

Diet, activity and weight status of SA primary school children participating in the OPAL program evaluation



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inspiring achievement

Baseline outcomes

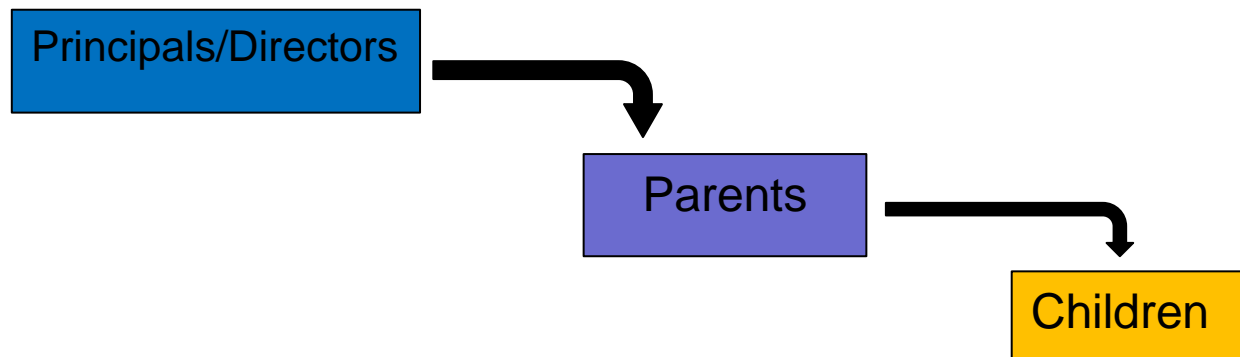
The OPAL program

- Childhood overweight = public health concern
 - 1 in 5 Australian children overweight or obese
- OPAL intervention program
 - Multi-site, multi-setting, multi-strategy
 - Community-based & tailored
 - Community-government partnerships
 - Local, State, Commonwealth

Aim: to increase prevalence of children 0-18 years in healthy weight range

The OPAL Evaluation

- Quasi-experimental repeat cross-section - ‘snapshots’
- Key settings:
 1. Early childhood settings - preschools & long day care
 2. School settings - primary, high, primary/secondary
 3. Community settings – councils, community stakeholders
- 20 SA communities
 - Comparison communities matched for household education, SEIFA (Socio-economic Indexes for Areas) or IRSD (Index of Relative Socio-economic disadvantage)
- Directors, principals, parents, students



Recruitment & data collection

- **Baseline (2011-2013):**

- Phases 1-4
- Early childhood settings
- Primary and high school - Principal, parent & student surveys
 - 9-11yrs
 - 14-16yrs

- **Final (2013-2015):**

[Budget cuts, evaluation scaled back]

- Loss of
 - early childhood settings
 - primary school principal and OSCH surveys
 - high school settings
 - community stakeholder surveys and mayor focus groups
- Phase 1 & 2 only
- Parent & student surveys 9-11y only
- Supplemental CaFHS 4-5y growth data

Table 2: Dates of planned versus actual OPAL Evaluation data collection

	2009	2010	2011	2012	2013	2014	2015	2016	2017
Planned	Baseline evaluation Phase 1: 6 ICs, 24 CCs				Final evaluation Phase 1: 6 ICs, 6 CCs				
		Baseline evaluation Phase 2: 4 ICs, 12 CCs				Final evaluation Phase 2: 4 ICs, 4 CCs			
			Baseline evaluation Phase 3: 5 ICs, 10 CCs				Final evaluation Phase 3: 5 ICs, 5 CCs		
				Baseline evaluation Phase 4: 5 ICs, 5 CCs				Final evaluation Phase 4: 5 ICs, 5 CCs	
Actual			Baseline evaluation Phase 1: 6 ICs, 12 CCs		Final evaluation Phase 1: 6 ICs, 6 CCs				
			Baseline evaluation Phase 2: 4 ICs, 8 CCs			Final evaluation Phase 2: 2 ICs, 4 CCs			
			Baseline evaluation Phase 3: 5 ICs, 2 CCs				Final evaluation Phase 3: No evaluation		
				Baseline evaluation Phase 4: 5 ICs				Final evaluation Phase 4: No evaluation	

