Health inequalities and place: A theoretical conception of neighbourhood

Paul Bernard\textsuperscript{a,b}, Rana Charafeddine\textsuperscript{a,b}, Katherine L. Frohlich\textsuperscript{a,b}, Mark Daniel\textsuperscript{a,b}, Yan Kestens\textsuperscript{a,b}, Louise Potvin\textsuperscript{a,b,*}

\textsuperscript{a}Université de Montréal, Montréal, Que., Canada
\textsuperscript{b}Lea-Roback Research Centre on Health Inequalities in Montréal, Canada

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Abstract

In the past 10 years, interest in studying the relationship between area of residence and health has grown. During this period empirical relations between place and health have been observed at a variety of spatial scales, from census tracts to administrative units in metropolitan areas to whole regions, and for a variety of health outcomes. Despite the richness of the data, there are relatively few publications offering theoretical explanations for these observations, and a sound conception of place itself is still lacking. Using place as a relational space linked to where people live, work and play, this paper conceptualises the nature of neighbourhoods as they contribute to the local production of health inequalities in everyday life. In reference to Giddens’ structuration theory, we propose that neighbourhoods essentially involve the availability of, and access to, health-relevant resources in a geographically defined area. Taking inspiration from the work of Godbout on informal reciprocity, we further propose that such availability and access are regulated according to four different sets of rules: proximity, prices, rights, and informal reciprocity. Our theoretical framework suggests that these rules give rise to five domains, the physical, economic, institutional, local sociability, and community organisation domains which cut across neighbourhood environments through which residents may acquire resources that shape their lifecourse trajectory in health and social functioning.

Keywords: Neighbourhood; Resources; Environments; Theoretical model; Place; Obesity

Introduction

Investigators in various countries have reported that area of residence is associated with health above and beyond individual level risk factors (Diez-Roux, Link, & Northridge, 2000; Jones & Duncan, 1995; Kaplan, 1996; Kawachi & Berkman, 2003; Macintyre, MacIver, & Sooman, 1993; Pickett & Pearl, 2001). Such associations have been observed for a variety of health outcomes including tobacco consumption (Duncan, Jones, & Moon, 1996, 1999) and smoking initiation (Frohlich, Potvin, Chabot, & Corin, 2002), adolescent risk behaviours (Ennett, Flewelling, Lindrooth, & Norton, 1997; Karnoven & Rimpala, 1996, 1997), general mortality (Yen & Kaplan, 1999), perceived...
Attempts to understand the reasons for this spatial patterning of health have led to distinguishing compositional from contextual explanations (Macintyre et al., 1993; Shouls, Congdon, & Curtis, 1996). The compositional explanation attributes the geographical clustering of health outcomes to the shared characteristics of residents. Similar people (e.g., similar in terms of socioeconomic status, or educational level) tend to aggregate within geographical proximity, whether purposefully to share a common culture, or because they are driven to certain areas because of lack of personal resources, money and others (De Koninck & Pampalon, in press; Harvey, 1973). These shared characteristics explain in part the health and place association. The contextual explanation attributes spatial variations in health outcomes in part to characteristics of the environment proper (Macintyre & Ellaway, 2000). The contextual explanation states that there exist ecological attributes of spatially defined areas that affect whole groups. These contextual attributes pertain to various aspects of the environment, and they affect health over and above the contribution of aggregate individual characteristics (Macintyre, Ellaway, & Cummins, 2002).

This distinction between compositional and contextual effects has fuelled heated debates in the public health literature. Recent commentaries, however, have suggested that this framing of effects constitutes an oversimplification. Disentangling compositional and contextual effects cannot be done from a strictly empirical perspective (Macintyre & Ellaway, 2003). Indeed, people’s distribution across areas of residence is neither random nor totally intentional. As a reflection of both chances and choices, residential decisions (or the absence thereof) are shaped by the correspondence between individuals’ economic means and lifestyle preferences, and neighbourhood characteristics pertaining to the availability of resources and services, the quality of the physical and built environments such as housing, and other socially oriented criteria such as reputation, history or the presence of social connections (De Koninck & Pampalon, in press).

Conversely, neighbourhoods are not static, as their contextual and compositional characteristics change over time in a related, and sometimes almost synergistic manner (Soja, 2000). Galster (2001) identified four key neighbourhood users (and producers) whose decisions influence the flow of neighbourhood resources: households, businesses, property owners and local government. Through their consumption, service use, political processes and social connection patterns, these neighbourhood actors reproduce and transform their context, while the lifestyle and health of individuals are affected by the goods consumed, the services used, and the social relationships built. The collective lifestyle heuristic is an attempt to capture this dialectical relationship between individuals and places (Frohlich, Corin, & Potvin, 2001; Williams, 2003). It justifies “the need to link individual life histories with social factors” (Dunn, Frohlich, Ross, Curtis, & Sanmartin, 2005) such as those encompassed in the social entities of places (Curtis & Jones, 1998).

