

FOOD COMES FIRST: METHODOLOGIES FOR THE NATIONAL NUTRITION SURVEY OF NEW ZEALAND

Robert Quigley

BSc, BCapSc, Dip Diet, NZRD

Coordinator of the National Nutrition Survey

Carolyn Watts

BCapSc, NZRD

Advisor (Nutrition)

Published with the permission of the Director-General of Health

Published in October 1997 by
PUBLIC HEALTH GROUP
MINISTRY OF HEALTH
Wellington, New Zealand

©1997 Ministry of Health, PO Box 5013, Wellington

ISBN 0-478-20862-6 (booklet)

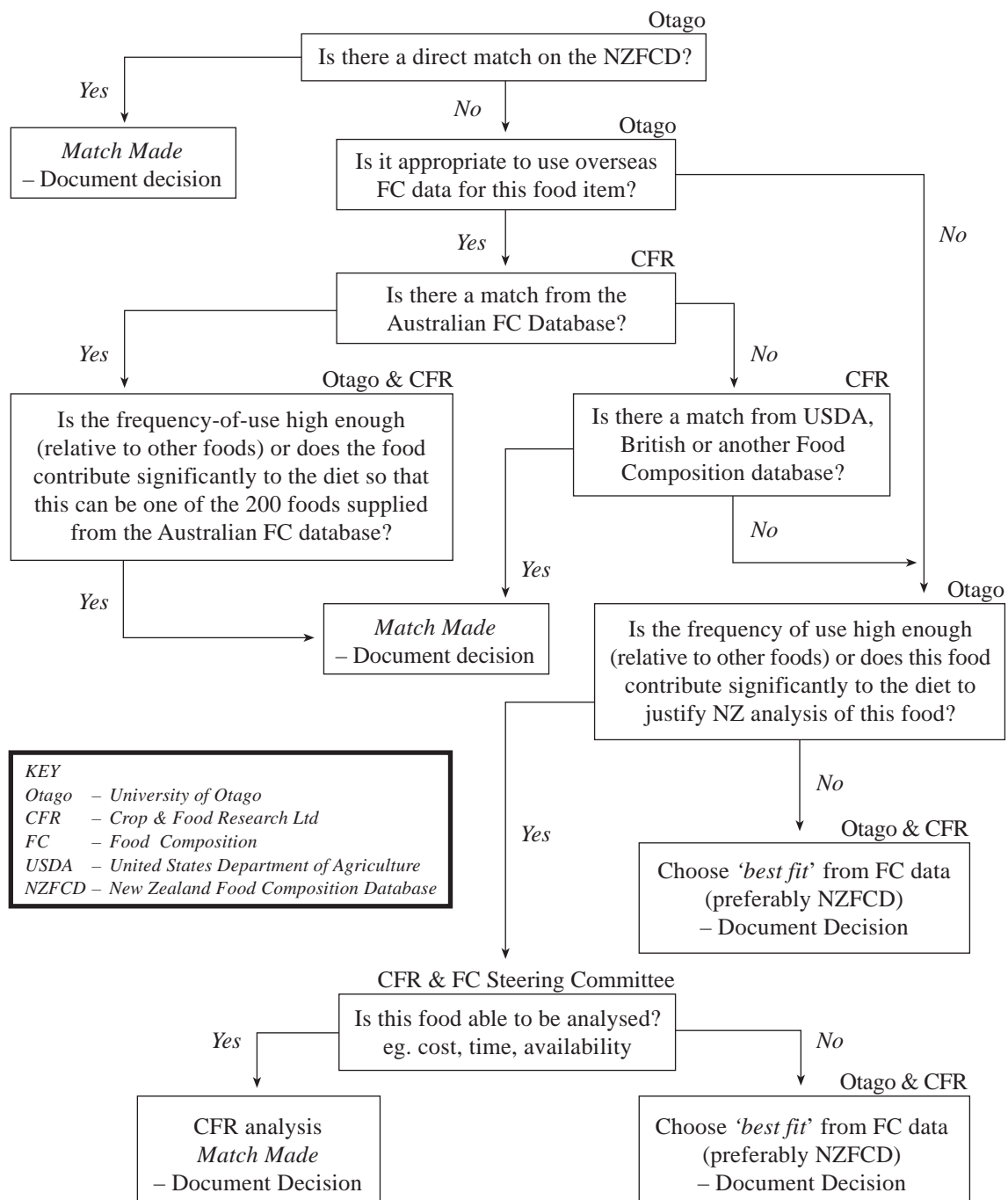
ISBN 0-478-20863-4 (internet)



MANATU HAUORA

APPENDICES

APPENDIX 1: FOOD/NUTRIENT MATCHING FLOWCHART:



APPENDIX 2:
DIETARY SUPPLEMENTS QUESTIONS

1. *Did you take any vitamin and/or mineral capsules/tablets at any time during the year?*

YES

NO ➤ Q3

DON'T KNOW ➤ Q3

2. What vitamins and/or minerals did you take? Use Supplement Show Card 1

<i>Type</i>	<i>Brand Name</i>	<i>No. Taken</i>	<i>Dose</i>	<i>Units</i>	<i>Frequency</i>							
					<i>Less than once a month</i>	<i>1-3 times per month</i>	<i>Once per week</i>	<i>More than once per week</i>	<i>Daily</i>	<i>Episodic</i>	<i>Don't Know</i>	
Multi/vitamins or minerals												
Multi/vitamins with iron												
Multi/vitamins with other minerals												
Vitamin A or carotenoids												
Thiamin (B1)												
Riboflavin (B2)												
Niacin (B3)												
Vitamin B6												
Vitamin B12												
B Complex Vitamins												
Vitamin C												
Vitamin D												
Vitamin E												
Anti-Oxidant Vitamin												
Calcium												
Iron												
Potassium												
Folic Acid												

3. *Did you take any vitamin and/or mineral capsules/tablets at any time during the past 24 hours?*

YES

NO ➤ Q5

DON'T KNOW ➤ Q5

4. *Which vitamins and/or minerals did you take?*

USE SUPPLEMENT SHOW CARD 1

Type	Brand Name	Number Taken	Dose	Units
Multi/vitamins or Minerals				
Multi/vitamins with Iron				
Multi/vitamins with other Minerals				
Vitamin A or Carotenoids				
Thiamin (B1)				
Riboflavin (B2)				
Niacin (B3)				
Vitamin B6				
Vitamin B12				
B Complex Vitamins				
Vitamin C				
Vitamin D				
Vitamin E				
Anti Oxidant Vitamin				
Calcium				
Iron				
Potassium				
Folic Acid				

5. *Did you take any other dietary supplements such as plain wheat bran (unprocessed bran, not 'Albran' or breakfast cereal), fibre tablets, lecithin, evening primrose oil, performance enhancers, etc. at any time during the last year?*

YES

NO ➤ Q7

DON'T KNOW ➤ Q7

6. Which fibre etc. supplements did you take?

Type	Brand Name	No. Taken	Dose	Units	Frequency							
					Less than once a month	1-3 times per month	Once per week	More than once per week	Daily	Episodic	Don't Know	
Wheat Bran												
Oat Bran												
Wheat Germ												
Fibre Tablets												
Lecithin												
Garlic												
Kelp												
Herbal Supplement												
Codliver Oil												
Evening Primrose Oil												
Yeast												
Performance Enhancers												

7. *Did you take any other dietary supplements such as plain wheat bran (unprocessed bran, not 'Albran' or breakfast cereal), fibre tablets; lecithin, evening primrose oil, performance enhancers, etc. during the past 24 hours?*

YES

NO ➤ End

DON'T KNOW ➤ End

8. *Which fibre supplements etc. did you take?*

USE SUPPLEMENT SHOW CARD 2

Type	Brand Name	Number Taken	Dose	Units
Wheat Bran				
Oat Bran				
Wheat Germ				
Fibre Tablets				
Lecithin				
Garlic				
Kelp				
Herbal Supplement				
Codliver Oil				
Primrose Oil				
Yeast				
Performance Enhancer				

SUPPLEMENT SHOW CARD 1

Examples Include:

Multivitamins or Minerals

Vitamin A

Thiamin (B1)

Riboflavin (B2)

Niacin (B3)

Vitamin B6

Vitamin B12

B Complex Vitamins

Vitamin C

Vitamin D

Vitamin E

Calcium

Iron

Potassium

SUPPLEMENT SHOW CARD 2

Examples Include:

Wheat Bran

Oat Bran

Wheat Germ

Fibre Tablets

Lecithin

Garlic

Kelp

Herbal Supplement

Codliver Oil

Primrose Oil

Yeast

Performance Enhancers



APPENDIX 3: 'YOUR USUAL FOOD INTAKE' QUESTIONNAIRE

The Following pages illustrate the 'Your usual food intake' questionnaire.



National Nutrition Survey 1996

University of Otago

Your Usual Food Intake

Identification Number:

0	0	0	0	0	0	0	0	0	0
1	1	1	1	1	1	1	1	1	1
2	2	2	2	2	2	2	2	2	2
3	3	3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4	4	4
5	5	5	5	5	5	5	5	5	5
6	6	6	6	6	6	6	6	6	6
7	7	7	7	7	7	7	7	7	7
8	8	8	8	8	8	8	8	8	8
9	9	9	9	9	9	9	9	9	9

This survey will help us to find out about New Zealander's food patterns and assist with health promotion and health policy development.

How can you help?