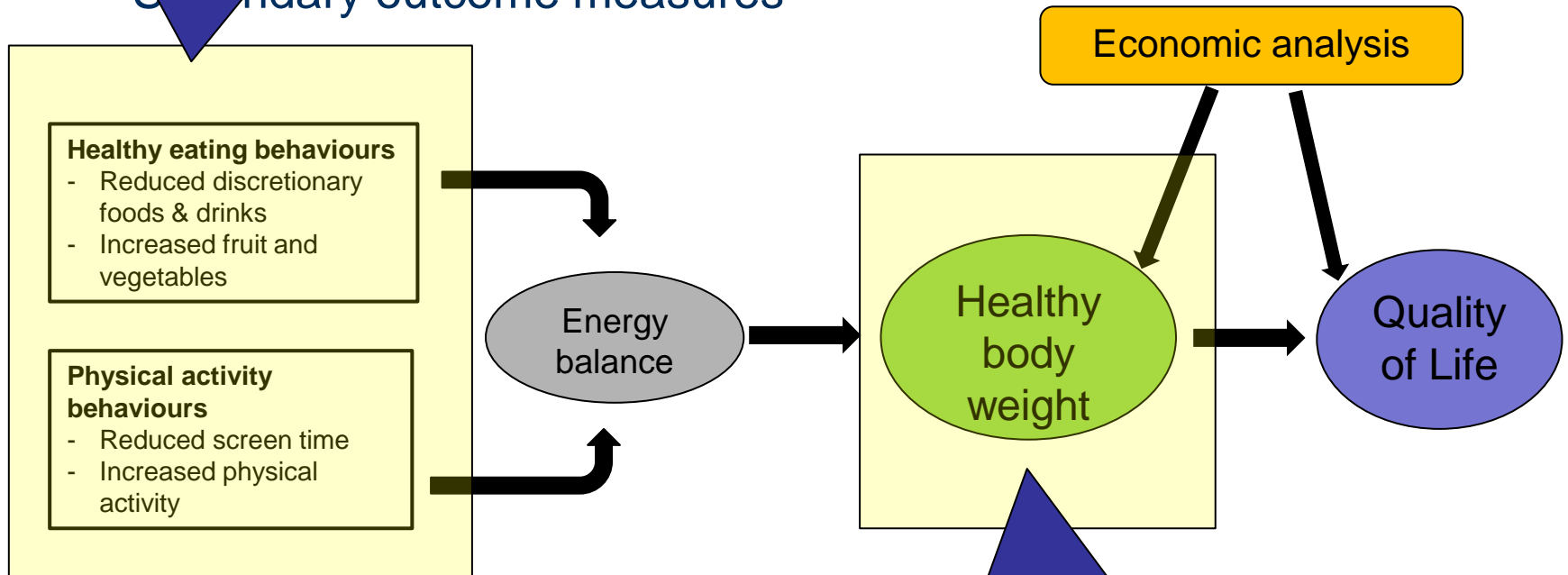
Evaluation outcomes

- Primary outcome measure:

percentage change in children in the healthy weight range (implementation in the OPAL sites compared to comparison sites)

