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**WALKING ON WATER – A SEASONAL POPULATION HEALTH INTERVENTION TO PROMOTE PHYSICAL ACTIVITY AFTER THE CHRISTMAS HOLIDAYS**

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**Background:**

The built environment is a key determinant of physical activity (PA) levels for children and adults. Very few experimental studies exist of changes to the built environment designed to increase PA.

**Objective:**

We examined the impact of urban trail created on a frozen waterway on visitor counts and PA levels. We hypothesized that visitor counts to the trail network would increase while the frozen waterway was open, compared to when it was closed.

**Methods:**

We studied a natural experiment in Winnipeg, Manitoba that included 374 204 and 237 362 trail users during the 2017/18 and 2018/19 winter seasons. The intervention was a 10km trail created on a frozen waterway lasting 8-10 weeks. The comparator conditions were the time periods immediately before and after the intervention when ~10 kms of land-based trails were accessible to the public. A convenience sample of 466 participants provided directly measured PA while on the frozen waterway.

**Results:**

Most people surveyed on the waterway were 35 years or older (73%), Caucasian (77%), had an annual household income > \$50K (61%). Mean daily trail network visits increased ~four-fold when the frozen waterway was open [median and interquartile range (IQR) = 710 (239-1839) vs 2897 (1360-5583) visits/day,  $p < 0.001$ ], compared to when it was closed. Users achieved medians of 3852 steps (IQR: 2574 – 5496 steps) and 23 minutes (IQR: 13 – 37 mins) of moderate to vigorous intensity PA (MVPA) per visit, while 37% of users achieved  $\geq 30$  minutes of MVPA.

**Conclusion:**

A winter-specific urban trail network on a frozen waterway substantially increased visits from children and adults to an existing urban trail network and was associated with a meaningful dose of MVPA. Walking on water could nudge populations living in cold climates towards more activity during winter months.