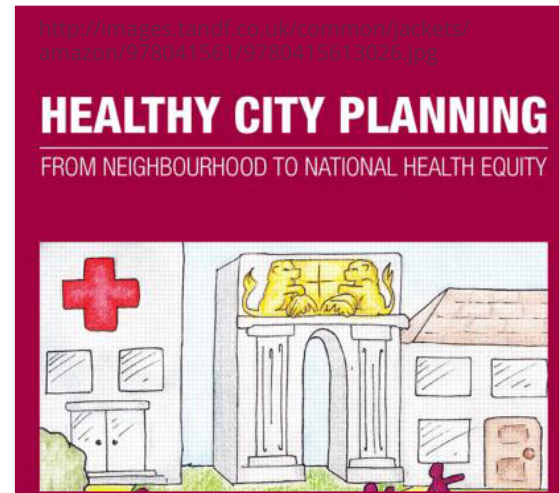
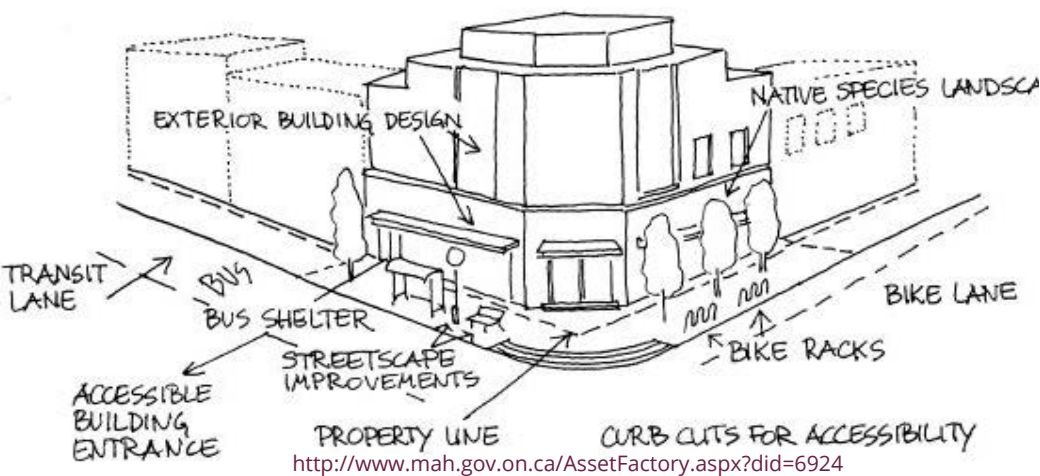


Building Connections between Planning and Public Health: Healthy Canada by Design CLASP:

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Abstract

key words

health
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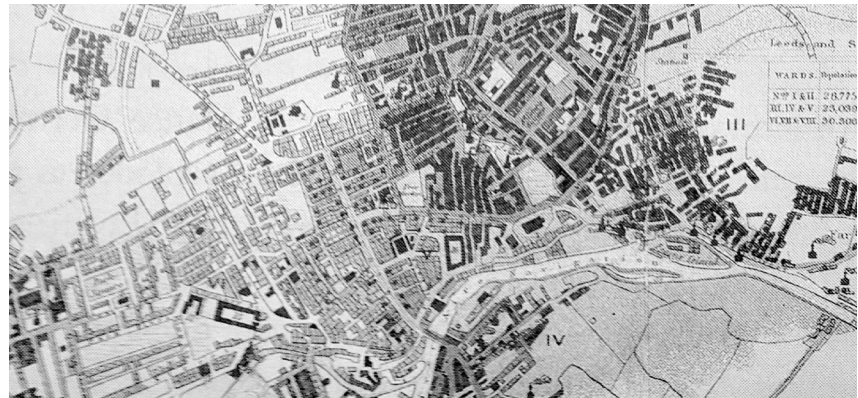
Public health and urban planning have shared a significant history together. Over the course of the 19th century, Louis-René Villermé, Rudolph Virchow, Edwin Chadwick, and John Simon all played a role in developing evidence and advocating for health equity in urban environments. By the mid-20th century, public health and urban planning had experienced a separation which generally maintained until now. However, the connection of public health and urban planning has re-emerged. Healthy equity movements and political backing the social determinants of health have helped bring public health policy and urban planning into a new focus of addressing socioeconomic inequity. Evidence is emerging supporting many socioeconomic factors in determining health, particularly medical research investigating effects of stress. However, as traditional public administration theory dictates, evidence cannot significantly inform public policy. Adaptive Urban Health Justice and Adaptive Ecosystem Management theories are offered as alternatives. The Healthy Canada by Design CLASP project in Winnipeg serves as a real-world effort to tackle public administrative challenges in connecting public health and urban planning.

