National SCIENCE Challenges

A BETTER START

E Tipu e Rea

Translational modelling for healthy weight interventions

Dr. Cameron Grant, Associate Director
Growing Up in New Zealand
Head-Department of Paediatrics: Child & Youth Health
Professor, University of Auckland
Paediatrician, Starship Children's Hospital
cc.grant@auckland.ac.nz | www.growingup.co.nz

A Better Start is funded by the Ministry of Business, Innovation and Employment

Host Institution

National SCIENCE Challenges

The life course epidemiology of childhood obesity is insufficiently understood to plan effective interventions

A BETTER START

ETIpueRea

Poo

- F
- A
- C
- T
- T

on and

ersus

ting

achieve

Aim

To accelerate the discovery of effective obesity treatment and prevention approaches for New Zealand children

National SCIENCE Challenges | A BETTER START | E Tipu e Rea

The project will utilise two child cohorts: Growing Up in Australia and Growing Up in New Zealand

Longitudinal Study of Australian Children (LSAC)

- In 2004 recruited around 5000 0-1 year olds
- Nationally representative
- Retention >75% age 10-11 years
- Biennial waves generate precise trajectories & inflection points
- Detail regarding social disadvantage, adversity/stress, lifestyle factors and time use

Growing Up in New Zealand (GUiNZ)

- 6853 children, born in 2009-10
- Generalizable to all births in NZ from 2007-2010
- Retention of 90% at age 4.5 years
- Antenatal, 9 month, 2 year, 4.5 year face-to-face interviews
- Broad research framework with constructs developed in 6 domains
  - health and wellbeing, psychosocial and cognitive development, education, family and whanau, culture and identity and the societal context

Wake M, et al. How well are Australian infants and children aged 4 to 5 years doing? *Social Policy Research Paper No. 36*, Department of Families, Housing, Community Services and Indigenous Affairs. ISSN 1833-4369; ISBN 978-1-921380-06-8. Commonwealth of Australia, Oct 2008.
Morton SM, Atatoa Carr PE, Grant CC, et al. Cohort profile: Growing Up in New Zealand. *Int J Epidemiol* 2013;42(1):65-75

Specific objectives

Model longitudinal relationships of exposures in 0-8 year olds to obesity and related outcomes at 11-12 years in the LSAC

Summarise the published efficacy of interventions to change obesity exposures in 0-8 year olds.

Model the realistic obesity-related benefit that could be achieved from the best interventions at the population level within LSAC

Estimate the likely benefits for New Zealand children by age 12 years, given their unique constellation of risk/protective exposure ranges and demographic circumstances.

Develop a suite of possible high-gain interventions that could then be tested with NZ children; and (b) consult with communities (focusing on Māori, Pacific Island and disadvantage) to generate a set of prioritised recommendations for new obesity trials


Action!

Summary

Translational modelling for healthy weight interventions

A 2-year programme of applied research using unique existing datasets to generate potential solutions that can then be tested

Our team in

Melbourne
Melissa Wake
Susan Clifford
Fiona Mensah
John Carlin
Aleksandar Dakic
Dot Dumuid
Adelaide
Tim Olds

Auckland
Cameron Grant
Deborah Schlichting
Carol Chelimo
Ladan Hashemi
Arezoo Malihi
Richard Portch
Jacinta Fa'alili-Fidow
Whakatane
Te Kani Kingi