Our team has taken up the task of putting together a data infrastructure that will facilitate empirical studies of the evolution and associations between selected health outcomes, individual factors, and contextual characteristics of neighbourhoods. The first step in this endeavour was to elaborate a conceptual framework of neighbourhoods that would account for the local production of health. The main lens through which the framework, and this paper, views the neighbourhood association with health is through differences in the distribution of resources. We see this distribution as governed by four types of rules associated with five domains of social regulation. The spatial patterning of health inequalities is thus related to the variable configurations of those domains across neighbourhoods rather than simply the sheer number of resources available to residents within neighbourhoods. These configurations are in turn shaped by social interactions between neighbourhood users/ producers and by patterns of geographic mobility through which people move away from, or into, areas according to their choices and to their personal economic and other resources.

This paper thus presents our conceptualisation of neighbourhood as a configuration of five domains through which residents acquire (or do not acquire) resources necessary for the production of health in every day life. A presentation of the specific mechanisms or pathways by which those resources
are transformed into health remains, however, outside the scope of the present paper.

**Resources and opportunity structures as sources of inequalities**

Underlying our conception of neighbourhoods is the notion of place as a unique system of health-relevant resources and social relationships embedded within geographical borders (Curtis & Jones, 1998). This notion was expanded by Macintyre and colleagues into the concept of opportunity structure in the study of four socially differentiated areas in Glasgow, Scotland (Macintyre & Ellaway, 2000, 2003). They consider five aspects of neighbourhoods as forming the opportunity structure: physical features that are shared by all residents, such as air quality or the presence of toxic products; the presence of environments that support a healthful lifestyle at home, work and play; quality services for all segments of the population, including schools, libraries, transportation, and other close proximity services; sociocultural features reflecting the neighbourhood history and forming its social fabric; and finally, the area’s reputation as displayed through the representations of the residents themselves and of other relevant actors.

Defining neighbourhoods as opportunity structures implies that they display specific distributions of the resources required for individuals and their families to earn a living, to acquire knowledge and partake in culture, and to benefit from, and enjoy, social relationships; these features can all be seen as socially determined factors that shape health. We thus borrow from Macintyre’s work the idea that spatially patterned health inequalities are rooted in the unequal distribution of resources, although it is not only a question of the sheer amount of resources. For instance, Frohlich, Potvin, Gauvin, and Chabot (2002) reported a study which showed that the relationship between the latter and smoking was not only a question of the number of resources. They found that tobacco initiation in youth was not higher in resource-deprived neighbourhoods with a high proportion of people with a university degree as compared to resource-rich neighbourhoods.

In order to deal with this complexity, we expanded the meaning of the expression “distribution of resources”. By this we mean not simply an outcome in terms of variation in a statistical sense, but also the set of processes through which resources are spread among individuals and families. From a structural perspective, we readily admit that many of these processes do not occur within the neighbourhoods themselves: labour markets, public transfers and public services—welfare, education, and health, in particular—are spread over a larger territory, and decisions concerning their production and distribution are mostly made at a broader geographic level (even involving global processes).

Moreover, resources are not provided to passive individuals. On the contrary, individuals are active agents in acquiring resources through various channels. Thus, neighbourhoods are not only pools of resources for living and health. They constitute spatially defined distribution networks through which resources are accessible for producing health. It is this crucial dimension of access, and the channels through which resources can be acquired and used, that our conceptualisation of neighbourhood highlights as a contributor to health inequalities.

Our conception of neighbourhood essentially follows from the work of two contemporary sociologists, Anthony Giddens and Jacques T. Godbout. Giddens’ structuration theory provides an explanation of the relationship between structure and agency in the reproduction of dominations (or inequalities), as well as a conceptualisation of structure which includes and goes beyond the notion of resources. We use Godbout’s theory of informal reciprocity to provide a framework for understanding how channels through which resources are available vary and procure differential advantages to different people.

