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Local Health District



Design and evaluation of an audit and feedback implementation intervention for healthy food policy in school canteens

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Background



- Childhood obesity presents immediate and long term health risks
- Key driver of unhealthy weight gain in children is poor diet
- Creating environments supportive of healthy eating and the development of health eating behaviours



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Background



Background



Contents lists available at [ScienceDirect](#)

Preventive Medicine

journal homepage: www.elsevier.com/locate/ypmed



Review

Do school based food and nutrition policies improve diet and reduce obesity?

Patricia Constante Jaime ^{a,*}, Karen Lock ^b

- Between 2 -11% ↓ total fat intake
- 0.3 and 0.4 serves ↑ fruit and vegetables/per day
- Regulatory policy to restrict unhealthy foods ↓ sale of foods 2 years after implementation



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Background – NSW policy context



New South Wales, Fresh Tastes @ School Healthy Canteen Strategy

- Introduced 2005
- Restrict sale of unhealthy (red)
- Healthy foods (green) should dominate menu



Background



- NSW (n=185) - 90% not compliant with FT@S
- Victoria (n =100) - 40% not compliant
- New Zealand (n=200) - 16% of schools have policy; 96% unhealthy, 20% did not sell healthy options
- US (n=397) - 92% provided foods that did not meet policy standard
- Brazil (n=345) - 93% not compliant with legislated policy



Background



Rabin et al 2010

- No study of implementation for healthy canteen policy
- Other models in schools??
- HNEPH: Intensive canteen support (face-to-face)



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Background



- Services approx. 850,000 people across 130,000 square kilometres
- 25 local council areas, 27 hospitals; 70+ community health facilities, 500+ schools, 300+ childcare services



Background



Barriers to implementation in canteens

- Difficulties understanding recommendations
- Classifying foods in accordance to nutrient guidelines
- Provisioning healthy foods
- Constantly changing nutritional content of commercial foods
- Transient staff/volunteers
- Complex social environment
- Local context = many small/remote schools
 - Canteen opening hours, limited volunteers/support, access to fresh foods, distance from routine services



Aim: Improve implementation of FT@S in primary schools particularly in rural/remote regions

- I. reduced % of schools listing 'red' or 'banned' foods and beverages on menu
- II. increased % of schools with more than 50% of items on their menu classified as 'green' items

Intervention considerations



- Accessible support =? non-mediated delivery
- Address canteen specific barriers
 - Accurately classify foods
 - Ongoing support (dynamic environment)
 - Assist provisioning
 - Tailored support
- Flexible and allow for local consideration/issue
- Relatively low cost



Evaluation considerations



Audit and feedback (performance feedback)

- Used in various settings *but no RCTs in schools*
- Desired practice behaviour improved by up to 17% on baseline behaviour (Ivers, 2012)
- Effect ↑ when
 - baseline compliance low
 - verbal and written feedback
 - includes explicit targets and action plans
 - delivered more than once
 - delivered by reputable source



Intervention design



Multi-component, multi-time point menu audit and feedback

- Initial school contact to engage principal and canteen manager (face-to-face visit if feasible)
- Menu audited by trained dietitians
 - using recommended traffic light coding (red, amber, green)
- Dietitians compile written feedback report
- School Support Officer known to school sends/emails written report and provides verbal feedback + action plan/explicit targets
- Follow up support call, provision of resources
- 2 to 4 rounds (~1 per term)



Evaluation - framework



Method: RCT n = 36 v 36

Eligibility:

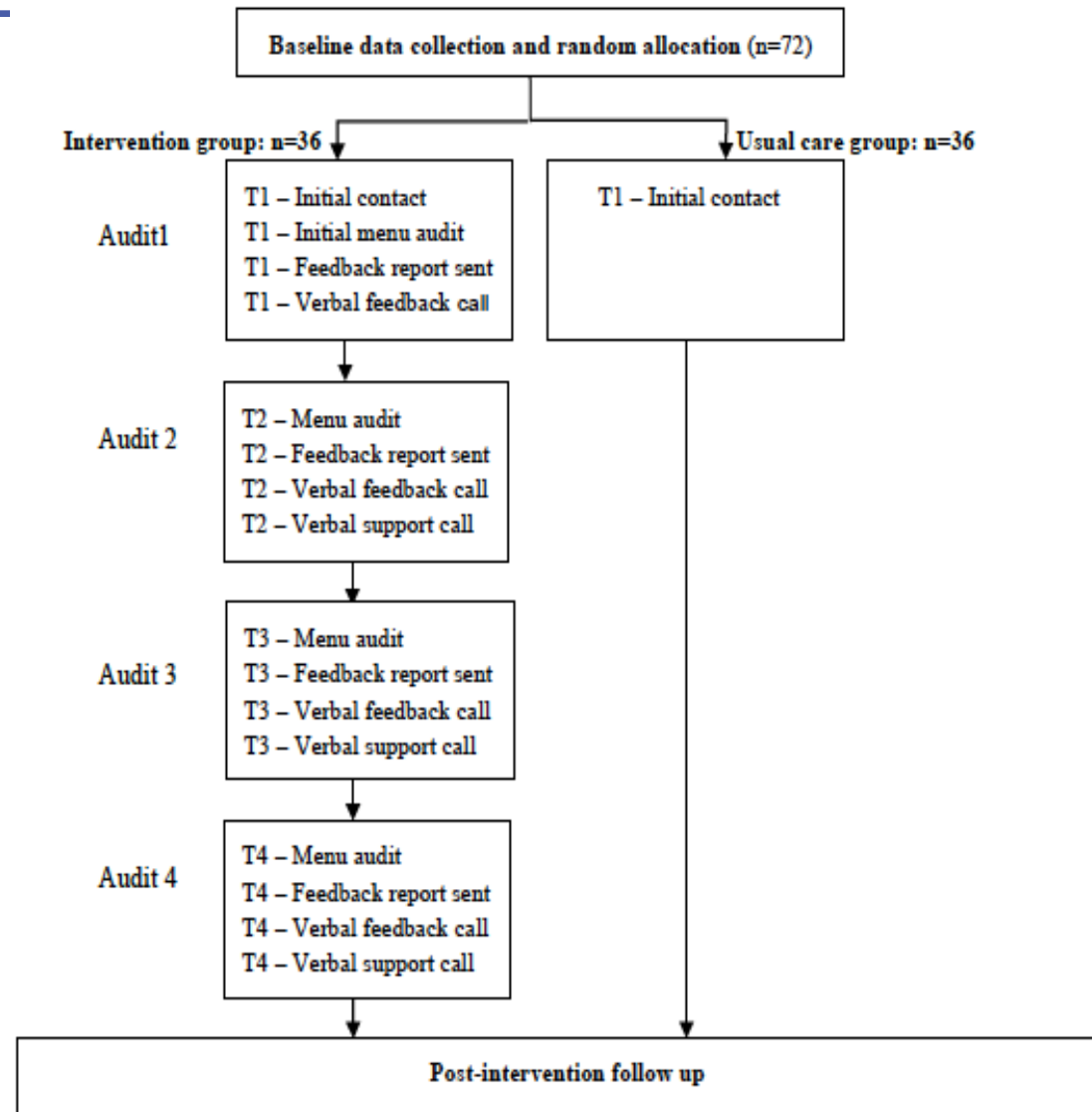
Red or not 50% green

Open ≥ 1 day per week

Allocation:

Random number

(inception cohort, concealed)



Evaluation - outcomes



- Primary outcomes:
 - % of schools with 'red' or 'banned' items
 - % of schools with >50% of products = green
- Secondary outcomes:
 - Menu composition (% 'red', 'amber' and 'green' foods)
 - Canteen profitability
 - Cost-effectiveness
- Process measures:
 - Intervention dose - number, timing and content of successful and unsuccessful process attempts



Interim results



Characteristics of included schools

Characteristic	Control (n=37)	Intervention (n=37)
Number of students	104 (IQR53, 193)	175(IQR59, 336)
Government schools	81% (30)	78% (29)
Paid manager	38% (14)	49% (18)
No. volunteers	2 (SD1.5)	2 (SD0.7)
Profit in preceding year	54% (20)	64% (24)
Aware of policy	67% (25)	70% (26)
Confident can change menu	70% (26)	64% (24)
Principal values FT@S	51% (19)	57% (21)
% red	5	9.5
% green	34.5	35.5



Interim results



Intervention delivery (~ 9 months)

Stage/term	Written feedback	Verbal feedback	Support call
Round 1	36/37	26/37	13/27
Round 2	11/15	8/15	7/15
Round 3	15/37*	15/37*	10/37*
Round 4	*	*	*

* Ongoing



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Interim results



Interim results

Outcome	Red compliant	Median % red	Green compliant	Median % green	Fully compliant
Baseline	1/37 (3%)	9.5	6/37 (16%)	35.5	0/37 (0%)
~ 9 months	8/37 (21%)	0	13/37 (35%)	55	8/37 (21%)



Discussion



While the results look promising - the control school canteen managers could be superstars - our ability to deliver an intensive intervention remotely is challenging.

Key barriers:

- Access
- Time to change



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