- By telling us what **YOU** usually eat (not someone else in your household!)
- Please fill out the form **yourself**.
- Be accurate, but don't spend too much time on each food.
- Please answer **EVERY** question.
- If you don't know the answers to the cooking questions, please ask the person who usually cooks your food.
- Answer by **FILLING** the **OVAL** that best applies to you.

INSTRUCTIONS:



- Use the pencil provided
- Do not use red pen or felt tip pen
- Erase mistakes fully
- Make no stray marks

Please MARK LIKE THIS:



NOT LIKE THIS:



If you have any questions, please ring:

0800 78 75 74

Thank you for contributing to this important project.

© Ministry of Health

How to answer:

Please answer by **filling in the oval** which best describes **how often you eat or drink** a particular **food**.

Please use the pencil and rubber provided. Ensure that only one oval is filled in per food item for computer scanning.

Here are some examples:

How often do you usually eat these foods?								
If on average you . . .	Never	Less than once a month	1-3 times per month	Once per week	2-4 times per week	5-6 times per week	Once per day	2 or more times per day
Never eat any sort of mince dish then you would mark	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Eat cooked porridge 5 times per week in the winter, but never in the summer, then you would mark	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Eat fresh peaches about 3 times a week when they are in season, then you would mark	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Eat onions or leeks; onions 4 times per week , but leeks only once a month, then you would mark	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

PAGE 2

First of all, we have some questions about your general eating habits

1. How would you describe your eating pattern? *(Please mark one only)*

- Eat a variety of all foods, including animal products ■
- Eat eggs, dairy products, fish and chicken but avoid other meats ■
- Eat eggs and dairy products but avoid all meats and fish ■
- Eat eggs but avoid dairy products, all meats and fish ■
- Eat dairy products but avoid eggs, all meats and fish ■
- Eat no animal products ■
- Other *(please specify)* _____ ■

2. On average, how many **servings** of fruit (fresh, frozen, canned or stewed) do you eat per **day**?

Do not include fruit juice or dried fruit. *(Please mark one only)*

(a 'serving' = 1 medium piece or 2 small pieces of fruit or ½ cup of stewed fruit)

e.g. 1 apple + 2 small apricots = 2 servings

Per Day

- I don't eat fruit ■
- Less than 1 per day ■
- 1 serving ■
- 2 servings ■
- 3 or more servings ■

3. On average, how many **servings** of vegetables (fresh, frozen, canned) do you eat a **day**?

Do not include vegetable juices. *(Please mark one only)*

(a 'serving' = 1 medium potato/kumara or ½ cup cooked vegetables or 1 cup of salad vegetables)

e.g. 2 medium potatoes + ½ cup of peas = 3 servings

Per Day

- I don't eat vegetables ■
- Less than 1 per day ■
- 1 serving ■
- 2 servings ■
- 3 servings ■
- 4 or more servings ■



4. On average, how many slices or rolls of bread (or toast) do you eat per day?

Per Day

- I don't eat bread or toast → Go to question 6
- Less than 1 per day
- 1-2
- 3-4
- 5-6
- 7 or more

5. What type(s) of bread, rolls or toast do you eat most often?

(Please mark only those you usually eat.)

- White
- White – high fibre
- Wholemeal or wholegrain
- Other *(please specify)* _____

6. On average, how many servings of foods such as pasta, rice, muesli, porridge, or breakfast cereal do you eat per week? *(Please mark one only)*

(a 'serving' = 1 cup cooked rice/pasta or porridge or cornflakes or ½ cup muesli or 2 weetbix)
e.g. 1 cup of rice 3 times per week + 2 weetbix 4 times a week = 7 servings per week

Per WEEK

- I don't eat these foods
- Less than 4 per week
- 4-6 servings
- 7-9 servings
- 10-12 servings
- 13-15 servings
- 16 or more servings

7. Do you usually eat breakfast cereal?

No → **If no, go to question 8**

Yes → What breakfast cereal(s) do you have **most often?**

(Please mark only those you usually have.)

- | | |
|---|---|
| <input type="radio"/> Weetbix | <input type="radio"/> Just Right, Light and Tasty |
| <input type="radio"/> Cornflakes or Rice Bubbles | <input type="radio"/> or Good Morning |
| <input type="radio"/> Toasted muesli | <input type="radio"/> Nutrigrain, Cocoa Pops or Honey Puffs |
| <input type="radio"/> Untoasted muesli | <input type="radio"/> Puffed Wheat or Mini-Wheats |
| <input type="radio"/> Special K | <input type="radio"/> Porridge |
| <input type="radio"/> All-Bran, San-Bran, Bran Flakes | <input type="radio"/> Other <i>(please specify)</i> |
| <input type="radio"/> or Weetbix – ‘Hi-Bran’ | |

8. Do you eat meat or chicken fried or roasted in fat or oil?

No → **If no, go to question 9**

Yes → What type(s) of fat or oil do you use **most often?**

(Please mark only those you usually use)

- | | |
|--|--|
| <input type="radio"/> Butter | <input type="radio"/> Other oils e.g. sunflower, corn oil, |
| <input type="radio"/> Margarine | <input type="radio"/> safflower oil etc |
| <input type="radio"/> Butter margarine blend | <input type="radio"/> Don't know |
| <input type="radio"/> Lard or dripping | <input type="radio"/> Other <i>(please specify)</i> |
| <input type="radio"/> Olive or canola oil | |

9. Do you eat vegetables fried or roasted in fat or oil?

No → **If no, go to question 10**

Yes → What type(s) of fat or oil do you use **most often?**

(Please mark only those you usually use)

- | | |
|--|--|
| <input type="radio"/> Butter | <input type="radio"/> Other oils e.g. sunflower, corn oil, |
| <input type="radio"/> Margarine | <input type="radio"/> safflower oil etc |
| <input type="radio"/> Butter margarine blend | <input type="radio"/> Don't know |
| <input type="radio"/> Lard or dripping | <input type="radio"/> Other <i>(please specify)</i> |
| <input type="radio"/> Olive or Canola oil | |



We would now like to ask in more detail about the foods you eat.

10. How often do you usually eat these foods or drinks?

Please fill one oval for each food or drink.	Never	Less than once a month	1-3 times per month	Once per week	2-4 times per week	5-6 times per week	Once per day	2 or more times per day
Dairy Foods								
Flavoured milk (e.g. milkshake, iced coffee)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Milk as a drink	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Milk on breakfast cereals	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Milk added to hot beverages made with water (e.g. coffee, tea, milo)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Hot beverages made with milk (e.g. milo, cocoa, hot chocolate drinks)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Cream or sour cream	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ice cream	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Custard or dairy food	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Yoghurt, plain or flavoured (including fromage frais)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Milk puddings (e.g. rice, semolina, instant)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Cream cheese	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Cottage or ricotta cheese	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Mozzarella, feta, or camembert	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Edam or gouda cheese	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Colby, mild, tasty cheese	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Brie, blue and other specialty cheeses	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

11. Do you drink or use any type of milk?

- No → **If no, go to question 12**
 - Yes → **What type(s) do you have **most often**?**
(Please mark only those you usually have)
- | | |
|--|---|
| <ul style="list-style-type: none"> <input type="radio"/> Standard, homogenised milk (blue top) <input type="radio"/> Trim milk (green top) <input type="radio"/> Super Trim <input type="radio"/> Skim milk or low-fat powdered milk <input type="radio"/> Light Blue | <ul style="list-style-type: none"> <input type="radio"/> Whole or powdered whole milk (silver top) <input type="radio"/> 'Calci-trim' <input type="radio"/> 'Slim and Fit' <input type="radio"/> Soy Milk <input type="radio"/> Other (please specify) _____ |
|--|---|



12. How often do you usually eat these foods?

Please fill one oval for each food.	Never	Less than once a month	1-3 times per month	Once per week	2-4 times per week	5-6 times per week	Once per day	2 or more times per day
Bread and Cereal Foods								
Focaccia, bagel, pita or other speciality breads	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Paraoa Parai (frybread)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Rewena bread	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Doughboys or Māori bread	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Crumpet or croissant	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Waffle or doughnut	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Fruit or iced buns	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Savoury or dry biscuits, crispbread, or crackers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Cooked porridge	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Breakfast cereal (including muesli)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Rice (including white or brown)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Pasta eg. spaghetti, ravioli, macaroni, noodles	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

13. Do you use butter or margarine on bread or crackers?

No → If no, go to question 14

Yes → What type(s) do you use **most often**?

(Please mark only those you usually use)

Butter

Unsalted butter

Butter and margarine blend

Low salt margarine

'Miracle', 'Sunflower' etc.

(ie Polyunsaturated margarines)

Reduced fat margarine e.g. 'Slimarine'

'Praise' or 'Olivo' margarine

Other *(please specify)*

14. Do you eat pork, beef, mutton, hogget or lamb?

No → If no, go to question 15

Yes → Do you trim any excess fat off these meats?