Giddens’ structuration theory (1984) proposes a dialectical recursive relationship between structure and agency. Social structures impose constraints and offer opportunities that shape and orient people’s behaviours. Conversely, individuals are agents whose reflexive and routinised practices reproduce and transform social structures. In other words, neither structures nor agents have predominance in the structuration of society: they are the two sides of the same coin, each shaping the evolution and action of the other. In the context of our discussion, specific neighbourhood structures have strong influence over residents’ behaviours, but on the other hand, it is through their practices that residents reify structure. For instance, corner stores located in the proximity of schools provide opportunities for pupils to buy and consume junk food on a daily basis; but it is children’s purchasing
power that attracts business people to establish corner stores in the proximity of schools, and to sell junk food.

Giddens’ theory thus reminds us that as a social structure, a neighbourhood opportunity structure cannot be conceived independently of the residents’ practices in relation to that structure. A neighbourhood is not a passive container of resources, but is rather a relational structure. To quote Giddens: “Structure thus refers, in social analysis, to the structuring properties allowing the binding of time-space in social systems, the properties which make it possible for discernibly similar social practices to exist across varying spans of time and space and which lend them systemic form” (Giddens, 1984, p. 17).

Giddens further defines social structures in terms of rules and resources. There are two types of resources: authoritative resources allow command over persons or other actors, whereas allocative resources refer to transformative capacity over objects and material capacity. Allocative resources comprise “material features of the environment, means of material production/reproduction, and produced goods” (Giddens, 1984, p. 258). Allocative resources are necessary to sustain material life and health. Giddens’ concept of rules refers to the learned procedures and techniques that are necessary to perform social activity in relation to structural constraints and opportunities. The systems of rules by which allocative resources are produced, accessed, and consumed are thus as essential to understand practices as are the resources themselves.

Godbout’s theory of informal reciprocity (2000, 2003) well serves our purpose of translating Giddens’ fairly broad perspective into concepts that suit our analytical objectives. Godbout’s contention is that many resources are procured and exchanged outside of markets or State interventions: they are simply given freely by individuals to other individuals or to groups and communities (involving family members of course, but also strangers, in many cases). We often remain blind to this informal reciprocity, says Godbout (2000), because we are under the spell of market liberalism, or of welfare state ideology, which tend to separate the resources which circulate from the meaning attached to them, and from the social relationships in which circulation is embedded.

There are indeed, according to Godbout, three distinct sets of rules for the circulation of resources. Market rules, in the first place, typically (but not always) deny that there are relationships beyond the explicit bounds of the contract. They operate according to the logic of equivalence, where parties are presumed to seek the maximisation of their own utility. In the second place States, while they have to recognise the existence of a relationship with their citizens (who have rights, and over which States have some measure of authority) nevertheless typically operate at a distance from them; bureaucratic organisations see themselves as separated from their public.

In the third place, the networks within which informal reciprocity occurs involve participants who largely self-regulate; the separation between the producers and the users of various resources is minimal. Indeed, Godbout argues, social relationships are explicitly engaged in, rather than being avoided: gift giving creates obligations of reciprocity which are fairly robust, even though they are not (contrary to the market or to the State) specific as to the contents, to the target, or to the timeframe of what has to be given back. Indeed, according to Godbout (2003), informal reciprocity creates social ties, rather than just using or depleting them. We note that Godbout explicitly recognises voluntary and community organisations, which he has extensively analysed, as part of this system of informal reciprocity, even though these organisations at times take on a political role, and therefore partly operate according to the logic and rules of political action.

Godbout’s perspective provides us with a characterisation of different rules of access to resources, as well as a lens through which we can examine how actors exercise their agency within structures, while simultaneously reproducing and altering these structures to some extent. As we propose, informal reciprocity, including community action, is one of the ways in which actors, especially the ones without much economic or political power at the individual level, can deal with their economic and institutional environment, and transform it to some extent.

**Neighbourhoods as environments for accessing resources**

Health inequalities, we argue, are determined to a significant extent by the resources to which individuals have access. Neighbourhoods do offer such resources, some with a positive valence (such as parks, wholesome food stores, quality schools, and
active neighbourhood organisations), and others with a negative one (such as pollution, liquor stores, violence and inferior law enforcement, and low level of interpersonal trust). The resources offered in neighbourhoods are not equally relevant for all population groups, but they can play a key role for the more place-bound population groups. Those who are more dependent on local resources such as individuals with reduced access to private transportation, individuals in poor health, or people with low incomes (Kobetz, Daniel, & Earp, 2003; Smith, Hart, Watt, Hole, & Hawthorne, 1998), and those who are likely to spend more time in their locality such as elderly, children and homemakers (Robert & Li, 2001).

