, and connecting these patterns with measures of physical environment and built form – in particular, access to healthy or unhealthy food and physical activity spaces such as recreation centers, parks and cycling trails. Utter (2011), after reviewing a key edited collection on the topic (Pearce and Witten, 2009), concluded that, despite lingering caveats about methodological adequacy, "[t]he overwhelming conclusion on the state of the current research is that the contribution of the environment to obesity is modest" (p. 79).

Although this work overlaps with the food-environments literature, the focus shifts away from food insecurity in low-income neighborhoods, instead centering obesity – and by extension the obese – as the object of inquiry. Much of this work is contextualized by discussions – in public health and elsewhere – about the "obesity epidemic" (for a discussion of the use of the term in this context, see Flegal, 2006). Much of this work builds on understandings of obesity that emphasize the relation between food consumed (calorie intake) and exercise (calories burned), assuming that "obesity results from an energy imbalance that occurs when energy consumption exceeds energy expenditure" (Pearce and Whitten, 2009, p. x). It also – often implicitly, but sometimes explicitly – connects obesity with a range of negative health consequences and concomitant costs to the taxpayer in terms of health-care expenditures. However, some geographers have suggested a more complex relationship between diet, exercise and body size, recognizing the importance of metabolic processes that are not currently well understood (e.g., Guthman, 2011; Shaw, 2014). Indeed, in one of several articles critiquing dominant approaches to obesity in public health, Colls and Evans (2014) suggest that many of the points that are taken for granted in studies of obesity – that body mass index (BMI) is a measure of fatness, and that being overweight is an indicator of poor health and/or lowered life expectancy – are not well supported in the literature. Instead, they suggest that health geographers should "challenge the medical-structural certainties of the obesity debate in order to expose its limitations and moral proclivities and to acknowledge alternative discursive regimes through which the fat body can be understood" (Colls and Evans, 2009, p. 1017), a theme that is also taken up in the emerging field of fat studies.

In unpacking the discourses of obesity, scholars draw on a tradition of critical health geography that emphasizes the use of social theory in understanding the complex relationships between social, biological and environmental factors in shaping people's health outcomes and their experiences of health. Del Casino (2015) additionally suggests the importance of connecting to the growing interest in bodies and embodiment in other areas of geography, given the fundamentally sensory and embodied character of food itself. There have also been calls to bring in the voices and perspectives of fat people themselves (e.g., Lloyd and Hopkins, 2015).

Importantly, Colls and Evans (2009) suggest that while the shift in research and policy away from individual behavioral interventions toward obesogenic environments might be seen as a move away from victim-blaming, this work can still stigmatize particular communities; when residents do not achieve arguably arbitrary standards of thinness, their fatness is seen as "a signifier of moral and physical decay" (Bell and Valentine, 1997, p. 36, quoted in Brown, 2014). Critical obesity scholars in geography and elsewhere have emphasized the importance of geographic work to expose the shaming discourse that underlies most obesity research and policy. For example, Guthman (2009) unpacks how her students' demand for the obese to show self-control is connected to neoliberal subjectivities, and Brown (2014) explores how ideas of contagion in relation to the obesity epidemic link to conceptions of risk and security. These strong themes emerge in other geographic work on food and health, particularly around food safety.

Food, risk and (bio)security

Considerable work in health geography explores how risk and rationality are constructed at a variety of scales, from global to local. This work draws on a range of scholars, including Ulrick Beck and Michel Foucault, as well as geographers Bruce Braun, Peter Adey and Ben Anderson. While much of this literature is not about food per se, it connects with food – and particularly issues and perceptions of food security and food safety – in the context of exploring broad patterns of risk and marginality.