Background

Public health and urban planning have shared a significant history together. During early 19th-century Paris, the physician-turned urban researcher Louis-René Villermé investigated the vast instances of illness occurring across different areas of Paris (Corburn, 2013). Villermé collected neighbourhood-level 1817 census data and tax records and organized the information to compare districts in hope of understanding differences in mortality rates. The result showed that the strongest relationship occurred with income levels and mortality where neighbourhoods of lower income exhibited greater deaths (Corburn, 2013). Villermé concluded that economic inequality and associated built environment characteristics were larger determining factors of mortality than the contagion theories commonly favoured by others at the time (Corburn, 2013). Despite his research, Villermé's findings had no impact on public policy or urban planning (Corburn, 2013, p. 38). Rudolph Virchow, a German pathologist, arrived at the same conclusion as Villermé, although through different means as a doctor observing patients and with a more direct political opinion. During field work in Upper Silesia around 1848, he noticed his ill patients were living in poor conditions, facing poverty and political oppression (Corburn, 2013, p. 38). Virchow was vocal about his certainty that these factors

were the more important cause of disease such as typhus and that a full democracy would be significant preventative measure (Corburn, 2013, p. 38). However it would be Edwin Chadwick, a lawyer in Britain "...appointed to the Royal Commission of Enquiry on the Poor Laws" in 1832 (Corburn, 2013, p. 39), who would eventually influence government to consider enacting policy for improving public health. Chadwick, using a similar research strategy as Villermé in

the General Board of Health in 1854, who argued for the medical professions to advocate for "public policies and administrative changes to make the poor less poor" (Corburn, 2013, p. 42). As a result, the Public Health Act of 1858 was implemented, which provided British government "power to prosecute local councils for failing to institute sanitary reforms" (Corburn, 2013, p. 42). Interestingly, the Act promoted local planning "as the route to implement health policy goals"



Above: Edwin Chadwick's sanitary map of Leeds, 1890s. (Corburn, 2013, p. 40)

Paris, created a map depicting correlations between death rates and household wealth (Corburn, 2013). Chadwick observed a similar relationship as Villermé; in poorer households death rates were higher, however this time attributing mortality to poor sanitary conditions. With this, Chadwick was able to influence government with moral justifications for sanitary improvements (Corburn, 2013). Later, public health and planning policy would be enacted in Britain as former doctor John Simon replaced Chadwick on

(Corburn, 2013, p. 42).

Now that many North American cities have benefited from the early struggles with sanitation that spurred urban planning and sanitary policies, according to Corburn (2004) public health and planning have experienced a disconnect since the early 20th century so much that there is now typically little interaction between the two fields. Public health has ever now focused on biological factors of disease and urban planning shows "...few signs of returning to one of its original

missions of addressing the health of the least well off” (Corburn, 2004, p. 541). As a result, Corburn argues “both areas are failing to meaningfully account for the economic, social, and political factors that contribute to public health disparities” (2004, p. 541). What has not changed, gathering from the history and current literature around the relationship between public health and urban planning, is the issue of social, economic, and political inequity among populations. Socioeconomic disadvantage has not disappeared and societies have not seen complete resolution with this issue.

Fortunately, a re-emergence of interest in connecting public health and urban planning is happening. The World Health Organization’s Healthy Cities program is an international initiative to make gains for public health in cities (World Health Organization, 2015). Another, taking place in Canada, is the Healthy Canada by Design CLASP. CLASP stands for Coalitions Linking Action and Science for Prevention and is provided funding by the Canadian Partnership Against Cancer. Healthy Canada by Design CLASP is the local case examined in this Case in Point and will be discussed later. First, a discussion of literature will be used to frame this project.