Access to these resources is determined by a number of interacting rules, which we propose to explore using concepts from both Giddens and Godbout. One rule has to do with simple proximity to these resources: people living in the same area share the same physical environment, and they are thus basically exposed to the same positive and negative resources. In addition, our theoretical framework proposes three other sets of rules for access to resources in the social environment: prices, rights, and informal reciprocity. These four rules give rise to five specific domains, physical, economic, institutional, local sociability, and community organisation in the neighbourhood environment. As illustrated in Fig. 1 the nature of these domains shapes the lifecourse trajectory of local residents in areas including health and social functioning.

**The physical domain**

In contrast with domains in the social environment, the physical domain is defined by the nature of its different components and by the rule of proximity. A useful distinction is often made between the natural and the built components of the physical environment. Natural components are not directly produced by humans, though they can be altered through human activities. Air, climate, soil and water are examples of such natural components, the composition of which is increasingly influenced by human action and subsequently monitored, regulated and eventually modified, partly through public action.

Many studies have linked neighbourhood physical environments to health. For instance, Jerrett, Buzzelli, Burnett, and DeLuca (2005) have studied the association between chronic exposure...
to neighbourhood level of air pollution in Hamilton (Ontario) with mortality after controlling for collective social and demographic variables. They found a large and statistically significant association between air pollution exposure and premature, all-cause, cardio-respiratory and cancer mortality. Furthermore, it was suggested that neighbourhood air pollution in Hamilton is socially patterned. They found that census tract level socioeconomic markers such as median dwelling value, and percentages of unemployment and residents with low income were significantly associated with greater air pollution exposure (Jerrett et al., 2001). Similar relationships have been shown for pollution emissions across Montreal municipalities, where areas defined by lower socioeconomic status and higher proportions of immigrants were exposed to greater levels of pollution emissions (Premji, Bertrand, Smargiassi, & Daniel, 2006).

In our conceptualisation, the built environment is the part of the physical environment that is made by people for people. It includes buildings, transportation systems and open spaces (Northridge, Sclar, & Biswas, 2003). Examples of neighbourhoods’ built features include the quality of infrastructure such as housing, the presence of graffiti, structural damage, abandoned vehicles, population density, parks, and so on. It also includes the characteristics of neighbourhoods’ physical structure such as street connectivity, land use, sidewalk continuity, and aesthetic quality of the area.

In their conceptual framework linking the built environment to health, Northridge and colleagues (2003) proposed three pathways though which environment’s physical features may influence health and well-being. The first pathway is through environmental stressors such as housing conditions and neighbourhood disorder which have been associated with health (Cohen et al., 2003; Dunn, 2000; Ross & Mirowsky, 2001). The second pathway operates through health behaviours as influenced by options for outdoor physical activities (Saelens, Sallis, Black, & Chen, 2003). Finally, the third pathway operates through opportunities for social interactions in areas such as parks, the presence of interesting destinations for walking, and sense of physical security, all of which have been linked to indicators of social integration (Cohen, Farley, & Mason, 2003).

While we argue that the effect of the physical environment on health depends on proximity, that is, on how close individuals are to the positive or negative resources present in different neighbourhoods, proximity is in turn largely shaped by the social environment, through the interplay of economic forces, of institutional arrangements, and of relations of informal reciprocity. Three processes are at play.

First, social forces shape the physical structure of neighbourhoods, as enterprises come in or go out of specific areas, as governments make decisions about locating institutional services and about urban planning, and as community organisations strive to influence such decision making. Second, socially defined criteria play a key role in the distribution of people over the territory. For instance, market-dynamics (along with other structural forces) can influence the movement of low-income groups into neighbourhoods characterised by low property values and high pollution levels (Been, 1993) or physical disorder. Also, some ethnic groups, and especially new immigrants, may move to certain neighbourhoods, regardless of their pollution levels or structural conditions, to benefit from the services and networks available there. Finally, once such territorial distribution is achieved, actual individual exposure may also be influenced by social factors which can mitigate it. For example, people can acquire private environmental goods such as bottled water or air conditioning through the market. New policies and regulations may also influence people’s exposure to pollution or to traffic hazards. In the US, for instance, community-based groups, researchers, policy-makers and regulators, drawn together in the context of the environmental justice movement, have jointly addressed the issue of disproportionately higher pollution levels in minority neighbourhoods (Morello-Frosch, 2002).

