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## Background

Even though physical inactivity is widely known as a risk factor for many chronic diseases there remains a disconnect between individuals who require guidance in physical activity and the role that kinesiologists can play in health care. In primary care, despite the evidence that exercise promotion by family physicians can positively affect participation in physical activity in patients, the medical community seems to struggle with prescribing exercise due to lack of time and training.

Registered Kinesiologists (R.Kins) are trained specialists in exercise programming and health promotion and have the ability to support the primary care teams by transforming exercise recommendations into actions for patients. As health professionals, R.Kins understand the importance that exercise plays in the management of chronic disease and how to individualize exercise programming to minimize the risk of injury. The CHANGE program, **C**anadian **H**ealth **A**dvanced by **N**utrition and **G**raded **E**xercise, developed by experts at Metabolic Syndrome Canada ([www.metsc.ca](http://www.metsc.ca)), is a program that brings the expertise of the R.Kin to work with the Family Physician/Nurse Practitioner and the Registered Dietitian to provide a collaborative and interdisciplinary approach to patient health and well being (see Figure 1 for Program Overview).

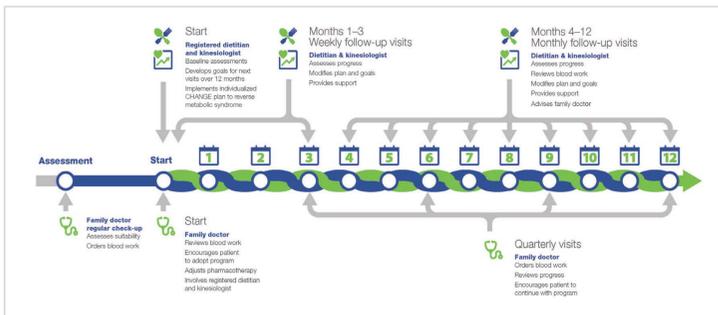


Figure 1. CHANGE Program Overview



Figure 2. Participating Ontario FHTs

## Results

From March 2017 to present, a total of 312 patients have been enrolled in the CHANGE Program across 9 Family Health Teams (FHTs) in Ontario (see Figure 2). Of these, 7 FHTs have access to a R.Kin, 5 of these FHTs enrolled a total of 176 patients in the Peel & Halton area from April 2018 to present (Kinesiologist at 4 out of the 5 FHTs supported by grant from Ontario Trillium Foundation). Key performance indicators measured include changes in estimated VO2 max, percentage visit attendance, percentage of patients by low, moderate and high physical activity levels (figure 3) and physical activity in minutes per week by level of activity (figure 4), using international physical activity questionnaire (IPAQ).

### Estimated VO2 max percentile

At 3 months, the estimated VO2 max percentile increased by 17% (n=194 patients) and by 14% at 12 months (n=59) [based on data as of August 28 2019].

### Visit attendance

Percentage attendance at exercise visits was 77% at 3 months (n=194 patients) and 74% at 12 months (n=59) [based on data as of August 28 2019].

As shown in Figure 3, at 3 and 12 months, the number of patients with moderate and high activity levels increased, while low physical activity decreased compared to baseline (as of July 22 2019).

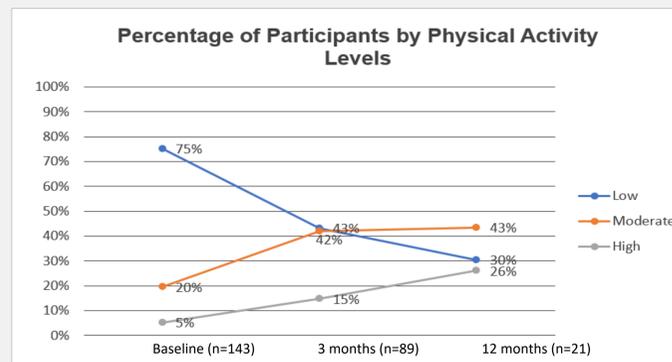


Figure 3. Percentage of CHANGE Program participants by physical activity levels over time

## Results

As shown in Figure 4, at 12 months patients had increased the amount of physical activity in minutes per week compared to baseline measurements.

More patients reported an increased confidence in taking part of more vigorous exercise and physical activity.

Testimonials from program participants and FHT staff were also collected and are shown below.

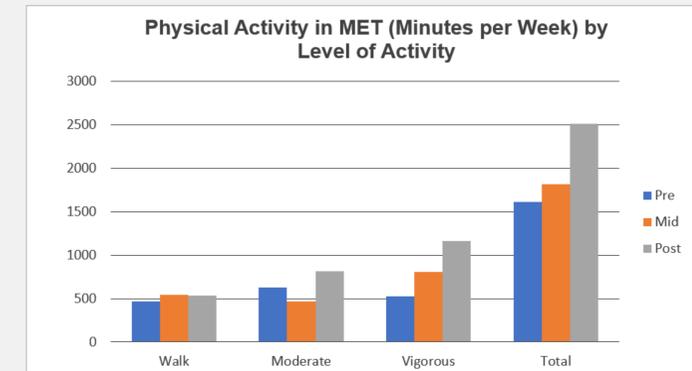


Figure 4. Physical activity in minutes per week by level of activity over time in CHANGE program participants

## This is what patients and other FHT staff are saying about their kinesiologists....

### Patients

"The staff were excellent in their guidance and encouragement. This program has made me much more aware of the importance of healthy eating and exercise which makes for a healthier me."

"When we started, I was not able to even reach my feet to do up my shoes, now something as simple as bending over to put on my shoes is possible."



### FHT Registered Dietitian

"Having the opportunity to work with a Registered Kinesiologist provides me with a safe and credible resource to help patients increase their knowledge and capacity for physical activity. By running the CHANGE program together we are delivering well rounded lifestyle education, with a hands-on opportunity for patients to practice physical activity each week. This helps patients to overcome the barriers of cost, lack of knowledge, and opportunity for exercise. Patients who have physical barriers such as a bad back, knee replacements, or previous injuries can be counselled by the Registered Kinesiologist in strategies to practice physical activity without causing themselves harm and may even be able to improve their chronic pain management. The Registered Kinesiologist is a valuable resource without which I would not be able to run medical lifestyle intervention at the clinic or engage my patients in physical activity so effectively."

## Conclusions

Through the CHANGE program, Registered Kinesiologists (R. Kins) across several FHTs have been successful in improving patient outcomes related to physical activity and health. Having a R.Kin on the interdisciplinary team can prove to be very effective in guiding, supporting and empowering patients to adopt a more active lifestyle and contribute to positive health outcomes.

## References

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