(Please mark one only)

Always

Often

Occasionally

Never cut the fat off meat

15. Do you eat chicken?

- No → **If no, go to question 16**
- Yes → Do you remove the skin from chicken?
(Please mark **one** only)
- Always Occasionally
- Often Never remove the skin from chicken

16. How often do you usually eat these foods?

Please fill one oval for each food.	Never	Less than once a month	1-3 times per month	Once per week	2-4 times per week	5-6 times per week	Once per day	2 or more times per day
Meat and Fish								
— Beef mince dishes (e.g. rissoles, meatloaf)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
— Beef or veal mixed dishes (e.g. casserole, stir-fry)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
— Beef or veal – roast, chop, steak, schnitzel	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
— Corned beef (including canned) or brisket	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
— Hogget or mutton mixed dishes (e.g. stews)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
— Hogget or mutton – roast, chops	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
— Lamb mixed dishes (e.g. casserole, stir-fry)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
— Lamb – roast, chop, steak	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
— Pork mixed dishes (e.g. casserole, stir-fry)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
— Pork - roast, chop, steak	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
— Pork - boiled bones	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
— Sausage, frankfurter or saveloy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
— Bacon or ham	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
— Luncheon meats, salami or brawn	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
— Liver (including pate)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
— Other offal (e.g. kidneys)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
— Chicken mixed dishes (e.g. casserole, stir-fry)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
— Chicken – roast, fried, steamed, BBQ	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
— Turkey or duck	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
— Venison	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



16. (Cont. . .) How often do you usually eat these foods?

Please fill one oval for each food.	Never	Less than once a month	1-3 times per month	Once per week	2-4 times per week	5-6 times per week	Once per day	2 or more times per day
Meat and Fish								
Mutton bird	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Canned tuna, salmon, sardines	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Eel	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Fish, battered	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Fish, fried (including fish fingers or fish cakes)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Fish, steamed, baked, grilled or raw	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Shellfish (e.g. mussels, oysters, paua, kina, pipis)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other seafood (e.g. prawns)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

17. Do you eat eggs?

- No → If no, go to question 18
- Yes → Not counting eggs used in baking cakes etc, how many eggs do you usually eat **per week**? (*Please mark one only*)

Per WEEK

- Less than 1
- 1 egg
- 2 eggs
- 3 eggs
- 4 eggs
- 5 or more eggs per week

18. How often do you usually eat these foods?

Please fill one oval for each food.	Never	Less than once a month	1-3 times per month	Once per week	2-4 times per week	5-6 times per week	Once per day	2 or more times per day
Miscellaneous								
Cakes, scones or pikelets	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Muffins - all types	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sweet pies or sweet pastries	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other puddings or desserts (not including milk-based puddings)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Plain sweet biscuits	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Cream filled and/or chocolate biscuits	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Canned or packet soup (in winter)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Home-made soup (in winter)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

18. (Cont. . .) How often do you usually eat these foods?

Please fill one oval for each food.	Never	Less than once a month	1-3 times per month	Once per week	2-4 times per week	5-6 times per week	Once per day	2 or more times per day
Miscellaneous								
■ Hamburger	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
■ Meat pie, sausage roll or other savoury pastries	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
■ Pizza	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
■ Muesli bars	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
■ Chocolate (including chocolate bars e.g. Moro bars)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
■ Other confectionery	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
■ Jam, honey, marmalade or syrup	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
■ Peanut butter, other nut spreads	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
■ Vegemite or marmite	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
■ Nuts	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
■ Potato crisps, corn chips, Twisties etc.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

19. How often do you usually eat these foods?

Please fill one oval for each food.	Never	Less than once a month	1-3 times per month	Once per week	2-4 times per week	5-6 times per week	Once per day	2 or more times per day
Dressings and Sauces								
■ Mayonnaise	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
■ Low-calorie salad dressing	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
■ Salad dressing	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
■ Tomato sauce	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
■ Gravy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
■ White sauce/cheese sauce etc.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
■ Coconut cream	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

20. How often do you usually eat these foods?

(If your intake varies with season, how often do you usually have them when in season?)

Please fill one oval for each food.	Never	Less than once a month	1-3 times per month	Once per week	2-4 times per week	5-6 times per week	Once per day	2 or more times per day
Vegetables (including fresh, frozen or canned)								
Potato; boiled, mashed, baked or roasted	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Hot potato chips or kumara chips/ french fries/wedges	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Pumpkin; boiled, roast or mashed	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Kumara; boiled, roast or mashed	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Peas	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Mixed frozen vegetables	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Green beans	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Silver beet, spinach	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Carrots	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Cabbage, coleslaw	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sweet corn	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Mushrooms	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Tomatoes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Beetroot	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Taro	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Taro leaf (e.g. palusami)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Green bananas	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Watercress	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Puha	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sprouts (e.g. alfalfa, mung)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Turnips or swedes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

20. (Cont. . .) How often do you usually eat these foods?

(If your intake varies with season, how often do you usually have them when in season?)

Please fill one oval for each food.	Never	Less than once a month	1-3 times per month	Once per week	2-4 times per week	5-6 times per week	Once per day	2 or more times per day
Vegetables (including fresh, frozen or canned)								
■ Parsnip	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
■ Karengo (seaweed)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
■ Onions or leeks	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
■ Soybeans, tofu	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
■ Beans (including baked beans), lentils	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
■ Cauliflower	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
■ Broccoli or broccoflower	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
■ Brussel sprouts	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
■ Courgette/zucchini, marrow, eggplant, squash	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
■ Kamo kamo	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
■ Pacific Island yams	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
■ Yams	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
■ Capsicum (or peppers)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
■ Celery	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
■ Cassava	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
■ Asparagus	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
■ Breadfruit	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
■ Cucumber	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
■ Avocado	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
■ Lettuce	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
■ Other green leafy vegetables e.g. Whitloof etc.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

21. How often do you usually eat these foods?

Please fill one oval for each food. Fresh Fruits – when they are in season	Never	Less than once a month	1-3 times per month	Once per week	2-4 times per week	5-6 times per week	Once per day	2 or more times per day
Apple	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Pear	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Banana	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Orange, mandarin or tangelo	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Grapefruit	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Peach, nectarine, plum or apricot	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Mango, paw-paw or persimmons	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Pineapple	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Grapes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Strawberries and other berries or cherries	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Melon (e.g. watermelon, rockmelon etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Kiwifruit	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Feijoas	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Tamarillos	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

22. How often do you usually eat these foods?

Please fill one oval for each food. Other Fruits	Never	Less than once a month	1-3 times per month	Once per week	2-4 times per week	5-6 times per week	Once per day	2 or more times per day
Sultanas, raisins or currants	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other dried fruit (e.g. apricots, prunes, dates)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Preserved or canned fruit in syrup	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Preserved or canned fruit in water or juice	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Stewed fruit	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Well done, just one more question!

(Please note that the possible categories you have to choose from have changed.)

23. How often do you usually have these drinks?

Please fill one oval for each drink.	Never or rarely	3 times a month or less	1-2 times per week	3-6 times per week	1-2 times per day	3-5 times per day	6 or more times per day
Drinks							
■ Fruit juice e.g. Just Juice, Fresh-up, Robinson's or Rio Gold etc.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
■ Vegetable juice (e.g. tomato juice)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
■ Fruit drink e.g. Choice, Rio Splice etc.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
■ Powdered drinks (e.g. Raro, Vita-fresh etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
■ Low-calorie cordial	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
■ Cordial	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
■ Diet carbonated drink (e.g. diet sprite)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
■ Carbonated drinks (e.g. coke, lemonade etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
■ Sport's drinks (e.g. Gatorade, Powerade etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
■ Water (including unflavoured mineral water, soda water, tap water)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
■ Coffee	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
■ Coffee – decaffeinated	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
■ Coffee substitute (e.g. Inka)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
■ Koko	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
■ Tea	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
■ Herbal tea	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
■ Soy beverages	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
■ Beer – low alcohol	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
■ Beer – ordinary	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
■ Red wine	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
■ White wine or champagne / sparkling wine	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
■ Wine cooler	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
■ Sparkling grape juice	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
■ Sherry or port	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
■ Spirits, liqueurs	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Are there any other foods, not included in this questionnaire, that you eat at least once a week? If so, please tell us:

Who completed this questionnaire?

- Myself
- Interviewer
- Someone else

Today's date is: ____ / ____ / 19 ____

DATE

		<input type="radio"/> JAN	<input type="radio"/> 1996
		<input type="radio"/> FEB	<input type="radio"/> 1997
<input type="radio"/> 0	<input type="radio"/> 0	<input type="radio"/> MAR	<input type="radio"/> 1998
<input type="radio"/> 1	<input type="radio"/> 1	<input type="radio"/> APR	<input type="radio"/> 1999
<input type="radio"/> 2	<input type="radio"/> 2	<input type="radio"/> MAY	<input type="radio"/> 2000
<input type="radio"/> 3	<input type="radio"/> 3	<input type="radio"/> JUN	<input type="radio"/> 2001
<input type="radio"/> 4	<input type="radio"/> 4	<input type="radio"/> JUL	<input type="radio"/> 2002
<input type="radio"/> 5	<input type="radio"/> 5	<input type="radio"/> AUG	<input type="radio"/> 2003
<input type="radio"/> 6	<input type="radio"/> 6	<input type="radio"/> SEP	<input type="radio"/> 2004
<input type="radio"/> 7	<input type="radio"/> 7	<input type="radio"/> OCT	<input type="radio"/> 2005
<input type="radio"/> 8	<input type="radio"/> 8	<input type="radio"/> NOV	<input type="radio"/> 2006
<input type="radio"/> 9	<input type="radio"/> 9	<input type="radio"/> DEC	<input type="radio"/> 2007

Thank you for your time and effort in completing this questionnaire. It is much appreciated.