The social environment

Three sets of socially determined rules regulate access to health-relevant resources that are present in neighbourhoods, over and above their sheer proximity to residents. Economic rules apply to those resources that can be obtained because one pays a price for them. Institutional rules regulate access to resources which citizens are entitled to according to publicly enacted rules; such entitlements are balanced against the fulfilment of citizenship obligations. Finally, rules of informal reciprocity stand in contrast to the other sets of rules because of their informal and non-contractual nature, resulting from the fact that the social link
between the giving and receiving ends of the transaction typically has as much value as the resources exchanged (Godbout, 2005). Rules of informal reciprocity apply when one has formed bonds of reciprocity and valued relationships with other individuals or with communities.

In cases where resources need to be accessed repeatedly, for instance on a daily basis, such as food and daycare centres for instance, their presence and availability in the neighbourhood becomes crucial. This presence depends, as the case may be, on the types of enterprises which find it profitable to be in the neighbourhood, on the amount and quality of public services that public authorities offer in the area, and on the density and effectiveness of local networks of social relationships.

*The rules of the economic domain*

We propose to refer to a first type of resources as belonging to, or even as forming, the economic domain of the neighbourhood. The price mechanism largely dictates whether such resources will be present in the neighbourhood or not, and at what cost, depending to a large extent on whether there is a large enough moneyed clientele locally for any given type of goods or services; it will also determine to whom those resources will be accessible, according to whether they can afford them or not.

Numerous studies have shown unequal accessibility to health-relevant economic resources by neighbourhood socioeconomic conditions (SES) (LaVeist & Wallace, 2000; Morland, Wing, Diez-Roux, & Poole, 2002; Reidpath, Burns, Garrard, Mahoney, & Townsend, 2002; Travers, 1996). Unequal access to supermarkets which offer a variety of healthy food at lower prices is a good example. For instance, in a number of US cities, Morland and colleagues (2002) found that supermarkets are more prevalent in predominantly white and wealthy neighbourhoods, while small grocery stores are located in black and poor neighbourhoods. However, a different picture emerges in Montreal, where Apparicio, Micić, and Shearmur (2004) explored the distribution of supermarkets by deprivation area. They found that there was no significant correlation between access to supermarkets and deprivation. More specifically, they found that some deprived areas have good access to supermarkets while others have low access. These contradictory results from different countries illustrate how the economic domain is influenced, among other things, by elements of the larger societal and political context.

Another example is provided by Yen and Kaplan (1999) who have found that people living in neighbourhoods with many commercial outlets (supermarkets, laundries/dry cleaning, beauty parlours/barber shops and pharmacies) had a greater risk of death compared with people living in neighbourhoods with fewer stores, even after controlling for individual socioeconomic status. This result may be influenced by the nature of the outlets in the area. The presence of pharmacies may reflect poor provision of medical services, while the presence of laundries may reflect the absence of washing machines in homes (Macintyre et al., 2002). Therefore, the relationship between the economic domain and inequalities in health and health behaviour depends on the type of service considered.

*The rules of the institutional domain*

A second type of resources forms the institutional domain. Accessibility, and to some extent proximity, are determined, here, through formal rules and entitlements, and this is most obvious in the case of services provided by public sector organisations. But we use the broader label institutional to also encompass organisations which, while not formally belonging to public services, are given authority (and usually funding) by the State to offer services according to certain rules, and often in specific locations (for instance, certain schools, clinics, shelters, childcare centres, professional bodies, and so on). The quality and availability of these services have often been linked to health and health behaviours. For instance, Wallace and Wallace (1990) have shown how in New York City, disinvestment in municipal services such as policing, fire protection and sanitation in some neighbourhoods is associated with the health and safety of residents.

In an equitable society, resources made available through the institutional domain would be universally and equally accessible to all members of society according to their needs. That is, these resources should be spread equitably over the territory, and they should be accessible to all on the basis of social and civic rights. Social rights are the counterpart to the fulfilment of social responsibilities, and their variety has been extensively explored by Esping-Andersen (1990, 1999). Civic as well as most social rights are presumed to be
associated with being legally registered as a citizen in a given jurisdiction, but there are often broad differentials in the degree to which such rights are upheld for all social groups.

In practice, the application of this principle depends on deliberations and power plays between political actors who have differential abilities to impose their views about people needs, about the distribution of facilities and funding, and even about the actually enforced rules of access, as opposed to the official ones. For example, Estabrooks, Lee, and Gyurcsik (2003) explored the availability and accessibility of physical resources within a small Midwestern American city. They found that neighbourhoods with low, medium and high SES did not differ on the number of pay for use facilities; however low and medium SES neighbourhoods had significantly fewer free for use service resources. Similarly, Macintyre (2000) reported that in Glasgow there were fewer resources for healthy physical activity in disadvantaged areas, and that fewer residents had access to a car or to convenient public transportation to travel elsewhere to use such facilities.

