

# LET'S BEAT DIABETES BENCHMARK SURVEY



RESEARCH REPORT FOR  
*Let's Beat Diabetes* Programme  
COUNTIES MANUKAU



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## FOREWORD

The “Let’s Beat Diabetes” programme was launched in 2005. Being an unprecedented regional undertaking the programme has drawn significant attention in New Zealand. The programme aims at preventing or delaying the onset of Type 2 diabetes, slowing the disease progression, and increasing the quality of life for people with type 2 diabetes in Counties Manukau.

“Let’s Beat Diabetes” draws on the active involvement of health promoters, primary healthcare, secondary health services, local and central government, the food industry, schools, sports organisations, workplaces, churches and community organisations. More than 70 different initiatives target health behaviours, the identification of those at risk of and with diabetes, and diabetes management.

A research project involving more than 2500 Counties Manukau residents was undertaken to provide an evidence-based benchmark study to monitor the impact of the “Let’s Beat Diabetes” programme and to provide information on the current behavioural patterns and attitudes around nutrition and physical activity, knowledge of diabetes, openness to change for the general population and various demographic groups. Information was also sought to determine the most effective methods of communicating with specific ethnic groups in the region.

The study has culminated in this “Let’s Beat Diabetes Benchmark Survey” research report which illuminates many significant target areas on which to focus the activities and interventions of “Let’s Beat Diabetes”. Tailored community initiatives can now be further developed to create the greatest impact and sustainable change for the health and wellbeing of the Counties Manukau region.

The community partners involved in the “Let’s Beat Diabetes” programme acknowledge the survey participants and their families who by their support and contribution have helped to progress the aims of the “Let’s Beat Diabetes” programme and ensure a healthier life for our communities. The Counties Manukau District Health Board also offers sincere thanks for the many participants who took the opportunity to receive information regarding diabetes and those who underwent diabetes testing following the survey.



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**FOR FURTHER INFORMATION:** For more information about this survey or the Let's Beat Diabetes Programme, please contact the Let's Beat Diabetes Programme Support Co-ordinator on + 64 9 262 9592 or [info@lbd.org.nz](mailto:info@lbd.org.nz). Full information about the Let's Beat Diabetes Programme can also be found on [www.letsbeatdiabetes.org.nz](http://www.letsbeatdiabetes.org.nz) and ideas about how to swap to healthier lifestyles can be found on [www.swap2win.co.nz](http://www.swap2win.co.nz).

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# 1 SUMMARY

## 1.1 OBJECTIVES

- This survey provides a benchmark for the Let's Beat Diabetes (LBD) programme in the Counties Manukau DHB (CMDHB) region, against which to assess its relative impact over time.
- It also provides information to inform LBD programme planning, including its social marketing campaign development.
- The key areas of questioning covered by the survey were in relation to:
  - ♦ Nutrition
  - ♦ Physical Activity
  - ♦ Diabetes
  - ♦ Demographics
  - ♦ How to reach different ethnic groups
- All survey participants who did not have diabetes were offered the opportunity to have a free diabetes test, and to allow the results to be used to inform this study.

## 1.2 RESEARCH METHODS AND SAMPLE DESCRIPTION

- A telephone survey was undertaken with 2520 persons aged 16 years and over, of whom 594 were Maaori, 712 Pacific peoples, 599 Asian and 998 of Other ethnicities (which included New Zealand European), with people being included in all ethnic groups to which they belonged.
- The Pacific peoples grouping included: 295 Samoan, 173 Tongan, 186 Cook Island Maaori, 62 Niuean and 58 Other Pacific.
- Within the Asian category there were 222 from East Asia (including 173 from China), 299 from South Asia (including 185 from India and 98 Fijian Indians) and 91 from South East Asia.
- Computer-assisted telephone interviews (CATI) were conducted between 31 October 2006 and 8 March 2007 and the interview duration averaged 24 minutes.
- All respondents were offered the opportunity to be interviewed by an interviewer from their ethnic group if they were Maaori, Pacific or Chinese<sup>1</sup>, and Pacific Island respondents were offered the choice of being interviewed in English, Samoan or Tongan.
- The weighted response rate was 55 percent for the general sample.
- For the analyses, the sample was weighted with the intention of reflecting the ethnic, age and gender composition of the CMDHB population aged 16 years and over. This weighting was undertaken before 2006 Census data was available and the proportion of Asian peoples in the weighted sample (22%) finished up being a little higher than recorded in the 2006 Census (19%). The Other ethnicities were a little under-represented (53% versus 56% in the Census), while Maaori and Pacific peoples were in the correct proportions. These differences will not have any marked effect on the results reported.
- 2006 Census data was also not available at the time of the data analysis to allow level of deprivation to be included in the weighting. Subsequent analyses revealed that the Maaori sample was a little under-represented in high deprivation areas<sup>2</sup>, the Pacific sample slightly over-represented, while the Asian sample appeared to be a good match.<sup>3</sup> These small biases will not have any marked effect on

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<sup>1</sup> The ethnicity of the respondent was not known until the call had been made to the household and the qualifying respondent selected.

<sup>2</sup> 47 percent of the sample was from these areas compared with 54 percent recorded in the 2006 Census.

<sup>3</sup> No 2006 Census data was available for Other ethnicities at the time this report was finalised.