A focus on risk is evident in some geographers' recent work on food security (Fredriksen, 2016; Simatele and Simatele, 2015), food allergies (Dean et al., 2016; Harrington et al., 2012) and food safety (Demeritt et al., 2015; Devaney, 2013; Ilbery, 2012). This work ranges from heavily theoretical to primarily empirical and is concerned with risk in a variety of ways. Some geographers are concerned primarily with risk management, focusing on identifying and mitigating risks from food (for example, from contamination). Others explore risk from a social-constructionist perspective, focusing on how risk perception is embedded in specific cultural contexts that shape, enhance or truncate people's fears about food – for example, Jackson (2015) uses the significant negative reaction to the discovery of horsemeat in prepared food products in the United Kingdom as a lens for understanding cultural anxieties about food. Still others investigate the connections between discourses of risk and economic, social, and environmental marginality using Foucauldian or political-economic frameworks. In addition, some of this work is beginning to engage with broader discussions of biopolitics, securitization and governmentality occurring in health geography and elsewhere (e.g., Brown, Craddock and Ingram, 2012; O'Connor et al., 2017). Much of this discussion emphasizes how our understandings of risk can build on pre-existing ways that particular populations are marginalized; for example, Brown, Craddock and Ingram (2012) explore how problems identified as global in nature are those that threaten the (food) security of Western nations, while problems that lack this element are not prioritized (Brown, Craddock and Ingram, 2012). This scholarship as a whole highlights how understandings of risks related to food (e.g., whether it is safe) are shaped by broader understandings of what good food is (e.g., what is healthy or even edible), as well as what makes us (feel) safe and secure more broadly. It also connects food not only to risk, but also to analyses of power.

Health and the food system

A final thread worth noting in health geographers' engagement with food is the large body of scholarship that examines the food system – and, increasingly, efforts to create alternative food systems. Much of this work is undertaken by scholars who may not consider themselves health geographers, but these broader interrogations of both the mainstream food system and the alternative food movements have relevance to health geographers interested in food. For example, Julie Guthman's work on both mainstream and alternative food systems has highlighted how (healthy and unhealthy) food production is embedded within the political-economic context that drives food production (e.g., the pressure to increase yields at the expense of environmental or social values), while at the same time emphasizing how discursive representations of good food (e.g., romanticized images of white male farmers) can link to narrowly imagined pasts – and futures – that exclude women, people of color, and Indigenous people (Guthman, 2008, 2011, 2014; Guthman and Brown, 2016; Guthman and DuPuis, 2006). Critiques of the recent emphasis on localizing food systems have suggested that this can too easily align with xenophobia and can romanticize agrarian landscapes.

Other relevant work has focused on emerging ideas of food justice and food sovereignty. The food-justice literature mirrors scholarship and activism around *environmental* justice: as Alkon and Agyeman (2011) explain, "[w]hile the environmental justice movement is primarily concerned with preventing disproportionate exposure to toxic environmental burdens, the food justice movement works to ensure equal access to the environmental benefit of healthy food" (p. 8). This work has tackled many of the same issues as the food environments literature, but with a more consciously critical and activist bias (Dixon, 2014). Food

sovereignty, a concept emerging out of the global peasant movement La Via Campesina, is oriented around a community's "right to define their own food and agriculture systems" (La Via Campesina, quoted in Food Secure Canada, n.d.). Academic literature on food sovereignty has explored barriers to, and possibilities for, food sovereignty in a variety of national contexts – for example, by highlighting the role of peasant agriculture in food security and exploring ways of developing and promoting local control of food systems. As Del Casino (2015, p. 805) reflected in a recent review:

> [T]here is much opportunity to pick up on variegated themes that constitute the social geographies of food and expand their conversations in relation to other subdisciplinary areas, such as political ecology, and disciplines, such as health and nutritional sciences. Maintaining a focus on inequality and difference . . . geographers of food can continue to ask the questions that have long animated a subdiscipline with strong radical roots.

Health geographers interested in food could gain a great deal by enhancing their connections with food studies more broadly.

Conclusion

This chapter summarizes major threads within health geography in terms of its connection to food. Specifically, it explores the literature on food environments, obesity, food risk, and food systems more generally. Based on this review, it appears that there is still significant scope for continued methodological refinement in the food-environments literature; however, this work would benefit from the more consistent application of a critical and holistic lens. There is also plenty of room for health geographers to continue to explore food security and safety, as well as to connect our expertise in health and food environments to more embodied accounts (e.g., of eating).

Overall, this chapter also highlights how geographers have both contributed to and challenged common discourses in medicine, public health and health policy. In particular, it shows how certain conceptions of food within health geography could serve to reinforce neoliberal subjectivities and make particular individuals and populations the (ir)responsible pathologized subjects of public-health inquiry. In this context, it is important that health geographers be reflexive about how their work connects to these overarching discourses.

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