Poorer neighbourhoods do not always have poorer access to resources. Some studies suggest that deprived neighbourhoods have less access to resources from the institutional domain, but other researchers have found that richer neighbourhoods had lower access. In yet other instances there was no clear pattern of socioeconomic deprivation and community resource access to resources (Holloway 1998; Talen 2001; Witten, Exeter, & Field, 2003).

The pattern of inequality in the access to resources from institutional domain thus seems to vary with the type of services and with the broader political context, in particular the level of community organisation.

The rules of systems of informal reciprocity

A third type of resource, somewhat more difficult to characterise, is accessed on the basis of informal reciprocity. The notions of gift and trust are central to informal reciprocity. According to Godbout (2003), as we have already mentioned, gifts as well as any other social links, including economic transactions and the dealings of citizens with the State, involve exchanges, where retributions are balanced by contributions. The absence of a counterpart in the gift relationship would essentially amount to exploitation: it would tend to deplete the stock of good will, and to ruin the exchange system. However, the nature of the counterpart is different in gift relationships than in systems regulated by prices or rights. It is much less specific in the former case: it is not clear when the “debt” will be repaid, what exactly will be offered as a counterpart, or even to whom. Despite the open nature of the retribution, informal reciprocity is based on trusting that a gift will lead to a reciprocal action. When for instance, someone helps somebody else repair a flat tire, the expectation is that in some indefinite future somebody—somebody else, in all likelihood—will provide this person with a needed good or service, for example a cell phone to make an urgent call for assistance.

The contrast between systems of informal reciprocity and the other two sets of rules is much more than a matter of degree in the explicitness of the exchange rules. After all, economic transactions can be exquisitely complex and extended over the long run, as with mortgage loans or futures trading. And the same goes for institutional rules, where one can, for instance, pay taxes for one’s whole lifetime without ever having to make claims on the basis of social rights, and where one can enjoy peace while, nevertheless, running the risk of being conscripted into a war, if the necessity arises. Systems of informal reciprocity are quite different in that they are, by their very nature, in a perpetual state of imbalance: receiving a gift means accepting to be under the obligation of offering a counterpart, somehow, somewhere, to someone, and sometime in an indefinite future. Gift systems are open-ended. This is why, according to Godbout and Caillé (1992), gifts create social ties, while economic transactions rather use social ties, or even deplete them; political rules probably sit somewhere between the polar opposites of gifts and economic transactions.

The conflicting logics of price, right and gift

There is a somewhat compelling logic to each of the domains and their distribution systems. While markets tend to bring about inequalities and undermine cooperation, they owe their efficiency to the fact that they readily accommodate diversity and redeploy resources in the face of change. Institutionalised systems tend to bring about rigidities, but they usually offer reasonable guarantees of fair and equal treatment to all holders of rights. Finally, systems of informal reciprocity are disinterested; they are as concerned with the reinforcement of social links as with the value of
the goods or services being exchanged. They are often based on markers of identities and as such, they distribute resources in a much less systematic way than markets or institutions.

When these different distributive logics come in contact, in organisational or geographical settings, conflicts may arise which shape and reshape the texture and dynamics of how resources are obtained. Concerning health-related resources, for instance, conflicts may arise when services are provided by independent professionals, private enterprises, public health institutions, community organisations, and informal caregivers. Who should shoulder the burden of paying for and providing various services, in a context where there is never enough money and time to go around?

Two domains based on informal reciprocity: community organisation and local sociability

The existence of such conflicting logics, in societies as well as in neighbourhoods, compels us to make a further distinction between systems of informal reciprocity that take place at the micro-level of neighbourhood, commonly associated with the notion of community (Vibert, 2004, 2005). One part of such systems corresponds to the open-ended sociability that can be found in neighbourhood-based networks of social links (while, of course, sociability is not limited to people who live in the same neighbourhood). We call this the local sociability domain. There exists also another form of open-ended commitment of individuals, in this case to more formal collective entities in the form of community organisations. Many of these community organisations provide services, sometimes hiring paid personnel, through well defined and usually publicly funded programs, and the majority of them are engaged in some form or another of collective action that can be considered broadly political, in that they seek to transform the physical, economic, and institutional environments locally or at another level of jurisdiction.