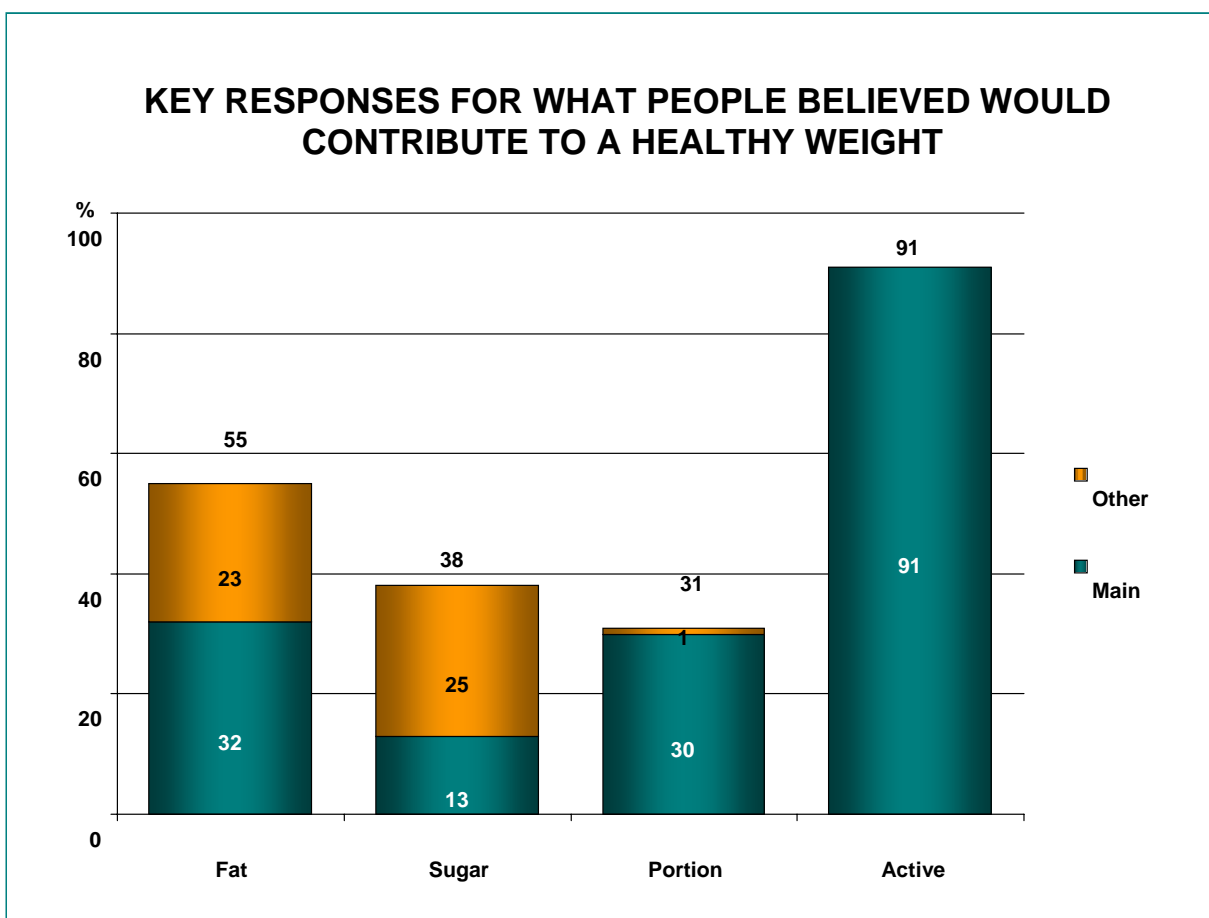
the total sample findings or Pacific people's findings, and the Maaori bias is small enough to still provide a reasonable degree of confidence in the Maaori findings.

- Ethnic group comparisons were based on age standardised data, to remove any ethnic differences which were due to some groups having younger populations.
- Fifty-nine percent of those interviewed were females.
- There were 1742 who formed the sub-sample of people involved in choosing or doing food shopping, while 1550 were main meal preparers and 1442 had responsibility for children.

## 1.3 KEY FINDINGS

### PERCEPTIONS RELATING TO HEALTHY WEIGHT

- People clearly had a good understanding that physical activity is an important contributor to having a healthy weight.
- They also realised that diet is important, but there is room for improvement in awareness of the various different components of a healthy diet.
- There was low unprompted awareness of the importance of reducing portion size and the link between sugar consumption and healthy weight was also relatively low. The following graph shows the key responses, with each category showing the proportion of people who specifically mentioned the category (e.g. 'eat less fat'), as well as the total mentions, which included people making *related* mentions of that category (e.g. 'drink trim milk').
- Approximately half mentioned eating vegetables (57%) and fruit (45%) as a means of having a healthy weight.



<sup>4</sup> Obese and overweight persons were self-reported, based on how they thought a doctor would classify them.

- With approximately three-quarters claiming to know what their **recommended body weight and body shape** were, on the face of it these do not appear to be areas that need a lot of attention. However, the poor awareness of being obese or overweight does raise questions as to how accurate people's perceptions of their recommended body weight might actually be.

