Cardiometabolic Exercise and Lifestyle Laboratory

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Usage of OUTDOOR EXERCISE STRUCTURES by Older Adults Living in New Brunswick

RATIONALE

Muscle-strengthening activities have several important benefits for older adults; such as: increase bone density, muscle mass, muscle strength, muscle power, improve insulin sensitivity, decrease fat mass, and overall improve functionality and independence, reducing the chances of institutionalization (Izquierdo, 2021). Specific barriers to resistance training for older adults include: lack of appropriate facilities, lack of accessibility, social stigma, lack of support, cost, as well as lack of time and lack of knowledge (Cavill & Foster, 2018).

Participation in resistance training is remarkably low in older adults. In fact, **67.5% of older adults in Canada report not taking part in any muscle-strengthening activities whatsoever** (Copeland et al., **2019).**

To break down some of these barriers, governments have started investing in outdoor exercise structures to improve accessibility. Outdoor exercise structures are an option for improving accessibility to resistance training for older adults as they are free to use, can be used at any time of day, and often provide instruction on how to use the equipment (Ng et al., 2020). With an initial price tag of anywhere between $10,000 and $70,000, and averaging around $45,000, outdoor exercise structures are a significant community investment (Cohen et al., 2012).

However, it is currently unknown whether outdoor exercise structures are used and effective in providing a means to achieve physical activity benefits.

REFERENCES

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Cohen, D. A., et al (2012). Impact and cost-effectiveness of family fitness zones: a natural experiment in urban public parks. Health & place, 18(1), 39-45.

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Ng, Y. L., Hill, K. D., Levinger, P., & Burton, E. (2020). Effectiveness of Outdoor Exercise Parks on Health Outcomes in Older Adults—A Mixed- Methods Systematic Review and Meta-Analysis. Journal of Aging and Physical Activity, 29(4), 695-707.

METHODS

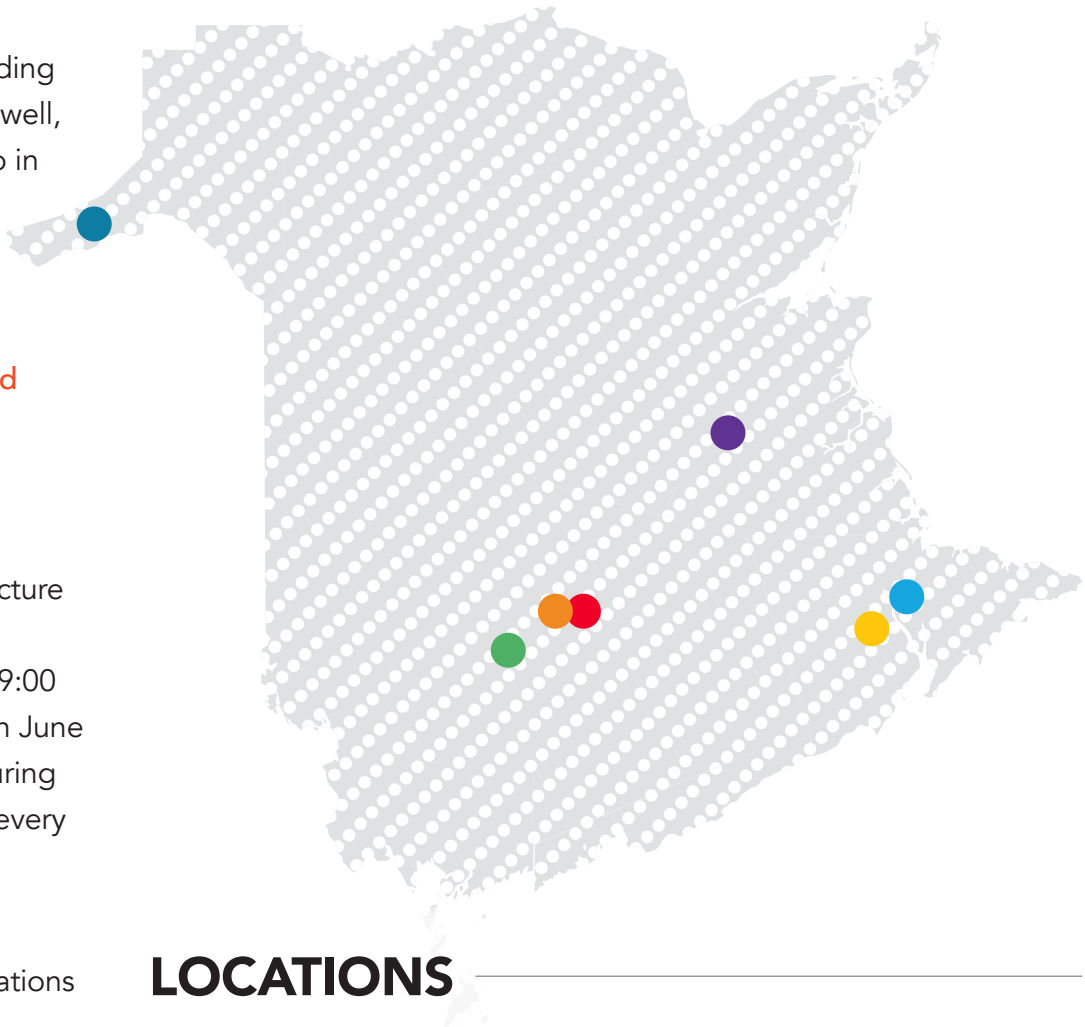
Seven outdoor exercise structure locations **were identified** across New Brunswick and were included in this study including Lac Baker, Rogersville, Hanwell, Riverview, Dieppe, and two in Fredericton.

