



Rural Health and Research Congress #RHRC2019

Transitional Lunchboxes

A cross sectional study of energy dense nutrient poor food items
in the lunchboxes of kindergarten and year six students in
Northern NSW

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Introduction

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- Study Rationale
- Research Proposal
- Study Design
- Methods
- Results
- Limitations
- Acknowledgements
- Questions




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The HEAL Team

munch & move

5 ways to a healthy lifestyle

Be Well at School

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Raise your hand if...

- You are a parent/caregiver
- You currently pack or have previously packed school lunchboxes
- You find/found packing lunchboxes a challenge at times

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Background

- *1 in 4 Australian children are overweight or obese¹ and 23% of children and 53% of adults are overweight or obese in the Northern NSW LHD.²*
- *A high intake of discretionary foods is a causal factor in the development of overweight & compromise in nutritional status³ however just over one third of Australian children's total energy intake is from discretionary foods.⁴*
- *Provision of greater quantity and variety of snack items results in considerably higher energy consumption by children.⁵*
- *86% of Australian bring a packed lunch to school⁶ and around one third of student total daily energy intake is consumed at school.⁶*



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Background

- *Nutrition is often compromised for convenience and child preference in purchasing pre-packaged individually wrapped foods.⁷*
- *Economical factors are also influential in parental selection of lunchbox items.⁷*
- *Child and peer pressure starts to exert more influence on decisions around lunchbox item selections, particularly around beginning primary school.⁸*
- *Parental peer pressure around being a 'good parent'.⁹*
- *Increasingly busy parental lifestyles and seeking to satisfy children's emotional needs through reward or 'treat' foods at school.⁸*



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Rationale

- *No studies have yet explored the relationship between the presence of discretionary foods in school lunchboxes and student progression through primary school in Northern NSW.*
- *This study will allow for:*
 - *A better understanding on the rate at which discretionary foods are being packed in primary school student lunchboxes in Northern NSW and whether a relationship exists between this and student progression through primary school.*
 - *Further informed and targeted support provided to parents around packing healthy lunchboxes for their children throughout all stages of primary school.*



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Research Proposal

- **Aim:**
 - *To identify whether year six students consume more discretionary food items than kindergarten students at school in Northern NSW.*



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Hypothesis

The null hypothesis will be that there is no difference between the number of discretionary food items packed in the lunchboxes of kindergarten and year six students in Northern NSW primary schools, when adjusted for estimated energy requirement.

- **Hypothesis 1.1**

There will be no difference between the proportion of Kindergarten and year 6 students who have no discretionary food items packed in their lunchboxes

- **Hypothesis 1.2**

There will be no difference between the proportion of Kindergarten and year six students who have two or more discretionary food items packed in their lunchboxes than



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Study Design

- *A cross-sectional quantitative design was used in conducting this study. A lunchbox survey was conducted in twelve schools to collect data on the number of discretionary food items in kindergarten and year six lunchboxes.*

- **Study Setting:** *Northern NSW primary schools*

- **Study Duration:** *June 2019 – September 2019*

- **NCNSW HREC No:** *LNR211 – LNR/19/NCC/1 & State Education Research Application Process (SERAP) approval DOC 19/311095*



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Sample

- *Random stratified sample representative of:*
 - *School size*
 - *Socioeconomic status (ICSEA Value)*

	Small School	Medium School	Large school
Low SES (ICSEA ≤ 1000)	School 1 School 2	School 5 School 6	School 9 School 10
High SES (ICSEA ≥ 1000)	School 3 School 4	School 7 School 8	School 11 School 12



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Methodology

- *Data Collection*
Lunchbox survey & photo image record
 - *Conducted in the school setting on a day not known to students or parent/caregivers*
 - *If possible, not on a day that canteen or 'nude food' / 'package free' food day takes place*
 - *Prior to first food break*
 - *Difficult to photograph lunchboxes and items taken into consideration*