## HEALTHY EATING

### Fruit And Vegetable Consumption

- Let's Beat Diabetes could address awareness of the **recommended number of daily servings of fruit and vegetables**, as less than half (45%) knew it was five, although another five percent mentioned a figure higher than five servings.
- People who reported a lower recommended minimum number of servings of fruit and vegetables tended to also consume lower amounts of fruit and vegetables. Likewise those who knew that five servings was the recommended minimum amount averaged five servings and those who thought the recommended amount was higher than five averaged six servings. Those who did not know the recommended minimum, averaged four servings. However, these findings do not mean that increasing awareness of the recommended minimum amount will lead to increased fruit and vegetable consumption. It is possible that it might, but it is also possible that the results are simply evidence that people who do eat more fruit and vegetables are more likely to know the minimum recommended number of servings. Alternatively there could be some other explanation of the relationship that has not been explored by this research.
- The proportion correctly mentioning five servings was lower for Pacific (27%) and Asian peoples (28%) and above average for Other ethnicities (60%), while for Maaori the level was just under a half (47%).
- The average person reported having 2.4 **servings of fruit** and 2.2 **servings of vegetables** per day, giving a total of 4.6. While this was not very far below the recommended daily average, there were still just over half (55%) who were eating less than five servings and just over a third (36%) eating less than four, so there is some room for improvement.
- In particular Pacific peoples could be encouraged to eat more vegetables, as they consumed an average of 1.8 serving. Asian persons were also below average for both fruit (2.1) and vegetable servings (2.0).
- Groups that were higher for the combined fruit and vegetable consumption were: females aged 25 years and over (5.1), meal preparers (4.9) and Other ethnicities (4.8).
- Other groups who were lower for the combined fruit and vegetable consumption were: males aged 45 years and over (3.8) and males aged 25 to 44 years (4.1).

### Other Eating Behaviours

- Consumption of **fizzy or energy drinks** was asked about as an example of high sugar intake. Half had consumed such drinks in the last seven days, and these people did so on an average of 3.2 days, which equated with an average of 1.6 days for the total sample.
- The proportion who had consumed fizzy/energy drink on five or more days in the previous week was particularly high among males aged 16 to 24 years (40%), which suggests value in targeting this group to support a 'swap 2 water' behaviour change.
- The research supports the LBD emphasis on addressing portion size, as over half (59%) reported **eating more than they needed** in the last seven days and did so on an average of 3.1 days, which equated with an average of 1.8 days for the total sample.
- The proportion who had eaten more than they needed on five or more days was greater among obese persons (25%), overweight persons (22%) and sedentary persons (22%).



- Just under one-in-ten (8%) had **nothing to eat for breakfast** on any of the previous seven days and this was more prevalent among: females aged 16-24 years (15% vs 8% for total sample), Maaori (12%) and people from high deprivation areas (12%).

### Low Fat Cooking Behaviours

- While the messages about cooking in ways that reduce the fat intake have gained some acceptance, there is still room for improvement, especially in terms of removing skin from chicken.
- Both Pacific peoples and Maaori had a relatively high prevalence of cooking patterns that are likely to contribute to diabetes, so they need to be encouraged and supported to change these patterns.
- Almost two-thirds 'usually' or 'sometimes' **cooked chicken with the skin on**, with this being more pronounced among Maaori (81%) and Pacific peoples (81%).
- Under half (41%) of meal preparers either 'usually' or 'sometimes' **cooked meat or vegetables in butter or lard**, rising to over two-thirds (68%) for Pacific peoples and over half (57%) for Maaori, while it was under half (42%) for Asian and one-third (30%) for Other ethnicities.
- A similar proportion (42%) either 'never' or 'sometimes' **cooked meat, including corned beef, with the fat removed or drained**, rising to 60 percent for Pacific peoples.

### Support To Eat Healthily

- The ability of people to successfully adopt healthy eating patterns is likely to be influenced by the support they receive from people in their immediate environment. People were asked which of the people in the table below did things or made it easier for them to eat healthily. The first column of data is those who were eligible to answer (e.g. the children item is based on those responsible for children), while the second column is based on the total sample, so that each category can be directly compared with the other at a population level.
- People do seem to feel they get support from people around them to eat healthily, although obviously many of the reported levels could be increased, particularly for the workplace and doctors/medical staff.
- These findings identify that children often play a role in supporting their parent's healthy eating.
- There were some clear ethnic patterns, with Pacific and Asian peoples being more likely than others to feel they were receiving support from most sources, whereas Other ethnicities were less likely.

**Table 1: People who encourage or make it easier for you to eat healthily**

PEOPLE WHO ENCOURAGE OR MAKE IT EASIER FOR YOU TO EAT HEALTHILY	Those eligible to answer	Total Sample
	%	%
Other adults in your household	72	72
Children in your household	54	30
Your wider family/whanau and close friends	57	57
Your employer	34	25
People you work with	42	33
People at your church or place of worship	54	21
Doctor/medical centre staff	57	57

## Children's Eating

- Just under three-quarters (73%) of those responsible for children felt they gave them 'a lot' of support to eat healthily, while another one-fifth (19%) gave 'some' support. There may be an element of parents overstating this because they want to be seen to be doing the best for their children.
- While over half felt their children's eating could be healthier, many of these people thought it only needed to be 'a bit' healthier. Therefore efforts to encourage parents to get their children to eat more healthily may face some resistance because of the perceived lack of need for change. However, these results may also reflect some parents not being aware of how healthy or unhealthy their children's eating actually is and if this perception can be changed, there may be more desire to improve their children's diets.
- Those who thought their children's eating could be 'a lot' healthier were more prevalent among three key groups: obese persons, Pacific persons and those from high deprivation areas.