APPENDIX 4:
BARRIERS TO DIETARY CHANGE QUESTIONS

INTERVIEWER TO COMPLETE:

1. *Servings of fruit per day?* number

See Q2 in QFFQ

2. *Servings of vegetables per day?* number

See Q3 in QFFQ

3. *Servings of bread per day?* number

See Q4 in QFFQ

Servings of cereals per week? number

See Q6 in QFFQ

(Totals per day number)

4. *I'd now like to ask you some questions about changes to your choice of foods.*

Are you trying at present to make any changes to your choice of foods?

(For example, trying to change the amounts or types of foods you eat)

Yes ► Q5

No ► Q10

Don't Know ► Q10

5. ***We'd now like you to think about four particular groups of foods.***

For each group of foods, can you tell me if you are trying at present to change the amount you eat?

(Interviewer to show each card in turn then note all positive responses that apply)

DIETARY CHANGE SHOW CARD 1 fruits

DIETARY CHANGE SHOW CARD 2 vegetables

DIETARY CHANGE SHOW CARD 3 breads and cereals

DIETARY CHANGE SHOW CARD 4 butter, margarine, oils, and other foods high in fat

fruits ➤ Q6

vegetables ➤ Q7

breads or cereals ➤ Q8

butter, margarine, oils and other foods high in fat ➤ Q9

IF NONE OF THESE ➤ Q10

Comments

If in answering Q5, the subject has already described whether they are trying to ***eat more or less*** of the food group, simply record the answer below rather than asking Q6-9 unnecessarily.

6. ***About fruit, in what way are you trying to change?*** *(ask as open-ended question).*

USE DIETARY CHANGE SHOW CARD 5

more

less

don't know

If respondent indicates a change in fruit *only* ➤ Q10

7. ***About vegetables, in what way are you trying to change?*** *(ask as open-ended question).*

USE DIETARY CHANGE SHOW CARD 5

more

less

don't know

If respondent indicates a change in fruit and/or vegetables *only* ➤ Q10

8. **About bread or cereals, in what way are you trying to change?** (ask as open-ended question).

USE DIETARY CHANGE SHOW CARD 5

- more
- less
- don't know

If respondent indicates a change in fruit and/or vegetables and/or bread and cereals *only* ➤ Q10.

9. **About butter, margarine, oils or other foods high in fat, in what way are you trying to change your choice of foods?** (ask as open-ended question; note: subject to answer both questions).

USE DIETARY CHANGE SHOW CARD 6

9 a

- Eat more foods high in fat
- Eat less foods high in fat
- No change in amount eaten

9 b

- Change type of butter, margarine or oils used
- No change in type eaten

Comments

If the respondent *is* presently changing a food group, then you are unable to ask about an intending change to that food group.

10. In the last question, we asked about any changes you are making now.

We'd now like to ask about whether you are thinking about making any changes to the foods you eat **in the future**.

We're interested in whether you intend or plan to make any changes over the next 6 months.

Are you **intending** to change the amount you eat of any of these groups of foods?

(Interviewer to show each card in turn, then note all positive responses)

(DO NOT ASK, SHOW SHOW CARDS 1-4)

DIETARY CHANGE SHOW CARD 1 fruits

DIETARY CHANGE SHOW CARD 2 vegetables

DIETARY CHANGE SHOW CARD 3 breads and cereals

DIETARY CHANGE SHOW CARD 4 butter, margarine, oils, and other foods high in fat

Tick all that apply:

- fruits ➤ Q11
- vegetables ➤ Q12
- breads or cereals ➤ Q12
- foods such as butter, margarine, oils and other foods high in fat ➤ Q14
- IF NONE OF THESE ➤ Q15

Comments

If in answering Q10, the subject has already described whether they are **intending to eat more or less** of the food group, simply record the answer below rather than asking Q11-14 unnecessarily

11. About fruit, in what way are you intending to change? *(ask as open-ended question).*

USE DIETARY CHANGE SHOW CARD 5

more

less

don't know

If respondent indicates that they are intending to change fruit **only** ➤ Q15.

12. **About vegetables, in what way are you intending to change?** (ask as open-ended question).

USE DIETARY CHANGE SHOW CARD 5

- more
- less
- don't know

If respondent indicates that they are intending to change fruit and/or vegetables *only* ➤ Q15.

13. **About bread or cereals, in what way are you intending to change?** (ask as open-ended question).

USE DIETARY CHANGE SHOW CARD 5

- more
- less
- don't know

If respondent indicates that they are intending to change fruit and/or vegetables and/or breads and cereals *only* ➤ Q15.

14. **About butter, margarine, oils or other foods high in fat, in what way are you intending to change your choice of foods?** (ask as open-ended question; note: subject to answer both questions).

USE DIETARY CHANGE SHOW CARD 6

1 4 a

- Eat more foods high in fat
- Eat less foods high in fat
- No change in amount eaten

1 4 b

- Change type of butter, margarine or oils needed
- No change in type eaten

Comments

15. If Q1 < 2 OR Q6 = 'eat more fruit' (ask this question).

People often find it hard to increase the amount of fruit they eat. We're interested in the sorts of things that people find most difficult about making this change.

Here is a list of things that people have found difficult about eating more fruit.

Would any apply to you?

USE DIETARY CHANGE SHOW CARD 7

FRUIT

- Cost too much
- I don't like fruit
- Can't store fruit for long
- It's a hassle to try and eat more
- Often of poor quality
- Fruit causes stomach upsets or indigestion
- It's hard to chew
- Causes allergy or other bad reaction
- Not enough time
- Don't always have fruit at home
- Contains too much sugar
- Fruit is not good for me
- Would need willpower to eat more
- Pesticides or chemicals on fruit
- I would not find it hard to eat more
- Other (describe) _____

➤ Q16

16. If Q2 < 3 OR Q7 = 'eat more vegetables' (ask this question).

People often find it hard to increase the amount of vegetables they eat. We're interested in the sorts of things that people find most difficult about making this change.

Here is a list of things that people have found difficult about eating more vegetables.

Would any apply to you?

USE DIETARY CHANGE SHOW CARD 8

VEGETABLES

- Cost too much
- I don't like vegetables
- Can't store them for long
- It's a hassle to try and eat more
- Often of poor quality
- They cause stomach upsets or indigestion
- Vegetables are hard to chew
- Causes allergy or other bad reaction
- Take too long to prepare
- Don't always have them at home
- It's hard to prepare vegetables
- I have nowhere to cook vegetables
- Not enough time
- Would need willpower to eat more
- They're not good for me
- Pesticides or chemicals on vegetables
- I would not find it hard to eat more
- Other (describe)

➤ Q17

17. If Q3 < 6 (total) OR Q8 = 'eat more breads or cereals' (ask this question).

People often find it hard to increase the amount of breads and cereals they eat (Use DIETARY CHANGE SHOW CARD 3 to remind them of foods in this group). We're interested in the sorts of things that people find most difficult about making this change.

Here is a list of things that people have found difficult about eating more breads and cereals.

Would any apply to you?

USE DIETARY CHANGE SHOW CARD 9

BREADS AND CEREAL FOODS

- Cost too much
- I don't like them
- They're fattening
- It's a hassle to try and eat more
- They're too filling
- They upset my stomach
- They're too heavy
- They provide too many calories
- They're too starchy
- They're not good for me
- They cause wind
- Would need willpower to eat more
- I would not find it hard to eat more
- Other (describe)

➤ Q18

18. ALL subjects to answer:

People often find it hard to cut down the amount of butter, margarine, oils or other foods high in fat. We're interested in the sorts of things that people find most difficult about making this change.

Here is a list of things that people have found difficult about cutting down on butter, margarine, oils or other foods high in fat.

Would any apply to you?

USE DIETARY CHANGE SHOW CARD 10

BUTTER, MARGARINE, OILS OR OTHER FOODS HIGH IN FAT

- They taste good
- It's hard to prepare meals with less fat
- They're convenient
- There are few low-fat alternatives
- Cheap
- The people I live with would have to eat less too
- Would need willpower
- It's hard when I eat out a lot
- My body needs fat
- Preparing meals with less fat takes too long
- I like to eat these foods for comfort
- It's a hassle to try and eat less
- I wouldn't enjoy food as much
- None of the above, I'm happy with my fat intake
- Other (describe) _____

End Barriers Questions

DIETARY CHANGE SHOW CARD 1

FRUITS

Also includes:

coconut
pawpaw
watermelon
figs
mango
guava

DIETARY CHANGE SHOW CARD 2

VEGETABLES

Also includes:

manioc/cassava
taro
kumara
puha
green bananas
choko

DIETARY CHANGE SHOW CARD 3

BREADS AND CEREALS

Also includes:

breakfast cereals
porridge
muesli
rice
pasta

DIETARY CHANGE SHOW CARD 4

**Butter, margarine, oils, and
OTHER FOODS HIGH IN FAT**

For example:

FRIED FOOD AND PASTRIES

DIETARY CHANGE SHOW CARD 5

EAT MORE

EAT LESS

DIETARY CHANGE SHOW CARD 6

FOODS HIGH IN FAT

AMOUNT

EATING MORE

EATING LESS

EATING THE SAME

TYPE OF BUTTER, MARGARINE OR OILS

CHANGED THE TYPE

HAVEN'T CHANGED

DIETARY CHANGE SHOW CARD 7

FRUIT

Cost too much
I don't like fruit
Can't store fruit for long
It's a hassle to try and eat more
Often of poor quality
Fruit causes stomach upsets or indigestion
It's hard to chew
Causes allergy or other bad reaction
Not enough time
Don't always have fruit at home
Contains too much sugar
Fruit is not good for me
Would need willpower to eat more
Pesticides or chemicals on fruit
I would not find it hard to eat more
Other

