

A BETTER
START

E Tīpue Rea

A Big Data approach to A Better Start

Barry Milne

He waka eke noa Better Together:
Research excellence for healthy tamariki

National research conference hosted by A Better
Start National Science Challenge

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Host Institution



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Our Team

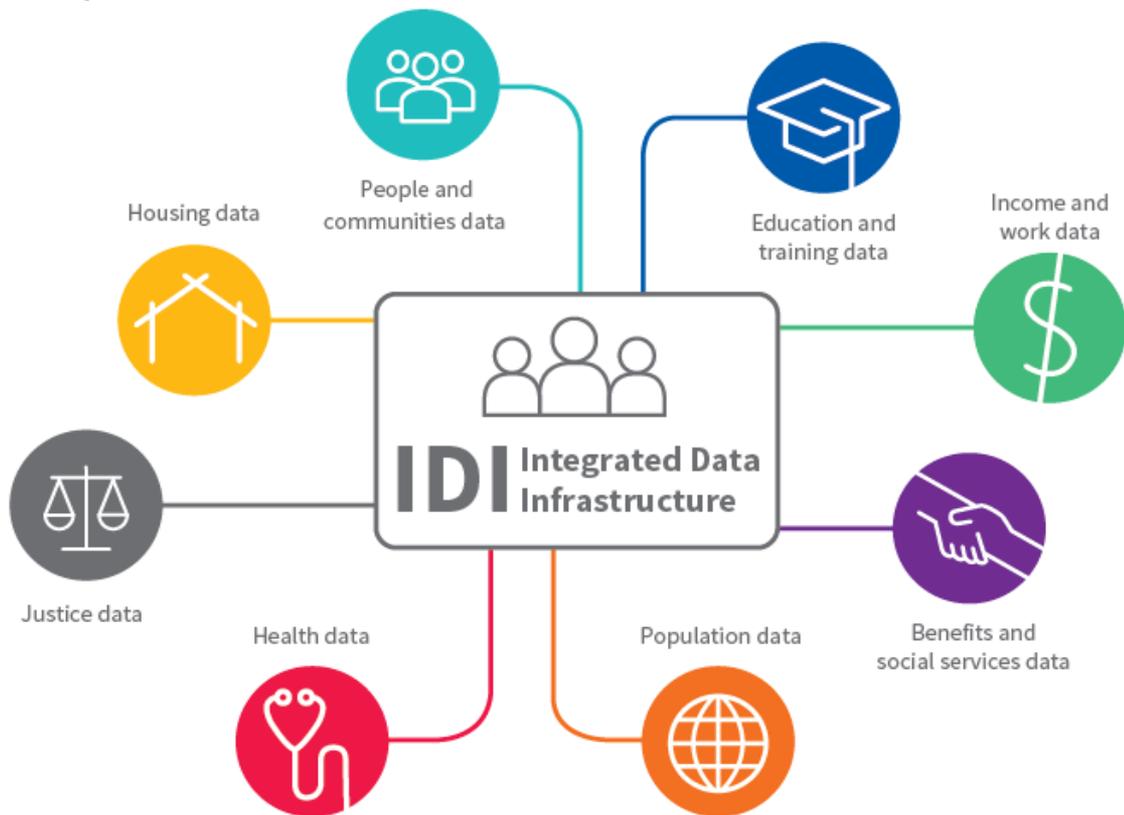
- Barry Taylor – Principal Investigator (DSM)
- Rick Audas – Theme co-lead (DSM)
- Justine Camp, Rose Richards, Jesse Kokaua, Nick Bowden (DSM)
- Barry Milne – Theme co-lead (COMPASS)
- Nichola Shackleton, Sheree Gibb, Jessica McLay, Stephanie D'Souza, Jinfeng Zhao (COMPASS)

What is our approach

- For **Healthy Weight and Successful Literacy and Learning**
 - The focus is trying to measure the population and support interventions seeking to reduce prevalence.
- For **Resilient teens**
 - The focus is on achieving better outcomes following diagnosis (although we intend to do this with obesity and literacy as well).
- We largely use the Integrated Data Infrastructure (IDI) - particularly the Before School Check (B4SC).

Our approach: IDI

- IDI data linked at the person level
- Health weight
 - B4SchoolCheck
- Resilient teens
 - B4SchoolCheck
 - Pharms, PRIMHD
- Successful Literacy and Learning
 - B4SchoolCheck
 - MoE ‘Reading Recovery’



Before School Check

- Universal health and developmental screen administered to four year-olds.
- The only systematic capture of obesity; also a number of other health and behavioural measures that are possible antecedents of future outcomes.
- We build collaborative teams comprising members of our team working with content experts from the various themes.
- Approach is to identify a research question, form a team and move quickly to determine data and methods to be used.
 - RQs directly from those working on the themes
 - RQs that occur to us

Research questions

	Big Data led	Theme led
Health weight	Trends in obesity (lead: Shackleton)	Antibiotics and obesity (lead: Leong)
Resilient teens	Profiling mental health conditions in youth (lead: Bowden)	An algorithm to identify mental health conditions in youth (lead: Hetrick)
Successful Literacy and Learning	Predicting literacy interventions (lead: Kokaua)	Predicting literacy interventions (lead: Schluter)
Cross theme	Obesity and later ADHD (lead: D'Souza) Participation in B4SC (lead: Gibb)	

Data issues

- B4SC coverage incomplete
 - 10-15% missing, depending on assessment
 - Greater among Māori, Pacific, high dep
- No later screen (for any theme)
- No primary health care data
- Lack of ‘soft’ measures
 - E.g., questionnaire assessment of health, mental health, education
 - Some in B4SC (SDQ), but these have quality issues