## Interest In Eating More Healthily

- It was a very positive finding that almost two-thirds of respondents were interested in eating more healthily, which provides a large population who should potentially be receptive to the 'Let's Beat Diabetes' social marketing initiatives.
- It was also a positive finding that the most at risk group, obese persons, were the most interested in eating more healthily, with four-fifths (80%) of them expressing this desire, while overweight persons were also above average at three-quarters (74%).
- The level was also higher among Pacific (78%) and Asian peoples (73%) and lower among Other ethnicities (57%), while Maaori were average at two-thirds (66%).
- Interest in eating more healthily was also greater among: 25 to 44 year olds, both females (75%) and males of this age group (72%); those responsible for children (72%); and those in high deprivation areas (72%).
- Most of those interested in eating more healthily either didn't find it difficult to do this (41%), or found it only 'a little difficult' (33%), while the majority of those who were not interested felt they were already healthy enough (60%).

## Possible barriers to healthy eating

- Those who reported that they had some difficulty in eating more healthily were asked to respond to three agree/disagree statements relating to possible barriers to eating more healthily, which addressed cost, availability and knowledge. Cost of healthier foods was the main barrier, but at one-quarter (24%) it was perhaps lower than might have been expected in a population that has relatively high levels of deprivation. Even among those who found eating more healthily 'very difficult', only one-third (30%) agreed that cost was a barrier.
- Cost was more of a barrier for Maaori (39%) and Pacific peoples (31%), as well as diabetics (45%) and people from high deprivation areas (33%).
- Availability of healthy foods was a barrier for less than one-eighth (12%).
- Given only one-sixth (15%) agreed that they didn't know enough about which foods were healthy for them, there again does not seem to be a large problem in this regard.
- There were 41 percent who agreed with at least one of these three statements relating to barriers to purchasing more healthy foods, which implies that *other* factors (which were not specifically asked about in this survey) were making it difficult for them.
- There were very few significant differences across any of the groups for the proportions who felt they didn't know enough about which foods are healthy for them, or those who were more likely to mention availability as an issue.

## PHYSICAL ACTIVITY

### Comparison With Recommended Level Of Activity

- Almost half (49%) of all respondents felt their level of activity was **less than the recommended minimum**, with this level not varying significantly across the ethnic groups.
- The results indicate that those whose activity levels are below the recommended level are generally aware that they are below this level. This suggests that there is not a lot of need to promote what the minimum activity level should be.

## Levels Of Physical Activity

### Definitions

What was defined as being “Physically Active”?

Survey participants were asked: “On how many of the LAST SEVEN DAYS did you do physical activity for at least TEN MINUTES at a time? By physical activity I mean activity that increases your heart rate or breathing for at least TEN MINUTES at a time. This includes things like BRISK walking, gardening, dancing, golf, tennis, through to activities that require more effort - activities like heavy lifting, digging, jogging, rugby, and netball. Think about activities at work, school, or home, getting from place to place, and any activities you did for exercise, sport or recreation..”

This definition of being “physically active” therefore captures both moderate and vigorous levels activity, as well as recreational and work related activity.

The total sample can be categorised into three main groups based on the total amount of time that they were physically active in a week:

- ‘Physically active’ refers to those who reported doing at least two and a half hours physical activity in the last week
- ‘Minimally active’ refers to those who reported doing less than two and a half hours physical activity, but at least half an hour of physical activity in the last week
- ‘Sedentary’ refers to those doing less than half an hour of physical activity in the last week

The report also describes the population’s behaviours by:

- Frequency of activity in a week: The term ‘Regularly physically active’ refers to those who reported doing at least two and a half hours physical activity in the last week, comprising of those who were active on five or more days and averaged 30 minutes over those days.

Level of vigorous activity: Survey participants were asked to specify how much of their total activity could be classified as “vigorous activity”. This was defined as “activity that makes you breathe A LOT HARDER than normal (‘huff and puff’) - like heavy lifting, aerobics, jogging, rugby, netball”.

As shown in the following table, two-thirds were physically active and almost half were doing so on a regular basis.

- The best estimate of the proportion who were reaching the minimum recommended level of activity (30 minutes moderate or 15 minutes vigorous activity) was almost one-half (49%) who were achieving this on at least five of the previous seven days.

**Table 2: Physical activity levels**

PHYSICAL ACTIVITY LEVELS	Total	Maaori	Pacific Peoples	Asian	Other
	(2520)	(594)	(712)	(599)	(998)
	%	%	%	%	%
Physically active	67	73↑	70	60↓	69
Minimally active	23	16↓	22	29↑	22
Sedentary	9	10	8	10	8
Regularly physically active	48	54↑	49	43	50

A ↑ denotes a percentage that is significantly higher than in the total column, while a ↓ denotes a significantly lower percentage.