DIETARY CHANGE SHOW CARD 8

VEGETABLES

Cost too much
I don't like vegetables
Can't store them for long
It's a hassle to try and eat more
Often of poor quality
They cause stomach upsets or indigestion
Vegetables are hard to chew
Causes allergy or other bad reaction
Vegetables take too long to prepare
Don't always have them at home
It's hard to prepare vegetables
I have nowhere to cook vegetables
Not enough time
Would need willpower to eat more
They're not good for me
Pesticides and chemicals on vegetables
I would not find it hard to eat more
Other

DIETARY CHANGE SHOW CARD 9

BREAD AND CEREALS

Cost too much
I don't like them
They're fattening
It's a hassle to try and eat more
They're too filling
They upset my stomach
They're too heavy
They provide too many calories
They're too starchy
They're not good for me
They cause wind
Would need willpower to eat more
I would not find it hard to eat more
Other

DIETARY CHANGE SHOW CARD 10

**BUTTER, MARGARINE, OILS OR
OTHER FOODS HIGH IN FAT**

Taste good
It's hard to prepare meals with less fat
They're convenient
There are few low-fat alternatives
Cheap
The people I live with would have
to eat less too
Would need willpower
It's hard when I eat out a lot
My body needs fat
Preparing meals with less fat takes too long
I like to eat these foods for comfort
It's a hassle to try and eat less
I wouldn't enjoy food as much
None of the above, I'm happy with my
fat intake
Other

APPENDIX 5: FOOD SECURITY QUESTIONS

INTRODUCTION

I now want to ask you some questions about particular foods you choose, and the buying of food or gifting of food. We are interested in whether you feel you always have sufficient resources to have the food you need for yourself and the people you live with. We are not concerned with your budget, or how you spend your money, but we are more interested in finding out about how people get the food that they need for their household to eat and share.

(In all questions ‘we’ refers to the household, unless it is a one-person household).

First of all, we know that some people can’t afford to eat properly and we are interested in whether you think you eat properly. It’s what you think eating properly is - not what I or anyone else thinks.

USE FOOD SECURITY SHOW CARD 1

I / WE CAN AFFORD TO EAT PROPERLY

- Always
- Sometimes
- Never
- Don’t Know

2. *We are interested in whether you run out of basics, like bread, potatoes, etc. because you do not have enough money. We are NOT referring to treats or special foods.*

USE FOOD SECURITY SHOW CARD 2

FOOD RUNS OUT IN MY / OUR HOUSEHOLD DUE TO LACK OF MONEY

How often has this been true for you (or your household) over the past year?

- Often
- Sometimes
- Never
- Don’t Know

3. *Now we are interested in whether a lack of money leads you to sometimes have smaller meals than you would like or whether a lack of money means there isn't enough for seconds or you sometimes skip meals?*

USE FOOD SECURITY SHOW CARD 3

I / WE EAT LESS BECAUSE OF LACK OF MONEY

How often has this been true for you (or your household) over the past year?

- Often
- Sometimes
- Never
- Don't Know

4. *Now we are going to talk about the variety of foods you eat. By variety we mean the number of different kinds of foods you have.*

USE FOOD SECURITY SHOW CARD 4

THE VARIETY OF FOODS I AM (WE ARE) ABLE TO EAT IS LIMITED BY A LACK OF MONEY

How often has this been true for you (or your household) over the past year?

- Often
- Sometimes
- Never
- Don't Know

5. *Some people rely on support and assistance from others for supplying their regular food and we are interested in find out how many people fall into this group.*

USE FOOD SECURITY SHOW CARD 5

I / WE RELY ON OTHERS TO PROVIDE FOOD AND/OR MONEY FOR FOOD, FOR MY / OUR HOUSEHOLD, WHEN I / WE DON'T HAVE ENOUGH MONEY

How often has this been true for you (or your household) over the past year?

- Often
- Sometimes
- Never
- Don't Know

6. *Also, some people have to rely on other sources of help such as food grants or food banks.*

USE FOOD SECURITY SHOW CARD 6

I / WE MAKE USE OF SPECIAL FOOD GRANTS OR FOOD BANKS WHEN I / WE DO NOT HAVE ENOUGH MONEY FOR FOOD

How often has this been true for you (or your household) over the past year?

- Often
- Sometimes
- Never
- Don't Know

7. *We know that some people get quite stressed and worried about providing enough food even though they don't actually go without food.*

USE FOOD SECURITY SHOW CARD 7

I FEEL STRESSED BECAUSE OF NOT HAVING ENOUGH MONEY FOR FOOD

How often has this been true for you (or your household) over the past year?

- Often
- Sometimes
- Never
- Don't Know

8. *We recognise that for some people food and sharing food with others is important, to the point that they won't have enough food for themselves. In this question we are only interested in social situations which are gatherings within, or outside, the household. As a result people may find themselves stressed/whakama (embarrassed) about their koha (gift) when providing food for others.*

USE FOOD SECURITY SHOW CARD 8

I FEEL STRESSED BECAUSE I CAN'T PROVIDE THE FOOD I WANT FOR SOCIAL OCCASIONS

How often has this been true for you (or your household) over the past year?

- Often
- Sometimes
- Never
- Don't Know

FOOD SECURITY SHOW CARD 1

I / WE CAN AFFORD TO EAT PROPERLY

- Always
- Sometimes
- Never
- Don't Know

FOOD SECURITY SHOW CARD 2

FOOD RUNS OUT IN MY / OUR HOUSEHOLD DUE TO LACK OF MONEY

- Often
- Sometimes
- Never
- Don't Know

FOOD SECURITY SHOW CARD 3

I / WE EAT LESS BECAUSE OF LACK OF MONEY

- Often
- Sometimes
- Never
- Don't Know

FOOD SECURITY SHOW CARD 4

THE VARIETY OF FOOD I AM (WE ARE) ABLE TO EAT IS LIMITED BY A LACK OF MONEY

- Often
- Sometimes
- Never
- Don't Know

FOOD SECURITY SHOW CARD 5

I / WE RELY ON OTHERS TO PROVIDE FOOD AND/OR MONEY FOR FOOD FOR MY / OUR HOUSEHOLD, WHEN I / WE DON'T HAVE ENOUGH MONEY

- Often
- Sometimes
- Never
- Don't Know

FOOD SECURITY SHOW CARD 6

I / WE MAKE USE OF SPECIAL FOOD GRANTS OR FOOD BANKS WHEN I / WE DO NOT HAVE ENOUGH MONEY FOR FOOD

- Often
- Sometimes
- Never
- Don't Know

FOOD SECURITY SHOW CARD 7

I FEEL STRESSED BECAUSE OF NOT HAVING ENOUGH MONEY FOR FOOD

- Often
- Sometimes
- Never
- Don't Know

FOOD SECURITY SHOW CARD 8

I FEEL STRESSED BECAUSE I CAN'T PROVIDE THE FOOD I WANT FOR SOCIAL OCCASIONS

- Often
- Sometimes
- Never
- Don't Know

APPENDIX 6:
ENVIRONMENTAL CHEMICALS QUESTIONS

I am now going to ask you some questions about your exposure to chemicals during your lifetime:

1. USE CHEMICALS SHOW CARD 1

How long have you lived in this area?

- Less than one year 6 - 10 years
 1- 5 years 10 + years
 Don't Know

2. USE CHEMICALS SHOW CARD 2

Throughout your life have you lived mainly in the:

- country not sure
 city or town

We are interested in whether you have ever worked or had direct physical contact with three types of chemicals:

3. *First, pentachlorophenol which was a chemical used for antisapstain treatment in the timber industry.*

Have you ever worked or had direct physical contact with pentachlorophenol?

- yes no
 don't know

Comment

Second, polychlorinated biphenyls, which are known as PCBs and were widely used in electrical transformers and capacitors.

4. *Have you ever manufactured or repaired electrical transformers or capacitors?*

- yes no
 don't know

Comment

Third, organochlorine pesticides, which are chemicals used to kill insects and other pests.

5. *USE CHEMICALS SHOW CARD 3*

Have you ever worked with or had direct physical contact with any of the organochlorine pesticides shown on this card?

- yes no
 don't know

Comment

CHEMICALS SHOW CARD 1

- Less than one year
1-5 years
6-10 years
10 + years

CHEMICALS SHOW CARD 2

- Country
City or town
Not sure

CHEMICALS SHOW CARD 3

ORGANOCHLORINE PESTICIDES

- DDT
Dieldrin
Aldrin
Lindane
HCB
Heptachlor
Chlordane

APPENDIX 7: CONSENT FORMS

NATIONAL NUTRITION SURVEY TEENAGERS (15-17 YEARS)

A National Nutrition Survey is planned and will be conducted throughout New Zealand by the University of Otago on behalf of the Ministry of Health, Ministry for the Environment and the Regional Health Authorities. This study involves about 5,000 New Zealanders and will take place over a 12-month period starting December 1996.

The survey involves being interviewed about the food you have eaten recently and completing a questionnaire about how often you eat particular foods. In addition you will complete the following:

1. Blood pressure measurement.
2. Measuring your height, weight, two skinfolds, elbow width, and hip, waist and arm girths.
3. Having a blood sample taken to be analysed for standard nutrition-related tests, such as iron and fat levels, and for environmental chemicals.

