

Using the built environment to combat childhood obesity

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Although it is more difficult to measure obesity among children than adults on account of their rapidly changing anthropometric indicators,¹ the prevalence of childhood obesity has risen significantly over the past few decades.² In fact, obesity among Canadian children aged 2-17 has increased 2.5 fold between 1978 and 2004.² These numbers are alarming, due to the fact that childhood obesity is associated with an increased risk of developing chronic diseases, such as coronary heart disease and diabetes in adulthood.³ Improper nutrition and physical inactivity in children have been identified as key contributors to this ever growing epidemic.^{3,4,5,6} An increasing body of evidence has revealed the role of the built environment in determining the exposure to these risk factors.^{3,5,6} As the rates of childhood obesity continue to rise, it is crucial that interventions are designed to address the key contributors to the problem.

On the simplest level, obesity is the result of an energy imbalance in which consumption exceeds expenditure.⁶ There is no question that our physical environment influences this balance by either promoting or deterring healthy choices.⁶ We can consider the “environment” to be anything that is “external to the individual”, and the “built environment” to be “any aspects of a person’s surroundings which are human-made or modified, as compared with naturally occurring aspects of the environment”.⁶ The built environment also encompasses a broader range of physical and social aspects which can influence our health. Some of these features include the cost and access of eating healthy, neighbourhood safety, as well as transportation opportunities.⁶

An increasing body of evidence is revealing that modern-day street layouts and accessibility to healthy foods have a significant impact on health.^{3,5,6,7} Residents of areas that have access to supermarkets versus convenience stores or fast food restaurants tend to be healthier and have a lower

prevalence of obesity.⁷

Similarly, accessibility to recreational facilities has been noted to significantly affect the daily physical activity levels of children.⁵ While our current urban sprawl may not influence the development of childhood obesity as much as it does adulthood obesity,^{6,7} other essential aspects of this urbanization can determine how physically active children can be: the availability of institutions in which children can be physically active, and more importantly, their relative ease of access within the neighbourhood represent two fundamental features which limit the levels of physical activity a child can attain.^{5,6,7} Studies have shown that on average, residents of all ages living in sprawled communities were less likely to walk during their leisure time, weighed more, and had a higher prevalence of obesity.^{3,7} Although these particular studies did not focus specifically on childhood obesity, it is thought that children have a greater susceptibility to the harmful aspects of their environments.³ Thus, it is reasonable to anticipate similar results in studies assessing the affects of community spreading on a child’s health.³

While it may be nice to imagine redesigning our more metropolitan neighbourhoods to be a little more inviting to children, this is clearly not a feasible remedy to the childhood obesity problem. Luckily, intervention strategies do not need to be as complicated as tearing down our homes and remodelling our communities. We can capitalize on the social aspects of the built environment to implement policies, which are relatively simple in practice but can have significant long-term benefits for children.³ For example, a recent study assessing the effect of a school-based intervention program on the physical activity levels of elementary school children revealed that policies promoting physical activity among schoolchildren significantly increased their overall fitness levels.⁸ In addition to enforcing more stringent physical education

programs with their school curricula, other relatively easy solutions could include supervising crosswalks nearby schools and recreational institutions.⁵

In the past, significant amounts of time and effort have been invested into public education strategies aimed at informing children and their families of the importance of living healthy lifestyles, as well as the dangers of noncompliance.³ Evidently, as the growing obesity rates show, these campaigns have not been overly successful.³ The Canadian Society for Exercise Physiology has recently released the world's first evidence-based sedentary activity guidelines for children and youth in an attempt to break this indolent cycle.⁹ Lifestyle changes, which are conceptually very easy but difficult to complete in practice, are the only solution to this ever-growing problem. In the long run, getting healthier will not be easy, but we cannot give up because it will definitely be worthwhile.

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