- Those who were more prevalent among the 'regularly physically active' included: Maaori (54%) and males aged 16 to 24 years (59%).
- The average person was **active** for at least ten minutes on 4.6 of the last seven days and active for 10.1 hours over those seven days.
- The number of active hours (based on the total sample) was higher for: Maaori and Pacific peoples (both 12.5 hours), males aged 16 to 24 years (13.7 hours), and those from high deprivation areas (11.6 hours).
- Groups that were below average were females aged 25 to 44 years (7.0 hours) and Asian peoples (8.4 hours).
- Nearly two-thirds (61%) did at least 10 minutes **vigorous activity** in the previous week, and these people averaged 3.4 days, which equated with an average of 2.1 for the total sample.
- The average person spent 3.3 hours a week on vigorous activity, but when only those who engaged in vigorous activity were considered, their mean was 5.3 hours per week.
- The number of hours of vigorous activity (based on the total sample) was higher for: Maaori (4.9), Pacific peoples (4.6), males aged 16 to 24 years (5.0), males aged 25 to 44 years (4.6), and people from high deprivation areas (4.2).
- Groups reporting below average hours of vigorous activity included: Asian peoples (1.9), females aged 45 years and over (2.1), females aged 25 to 44 years (2.3).
- While the proportions of Maaori who were 'physically active' and 'regularly physically active' were above average, as were the reported hours of activity, there are still obviously groups within the Maaori community who would benefit from more physical activity, particularly those who are currently 'sedentary'.
- Pacific peoples also reported above average hours of activity, however they were not above average for the proportions who were classified as 'physically active' and 'regularly physically active', so it will still be important to encourage increased physical activity for many in the Pacific community.
- Likewise, those from high deprivation areas were also above average for hours of activity, but the proportions who were 'physically active' and 'regularly physically active' were not above average, so seeking to increase physical activity within this group would also be appropriate.

### Support To Be Physically Active

- The table which follows indicates that children, workplace colleagues and employers tended to be more of a support for physical activity than healthy eating. The converse applied for other adults in the household and doctors. However none of these differences were particularly large.
- 'Sedentary' persons were below average in the levels of support they reported receiving for all sources of support for physical activity.

**Table 3: People who encourage or make it easier to eat healthily/be physically active**

PEOPLE WHO ENCOURAGE OR MAKE IT EASIER FOR YOU TO....	Eat healthily %	Be physically active %
Other adults in your household	72	62
Children in your household	54	64
Your wider family/whanau and close friends	57	57
Your employer	34	40
People you work with	42	48
People at your church or place of worship	54	59
People at your marae in Counties Manukau	53	62
Doctor/medical centre staff	57	50

### Children's Physical Activity

- Of those responsible for children, over two-thirds (69%) felt they gave 'a lot' of support to their children to be physically active, and another one-fifth (21%) gave 'some' support. These levels were similar to those for supporting their children to eat healthily.
- Even more so than with eating, parents tended to see their children's activity levels as being healthy enough (55% compared with 39% for eating). It is worth noting that parents can probably rely on schools to provide some physical activity for their children, whereas eating is an area for which parents have to take greater responsibility.
- Those thinking their children needed to do 'a lot more' physical activity were more prevalent among: diabetics (27%), Pacific peoples (26%), those from high deprivation areas (23%), obese persons (22%), and females aged 45 years and over (22%, this being the age group who would be more likely to have older children).

### Interest In Being More Physically Active

- As with eating more healthily, there was a high level of interest in being more physically active (67%), which is a positive sign for the social marketing campaign.
- This level was higher for Pacific peoples (75%) and Asian peoples (72%), and lower for Other ethnicities (62%), while the level for Maori was just under two-thirds (63%).
- Others who were more likely to want to be physically active included: obese persons (83%), females aged 25 to 44 years (79%), sedentary person (79%), overweight persons (76%), those responsible for children and people from high deprivation areas (72%).
- People found being more physically active more difficult than eating more healthily. Just over a quarter (26%) of those who were interested in being more physically active didn't find it difficult (was 41% for eating), just over a third (34%) found it 'a little difficult' (which was similar for eating, 33%), just over a quarter (27%) found it 'somewhat difficult' (17% for eating) while 13 percent found it 'very difficult' (8% for eating).
- As with eating more healthily, those who were not interested in changing mostly felt they were already doing enough to be healthy (70%).

### Possible Barriers To Being More Physically Active

- Two possible barriers were asked about, relating to cost and availability. Once again the barriers were not as prevalent as might have been anticipated. Of those who had some difficulty being

more active, 28 percent agreed that they couldn't afford the cost of things they would need such as babysitters, clothes, equipment or gym membership.

- One-sixth (15%) agreed that there aren't enough places in their area for them to go or join, such as parks, walking groups or sports clubs.
- There were over a third (35%) who mentioned at least one of these two barriers.
- Cost was more of an issue for: obese persons (41%), those from high deprivation areas (40%), Pacific peoples (38%), and females aged 25 to 44 years (37%).
- Availability was more of an issue for Asian peoples (24%).
- Mention of barriers did not differ in terms of people's current levels of activity, suggesting that these barriers are not impacting on the current activity levels.

## LINKS BETWEEN HEALTHY EATING AND PHYSICAL ACTIVITY

- When further analysis was conducted to find out if the people who were found for the most part to be adopting "healthy eating" behaviours, were also adopting recommended levels of physical activity, it found that this was not necessarily the case. Thus, just because someone has their daily diet under control, does not mean it can be assumed that they are also regularly active (and vice versa). This suggests the possibility of a strategy that encourages active people to take the same care with their body when it comes to eating, as they do in keeping active and fit. Likewise those who eat healthily, but are not so active, could be encouraged to see the logic in also looking after their body by being more active.
- There was a high degree of overlap in interest in change and perceived difficulty of change for both eating and activity, which may assist with providing some efficiencies in social marketing initiatives.