The results of the national survey will be used to influence health policies with the intention of improving the nutrition of New Zealanders.

Participation in this study is entirely voluntary and will in no way affect your health care.

- I have been assured that my results will remain confidential and that no identifiable information about me will be revealed in any written or verbal reports about the survey.
- I understand that this study has been approved by the Ethics Committees throughout New Zealand and if I have any concerns about the study, I may contact my local ethics committee.
- I have read and had explained to me the information about this study. My questions have been answered to my satisfaction. I understand that I am able to stop taking part in this study at any time.

I AGREE TO TAKE PART IN THIS STUDY

Signed: _____ (participant) / / (date)

Participant's name: _____ (print name)

Signed: _____ (witness) / / (date)

Witness name: _____ (print name)

Please turn over

I AGREE TO MY CHILD'S PARTICIPATION IN THIS STUDY

Signed: _____ (parent/guardian) / / (date)

Parent/Guardian name: _____ (print name)

Signed: _____ (witness) / / (date)

Witness name: _____ (print name)

Participants may wish to receive their results.

PLEASE SIGN BESIDE THE OPTION YOU WISH TO TAKE:

Please send my results to me _____

Please do not send my results to me _____

8 November, 1996

CONSENT FORM

NATIONAL NUTRITION SURVEY
ADULTS (18+ YEARS)

A National Nutrition Survey is planned and will be conducted throughout New Zealand by the University of Otago on behalf of the Ministry of Health, Ministry for the Environment and the Regional Health Authorities. This study involves about 5,000 New Zealanders and will take place over a 12-month period starting December 1996.

The survey involves being interviewed about the food you have eaten recently and completing a questionnaire about how often you eat particular foods. In addition you will complete the following:

1. Blood pressure measurement.
2. Measuring your height, weight, two skinfolds, elbow width, and hip, waist and arm girths.
3. Having a blood sample taken to be analysed for standard nutrition-related tests, such as iron and fat levels, and for environmental chemicals.

The results of the national survey will be used to influence health policies with the intention of improving the nutrition of New Zealanders.

Participation in this study is entirely voluntary and will in no way affect your health care.

- I have been assured that my results will remain confidential and that no identifiable information about me will be revealed in any written or verbal reports about the survey.
- I understand that this study has been approved by the Ethics Committees throughout New Zealand and if I have any concerns about the study, I may contact my local ethics committee.
- I have read and had explained to me the information about this study. My questions have been answered to my satisfaction. I understand that I am able to stop taking part in this study at any time.

I AGREE TO TAKE PART IN THIS STUDY

Signed: _____ (participant) / / (date)

Participant's name: _____ (print name)

Signed: _____ (witness) / / (date)

Witness name: _____ (print name)

Participants may wish to receive their results.

PLEASE SIGN BESIDE THE OPTION YOU WISH TO TAKE:

Please send my results to me _____

Please do not send my results to me _____

8 November, 1996

BODY MASS INDEX:

- *Body Mass Index or BMI is an indicator of weight relative to your height.*
- *Normal weight for your height is a BMI between 20 and 25. A BMI greater than 30 indicates an individual is very overweight for their height.*
- *Recent research has suggested that the relationship between body size and composition is different for Maori and Pacific Islands people. Normal weight for height in these groups is indicated by a BMI between 22 and 27, with an individual with BMI greater than 32 considered to be very overweight for their height.*

WAIST / HIP RATIO:

- *Waist:Hip Ratio is an indicator of central body fat.*
- *A waist:hip ratio of greater than 0.9 for men and greater than 0.8 for women indicates an increased risk of ill health, including coronary heart disease.*

BLOOD PRESSURE:

- *Systolic and diastolic readings when measured in the resting state should be below 160 and 95 mmHg respectively.*

BLOOD RESULTS:

- *Desirable cholesterol levels for adults are less than 5.5 mmol/l and greater than 1.0 mmol/l for HDL cholesterol.*
- *The recommended level for haemoglobin is greater than 120 g/l and for ferritin is greater than 12 µl. If levels are low it suggests your iron stores need to be increased.*

Can I choose whether the interviewer is male or female?

Yes, please tell us when we call to make the appointment for your interview.

Does the survey have ethical approval?

The survey has received ethical approval from all fourteen ethics committees throughout the country.

Are my results confidential?

Yes, your information will be stored by code number only and no material which could personally identify you will be used in any reports on this study.

Will the results be published?

The main results of the survey will be published in a report, which should be available in your public library in 1998.

Questions?

If you have any more questions please ring Frances on Freephone 0800 78 75 74.

Project Director: Professor David Russell

Principal Investigators:

Dr Jim Faed
Dr Elaine Ferguson
Mr Peter Herbison
Dr Caroline Horwath
Dr Ted Nye
Mrs Winsome Parnell
Dr Paparangi Reid
Dr Colin Tukuitonga
Dr Rob Walker
Dr Barry Wilson

For further information about the Survey contact:

Dr Noela Wilson
Project Coordinator National Nutrition Survey
LINZ Activity and Health Research Unit
University of Otago
PO Box 56
Dunedin

Freephone: 0800 78 75 74

Telephone: 03 479 5246

Fax: 03 479 8332

email: LINZ@otago.ac.nz

National Nutrition Survey



University of Otago

LINZ Activity & Health Research Unit



08/96

What is the National Nutrition Survey?

It is a survey of the eating habits and health characteristics of New Zealanders, and is being run in association with the New Zealand Health Survey. It will start in December 1996 and continue for a full year.

Why do we need the information?

There are many gaps in what we know about what New Zealanders eat and the effects this can have on their health. This survey is designed to help overcome this lack of knowledge.

How will the results be used?

The results of this survey will enable health planners in the community and in the government to study:

- The link between eating habits and health.
- How our eating habits have changed over the last seven years.
- Whether New Zealanders in different parts of the country have different eating habits.
- How we change our eating patterns as we grow older.
- New Zealanders' nutrient intakes.
- The extent to which we are exposed to environmental contaminants.

Who is funding the survey?

The Ministry of Health is providing the main funding with some additional funding coming from the Ministry for the Environment.

Who is carrying out the survey?

The Ministry of Health has contracted the University of Otago to complete the survey.

Why do we need your help?

You are one of about 5,000 people selected to take part. The information provided by you will represent that of many other New Zealanders. As one of these people we are counting on your help to ensure everyone in New Zealand is properly represented.

Do I have to take part?

It is your choice whether you participate or not and this will not affect your future health care. If you agree to take part in the survey you are free to withdraw from the study at any time, for any reason, and this will not affect your continuing health care.

What is involved?

Two trained interviewers will visit you in your home at a time that is convenient to you. During the visit they will ask you about what you eat. They will also take your height; weight; hip, waist and arm girth; two skinfolds; measure the width of your elbow, take your blood pressure and finally take three 10ml tubes of blood. These blood samples will be analysed for standard nutrition-related tests (such as iron and cholesterol levels), and for environmental contaminants. If you wish, results will be sent to you.

Will there be any side effects?

Very occasionally some participants may experience some bruising around the area the blood is taken from or the area where the skinfolds are measured.

What happens to my blood sample?

After it has been analysed, any blood remaining will be held in trust for the people who donated the sample. These samples will be stored at the University of Otago under the guardianship of Te Ropu Rangatahi a Eru Pomare. Any future requests for analysis of the samples beyond standard nutrition-related tests would require your (or your next of kin's) permission and the approval of the appropriate ethics committees and the guardian.

Can the interviewer tell me what my results mean?

The interviewers are not trained to do this. If you would like to know the results of your tests they will be checked by a doctor and sent to you by mail. If one of your results is abnormal you will be advised to see your own doctor.

Do I need to wear anything special for the interview?

We recommend that you wear loose fitting clothing as it will allow us to take your measurements more easily.


How long will the interview take?

The interview will normally take between 1½ and 2 hours.

Can I have an interpreter?

Yes, please tell us when we call to make the appointment for your interview.





MINISTRY OF HEALTH
MANATU HAUORA

The New Zealand Health and National Nutrition Surveys

Information for Health Professionals

When will the results be available?

The surveys will be completed by November 1997 and preliminary information from the health survey will be available in early 1998. Much of the nutrition survey involves detailed coding and analysis, and therefore results will not be available until late in 1998.

The main findings of the surveys will be published in a series of reports which will be publicly available. More detailed results will be made available to researchers, government agencies and the general public as requested.

Further Information

For general enquiries about the surveys please contact:

National Nutrition Survey
University of Otago, Life In New Zealand Unit
Freephone: 0800 78 75 74

Robert Quigley
Ministry of Health
(04) 496 2135 (04) 496 2340 (fax)

New Zealand Health Survey
Grant Johnston
Ministry of Health
(04) 496 2222 (04) 496 2340 (fax)

Are the surveys safe and confidential?

Both surveys have been approved by all the regional ethics committees throughout New Zealand. The Ministry of Health has worked with the ethics committees to ensure that:

- participation in the surveys is voluntary
- the methods used are safe
- participants are protected from harm
- the information collected meets the highest standards of confidentiality and privacy
- all information is stored by code number only, so no one is personally identified in any reports.

The blood samples donated in the nutrition survey will only be used for nutrition and environmental testing. The samples will be stored in Dunedin under the guardianship of Te Ropu Rangahau Hauora a Eru Pomare (Eru Pomare Research Centre) and the regional ethics committees to ensure their security.