Healthy Equity and the Social Determinants of Health

Health equity is a significant concept throughout much of the literature regarding public health and urban planning (Ritsatakis, 2009, Northridge & Freeman, 2011, Corburn & Cohen, 2012, Lopez, 2012). Health equity refers to the equity of many different social, economic, and political circumstances (Ritsatakis, 2009, p. 182). However, equality or the lack thereof is not necessarily the same as inequity. According to Ritsatakis (2009), inequalities that are unjust and remediable are inequitable. For example, when segments of a population live in undesirable conditions due to poverty, the circumstance may be considered imposed upon rather than strictly selected by choice. At the other end of the spectrum, wealthier populations are able to exercise more choice if monetary expenditure is able to satisfy essential needs such as adequate and appropriate shelter, food, and clothing. Health equity is concerned with how these different circumstances come about and their effects on the health of people who experience them.

As history has shown, socioeconomic circumstances have profound impacts on the health of populations. By now, some of these circumstances have been remedied in many cities by the planning and health

professions through improved sanitary policies and sanitary infrastructure. If so called health inequities still exist, how are they addressed and what is the contemporary connection with planning? As it turns out, health equity is often discussed through what has been called the social determinants of health (Mikkonen & Raphael, 2010). Recent documents and articles suggest the social determinants of health are important and effective means to address public health concerns and health inequity (Northridge & Freeman, 2011, Corburn & Cohen, 2012). These attempt to identify the social factors which

“... governments responsible for enacting public policy are paying increased attention to ecological and systems science perspectives. These models posit that the physical or built environments of communities and the dynamic, complex, adaptive social systems in which they exist are among the important determinants of both individual and population health and wellbeing.”

(Northridge & Freeman, 2011, p. 582-583)

influence health. Socioeconomic circumstance are gaining support by many agencies. Northridge & Freeman (2011) state:

“... governments responsible for enacting public policy are paying increased attention to ecological and systems science perspectives. These models posit that the physical or built environments of communities and the dynamic, complex, adaptive social systems in which they exist are among the important determinants of both individual and population health and wellbeing.” (p. 582-583)

Raphael, 2010). This version of the determinants include the following:

- Income and Income Distribution
- Education
- Unemployment and Job Security
- Employment and Working Conditions
- Early Childhood Development
- Food Insecurity
- Housing

- Disability

Each chapter provides an explanation of each determinant and a piece of evidence linking the determinant to health. Mikkonen & Raphael (2010) identify income as one of the most important determinants of health. According to the report, life expectancy for men in the wealthiest 20% neighbourhoods lived four years longer than men in 20% poorest neighbourhoods (Mikkonen & Raphael, 2010, p. 13). Urban planners may address these social determinants through areas such as affordable housing policy, recommending services that may support greater access to food, social safety nets, and making spatial decisions that reduce physical barriers for people with disabilities.

The above evidence offered by Mikkonen & Raphael (2010) is a correlation, not explicitly a cause, so how might a social determinant actually determine health? A guess is that stress may be a common denominator across many of the social determinants of health. According to Sapolsky (1999), stress negatively effects the brain, particularly the hippocampus, including “disruption of synaptic plasticity, atrophy of dendritic processes, compromising the ability of neurons to survive a variety of coincident insults and, at an extreme, overt neuron death” (p. 721). Chronic and excess glucocorticoid secretion is the main culprit (Sapolsky, 1999), an otherwise useful hormone secreted by the

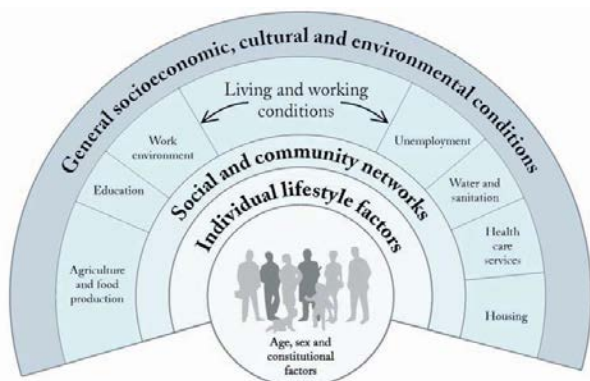


Figure shows one influential model of the determinants of health that illustrates how various health-influencing factors are embedded within broader aspects of society.

Source: Dahlgren, G. and Whitehead, M. (1991). Policies and Strategies to Promote Social Equity in Health. Stockholm: Institute for Futures Studies.