Self-report questionnaires

- Secondary outcome measures

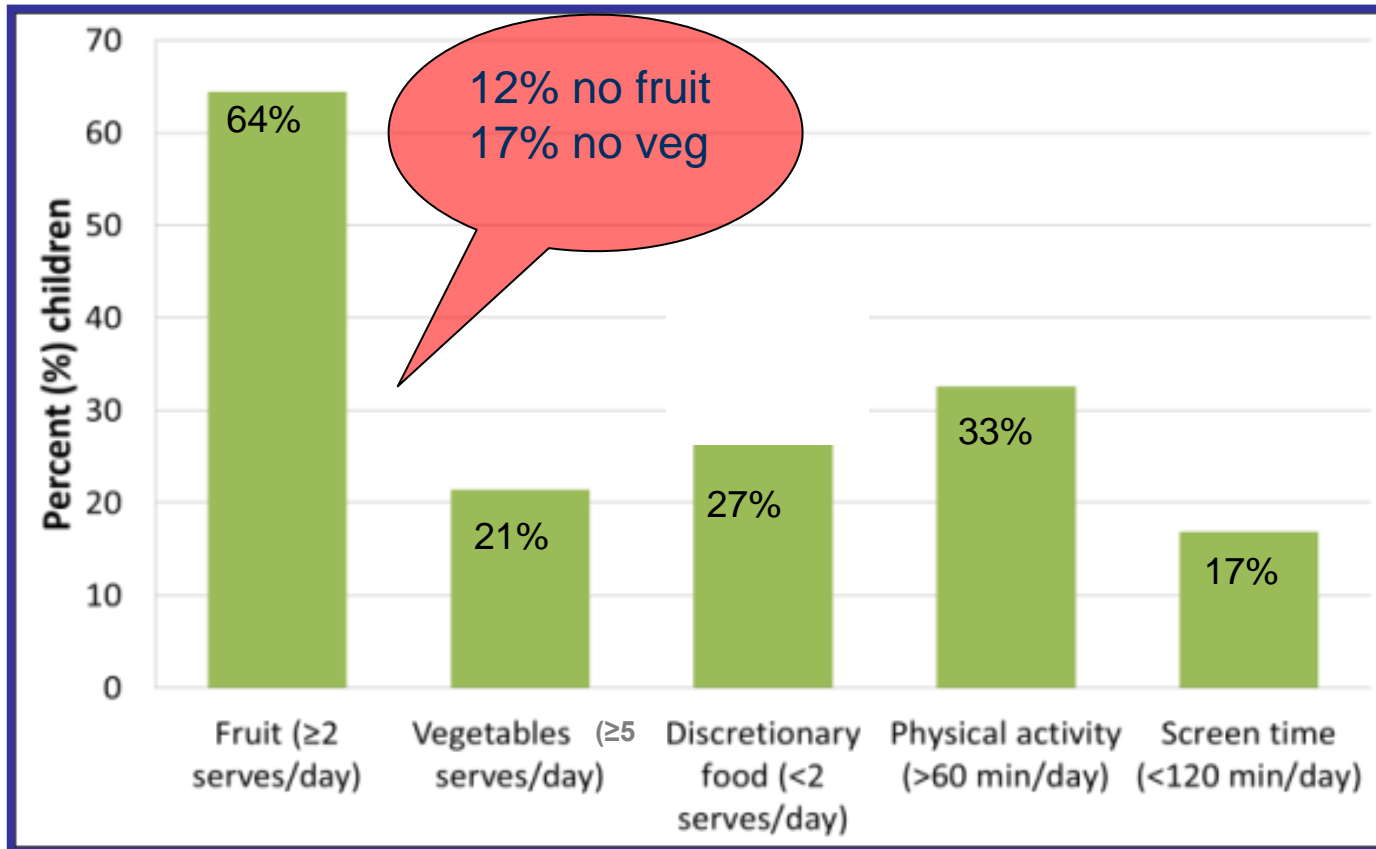


Weight & height measurements

Lifestyle Behaviours

	Self-report questions	Meets recommendations	Guidelines
Diet	no. serves - Fruit - Vegetables - discretionary food Ate the previous day	≥ 2 serves fruit ≥ 5 serves vegetables ≤ 2 serves of discretionary foods	2013 ADG's 4-18yrs
Activity	no. days (0-7) in past 7 days active ≥ 60 minutes	If active ≥ 1 hour on all 7 days	2014 Aus Phys Act and Sedentary Behaviour guidelines 5-12yrs
Sedentary behaviour	no. days in past 7 days ≥ 120 minutes of screen time (TV, videogames or computer use) outside of school hours	< 2 hours screen time on all 7 days	2014 Aus Phys Act and Sedentary Behaviour guidelines 5-12yrs

Adherence to guidelines



- N=4637
- Mean age 10.6±0.9y
- 51% boys
- Two-thirds (66%) lived in urban areas
- 15% were overweight and 5% obese