What will the survey results be used for?

- To help improve health services and make them more efficient.
- To develop programmes to improve the nutritional status of New Zealanders.
- To help regional health authorities make decisions within their regions.
- To help the Ministry monitor and record health and nutrition trends over time.
- To develop nationwide environmental guidelines.

All media enquiries should be directed to:
Lyn Harrison
Corporate Communications
Ministry of Health
04 496-2008 or 025 477-036
04 496 2010 (fax)

Introduction

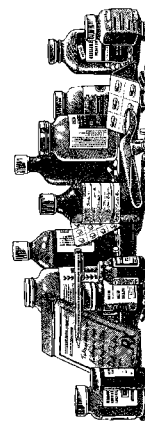
Two comprehensive nationwide surveys collecting data over a year, will provide a substantial amount of information about the health of New Zealanders and what they eat.

The New Zealand Health Survey and the National Nutrition Survey will give the Ministry of Health and the regional health authorities (RHAs) information to plan health services and develop programmes that improve the health and nutrition of all New Zealanders. The Ministry for the Environment will also use the blood sample information to produce national environmental guidelines.

The University of Otago will conduct the National Nutrition Survey. Statistics New Zealand will conduct the New Zealand Health Survey.

A number of agencies and individuals have helped the Ministry of Health plan the two surveys: the RHAs, the Ministry for the Environment, and a range of professional advisors.

Both surveys are voluntary.



Who will be interviewed?

Around the country 8500 people aged 15 years or over will be randomly selected and interviewed for the health survey. These people will also be asked to take part in the nutrition survey.

Large numbers of Maori and Pacific Islands people will be interviewed by both surveys.

How will the interviews take place?

Interviews for both surveys will be held in people's homes. People in the health survey will answer a questionnaire, which includes a short self-completed section. Parents and caregivers will also be asked questions about a child in their care. Interviews should take 30 minutes.

If a person also agrees to take part in the nutrition survey, a questionnaire will be left to fill out. Within four weeks, an interviewer will visit to complete the nutrition survey. Interviews for the nutrition survey should take 75 minutes.

When will the interviews for the surveys take place?

Between October 1996 and November 1997. Use of health services and diet vary according to the time of the year in which the information is collected. Spreading interviews over 12 months will provide seasonal information.

What will the surveys cover?

Questions in the health survey will include:

- use of GPs, hospitals and other health care services
- prescriptions
- health conditions (asthma, diabetes and high blood pressure)
- disability
- smoking
- physical activity
- injuries
- alcohol problems
- self-assessed health status
- demographic and socio-economic factors.

The nutrition survey will cover:

- foods eaten
- general food practices
- access to food (food security)
- body measurements (height; weight; hip, waist & arm girth; skinfolds and elbow width)
- blood samples (cholesterol, iron, folate, vitamin A, dioxins)
- blood pressure.

If people wish, their results can be checked by a doctor in the research team and sent to them by mail. Where appropriate, participants will be encouraged to discuss their results letter with their General Practitioner.



APPENDIX 12:
UNIVERSITY OF OTAGO CALLING CARD



LINZ Activity & Health Research Unit

University of Otago
P.O. Box 56 Dunedin New Zealand

National Nutrition Survey

This is a survey of the eating habits of New Zealanders. The results will enable health planners in the community and government to study:

- The link between eating habits and health.
- How our eating habits have changed over the last seven years.
- Whether New Zealanders in different parts of the country have different eating habits.
- How we change our eating patterns as we grow older.
- New Zealanders' nutrient intakes.
- The extent to which we are exposed to environmental contaminants.



National Nutrition Survey

R									
---	--	--	--	--	--	--	--	--	--

I called to see you at _____ on _____

I am in the area until _____ and would like to contact you.

Please call our freephone **0800 78 75 74**
or my mobile phone _____

GLOSSARY

AC Nielsen packaged foods sales data.	AC Nielsen is a New Zealand company. They collect data on the packaged foods sold in New Zealand including sales volume.
Aliquot.	Measured exact amount of liquid.
Anthropometry.	The science that deals with the measurement of the size, weight and proportions of the human body. Used as indicator for various conditions related to health and nutrition.
Australian Nutrition Survey.	This survey was carried out on behalf of the Commonwealth Department of Health and Family Services by the Australian Bureau of Statistics. The Australian Nutrition Survey will provide information on the food and nutrient intakes, dietary habits and body measurements on a representative sample of Australians aged from 2 years.
Bar code.	A machine readable striped code on packaging. Used for product identification by a programmed decoder.
Barriers to dietary change.	Factors that may limit individuals in their change in food choices. They may include cultural factors, lack of knowledge, cost and time constraints.
Bioelectrical Impedance Analysis.	A method of body composition analysis based on electrical conduction.
Biographic Parameters.	Characteristics related to one person.
Body Fat Mass.	Weight of fat in the body.
Chlorinated organic chemicals (dioxins, poly-chlorinated biphenyls (PCBs) and pesticides).	Substances containing chemically combined chlorine and carbon atoms. Dioxins are produced as by-products of a number of industrial and combustion processes. Their bio-accumulation and presence in the food chain may be associated with causing cancer and hormone imbalance in humans.
Clean data set.	The final, useable data set which has been checked for errors and is ready for analyses to begin.
Coding.	Matching foods recorded during an interview to the New Zealand Food Composition Database.
Community Services Card.	A card available to certain individuals of the population which entitles subsidised health services.

Computer-assisted data capture system.	A computer programme used to collect the responses of the participants in the National Nutrition Survey. It was developed by the University of Otago to meet the unique requirements of the National Nutrition Survey.
Continuing Survey of Food Intakes by Individuals.	A United States of America nationwide dietary intake survey funded by the Agriculture Research Service of the United States Department of Agriculture and carried out by Westat.
Core nutrients.	The New Zealand Food Composition Database has 52 nutrients which are determined for all foods on the database. Other non-core nutrients are available for certain foods.
C-reactive protein.	A blood serum protein which is sensitive to acute infection.
Crop & Food Research Ltd.	A Crown Research Institute contracted by the Ministry of Health to provide the New Zealand Food Composition Database.
Cross-sectional population survey.	A survey that involves a representative sample of the people of New Zealand.
Cuff.	A sleeve/band on the Omron blood pressure monitor that fits around the participants' arm.
Demographic Parameters.	Characteristics related to population statistics such as age, gender and ethnicity.
DEXA.	Dual-energy x-ray absorptiometry scanning. Used to determine body composition, including percent amounts of lean and fat tissue, and bone mineral density.
Diet History.	A detailed dietary assessment about a participants 'typical' or 'usual' food intake in a 1-2 hour interview. The aim is to construct a typical seven-day eating pattern. Questions are usually open-ended and cover each meal in turn for a full seven days.
Dietary modelling.	Combines information about food dietary intake and/or model diets with nutrient/chemical composition of foods for risk assessment.
Dietary supplements.	A wide range of products that are consumed by people in the belief they will improve health and nutrition.
EDTA.	Ethylene diamine tetra-acetic acid. An anticoagulant used for plasma blood samples to prevent blood clotting.
Epidemiology.	The medical science concerned with the occurrence of disease in the community.
Erythrocyte protoporphyrin.	Protoporphyrin is a precursor of haem iron found in red blood cells. It indicates gradual changes of iron supply in bone marrow and is a measure of iron deficiency.
Ethical approval.	Ethical approval is granted by ethics committees after they have reviewed if the survey procedures meet all ethical standards.

Ethics committee.	A group of community and health professional representatives who ensure that the rights of participants are upheld and participants are protected from harm.
Five-yearly health status and the determinants reports.	Reports that focus on trends in key social variables that impact on health status. Variables are broken down to changes in: the New Zealand population; social and physical environments; and lifestyles of New Zealanders; in relation to health outcomes.
Food and Nutrition Guidelines for Healthy New Zealanders.	Food-based guidelines that include recommendations on the number of servings that should be consumed from each of the major food groups by healthy individuals.
Food list database.	A database to help the interviewer identify the food that the participant has consumed.
Food portion size.	A typical amount of a particular food consumed.
Food Records.	A method of dietary data collection where participants note the foods and drinks they consume throughout the study.
Food Regulatory areas.	An area of the government that controls aspects of the food supply through laws and restrictions.
Food Security.	Covers such issues as hunger; stress involved with providing meals/ food; lack of money to purchase food; and lack of access to food. It deals with the key issues relating to the procurement and consumption of food for people, especially people on a low income.
Geographic Parameters.	Characteristics related to physical aspects of the population. For example, RHA boundaries and the rural/urban split.
Gluteal muscle.	Muscle present around the buttock area of the human body.
Haematocrit.	The red blood cell fraction of blood. A measure of normality for red blood cells (otherwise known as packed-cell volume).
Haemoglobin.	Component of red blood cells required for oxygen transport within the body and used as a measure of frank iron deficiency anaemia.
Harpenden callipers.	Callipers used to measure the skinfold measurements.
Hawksley Random Zero machine.	Blood pressure machine used in the Life In New Zealand survey.
HDL cholesterol.	High density lipoprotein cholesterol. This is seen as the ‘beneficial’ blood cholesterol fraction because it transports cholesterol from the tissues and blood vessels back to the liver for excretion. It is desirable to have higher blood levels of this type of cholesterol in relation to other types.
Household Labour Force Survey.	Survey conducted by Statistics New Zealand which collects relevant data on the labour force of New Zealand.
Informed consent.	Consent given by the participants after being told the survey details.