AGE GROUPS:

- Adults : 19 to 64 years
- Youth: 2 and 12 years old
- Adolescent: 13-18
- Older adults: 65 years +

Each outdoor exercise structure was monitored by research assistants from 7:00 am to 9:00 pm for seven days between June and September 2021, ensuring data was collected during every day of the week.

More specifically, research assistants recorded observations as shown below.



LOCATIONS

Lac Baker **Fredericton N** **Riverview** **Rogersville**

Hanwell **Fredericton S** **Dieppe** S=South | N=North

Site: _____ Date: _____ Average Temperature: _____ Average Humidity:_____

Gender	Age Range	Using Equipment?	Using Equipment Appropriately?	Gym Clothing	Time of Day

RESULTS

During the seven days, a total of 1,482 people have been at the seven outdoor exercise structures in New Brunswick.

Usage based on sex was almost exactly equal with males making up 50.6% of outdoor exercise structure users.

The outdoor exercise structures were used most often in the afternoon between 12pm and 5pm (47.84%), followed by the evening between 5pm and 9pm (30.77%), and lastly the morning between 7am and 12pm (21.39%).

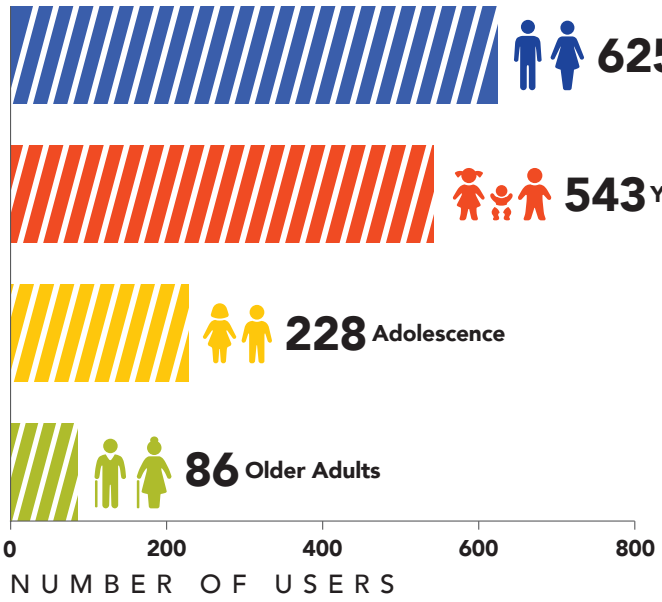
OLDER ADULTS

The prevalence of older adults using outdoor gyms ranged between 2% and 11% of total outdoor gym users at each location.

Of the older adults who were present at the outdoor exercise structures, 70% actually used the equipment. Of the older adults who used the outdoor exercise structures, 46.67% were male and 51.67% were female. A 31.67% of users were fully dressed for exercise.