Variations in adherence to guidelines

	Vegetables	Fruit	Discretionary foods	Physical Activity	Sedentary behaviour
Sex (girls vs boys)	15% <u>less</u> likely (OR=0.85; 95% CI: 0.74-0.99; P=0.03)	19% <u>more</u> likely (OR=1.19; 95% CI: 1.05-1.35; P<0.01)	-	26% <u>less</u> likely (OR=0.74; 95% CI: 0.65-0.84; P<0.001)	34% <u>more</u> likely (OR=1.34; 95% CI: 1.14-1.57; P<0.01)
Age (≥11yrs vs ≤9yrs)	22% <u>more</u> likely (OR 1.22; 95% CI: 1.01-1.47; P=0.04)	-	-	-	36% <u>less</u> likely (OR 0.64; 95% CI: 0.52-0.78; P<0.001)
Locality (rural vs urban)	-	-	-	45% <u>more</u> likely (OR=1.45; 95% CI: 1.21-1.74; P<0.001)	37% <u>more</u> likely (OR=1.37; 95% CI: 1.14-1.66; P<0.01)
SES (Q5 v Q1)	-	78% <u>more</u> likely OR 1.78; 95%CI 1.40-2.26; p<0.001	-	32% <u>more</u> likely OR 1.32; 95%CI 1.00-1.74; p=0.047	35% <u>more</u> likely OR 1.35; 95%CI 1.02 – 1.78; p=0.04

Met no recs =
14.5%
(n=671/4637)

Adherence scores

Met all 5 recs
= 0.7%
(n=31/4637)

Characteristic	Diet score (0-3)			Physical activity and sedentary score (0-2)			Overall score (0-5)		
	IRR	95% CI	P value	IRR	95% CI	P value	IRR	95% CI	P value
Sex									
Boys	Reference	-	-	Reference	-	-	Reference	-	-
Girls	1.01	0.96-1.07	0.64	0.94	0.87-1.02	0.15	0.99	0.95-1.04	0.77
Age, years									
≤9	Reference	-	-	Reference	-	-	Reference	-	-
10	0.88	0.83-0.95	<0.01	0.84	0.76-0.93	<0.01	0.87	0.82-0.92	<0.001
≥11	0.75	0.70-0.80	<0.001	0.65	0.59-0.73	<0.001	0.72	0.68-0.76	<0.001
Locality									
Urban	Reference	-	-	Reference	-	-	Reference	-	-
Rural	0.99	0.94-1.05	0.67	1.25	1.14-1.38	<0.001	1.06	1.00-1.12	0.03
SES^d									
Q1	Reference	-	-	Reference	-	-	Reference	-	-
Q2	1.07	0.98-1.17	0.16	1.04	0.91-1.20	0.54	1.06	0.97-1.15	0.19
Q3	1.12	1.03-1.22	<0.01	1.11	0.97-1.27	0.13	1.12	1.03-1.21	<0.01
Q4	1.22	1.11-1.31	<0.001	1.23	1.06-1.41	<0.01	1.22	1.12-1.33	<0.001
Q5	1.18	1.08-1.28	<0.001	1.24	1.08-1.42	<0.01	1.19	1.10-1.30	<0.001

Summary

Adherence to recommendations

- More met the fruit (64%) than vegetable (21%) recs
- Many consumed no veg (17%) or fruit (12%)
- Over half (56%) consumed more than the recommended amount of discretionary food
- Few participated in <120 minutes screen time (17%) or ≥60 mins physical activity (33%), each day for 7 days

Areas for future intervention

- Gender: predictor of all behaviours (ex discretionary intake), not scores
- Age: positively correlated with veg intake, negatively overall diet score, negatively with ST
- Locality: better PA and ST behaviours in rural areas
- SES: differences found for most behaviours
 - interventions tailored to children from greatest disadvantage are warranted

Conclusion & Future Directions

There is considerable scope for improving Australian primary school children's health-related behaviours to be in line with national dietary and physical activity guidelines, particularly in urban children and those at greatest disadvantage

- Improving behaviours begins with monitoring
- Currently have no way of knowing children's growth patterns (or behaviours)
- Options for routine monitoring 9-11 years growth
 - ~ monitoring 4-5 years growth CaFHS

Evaluation partners

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 - Naomi Downer
 - Field team members
- University of SA
 - Tim Olds
 - Mark Daniel
 - Margaret Cargot

.. and the OPAL communities

Lucinda Bell, Shahid Ullah, Timothy Olds, Anthea Magarey, Michelle Jones, Michelle Miller, Lynne Cobiac, Evie Leslie, 'Prevalence and socio-economic distribution of eating, physical activity and sedentary behaviours among Australian children in urban and rural communities: An OPAL baseline evaluation', *Health Promotion Journal of Australia* (under review)