Institute of Environmental Science and Research Limited (ESR).	A New Zealand Crown Research Institute contracted by the Ministry of Health to gather vitamin and mineral supplement product details.
Interviewer-administered questionnaire.	A questionnaire that is filled in by the interviewer while questioning the participant.
Joint food standard-setting system.	A joint system between the New Zealand and Australian Governments exists to develop a Joint Food Standards code. The standards will cover safety, composition and labelling of foods for both countries.
Key food habits.	Significant food practices and customs which have a major impact on food and nutrient intake.
Lacto-ovo vegetarian.	An individual that eats eggs and dairy products but excludes all meats and fish.
Life in New Zealand Survey.	A nationwide survey of activity, nutritional status and health carried out by the University of Otago and funded by the Hillary Commission for Sport, Fitness and Leisure in 1989–1990.
Mean Cell Volume.	Measure of the average size of the red blood cell. A measure of normality for red blood cells.
Minimum stasis.	The smallest amount of movement of the participant, especially of the arm vein during collection of blood samples.
Ministry of Health.	A government department responsible for developing health policy advice to the Minister of Health. The Ministry leads the health and disability sector in promoting health through policy advice, health protection, funding management and monitoring.
Modified recipe.	A recipe consumed by the participant, and the participant knows the major ingredients but not the exact amounts.
National Plan of Action for Nutrition (NPAN).	A Public Health Commission 10-year strategic plan which provides advice to the Minister of Health. NPAN focuses on the policy, programmes and research issues that will help to improve health through improving food and nutrition.
New Zealand Food Composition Database.	A database containing the nutrient composition of over 2,000 New Zealand foods. The database is maintained by the Crop & Food Research Ltd, under contract to the Ministry of Health.
NHANES III.	The third Nationwide Health and Nutrition Examination Survey. Conducted during 1988 to 1994 by the United States Department of Health and Human Services. It monitors the health and nutrition status of the United States population two months of age and older.
Notepad.	A facility on the computer where the interviewer can record further information about foods, especially when foods could not be matched accurately to the food list database. This information is used as a later reference by the University of Otago during coding.

Optical Scanning equipment.	Equipment used to machine -read the participants' responses to the 'Your usual food intake' questionnaire.
Organochlorines Programme.	A New Zealand programme conducted by the Ministry for the Environment to develop national environmental standards and guidelines for organochlorine substances.
Over-sampling.	The additional participants selected above and beyond those selected by random sampling. The purpose is to increase the number of Māori and Pacific Island people participating in the National Nutrition Survey.
Packing instruction 650.	The packing procedure required to meet specifications ensuring blood samples were safe to transport around the country.
Platelets.	Blood cells that have a role in the control of bleeding.
Pooling of serum.	Individual serum blood samples mixed together to form composite samples.
Predictor Equation.	Statistical equation predicting an unknown future random variable from a known variable.
Probe questions.	Questions used by the interviewer during the multiple-pass 24-HDR to ensure that all relevant details of the foods consumed by the participant are recorded.
Producer Boards.	Elected boards that govern the primary produce of New Zealand. For example meat, dairy, fruit and vegetables.
Progress on Health Outcome Targets report.	A Ministry of Health report which monitors the progress on health outcome targets. The targets reflect public health goals and objectives.
Quartiles.	25th, 50th and 75th percentiles of a sample. Used in statistical analyses.
Rabone metal diameter tape.	A measuring tool for length and circumference.
Recommended dietary intakes (RDIs).	Detailed amounts of the average daily intake of nutrients required over time to maintain good health for nearly all healthy people in New Zealand.
Red blood cell count.	The number of red blood cells per litre of blood. A measure of normality for red blood cells.
Regional health authorities (RHAs).	New Zealand has four RHAs. Each assesses the need for services in its geographic region. They purchase health and disability services for their region and monitor performance against purchase agreements.
Regression Equations.	A statistical procedure demonstrating the relation between two factors.
Repeat sample.	Approximately 10 percent of the original National Nutrition Survey participants were asked to undertake a second 24-HDR.

Respondent Burden.	The difficulty or load imposed on the participant while involved with the survey.
Sample frame.	An area-based frame from which the population sample was selected for participation in the survey.
Scapular.	The bone that protrudes from the upper back of the human body on both sides. Commonly known as the shoulder blade.
Seca digital platform scales.	An instrument for measuring the weight of individuals up to 200 kilograms.
Self-completed questionnaire.	A questionnaire which is filled in by the participant.
Serum.	Blood fluid that remains after plasma coagulates.
Serum ferritin.	Main form in which iron is stored in the liver, spleen and bone marrow. It is an indicator of iron stores for an individual.
Show Cards.	Visual prompts used to help the participant choose an appropriate response category.
Skinfolds.	Anthropometric measurements of the distribution of body fat. Based on the thickness of subcutaneous fat tissue. Measured by skinfold callipers.
Socio-demographic.	Statistical data concerning the relations between social class and demography.
Southern Community Laboratories.	The medical laboratories that performed the biochemical analyses of the blood samples for the National Nutrition Survey.
Stadiometer.	An instrument for measuring the height of an individual while standing upright.
Standard recipe.	A recipe consumed by the participant which was matched to a recipe on the recipe list database.
Statistics New Zealand.	A New Zealand Government department which collects and analyses a wide range of data.
Stethoscope.	An instrument for listening to the action of the heart, lungs and arteries. Used when measuring blood pressure in the LINZ [®] survey.
Subsample.	A portion of the participants who undertook the survey.
Subscapular.	An area of the body below the scapular (shoulder blade) bone on the back. The skinfold covering the subscapular is indicative of fat deposits in that site.
Te Rōpu Rangahau Hauora a Eru Pōmare.	The Eru Pomare Māori Health Research Centre based at the Wellington Medical School of the University of Otago.
Therapeutic database (TDB).	A database of brand-name foods used to produce lists of food products free from certain components and additives. Auckland Hospital is contracted to the Ministry of Health to provide the Therapeutic Database.

Total cholesterol.	This is the sum of all cholesterol fractions found in the blood. It is optimal to have a total cholesterol below 5.2 mmol/L to minimise risk of coronary heart disease.
Transferrin receptors.	A protein receptor that has a soluble form and a cellular form. It facilitates the entry of iron into cells. Transferrin receptors are an important indicator of iron status.
Triceps.	An area of muscle found at the back of the upper arm. The skinfold covering the tricep muscle is indicative of fat deposits in that site.
Vacutainers.	Small vacuum containers that are used for collecting blood samples from participants.
Vernier bone callipers.	Callipers used to measure the elbow width of participants.
White blood cell count.	The number of white blood cells per litre of blood.
Within-person variation.	Variability in an individuals' nutrient intake data between different time periods (otherwise known as intra-person variation).

REFERENCES

- Bergman EA, Boyungs JC, Erickson ML. 1990. Comparison of a food frequency questionnaire and a 3-day diet record. *J AM Diet Assoc* 90:10 1431–1433.
- Birkbeck JA. 1983. *New Zealanders and Their Diet: Report to the National Heart Foundation of New Zealand on the National Diet Survey 1977*. Second revised edition. Dunedin: University of Otago.
- Bloom F, Brown B, Jeffreson S. 1995. The challenge of dietary assessment: the 24-hour dietary recall methodology used in the 1995 National Nutrition Survey. *Proceedings of the South-West Pacific Regional Dietitians Conference, Brisbane, Australia*.
- Brown B, Bloom F, Jeffreson S et al. 1995. *Modification of the USDA 24-Hour Dietary Recall Instrument for Use in an Australian National Nutrition Survey*. International Conference on Dietary Assessment Methods, Boston, USA.
- Cypel Y, Tippett K. 1997. *Design and Operation: The continuing survey of food intakes by individuals and the Diet and Health Knowledge Survey, 1994–96*. NFS Report No 96-1. United States Department of Agriculture-Agriculture Research Services: Beltsville Human Nutrition Research Center.
- Guenther P, DeMaio T, Ingwerson L et al. 1995. *The Multiple Pass Approach for the 24-hour Recall in the Continuing Survey of Food Intakes by Individuals, 1994–96*. International Conference on Dietary Assessment Methods, Boston, USA.
- Lohman, Roche, Martorell (eds). 1988. *Anthropometric Standardization Reference Manual*. Illinois: Human Kinetics.
- McDowell M, Briefel R, Warren R, et al. 1990. The dietary data collection system. An automated interview and coding system for NHANES III. *Proceedings of the 14th National Nutrient Databank Conference, Ithaca, New York*. CBORD Group Inc, 1990: 125–31.
- Public Health Commission. 1995. *National Plan of Action for Nutrition: The Public Health Commission's advice to the Minister of Health 1994–95*. Wellington: Public Health Commission.
- Report of the Nutrition Taskforce. 1991. *Food for Health: The report of the Nutrition Taskforce to the Department of Health*. Wellington: Department of Health.
- Russell D, Wilson N. 1991. *Life in New Zealand Commission Report Volume 1: Executive overview*. Dunedin: University of Otago.
- Sempos CT. 1992. Invited commentary: Some limitations of semiquantitative food frequency questionnaires. *Am J Epidemiol* 135:10 1127–1132.
- Swinburn BA, Sey SJ, Plank L. 1997. *Body Composition in Māori: Report to the Ministry of Health*. Auckland: University of Auckland.