Although we recognise that local community organisations are often linked to regional or national associations, they also play a key role in shaping neighbourhoods. As explained in the previous section, there is a necessity to somehow reconcile, or at least manage the potentially conflicting logics of the economic domain, the institutional domain, and the more open-ended domain in which people socialise and help each other in systems of informal reciprocity. Such a reconciliation is a political task, partly taken in charge, of course, by the State, but oftentimes assumed also by local community organisations, which want to have their say in how the neighbourhood is organised, and in particular to orient the State’s action. This is hardly surprising since, as noted earlier, the key characteristics of neighbourhoods, insofar as they influence the lives of individuals and families, are their degree of inequality (both within their boundaries and with other neighbourhoods) in the basic conditions for access to resources: proximity, and accessibility. Community organisations can play a key role in altering these conditions.

Our conceptualisation thus distinguishes between two related uses of social networks: to mobilise in view of pursuing collective goals, which is the role of community organisations, and to procure individual benefits, in particular information and social support in the case of local sociability. Neighbourhoods, then, provide two empirically related but theoretically quite different types of open-ended, non-commercial and non-institutional, network relations: one fulfills, locally, the need for sociability, information, and social support; the other can provide leverage to change the neighbourhood’s physical, economic, and institutional environments.

In the health literature, the social environment has been most commonly operationalised as social capital, which captures the presence of strong social bonds, measured by the level of trust and norms of reciprocity, of associations, and of institutions for conflict management (responsive democracy, independent judiciary, etc.) (Kawachi & Berkman, 2000). The other widely used concept is collective efficacy, which reflects not only the level of trust and attachment characterising community residents, but also their capacity to intervene for the common good (Sampson, Raudenbush, & Earls, 1997). Numerous studies have shown an association between these constructs and health (Cagney & Browning, 2004; Curtis, Dooley, & Phipps, 2004; Holtgrave & Crosby, 2003; Kawachi & Berkman, 2000). However, no study has attempted to disaggregate the social environment into local sociability and community organisation, or has explored the association of each to health inequalities.

The complex relationship between resources and rules of access

How, then, are neighbourhoods shaping the health of their residents? Basically, they do so, as
illustrated in Fig. 1, because they offer different and unequal resources arising from: (1) the physical domain, where rules of proximity regulate access; (2) the economic domain, ruled by markets and price; (3) the institutional domain, where citizen rights prevail; and in two domains in which informal reciprocity is the primary rule, (4) the local sociability domain and (5) the community organisations domain. The geographical patterning of resources, differentially accessible throughout those domains, has a direct bearing on the extent to which individuals and families can obtain the resources that help them maintain their health.

While we want to characterise neighbourhood environments according to the different rules of access to various resources, rather than according to the intrinsic nature of these resources, there are in fact empirical connections between the two. As a general rule in Western societies, resources in the form of goods and services, for instance food and housing, are largely procured in the market domain, unless the provision cannot be done profitably, as in the case of most municipal infrastructures such as sidewalks, parks and bike lanes. Some services and goods are indeed considered so basic that they are provided free of charge or at reduced costs to groups who cannot obtain them in the economic domain; this is done either by institutions and the State, or by the community and voluntary sector. Social housing projects and food banks are cases in point.

The definition of what constitutes basic and essential goods and services varies significantly among societies, periods, and the government’s ideological orientation. Societies, cities, and neighbourhoods thus differ as to how these resources are distributed through combinations of the economic, institutional, community organisations and local sociability domains. This variation is a reflection, in particular, of the welfare regimes of various societies (Saint-Arnaud & Bernard, 2003). Food is mostly bought in the market, but can also be procured through retailing cooperatives, more or less formalised purchasing collectives, community gardens, collective kitchens, charity organisations, and by the State (at least in emergencies, and indirectly through social assistance), or through barter.

The most intangible local resource results from local interactions among neighbours in formal community organisations, or in more informal social networks. Studies on social cohesion, for example, have shown that the general level of trust, associated with the number of social interactions and their positive and supportive content, is related to health indicators (Fisher, Li, Michael, & Cleveland, 2004). We note that interventions from both the public and private sectors have the potential to increase social cohesion in socially deprived areas; neighbourhood revitalising projects intend to do exactly that (Semenza & Krishnasamy, 2006).

Community organisations play a key role, especially in the hands of people who do not individually sway important economic, political or cultural power. Such organisations are the primary means which can be used to change the institutional domain (through mobilisations and political pressure tactics), the physical environment, and even, to some extent, the economic domain (again mostly through the same means). Community organisations can also change the quality of life in the neighbourhood through shifting the production and distribution of certain resources between the economic, the institutional, and the community organisation domains, away from where they would otherwise happen.

