

**A public health dilemma: Urban bicycle-sharing schemes**

Dear Editor:

In 2008, a pioneering, Canadian company, Bixi, launched an urban bicycle-sharing program. With six years of award-winning success, Bixi's bicycles rode to the rescue of commuters, the environmentally-friendly and the health-conscious in Toronto, Ottawa and Montreal. Despite the acclaim, the company's success came to an untimely end in February 2014 when it filed for bankruptcy. The city of Toronto has dedicated \$5 million<sup>1</sup> to rescuing the bicycle-sharing scheme. Bixi's collapse has ignited the debate on the public health benefits of urban bicycle-sharing programs.

Cardiovascular disease is a major burden on the health service. In 2011, it caused more than a quarter of all deaths and cost \$21 billion in medical bills and decreased productivity across Canada.<sup>2</sup> Physical inactivity is a major contributor to cardiovascular disease, with only 15% of Canadians meeting the suggested targets for daily exercise.<sup>2</sup> Bicycle-sharing schemes allow people to easily incorporate exercise into their daily commute or leisure activities. A study into Barcelona's bicycle-sharing program has shown a mortality benefit for those using the city's bicycles. They estimated that 12.28 deaths were avoided every year among the 180,000 bicycle-sharing program users.<sup>3</sup>

While bicycle-sharing programs have been well received by the public, using them is not without risks. The inhalation of exhaust fumes and the risk of motor vehicle accidents are dangers. Toronto's cyclists often have to share the roads with vehicles and streetcars as there are a limited number of dedicated cycle paths. A 2012 study published in the *American Journal of Public Health*<sup>4</sup> found that Toronto's cyclists were 30-50% more likely to be involved in an accident on major roads without cycle lanes than on those with. The absence of dedicated cycle lanes is a key factor in the incidence of cycling-related injury. According to the 2010 *City of Toronto Cycling Study*,<sup>5</sup> the percentage of Torontonians reporting a concern about road safety stands at 18%, a threefold increase from that in 1999.

Toronto's city planners have instituted plans to make the city more bicycle-friendly. Since 2009, 16 km of cycle lanes have been added to Toronto's roads,<sup>6</sup> and a total of \$90 million will be

invested in bicycle safety over the 10-year period from 2013 to 2022.<sup>7</sup> Additional efforts to increase safety include bicycle safety courses and poster campaigns advocating helmets. Unlike in Ontario, the use of a bicycle helmet is made compulsory by law in British Columbia. A 2013 study in the *British Medical Journal*<sup>8</sup> found a significant decrease in the rate of head injury in BC following the introduction of the law in 1996. Despite this success, there is opposition to mandating helmet usage in Ontario.

There are clear health benefits associated with urban cycling. However, concerns regarding safety still need to be addressed. Toronto has decided to bail out the city's bankrupt bicycle-sharing program, however, investment cannot stop there. It is essential that the city invest in measures to increase safety, especially bicycle pathways and bicycle helmet use, which have been shown to increase the subjective and objective feeling of safety.

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