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Abstract Title
Investigating effects and potential mechanisms of urban trails on mental health outcomes for youth living in Winnipeg, MB: preliminary results of a difference-in-difference analysis

Background
Urban trails increase population-level physical activity and are associated with lower rates of mental health conditions in adults. Their association with health outcomes in youth is less clear.

Objective
Our objective was to determine if urban multi-use trails are associated with mental health outcomes among youth.

Methods
We leveraged a natural experiment consisting of the construction of four multi-use trails in Winnipeg (~25km), Canada between 2010 and 2012. Census dissemination areas within 400m of a trail were considered “exposed”, and those beyond 400m “unexposed”. The primary outcome, a composite measure of incident ADHD, mood and anxiety disorder, substance abuse, and suicide attempt, was compared between youth aged 5-19 years living in exposed and unexposed areas before (2002-2009) and after (2012-2019) trail construction. Propensity scores were calculated to match exposure and control postal code areas and conduct a Poisson regression analysis within a difference-in-differences framework to compare differences in incident rate ratios (IRR) over time. To evaluate potential for active transportation as a possible mechanism, we geo-mapped public schools to identify and characterize those located within the 400m trail buffers.

Results
In Winnipeg, there were 6,395 and 6,888 incident mental health outcomes among youth during the pre- and post-intervention periods, respectively. The propensity score matched Poisson regression analysis indicated no difference in the IRR (0.98, 95% CI: 0.90-1.06) of mental health outcomes between control and exposure areas after trail construction. Geospatial mapping determined 12 of 249 eligible public schools were located within 400m of a new multi-use trail, representing 5.0% of enrolled students.

Conclusion
Mental health outcomes among youth were not significantly affected by the construction of multi-use trails; however, there was limited reasonable access to support active transport to school, and uptake of these trails by youth is unknown.

Authors

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