Above: Social Equity Model (Mikkonen & Raphael, 2010, p. 9)

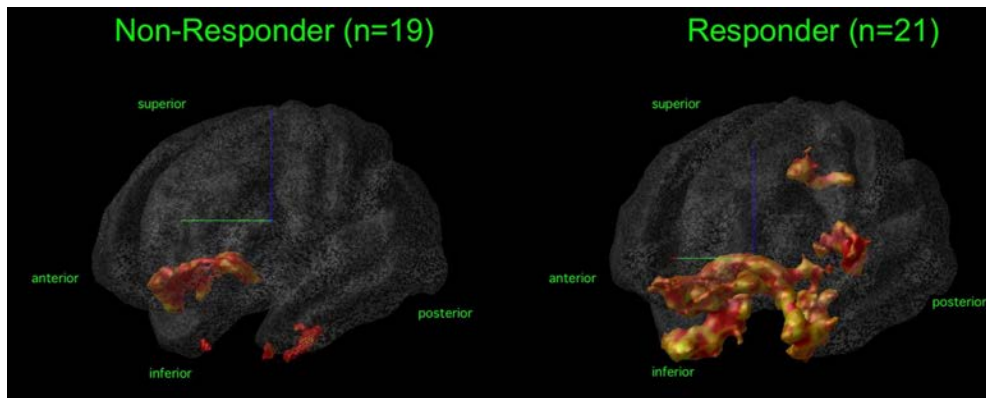
Dennis Raphael of York University has gained significant ground in formalizing social determinants of health components (Mikkonen & Raphael, 2010). Mikkonen & Raphael developed a fact document generated from a prior conference on social determinants of health in 2002 at York University (Mikkonen &

- Social Exclusion
- Social Safety Net
- Health Services
- Aboriginal Status
- Gender
- Race

“The critical findings were that middle-aged adults who reported current financial hardship had smaller left and right hippocampal and amygdalar volumes than those who did not report hardship after controlling for a comprehensive range of well-established risk factors.” (Butterworth, 2012, p. 553-554)

human adrenal gland during life-threatening circumstances. A 2012 study (Butterworth, 2012) was completed linking financial hardship (perhaps a perceived life-threatening circumstance) through stress response to volumetric reductions of the hippocampus in participants. In other words, the finding means that financial hardship is associated with brain atrophy (Butterworth, 2012). According to the researchers:

“The critical findings were that middle-aged adults who reported current financial hardship had smaller left and right hippocampal and amygdalar volumes than those who did not report hardship after controlling for a comprehensive range of well-established risk factors.” (Butterworth, 2012, p. 553-554).



Above: Imaging of hippocampus for two groups of participants. Left are non-responders to Montreal Imaging Stress Task, right are participants who showed stress response. Areas of colour are deactivation of hippocampus, showing effects of stress on the hippocampus.

(Pruessner et al., 2012, p. 188)

Evidence directly connecting any of Mikkonen & Raphael’s social determinants of health with biomedical markers appears to be less abundant in health and planning literature than one may like. However, if a reliable stress-model of disease can be determined, then we may be able to attempt to use our basic understanding of what may promote or reduce chronic stress in a population, along with empirical evidence, as an operating strategy in making equitable public health policy and planning decisions. But where the evidence exists, how might it influence public policy at an administrative level?

Public Administration Theory

In The Science of “Muddling Through”, Lindblom (1959) discussed how public administrators make policy decisions by simultaneously

choosing both the policies and the objectives the policies should address (Lindblom, 1959, p. 82) , rather than relying on the presence of complete information before moving ahead. Lindblom (1959) argued the latter “root” strategy would prevent agencies from making any decisions because it is nearly impossible to have complete information and understand its place in decision making. The more reasonable strategy, the “branch” or method of “successive limited comparisons” (Lindblom, 1959, p. 81), relies on a comparison of available policy options rather than pre-ranked values and objectives (Lindblom, 1959, p. 83). With this method, the task is not beyond the public administrator’s comprehension (Lindblom, 1959, p. 83). Lindblom’s view of policy making explains why agencies such as government departments may be slow to change its policies, even if some evidence exists supporting a change. For health and medicine, much of the evidence is science conducted

Above: Caption and received from...

in environments with controlled variables. These studies typically do not provide advice on how to correctly apply the findings to large, complex populations. This likely does not provide much help to public policy makers.