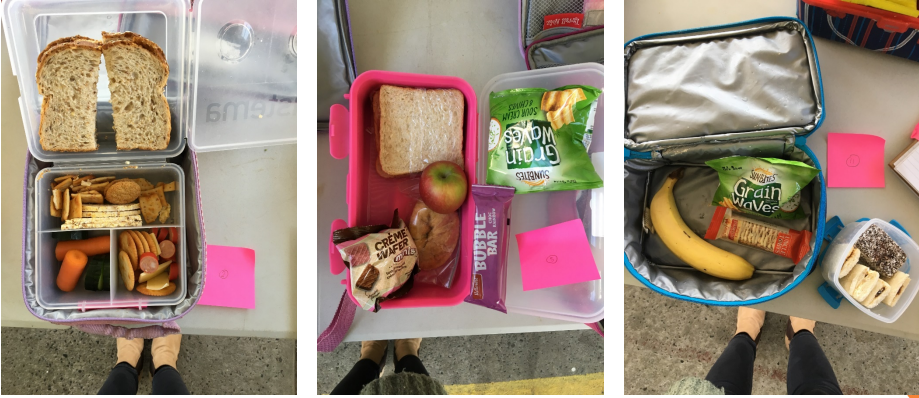




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Methodology





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Methodology

- *Data Entry*
 - *NSW Healthy School Canteen Guidelines*
 - *Food Categorisation Record*

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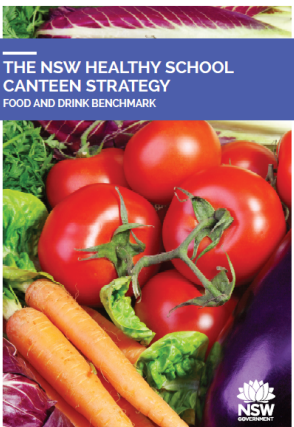




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Methodology



THE NSW HEALTHY SCHOOL CANTEN STRATEGY
FOOD AND DRINK BENCHMARK

The Australian Dietary Guidelines

The Australian Dietary Guidelines form the basis of the Food and Drink Benchmark for healthy school canteens. The Australian Dietary Guidelines provide the following advice:

- To achieve and maintain a healthy weight, be physically active and choose amounts of nutritious foods and drinks to meet your energy needs.
- Enjoy a wide variety of nutritious foods from the five food groups every day and drink plenty of water.
- Limit intake of foods containing saturated fat, added salt and added sugars.




The Australian Guide to Healthy Eating

The Australian Guide to Healthy Eating illustrates the Australian Dietary Guidelines by using a pictorial guide, shown below, to show the food groups and the proportions of each needed for a healthy, balanced diet. The foods on the plate include the guide are:

- Everyday foods: whole grains down on the bottom-right
- Occasional foods: which should only be consumed sometimes and in small amounts.

A healthy school canteen will provide mostly everyday food and drink choices. Occasional foods will be limited and sugary drinks should not be sold in school canteens and vending machines at any time.

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Methodology

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Food Categorisation Record

School (circle):	1	2	3	4	5	6
	7	8	9	10	11	12

Participant grade (circle): Kindergarten Year 6

Photo Image Record Number:

Description:

	EDNP Food Items	Other food Items	Total Food Items
Number			



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Analysis

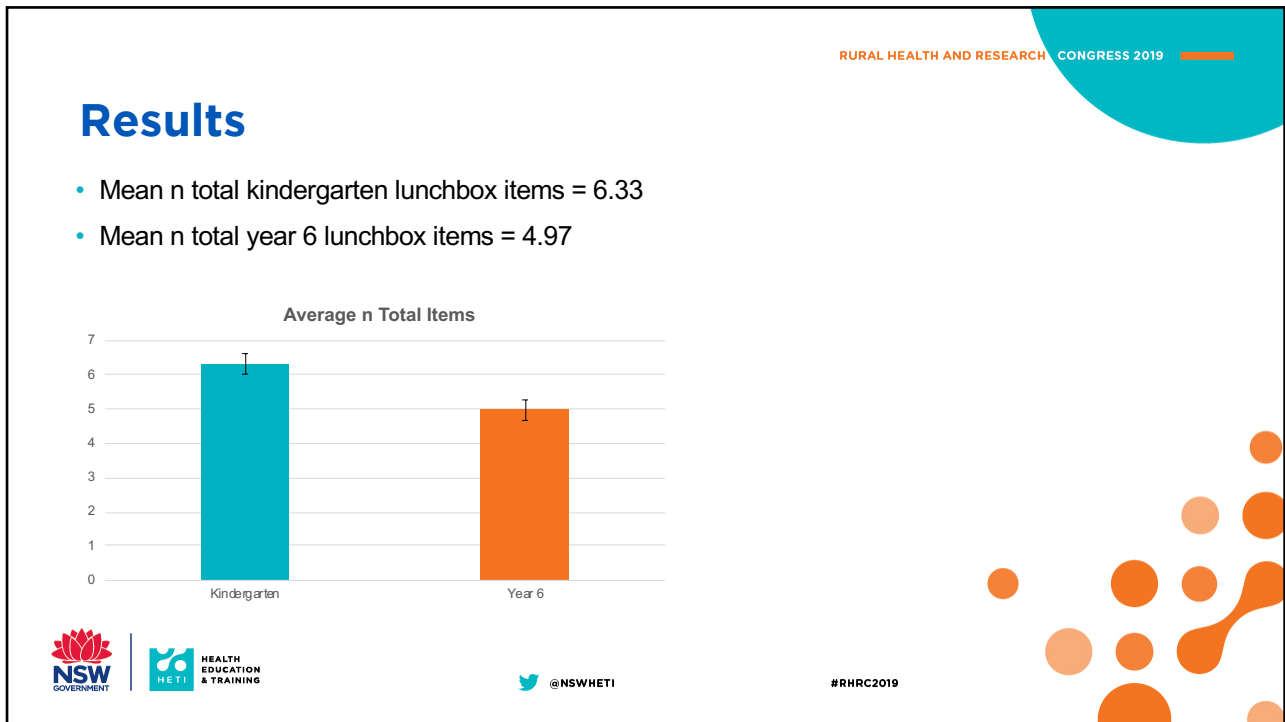
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- *Microsoft Excel*
 - *Mean number of items*
 - *95% confidence intervals around the means*
- *SAS and MIWin*
 - *Multi-level regression models (students within schools) re other predictors:*
 - » *School size*
 - » *SES*