## ROLE OF PRIMARY CARE

Note: The survey specifically asked participants about the role of GPs and nurses, it did not extend to asking participants about services delivered to them by personnel in health promotion teams and by community health workers (i.e. in relation to healthy eating, increasing activity and reducing obesity).

- Under two-thirds (64%) had consulted a doctor or nurse in the previous twelve months about their own personal health, with the proportion being lower for Asian peoples (57%).
- The table below shows the tests or consultation received from doctors or nurses that respondents recalled. The percentages are based on the total sample, which included persons who had not been to a doctor or nurse in the previous 12 months.
- There were under half of all persons interviewed (44%) who mentioned being talked to about either healthy eating/weight, risk of diabetes/heart disease or exercise/physical activity. This level rose to nine-in-ten (90%) among diabetics and over half (57%) among those who were obese, however there was no indication of greater advice giving for other 'at risk' groups.
- One-fifth (19%) of the sample identified as **smokers**, rising to over one-third (35%) for Maaori and over a quarter (28%) for Pacific peoples, while Asian peoples were low at one-in-ten and Other ethnicities were average at one-in-six (17%). There are indications that the level of smoking was under-reported.

**Table 4: Tests/consultations received from doctor/nurse**

TESTS/CONSULTATIONS RECEIVED FROM DOCTOR/NURSE	Total (2520) %	Maori (594) %	Pacific Peoples (712) %	Asian (599) %	Other (998) %
Give you a blood pressure test	57	53	58	47↓	61
Give you a cholesterol test	39	36	43	34	39
Give you a diabetes test	36	34	45↑	32	33
Measure your weight	51	49	57↑	44↓	51
Talk to you about stopping smoking	18	23↑	35↑	15	11↓
Talk to you about healthy eating or weight	33	35	51↑	33	26↓
Talk to you about your risk of diabetes or heart disease	30	32	48↑	27	23↓
Talk to you about exercise or physical activity	37	37	52↑	35	31↓
Given a green prescription	12	11	26↑	13	5↓

## AWARENESS AND UNDERSTANDING OF DIABETES

- There is considerable room for improvement in knowledge about diabetes, with more than half the people rating their knowledge as 'poor' or 'fair' (23 percent rated it 'poor', 32 percent 'fair', 27 percent 'good' and 18 percent 'very good').
- While diabetics considered themselves more knowledgeable than others, there were still almost a quarter who rated their level of knowledge of diabetes as only 'fair' or 'poor'.
- Those rating their knowledge as 'poor' were more prevalent among males aged 16 to 44 years, sedentary persons and Maori.
- The main awareness/knowledge issue that needs to be addressed is the widespread misconception that it is mainly people who eat a lot of sugar who get diabetes. When asked to identify if specific statements were true or false, almost half (47%) said it was true that it was mainly people who eat a lot of sugar that get diabetes. This misperception was more prevalent among: males aged 16 to 24 years (68%), Asian peoples (60%), Pacific peoples (59%) and those from high deprivation areas (57%).
- Most were aware that diabetes does affect young people (87%) and that you can have diabetes and not realise it (91%).
- Most were also aware that diabetes increases your risk of developing heart disease (81%) and that there are things you can do to prevent getting diabetes (83%)<sup>5</sup>.
- When asked **what can be done to prevent diabetes**, there was much more unprompted mention of controlling sugar intake (42%) than controlling fat intake (23%), so there is room to improve awareness of the importance of reducing fat consumption.
- Only one-in-ten (11%) mentioned controlling portion size, which provides further support for the LBD social marketing focus on reducing portion size as one of its four key messages.
- There were two-thirds (66%) who mentioned something to do with diet, including one-quarter (26%) who mentioned eating vegetables and one-fifth (21%) eating fruit.

<sup>5</sup> Given the true/false nature of the questions, it is possible that some people correctly guessed the correct response.



- Just over half mentioned keeping active/fit (56%), so there is potential to improve awareness that physical activity, along with diet, is key to preventing diabetes.
- Less than one-fifth (18%) mentioned reducing weight or not getting overweight, which is probably the single most important message relating to diabetes prevention.
- A third were **worried that they or someone in their family has or may get diabetes**, with this level rising to over half (55%) for Pacific peoples and two-fifths (40%) for Maori, while it was just over one-third (35%) for Asian peoples and just under a quarter (23%) for Other ethnicities.
- While obese persons were above average in their concern about them or someone in their family having or getting diabetes, there were still over half of them who were not expressing any real concern. This suggests that these people may not have a sufficient understanding of the link between obesity and diabetes. Alternatively they may be in denial and believe that their obesity is not a problem.

