COMMENTARY

Coming to Consensus on Policy to Create Supportive Built Environments and Community Design

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ABSTRACT

In April 2011, a conference with invited experts from research, policy and practice fields was held to build consensus around policy levers to address environmental determinants of obesity. The gap between existing policy tools and what can promote health through community design is a major policy opportunity. This commentary represents a consensus of next actions towards creating built environments that support healthy active living. The policy environment and Canadian evidence are reviewed. Issues and challenges to policy change are discussed. Recommendations to create supportive built environments that encourage healthy active living in communities include the following: 1) empower planning authorities to change bylaws that impede healthy active living, protect and increase access to green space, introduce zoning to increase high density, mixed land use, and influence the location and distribution of food stores; 2) establish stable funding for infrastructure promoting active transportation and opportunities for recreation; 3) evaluate the effectiveness of programs to improve the built environment so that successful interventions can be identified and disseminated; 4) mandate health impact assessment of planning, development and transportation policies to ensure that legislative changes promote health and safety; 5) frame issues to dispel myths and to promote protection from obesity risk factors.

Key words: Child; adolescent; health status; obesity; health policy; environment design

ABSTRAIT

En avril 2011, une conférence avec des experts invités de recherche, de politique et de pratique a été tenue pour construire un consensus sur les leviers de politique pour aborder les déterminants environnementaux de l’obésité. Le fossé entre les outils de politique existants et ce qui peut promouvoir la santé à travers le design communautaire est une opportunité de politique majeure. Ce commentaire représente un consensus des actions suivantes à créer des environnements bâti qui soutiennent la vie active saine dans les communautés. L’environnement de politique et les évidences canadiennes sont examinés. Les problèmes et les défis à la modification de politique sont discutés. Les recommandations pour créer des environnements bâti qui encouragent la vie active saine dans les communautés incluent les suivantes : 1) accorder la puissance des autorités de planification pour changer les règlements qui entravent la vie active saine, protéger et augmenter l’accès au green space, introduire des zonages pour augmenter la densité haute, l’usage mixte et influencer la localisation et la distribution des magasins de nourriture ; 2) établir un financement stable pour l’infrastructure promouvant le transport actif et les opportunités de loisirs ; 3) évaluer l’efficacité des programmes pour améliorer l’environnement bâti afin que les interventions réussies soient identifiées et diffusées ; 4) imposer une évaluation de l’impact de la santé des politiques de planification, de développement et de transport pour s’assurer que les modifications législatives promeuvent la santé et la sécurité ; 5) formuler les problèmes pour éliminer les mythes et promouvoir la protection des facteurs de risque d’obésité.

Mots-clés : Enfant ; adolescent ; état de santé ; obésité ; politique de santé ; design environnemental

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Evidence

A systematic review has reported evidence for associations between built environment and diet, physical activity and sedentary behaviour. However, while systematic reviews of epidemiologic studies of the built environment and obesity have found statistically significant associations in approximately half of the studies reviewed, heterogeneity across studies limits the strength of evidence.11

Looking specifically at Canadian studies, including those in this supplement, different aspects of the built environment appear to be related to obesity and its proximal determinants in varied urban contexts. Specifically, in Toronto, residential density has been associated with decreased population obesity, and in Vancouver, residential density, land-use mix, street connectivity and a composite walkability index are all associated with decreased population obesity among adults.12 In Ottawa, neighbourhoods with fewer recreation opportunities were associated with higher body mass index (BMI) among adults.13

The results emerging from built environment studies specifically focusing on children point to a more complex picture. In Saskatchewan, children 10-14 years of age living in fractured-grid neighbourhoods accumulated less physical activity and more sedentary time per day than those in grid-pattern or curvilinear-pattern neighbourhoods.14 Studies from Halifax and Toronto in this issue further elucidate the potential mitigating effects of neighbourhood level socio-economic status. A study of children 12-14 years of age in Halifax reported that rates of physical activity in children from schools in lower socio-economic areas were higher in urban than in suburban or rural settings.15 In Toronto, children who attended schools in more affluent neighbourhoods had more positive physical activity profiles across the week.16