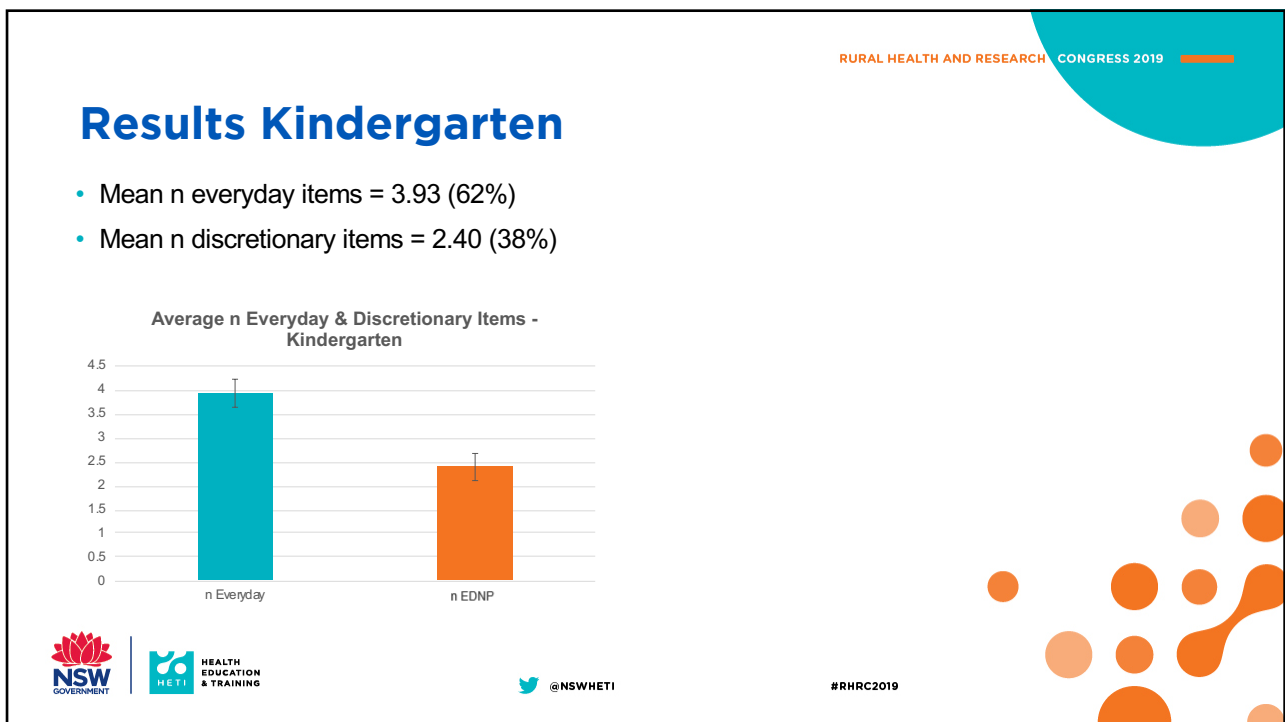


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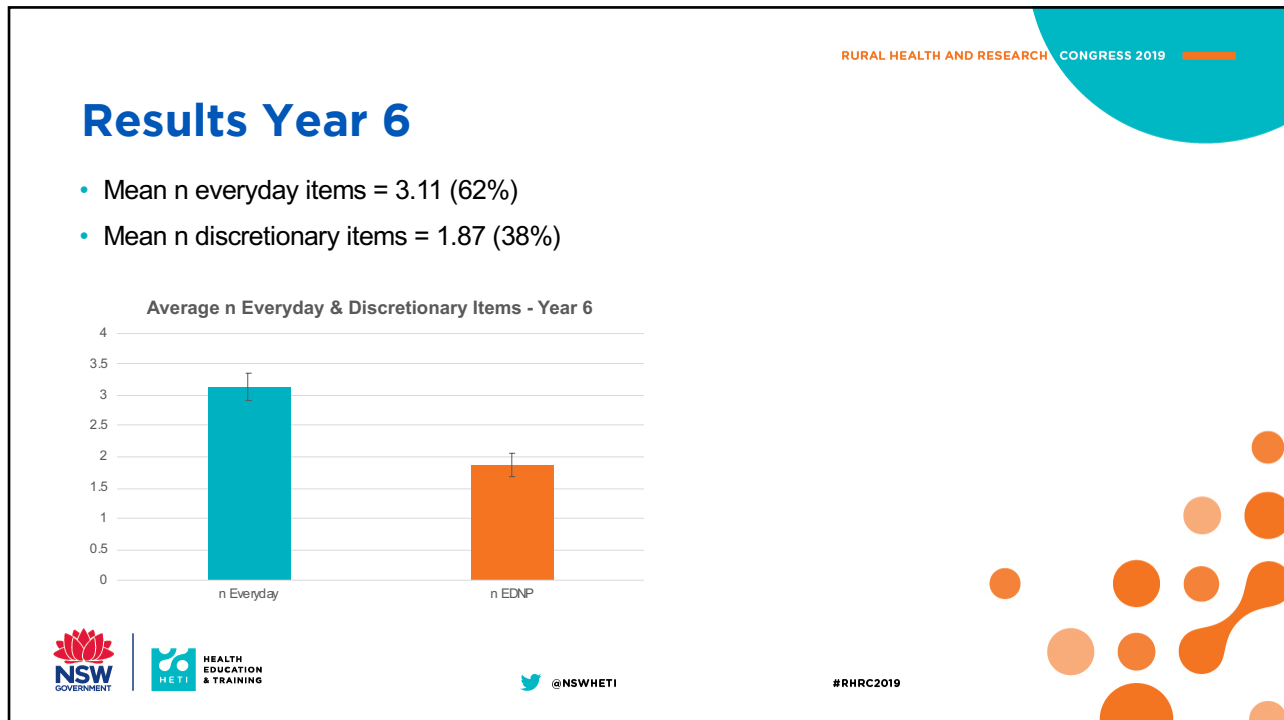
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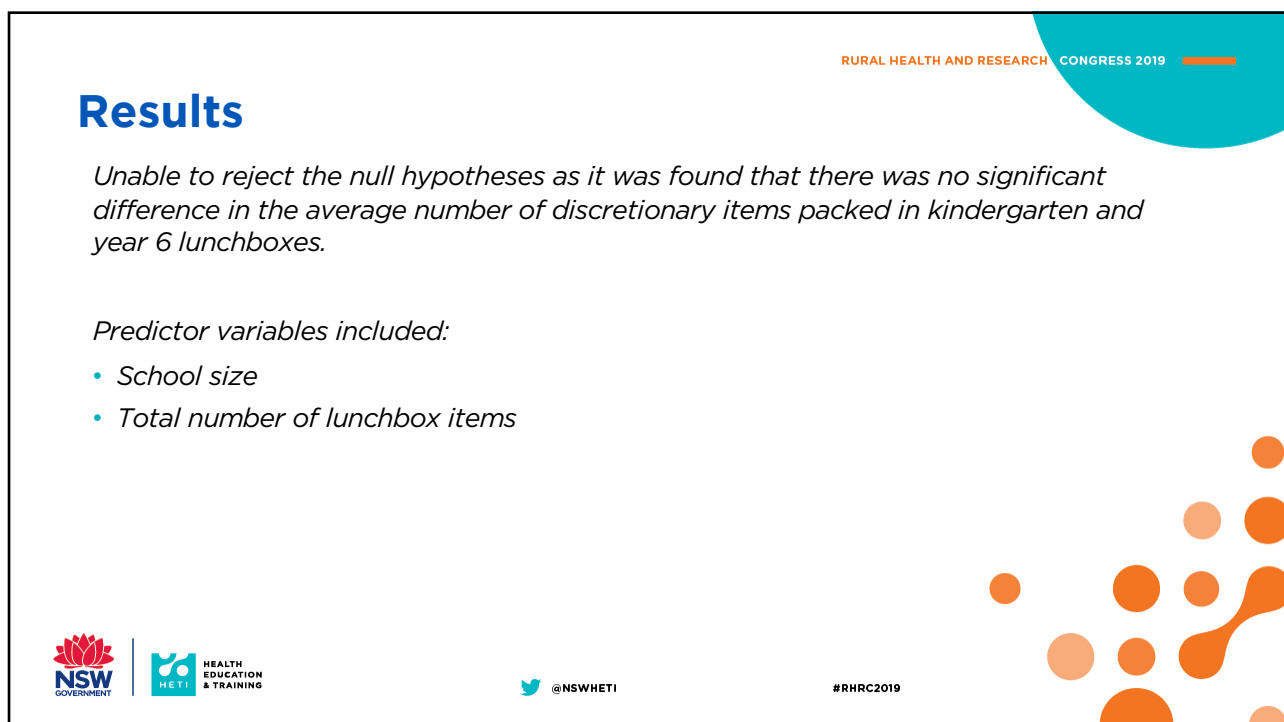
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So what?

- *Further adding to the evidence base around the presence of discretionary foods in lunchboxes*
- *Further informing future qualitative research around the barriers and enablers to parents packing healthy lunchboxes*
- *Reassessing information and support distributed to parent/caregivers around quantity of lunchbox items as part of Live Life Well @ School, e.g. kindergarten orientation information*



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Limitations

- *Methodology*
- *Cross sectional design*
- *Response rate, sample size and potential bias with opt in nature*




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Acknowledgments

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References

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