In order to test the ability of this conceptual framework to provide categories for making sense of the health and place literature, we briefly examine how published studies connect neighbourhood characteristics to obesity-related outcomes and risk factors. An important cause of obesity and overweight is an energy imbalance between calories consumed on one hand, and calories expended on the other hand. Diet and physical activity are the main factors contributing to this imbalance (World Health Organization, 2006). We focus here on physical activity, as neighbourhood research has extensively explored this issue.

The amount of physical activity performed is related to opportunities for individuals to use active transportation in order to get to places where they can work, shop, visit friends, etc. This is affected by the proximity between place of residence and such destinations. Characteristics of the physical environment such as urban sprawl, residential density, and street connectivity may play a major role here (Ewing, Schmid, Killingsworth, Zlot, & Raudenbush, 2003; Frank, Andresen, & Schmid, 2004; Frank et al., 2006). The physical domain can also provide resources to encourage physical activity such as walking/cycling facilities, traffic safety, an aesthetically attractive environment (Giles-Corti & Donovan, 2002; Saelens et al., 2003), or discourage
it due to high crime rates and perceptions of limited security or physical safety (Parkes & Kearns, 2006; Saelens et al., 2003).

The physical environment is in turn shaped by the forces at play in the social environment. Profitability considerations mainly drive land use, and especially the mixed uses that are favourable to physical activity (Rodriguez, Khat, & Evenson, 2006). Institutional interventions, such as urban planning, also shape the urban landscape. Local governments play a key role in providing proper sidewalks, walking/cycling paths, and traffic safety. They differentially allocate to neighbourhoods resources that encourage walking such as leisure facilities and parks, and determine proximity to attractive facilities such as museums, libraries, post offices, etc. (Addy et al., 2004; King, Belle, & Brach, 2005). Local sociability also plays a role in shaping the physical environment through providing a safe environment that is hypothesised to encourage outdoor physical activity (Parkes & Kearns, 2006).

Finally, the neighbourhood physical environment also reflects the effect of local community organisations. Such organisations can pressure institutions, and to some extent enterprises, to shape the environment so that it becomes more amenable to physical activity through, for instance, beautification projects or traffic calming schemes. Community organisations can also help develop local sociability by spawning new contacts and networks and providing services and activities that can boost the general activity levels of residents (Parkes & Kearns, 2006). While this example is necessarily incomplete, it suggests that our framework can indeed organise indicators and findings into a coherent set of categories.

**Conclusion**

In this paper, we have offered a conceptualisation of neighbourhoods as providers of resources related to population health and to the production of health inequalities. A framework that would explain how those resources, accessed by individuals through these various domains, are transformed into health and health inequalities remains beyond the scope of this paper. Despite this obvious limitation, we propose that our conception of neighbourhoods, as configurations of domains with distinct rules of access to resources needed to produce health, represents a theoretical progression in how to frame our knowledge of how place affects health.

First, our conceptualisation builds on existing notions such as that of opportunity structure, developed by Macintyre and Ellaway (2000), and it expands on these in order to distinguish between the availability of those resources in a neighbourhood and their differential accessibility through the various sets of rules that govern access through various environments. Underlying our model is the assumption that health is produced in everyday life (Breslow, 1999) and as such, it is the result of a transformation process that involves primary resources to be found in one’s immediate environment. In line with most work in the area of health and place, our framework suggests that the geographical patterning of health inequalities is linked to inequalities in health-related resources available in one’s immediate environment, neighbourhoods. Taking stock, however, of contradictory empirical observations relating the quantity of resources available in neighbourhoods and the health experience of residents, our framework characterises neighbourhoods as unique configurations of five domains through which health-related resources are accessible according to four sets of rules: proximity, rights, prices, and informal reciprocity.

Second, our conceptualisation brings together two strong theoretical programs on the structure–agency relationship. Together, Giddens’ structuration theory (1984) and Godbout’s informal reciprocity theory (2000, 2003) provide a solid ground for sorting out how health-related resources are geographically patterned and differentially accessible to local residents. Third, our conceptualisation provides meaningful categories to organise and analyse resources associated with the various health outcomes by defining a general framework for the integration of empirical observations concerning specific relationships between neighbourhood features and health risk factors and outcomes. We assert that those categories also provide a more coherent framework to account for the non-uniform relationships observed between the amount of resources present in neighbourhoods and health outcomes. Fourth, our conceptualisation opens the way for a dynamic picture of neighbourhoods: a mutual relationship exists between the composition of the resident population and the characteristics of the neighbourhood context, as they are shaped by the constant interaction between the rules of the five domains we have identified, and by larger societal changes.
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