Adaptive Urban Health Justice and Adaptive Ecosystem Management

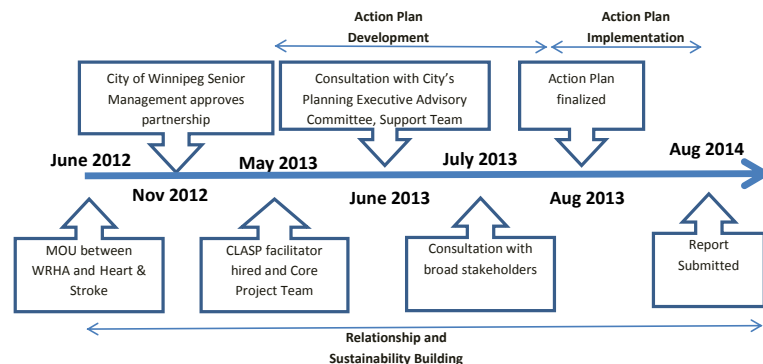
Corburn (2013) offers a management theory called Adaptive Urban Health Justice that may help public health policy makers move forward in their health equity decisions when evidence is insufficient but at the same time incorporate evidence as it arises. In this model however, evidence is not limited to biological sciences, it is also open to social truths through its democratic and participatory nature (Corburn, 2013, p. 27). It is based on a construct called “eco-social epidemiology” which is more interested in distributions of health and disease and less so in biomedical causes. According to Corburn (2013), Adaptive Urban Health Justice is an extension of Adaptive Ecosystem Management. As Norton (2005) states:

“..I suggest that we think of the policy process not as serial, not as like an assembly line with no reverse, but rather as an iterative dialogue in which science and policy are mixed in an ongoing, democratic,

policy process—adaptive management.” (Norton, 2005, p. 143)

As a health equity policy theory, adaptive management adopts justice and democracy as core operating values, and avoids the trap of requiring complete science before taking action. Adaptive management is relevant to connecting public health and planning by encouraging

to understand a re-emerging relationship between public health and planning. The initiative focuses on active design and use of facilities in addition to active transportation in Winnipeg. Akin to what an adaptive management process might suggest, HCBD projects involve building relationships through engagements, creating tools, and conducting research with the goal of promoting health through



Above: Timeline of Winnipeg Healthy Canada by Design program. (Graham et al., 2014, p. 4)

participation between sectors, willingness to monitor results and adjust policies accordingly.

Healthy Canada by Design: Real-World Health and Planning Collaboration

Led by planner and Healthy Built Environment Specialist Shelagh Graham at the Winnipeg Regional Health Authority, the Winnipeg Health Canada by Design (HCBD) initiative involves several projects that attempt

physical activity. Three themes emerged at beginning stages as consultations and discussions with stakeholders and partners identified local priorities:

- Building Strategic and Sustainable Relationships
- Identifying Promising Practices & Policies
- Supporting Research & Evaluation

(Graham, et al., 2014)

The above themes serve as appropriate characterizations for

the Winnipeg HCBD initiative. As a new program for the Winnipeg Regional Health Authority attempting inter-sectoral collaboration, building new relationships across WRHA and City of Winnipeg departments was crucial to moving forward with any type of action. One outcome was a successful relationship with the City of Winnipeg's Planning Department, where the HCBD team collaborated to develop an active design site-selection checklist for new buildings. The HCBD team provided guidance on overall objectives and the Department provided expertise on finer policy details. A lesson learned through the process, perhaps providing a reality check on adaptive processes, is the difficulty of working between different internal decision-making structures that exist within different agencies, making participatory processes challenging.

Developing research that may inform further actions and tools is still important. Another HCBD project conducted survey research about transportation behaviour of WRHA staff. Once complete, the data may be used to inform further active design strategies and policies. The WRHA may use its own facilities as test sites for active design policies, providing further real-world demonstrations of policies in complex environments. To policy makers in public health and planning, understanding how policies interact within real-world

circumstances is likely very useful.

Conclusion

Public health and urban planning are showing a re-emerging relationship, although perhaps more effectively demonstrated in theory rather than practice – likely due to a standing need for political acceptance and backing of health equity and the social determinants of health. Initiatives such as the WRHA's involvement in Healthy Canada by Design are important local projects attempting to address dis-connectivity between two historically significant partners in promoting urban health.

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