

# An evaluation of nutrition and physical activity in Waikato primary schools

**Project Energize: June 2008 to June 2011**

## Executive Summary

### Report prepared for

Waikato District Health Board and the  
Ministry of Health, Healthy Eating Healthy Action Evaluation Fund

### Report prepared by



### Project partners



## Executive Summary

The Energize programme, initiated in 2005, is funded by the Waikato District Health Board for Waikato primary school children; of whom 34% are Māori, 64% live in rural locations and 36% are in low (1-3) decile schools.

The aim of Project Energize, a through-school initiative, is to improve nutrition and physical activity, childhood obesity rates and cardiovascular risk factors in all primary schools in the Waikato District Health Board area of New Zealand. The programme, contracted to Sport Waikato since 2005 now includes 44,000 children, 244 schools, 27 'Energizers' and 1 dietician. Energizers are assigned 8-12 schools each and act as a 'one stop shop' to support activities that promote and coordinate improved nutrition and physical activity within schools. In March/April 2011 a formal evaluation of Project Energize was undertaken. This and additional research projects were funded through the Healthy Eating Healthy Action strategy with additional support from Sport Waikato and the Auckland University of Technology.

The March/April 2011 evaluation of the children included measurements of height, weight, waist, body fat by bioimpedance, blood pressure and time to run 550m.

Household questionnaires concerning child health, eating habits, physical activity and household food were completed by caregivers/parents/whānau.

Each school undertook a 'stocktake' of physical activity and nutrition characteristics.

The challenge for this evaluation was to compare the 2011 measurements with 'controls' as the randomized control trial was completed in 2006 and there are no longer any control schools in the Waikato region. Therefore the comparisons, where possible, were with children from control schools in 2004 for the 10 year olds and controls schools in 2006 for the 7 year olds. No fitness test measurements were available from previous Energize evaluations so the decision was made to compare 550m run times with the data collected by Dr Mike Hamlin in other New Zealand schools.

The assumption was made that any difference between the 2011 measurements and the historical controls would be related to the Energize intervention. It is recognised that there could be a secular trend for the size and fitness of children to change in the desired direction without the Energize treatment; and ideally this would have been tested with measurements made at the same time in other parts of New Zealand.

The 2011 Energize physical measurements were compared with measurements of Waikato children in 2004 (124 schools) and 2006 (62 schools), national and other surveys.

Time to run 550m was compared with measurements between 2001 and 2007 of 664 children attending 7 primary schools (decile range 2 to 10) in Canterbury, New Zealand.

Unless stated otherwise items noted in this executive summary are statistically significant (at least a 95% likelihood of a true difference) and referenced in the main body of the report. Similarly internal and external controls are referenced in the main body of the report.

## Main findings

### ***Energize families/whānau participated in the evaluation***

- 5110 children aged 6 to 11 years from 192 schools were measured (45% of the 7 and 10 year old children invited)
- 36% of the children measured were Māori
- Household questionnaires were returned by 3030, 30% were Māori

### ***Energize children run faster than comparison groups of the same age***

- At all ages for all 2011 Energize children the **time to run 550m was 25seconds less (13% faster)** than that of the comparison group of children (mainly European) measured in other parts of New Zealand between 2001 and 2007
- Māori Energize children of all ages were **10% faster** than the comparison group of New Zealand children

### ***Energize children have smaller waist circumferences than Waikato children measured in 2004 and 2006***

Waist, a measure of unhealthy fat levels was on average

- **2.3cm less** in 2011 Energize children aged 6 to 8 years compared with children in the Waikato in 2006
- **4.5cm less** in 2011 Energize children aged 9 to 11 years compared with Waikato children in 2004
- For 2011 Māori children in both age groups there were similar reductions in waist circumferences compared with Māori children in the Waikato in 2004 and 2006

### ***A smaller proportion of Energize children were categorized as overweight or obese than comparison groups***

- **5% fewer** children aged 6 to 8 years were overweight or obese in 2011 compared with 2006. From 2006 to 2011 the prevalence of children of a 'healthy body size' increased from 76% to 81%
- **2% fewer** children aged 9 to 11 years were overweight or obese in 2011 compared with 2004. From 2004 to 2011 the prevalence of children not overweight or obese increased from 72% to 74%
- **For Māori 4% less** children aged 6 to 8 years were overweight or obese in 2011 compared with 2006
- **For Māori 3% less** children aged 9 to 11 years were overweight or obese in 2011 compared with 2004

### ***Energize is affordable***

- On the current budget Project Energize costs \$45 per annum per child – 22c per child per school day
- \$1 invested in 10 year old girls overall has long-term return of \$1.49, and for Māori 10 year old girls a return of \$1.73
- The cost per QALY for 10 year old girls overall was \$5700, and for Māori 10 year old girls is \$3800

### ***Energize children have good knowledge and attitudes about healthy eating and activity***

For the 6 to 8 year olds:

- 98% identified that water was healthy or very healthy and
- 93% identified that fizzy drink was very unhealthy or unhealthy

For the 9 to 11 year olds:

- 99% thought that eating healthy was somewhat or very important and
- 98% thought that being fit and active was somewhat or very important
- Without prompting **93% said that eating fruit and vegetables** was one of the things to do to eat more healthy and **66% said that drinking water was healthy**
- Common reasons for eating healthy and being fit and active included doing better at sports, having more energy, having a healthy weight and getting sick less often
- Specific to the Waikato region and 7 and 10 year old children, these findings complement and extend the findings of 2008/2009 Children and Young People's Physical Activity and Dietary Behaviours survey. In 2011 the attitudes and knowledge of the Waikato children was not different to those reported in the national survey.

### ***Energize children have healthy eating and drinking habits***

Parents and whānau report that:

- 67% children were **eating healthier** as a result of initiatives in their schools in the last two years
- Only 9% drink **fizzy drink** (non-diet) at least 2-4 times a week
- 85% drink **water** two or more times a day
- 31% drink **milk** two or more times a day

### ***Energize children are physically active***

Parents and whānau reported that:

- 76% of children had **improved fitness** as a result of initiatives in their schools in the last two years
- 72% **play organised or team sports** at least once a week, but 21% in low and 13% in high decile schools never play
- 66% **play active games** at least 5-6 times per week

## ***Schools make healthy changes to in-school nutrition and activity policy and practice because of the Energize programme***

Since becoming an Energize school:

- Professional development sessions were rated useful by 83% of schools
- 14% of schools have gained a National Heart Foundation award
- 60% said they use resources such as Developing Fundamental Movement Skills more frequently
- 78% said that the quality of daily fitness had improved
- 57% of schools said that they allocated more time for daily fitness

### **Conclusions**

Project Energize has been

- successfully implemented in the school environment
- and
- delivers measureable improvements in the health of Waikato children and
  - is cost effective.

The overwhelming majority of measures moved in a favourable direction for Project Energize children, including European, Māori and low decile. Positive changes were seen in children's body measurements and cardiovascular fitness. They have a good knowledge of and attitude to healthy eating and physical activity. Improvements in nutrition and activity are recognised by schools and whānau.

Gains were seen for all population groups; inequalities by decile and ethnicity are being reduced but still exist. Considering the wider obesogenic and economic environment, the continuation of the Energize 'be active, eat healthy, have fun' through-school programme will continue to be essential to create supportive environments for children and teachers, particularly for those in lower socio-economic areas.