## PREVALENCE OF DIABETES AND AT RISK GROUPS

- The study confirms that diabetes is a major problem in CMDHB, with seven percent of the sample reporting **having diabetes**, (this was both the crude rate and the age standardised rate - see table below) and further 53 percent who were classified as being **at risk of diabetes**.
- For the proportions who reported having diabetes, the Pacific figure was highest at 11 percent, which increased to 15 percent after age standardisation.
- The age standardised rates for the separate Pacific groups were: 19 percent for Cook Island Maori, 15 percent for Samoan, 12 percent for Tongan, six percent for Niuean and 10 percent for Other Pacific groups<sup>6</sup>.
- The rate of diabetes for Maori was 5 percent, which increased to 6 percent after age standardisation.
- The rate of diabetes for Asian peoples was five percent (both crude and age standardised).
- The age standardised rates for the specific Asian groupings were seven percent for South Asian peoples, four percent for East Asian peoples, and three percent for South East Asian peoples.
- Other ethnicities, which included New Zealand Europeans, had the lowest rate at five percent (both crude and age standardised).
- Other groups who reported higher levels of diabetes were males and females aged 45 years and over (both 12%) and people from high deprivation areas (10%).

**Table 5: Prevalence of diabetes**

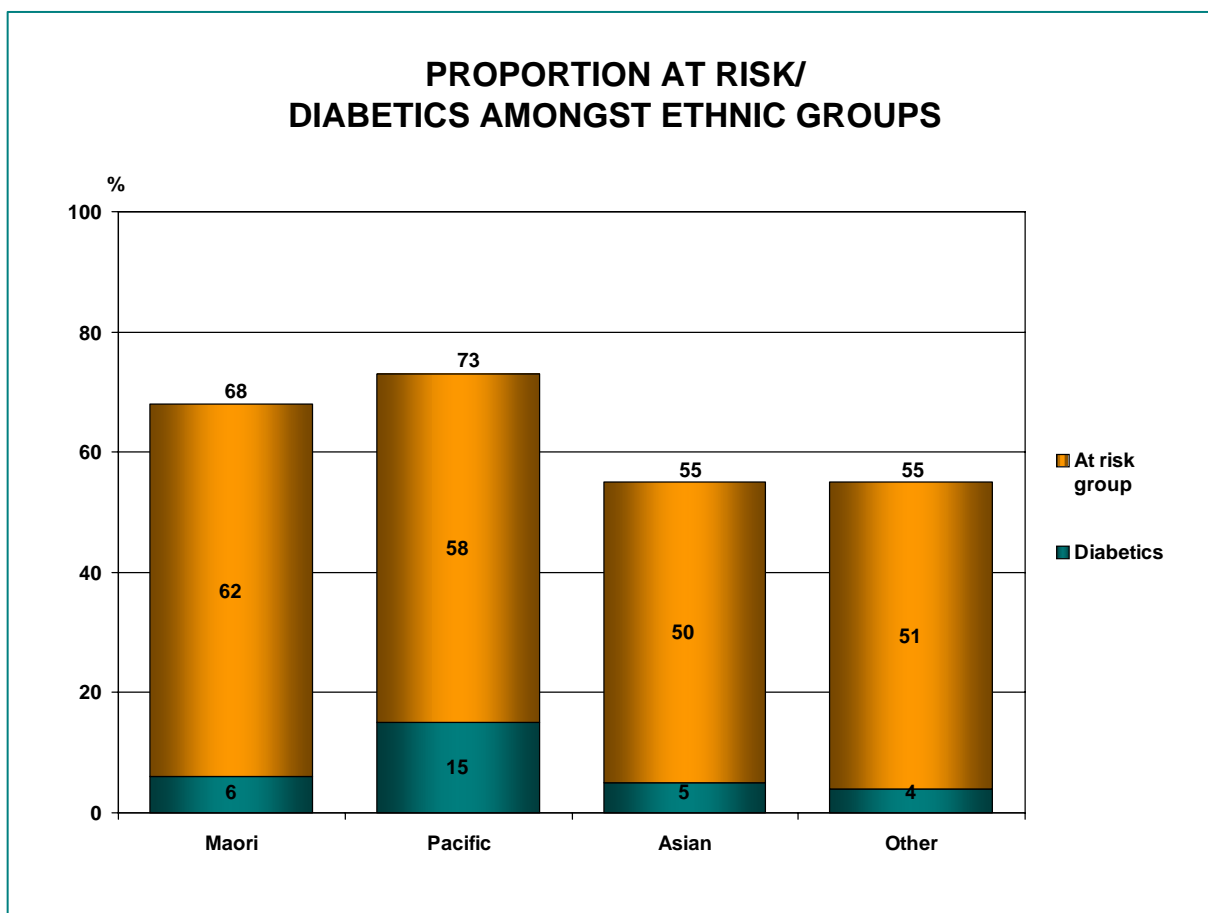
PREVALENCE OF DIABETES	Total	Maori	Pacific Peoples	Asian	Other
	(2520)	(594)	(712)	(599)	(998)
	%	%	%	%	%
Crude rate	6.5	4.6	11.3↑	5.0	5.1
Age standardised	7.0	6.2	14.6↑	5.2	4.5↓

An upward arrow indicates a figure that is significantly higher than the total sample and a downward arrow a significantly lower figure.

Bases show actual numbers interviewed, while the percentages are weighted.

<sup>6</sup> The numbers in the Niuean and Other Pacific sub-samples were relatively small and therefore these findings need to be interpreted with some caution.