IN **7days** (average 211 per site)

ONLY **5.8%** WERE AGE 65+

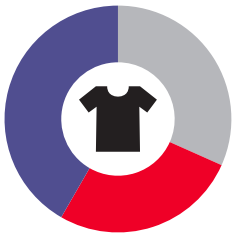


Appropriate Equipment Use (Seniors)

Appropriate **43.33%**

Somewhat Appropriate **21.67%**

Not Appropriate **35%**

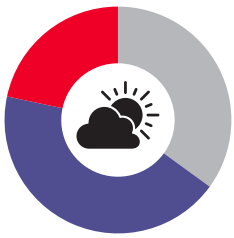


Appropriate Exercise Attire (Seniors)

Appropriate **41.67%**

Somewhat Appropriate **26.67%**

Not Appropriate **31.67%**



Time of Day (Seniors)

Afternoon **43.33%**

Morning **21.67%**

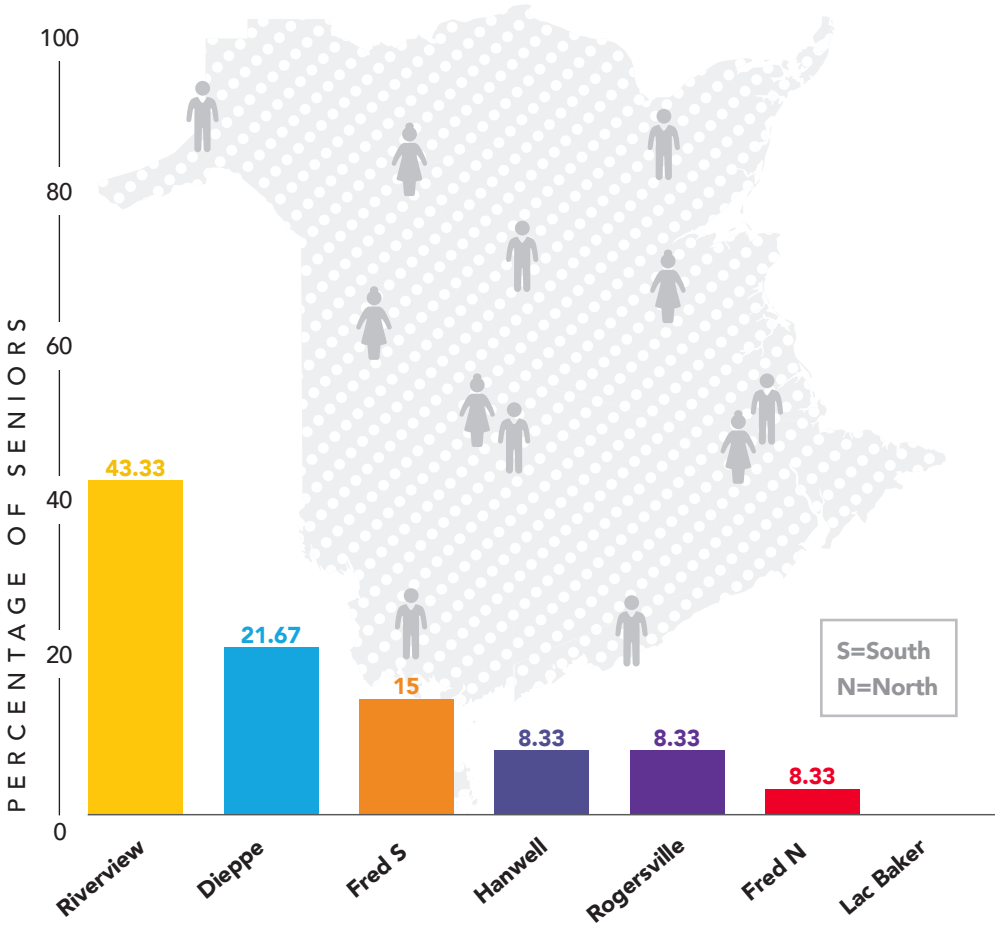
Evening **35%**

RESULTS CONT.

Location seemed to play a role in the prevalence of older adults using the outdoor exercise structures.

The most used location by seniors was by far Riverview and no older adults were present at the Lac Baker site whatsoever. It might be worth investigating what makes the difference between locations.

Location (Seniors)



CONCLUSION

In conclusion, we found that older adults living in New Brunswick do not commonly use outdoor gyms. Of the older adults who do use the outdoor exercise structures, the majority of them use the equipment properly. However, most of them are not dressed appropriately for exercise. Riverview is the most commonly used outdoor exercise structure by older adults, and Lac Baker is the least commonly used by older adults.

RECOMMENDATIONS

Locating the outdoor exercise structures in New Brunswick and determining usage trends is the first step in exploring outdoor exercise structures as an option for sustainable exercise infrastructure in community settings. The knowledge gained from this study will begin to shape the narrative about whether investing in these types of outdoor exercise structures are used by older adults.

MORE INFORMATION IS NOW NEEDED TO

1. understand why older adults do not use more of these facilities
2. to determine whether the use of outdoor exercise structures can have a significant impact on physical health for older adults
3. Increase opportunities for older adults to learn how and why they should use this accessible equipment