Effects of interpretive front-of-pack nutrition labels on food purchases:

Starlight randomised controlled trial

E Volkova¹, B Neal², M Rayner³, B Swinburn⁴, H Eyles¹, Y Jiang¹, J Michie¹, C Ni Mhurchu¹

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RESEARCH TEAM

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DIET PROGRAMME

**Starlight trial**
To evaluate the effects of front-of-pack nutrition labels on food purchases
*Underway*

**Virtual supermarket**
To evaluate the effects of price changes on food purchases
*to start Nov 2014 pending ethics approval*

**NutriSales**
To measure New Zealanders’ exposure to salt, fat and sugar in the food supply
*Underway*

**KidsCam**
To explore children’s exposure to food marketing
*Underway*

**Modelling**
To evaluate the effects of nutrition interventions on long-term health and inequalities
*To start Nov 2015*

[http://www.diet.auckland.ac.nz](http://www.diet.auckland.ac.nz)
BACKGROUND

- Obesity and associated non-communicable diseases are major health challenges
- Nutrition labelling is a cost-effective intervention on population level
- Labels using graphics and symbols are better understood than traditional labels
**RATIONALE**

- Robust evidence on the effect of front-of-pack nutrition labelling on consumer purchasing behaviour is needed
TRIAL DESIGN

Aim

• To assess the effects of two interpretive front-of-pack nutrition labels, compared with a non-interpretive label, on the healthiness of consumer food purchases

Design

• Three-arm parallel randomised controlled trial (5 weeks)

Setting

• NZ retail outlets selling packaged foods

Recruitment target

• N=1500 (500 Pacific; 500 Māori; 500 Other ethnicities)
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FLOWCHART

**Screening (via website)**
- ≥ 18 years of age
- Smartphone owner
- Main household shoppers
- Shop at a supermarket ≥ once a week

**Registration (via the app)**
- Consent
- Registration
- Baseline questionnaire

**Run-in/baseline (7 days)**
- Use app to record food purchases (minimum 15 items)
- Keep till receipts

**Randomisation**
- 1:1:1 ratio
- Stratified by ethnicity and self-reported interest in “healthy eating”

**Intervention (4 weeks)**
- View nutrition labels (via the app)
- Record food purchases (via the app)
- Keep till receipts

**Follow up**
- Follow up questionnaire
- Till receipt collection
## Participants

### Inclusion criteria
- ≥ 18 years of age, currently living in NZ
- Smartphone owner
- Shop at a supermarket at least once a week
- Regular main shopper for the household
- Available for a continuous 5-week trial period
- Able to read and understand English

### Exclusion criteria
- Have used the “FoodSwitch” app
- Only one person per household can take part
- Failure to successfully complete the run-in phase

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RANDOMISATION

Target n=1500
Stratified by: Ethnicity; self-reported interest in healthy eating

Traffic-Lights; Intervention arm (n=500)

Health Star Rating; Intervention arm (n=500)

Nutrition Information Panel; control arm (n=500)
OUTCOMES

Primary
Mean nutrient profiling score for all food and beverage products purchased over the four-week intervention period

Secondary
1) Saturated fat, total sugar, sodium and energy content of food purchases;
2) Food expenditure;
3) Labelling profile of food purchases (mean number of Health Star Rating stars and proportion of red, green and amber traffic lights);
4) Nutrient profiling score over time;
5) Nutrient profiling score of key food categories;
6) Mean nutrient profiling score of the 3 nutrient profiling score criterion food categories;
7) Purchases of unpackaged foods;
8) Self-reported nutrition knowledge;
9) Recorded use of assigned labelling system.
STARLIGHT APP

Functionality

- Consent
- Administration of questionnaires (baseline and follow up)
- Randomisation
- Intervention (nutrition labels) delivery
- Data collection:
  - Record food purchases
  - Photograph till receipts
- Automatic reminder messages
STARLIGHT APP: DELIVERY OF NUTRITION LABELS

**Step 1**  
Participants scan the barcode using smartphone camera

**Step 2**  
Label is displayed on screen

**Step 3**  
Also shows a random selection of other foods in the same food category

*Note: nutrition label viewing function is inactive during baseline*
STARLIGHT APP: RECORDING FOOD PURCHASES

**Step 1**  Participants scan the barcode of purchased food products using smartphone camera

**Step 2**  Scanned products are added to list

**Step 3**  Participants are able to review and edit the list

**Step 4**  List is automatically transmitted to the study database
STARLIGHT APP: ATTACHING TILL RECEIPT IMAGE

**Step 1** Participants are reminded to attach a corresponding till receipt

**Step 2** Participants take photos using the smartphone camera
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TIMELINES/ PROGRESS

- Ethics approval
- Study setup
- Recruitment
- Data collection
- Data analysis
- Results release
CONCLUSION/DISCUSSION

• This randomised, controlled trial will provide evidence on the effects of interpretive front-of-pack nutrition labels on the healthiness of consumer food purchases in the real world

• Results are expected late 2015 – early 2016
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We are looking for participants

NO APPOINTMENTS just download a smartphone app

USE YOUR APP to look at nutrition labels while you shop

USE YOUR APP to record food and drinks you buy

COLLECT grocery till receipts

RECEIVE $10 at week 1 + $80 at completion (5 weeks + final questionnaire)

To join visit: http://diet.nihi.auckland.ac.nz/content/starlight
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### ACKNOWLEDGMENTS

| Health Research Council of New Zealand (13/724) | Project funding |
| Callie Corrigan, Toi Tangata, Auckland | Māori consultation and recruitment |
| Leonie Matoe, Toi Tangata, Auckland | Māori consultation and recruitment |
| Mason Ngawhika, Toi Tangata, Auckland | Māori consultation and recruitment |
| Hereni Marshall, Toi Tangata, Auckland | Māori consultation and recruitment |
| Dr Ofa Dewes, Department of Pacific Health, University of Auckland | Pacific consultation and recruitment |
| Dr Peter Scarborough, Oxford University | Advice on statistical analysis |
| Professor Tony Blakely, University of Otago | Advice on statistical analysis |
| DIET Programme Advisory Group | Feedback on the study protocol |