The findings on the effect of the built environment on children’s physical activity and obesity reported in this issue extend the results from several earlier studies conducted in Canadian cities. Studies from Edmonton have reported that a walkable neighbourhood design, specifically intersection density, was associated with decreased childhood obesity among girls.17 Among pre-adolescent children in Alberta, neighbourhood safety, sidewalks and parks are negatively correlated with body weight.18 Further, an Ontario study revealed that children with a park playground within 1 km from home were five times more likely to be at healthy weight than children without such access.19 Studies have shown that children who live in neighbourhoods with fewer amenities or lacking neighbourhood access to sidewalks, walking paths, parks or playgrounds, or recreation or community centres had 20%-45% higher odds of being obese/overweight.20 These findings are supported by a study in this issue from London, ON, which reports that public recreation opportunities within a 500-metre network distance from home were associated with lower BMI in children.21

Perceptions of built environment are also important. In Edmonton, children aged 6 to 12 described more active transportation in their neighbourhoods when they lived in highly walkable areas.22 Among adults in Edmonton, neighbourhood choice (for ease of walking) was associated with a lower BMI, whereas objectively measured walkability was not a significant influence on BMI.23 Perceptions of traffic as a barrier to walking also predicted higher BMI.24

Community design, zoning and neighbourhood social factors are also associated with physical access to foods. For example, Canadian research has found that fast food outlets are more prevalent in neighbourhoods of lower socio-economic status,25 while supermarkets – sources of wider food choices, including healthy foods – are less prevalent in these neighbourhoods.26 A Montréal study reported in this issue found that children attending a school in neighbourhoods with a higher number of unhealthy relative to healthy food establishments scored most poorly on dietary outcomes.27 Additionally, a study in Halifax found that dietary quality was higher among youth in higher than in lower socio-economic urban settings.13 Further, there was evidence from an Edmonton study that the shorter the distance to healthier food sources from one’s residence, the less the likelihood of obesity.28 With regard to the influence of neighbourhood food environment on healthy eat-
ing among grade 7 and 8 students in London, ON, the proximity of convenience stores to students’ homes and proximity of schools to convenience stores and fast food outlets were all significantly associated with decreased healthy eating index scores.79

Evidence of the impact of the built environment on behaviours and weight status is growing. There are small but meaningful associations observed between aspects of the built environment and behavioural determinants/risk of obesity, although the findings are inconsistent. Perceptions of the environment may be as important as objectively measured aspects of environments. Over the past four years, the Heart and Stroke Foundation and Canadian Institutes of Health Research have made research on obesity and built environment a strategic focus, and several Canadian research projects have been funded that contribute to the evidence base; several of those studies are reported in this supplement. Yet, evidence on the effectiveness of built environment interventions is sparse. Very little intervention research has linked the effectiveness of changing environments to behavioural or weight and health outcomes, especially in a policy context,6 suggesting a serious evidence gap.

Issues and challenges

Changing the built environment significantly is a massive undertaking with potentially huge financial investment needs

Building transportation infrastructure is a significant investment that spans jurisdictions’ decision-making structures and involves sectors not traditionally involved with health. For example, building a road may be primarily a provincial responsibility, yet incorporating bike lanes or increasing public transit may be a municipal one. Urban planners with municipal mandates may face challenges as to what they can accomplish, as provincial laws and policies may be outdated or too restrictive. Physical activity, food access and health may not yet be a high priority for transportation and planning sectors or even for departments of finance. Indeed, given the multiple demands on limited municipal tax bases, finding sufficient resources to maintain, change or build infrastructure supportive of health-promoting community design may be a challenge.

Smaller, localized changes in built environments may provide the opportunity for incremental changes

Focusing on school environments or municipal bylaws is not only more manageable politically and practically, but can also provide preliminary evidence of local effectiveness as exemplars for others.

