

## Letter to the Editor

# In response to Letter to the Editor: beyond the randomised control – assessment tool

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Madam

Drs Cornwall and Stoner provide insightful comments about how to assess progress and effectiveness of school-based physical activity and nutrition interventions<sup>(1)</sup>. We agree that BMI is not the best measure of fatness or indeed of fat-free mass<sup>(2)</sup>, and that time to run 550 m is not the ideal measure of fitness, particularly in children who by definition are growing and changing. Both these outcomes were measured in the 2011 evaluation, as was body fatness (by bioimpedance) and central fatness (by waist-to-height ratio), and they were compared with historical controls<sup>(3)</sup>. In the 2011 evaluation however, when the effect of BMI on 550 m run times was assessed, BMI explained only 30% of the variation<sup>(4)</sup>. For ongoing follow-up of the effect of interventions that are no longer a research trial, it is what is easiest, requires the least resources and is representative of the population that is required to ensure accountability for the investment. Our aim was to share an accessible, possibly useful tool that could be used within the practicalities of the school day and the health service.

The present authors agree with the comment that BMI is an important tool in measuring the effectiveness of an intervention. However BMI only measures one aspect of an intervention's effectiveness, being degree of body fatness and energy balance. An intervention's effectiveness should be assessed in much broader terms, particularly for children where optimal growth, development and function can also be affected. The use of the timed 550 m run test is just that, another tool with which to evaluate the effectiveness and effect of an intervention, in this case a validated measure of cardiorespiratory fitness. However unlike BMI, which requires multiple measurements, large amounts of resourcing (time and people) and participant consent, the timed 550 m run is a single measure that can be done with large numbers of participants simultaneously and is all-inclusive, which eliminates participant bias that can occur with measurements that require consent.

It is correctly pointed out that there is mixed evidence as to whether fatness or fitness is more important in respect to cardiometabolic disorders in children<sup>(5–7)</sup>. We did not suggest that the timed 550 m run replace BMI, but that it could serve as a measurement tool to be used in conjunction with it and others to help continue to explore child health in this regard. Currently, Project Energize reaches 15% of the primary schools in New Zealand, so in the long term it is the national health surveys that will

demonstrate if Project Energize and other initiatives help optimise the growth and development of children and improve health.

Elaine Rush<sup>1</sup>, Stephanie McLennan<sup>2</sup>, Victor Obolonkin<sup>1</sup>,  
Rebecca Cooper<sup>1</sup> and Mike Hamlin<sup>3</sup>

<sup>1</sup>Centre for Child Health, Faculty of Health and  
Environmental Sciences  
Auckland University of Technology  
Private Bag 92006, Auckland 1142, New Zealand  
Email: elaine.rush@aut.ac.nz

<sup>2</sup>Sport Waikato  
Hamilton, New Zealand

<sup>3</sup>Department of Social Science, Parks, Recreation,  
Tourism and Sport  
Lincoln University  
Christchurch, New Zealand

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