Public support for change in built environments may need to take into account parental concerns about child safety

Enhancing safety (i.e., fewer traffic incidents involving pedestrians and cyclists) through improved built environmental design may have more immediate resonance with parents than changes in health status or obesity. Social perceptions, such as parental fears about child safety (i.e., child abduction by strangers, which is extremely rare), are significant factors that need to be taken into account when promoting built environment changes. Connecting issues of violence prevention with safety challenges, dispelling myths and fears, and engaging public support for change should not further exacerbate public fears but, rather, help to dispel them.

Recommendations

To create supportive built environments that encourage physical activity, active living and access to healthy foods in local communities, we recommend the following:

- Empower local planning authorities to
  - change bylaws that have an effect of restricting physical activity
  - initiate programs to help protect and increase access to green space, including parks and playgrounds
  - introduce zoning bylaws that increase high density and mixed land use
  - through a combination of incentives (tax shelters) and constraints (zoning bylaws) influence the location and distribution of food stores, including fast food stores and suppliers of fruit and vegetables.

- Establish stable, long-term funding for municipal infrastructure that promotes active transportation and provides opportunities and facilities for recreation.

- Evaluate the effectiveness of local programs in improving aspects of the built environment so that successful intervention strategies can be identified and scaled up.

- Evidence of what interventions work under which conditions is likely to come from natural experiments assumed by committed communities based on the growing evidence associating built environment with obesity and health.

- It is essential for researchers to work with planners and policymakers to capture the impact of local changes.

- Make health impact assessment of planning, development and transportation policies mandatory to ensure that legislative changes increase walking, cycling and safety for children and citizens.

- As the impact of the built environment, including land use and community design, on the health of the population becomes increasingly evident, promoting the development and implementation of public policies conducive to health suggests consideration of the health impacts of new and standing policies in major project planning.

- Development of tools to assist municipalities and provincial jurisdictions in doing such assessments is required.

- Advocate the framing of issues so as to dispel myths and fears about child safety (from abduction or injury) and to promote child safety from obesity risk factors (e.g., physical inactivity, sedentary behaviours).

CONCLUSION

Consensus around policy levers to address environmental determinants of obesity, including next logical steps toward further policy action, led to concrete recommendations for researchers, practitioners and policy-makers to create supportive built environments that encourage physical activity, active living and access to healthy foods in local communities.

REFERENCES


RÉSUMÉ

En avril 2011, une conférence d’experts invitée du monde de la recherche, des politiques et de la pratique a cherché à construire des consensus autour de leviers politiques pour aborder les déterminants environnementaux de l’obésité. Le fossé entre les outils stratégiques existants et ceux qui pourraient favoriser la santé par le design communautaire présente une importante occasion stratégique à saisir. Ce commentaire expose le consensus des experts sur les prochaines étapes en vue de la création de milieux bâtis favorisant une vie active saine. Nous passons en revue l’environnement politique et les données probantes canadiennes. Les enjeux et les difficultés des changements d’orientation sont abordés. Les recommandations en vue de créer des milieux bâtis qui encouragent une vie active saine dans les communautés sont les suivantes : 1) habiliter les responsables de la planification à changer les règlements qui nuisent à une vie active saine, à protéger et élargir l’accès aux espaces verts, et à introduire un zonage qui accroît la densité et l’utilisation mixte des sols et qui influence l’emplacement et la répartition des magasins d’alimentation; 2) établir des budgets de financement stables pour les infrastructures qui favorisent le transport actif et les possibilités de loisir; 3) évaluer l’efficacité des programmes d’amélioration du milieu bâti pour que les interventions fructueuses puissent être identifiées et disséminées; 4) ordonner l’évaluation des incidences sur la santé pour toutes les initiatives de planification et les politiques de développement et de transport, afin que les modifications législatives favorisent la santé et la sécurité; 5) présenter les enjeux de manière à déboulonner les mythes et à promouvoir la protection contre les facteurs de risque de l’obésité.

Mots clés: enfant; adolescent; état sanitaire; obésité; politique sanitaire; conception de l’environnement