- The 53 percent who were classified as being **at risk of diabetes** included 37 percent who were overweight (including 9% who were obese)<sup>7</sup>, a quarter with a family history of diabetes, one percent with a history of diabetes during pregnancy and eight percent who were sedentary. It should be noted that these 'at risk' figures exclude those who already have diabetes.
- Maaori were more likely to be 'at risk' (62%), while Pacific peoples were at 58 percent, Asian peoples at 50 percent and Other ethnic groups at 51 percent (see graph below which shows the levels of diabetes and those 'at risk' combined).
- Other groups who were more 'at risk' were females aged 25-44 years (61%) and people from high deprivation areas (59%).



### UNDIAGNOSED DIABETES

- At the end of the survey all those who did not have diabetes were invited to have a free check to see if they had diabetes or were at high risk of getting it. This was to help LBD understand more about those with undiagnosed diabetes in the community.
- Half (48%) said they would like to get checked and a further nearly one-fifth (17%) were willing to be sent some more information about what was involved.
- Of those who said they didn't want to get checked or want any further information, 43 percent said they had already been tested, 16 percent said they had regular tests/checks, but didn't specifically say or know whether they had been tested for diabetes, while 11 percent felt they had a low health risk.

<sup>7</sup> Overweight and obese figures were based on how respondents thought their doctor would classify them.

- Those who said they had already been tested were asked how long ago the test was done, and how it was conducted (i.e. finger prick test, fasting). If the test was older than 12 months or not done as a fasting glucose blood test, the respondent was asked if they would be willing to have another test.
- All respondents who either agreed to getting tested or to receiving information about getting tested were sent an information pack to explain the process, their rights, and what would happen if they found out they had diabetes. Participants were invited to have a fasting glucose blood test at any Diagnostic Medlab facility in the CMDHB area, and to consent to their results being shared not only with the study, but also their GP should results of the test confirm or indicate diabetes.
- A number of actions were taken to support interested participants to get tested. This included receiving a follow-up call from a qualified nurse to answer any queries about the information pack, a reminder letter, and where relevant, an offer of transport to and from a local Diagnostic Medlab centre. Participants were assured that should the results of the test confirm or indicate diabetes, that not only would the nurse contact them to answer any queries, but also that the cost of an initial visit to their GP would be covered, to ensure steps were taken to manage their condition.
- In total under one-sixth (14%) of the people in the survey who did not have diabetes actually undertook a screening test.
- Of the 321 people who got screened, the proportion identified as having diabetes was 0.9 percent, while 2.6 percent were identified as having pre-diabetes conditions.
- Although this was a small sub-sample, they were representative of the wider sample in terms of prevalence of risk factors and form of contact with doctors/nurses, but were over-represented among females aged 45 and over and under-represented among males aged 16 to 24 years. Therefore the identified level for undiagnosed diabetes could be given some tentative credence.

## COMMUNICATING WITH ETHNIC SPECIFIC AUDIENCES

- Questions were included which have provided valuable information to assist in identifying how best to reach the different ethnic audiences with social marketing communications. The following table shows the proportion of each ethnic group who engaged with each of the specified forms of media or community or cultural groups.
- These results point to the need to engage different media options when working with different ethnic groups.
- They also identify relatively high access to the internet.
- The church is confirmed as a key vehicle for reaching Pacific peoples. The church or place of worship would also appear to be an option for consideration with some Asian communities, particularly those from South and South East Asia.

Table 6: Engagement with media and community/cultural groups

ENGAGEMENT WITH MEDIA AND COMMUNITY/CULTURAL GROUPS	Total (2520) %	Maaori (489) %	Pacific Peoples (623) %	Asian (530) %	Other (879) %
Have a marae in Counties Manukau at which I spend time	NA	23	NA	NA	NA
Listen to own ethnic radio stations at least once a week	NA	51	66	56	NA
Read own ethnic newspapers/magazines at least once a week	NA	25	47	48	NA
Watch own ethnic TV programmes at least once a week	NA	85	67	NA	NA
Text on a mobile phone at least once a week	68	75↑	57↓	69	69
Have internet access at home	77	69↓	49↓	89↑	84↑
Use email for personal use rather than work reasons at least once a week	63	60	44↓	75↑	66
Add content/comments to websites or online blogs at least once a month	27	29	27	42↑	20↓
Am an active member of a local group, club or committee	41	45	39	30↓	44
Attend a local church or a place of worship regularly	39	23↓	74↑	51↑	25↓

NA indicates the question was not asked; if it was not asked of at least one ethnic group, it was not appropriate to give a total sample figure.

An upward arrow indicates a figure that is significantly higher than the total sample and a downward arrow a significantly lower figure.

## 1.4 SUMMARY OF KEY FINDINGS FOR MAAORI

### RESEARCH METHODS

- Phone interviews were completed with 594 Maaori, randomly selected from persons listed in the white pages. The analyses were based on all persons who included Maaori as one of their ethnic groups (total response ethnicity). A separate question asked those specifying multiple groups to identify which group they 'most strongly identify with'. There were 96 people (14%), who were classified as Maaori when using total response ethnicity but who did not consider Maaori to be their "main" ethnic group. However, analyses showed that the responses did not change significantly when these 96 people were removed from the Maaori ethnic group.
- The Maaori sample in this survey had some under-representation in the high deprivation areas (47% of the sample was from these areas compared with 54% recorded in the 2006 Census) and over-representation in the low deprivation areas (17% compared with 11%)<sup>8</sup>. While this is an important difference to note, it is sufficiently small to still provide reasonable confidence in the research findings for Maaori.
- The data has been weighted to reflect the age within gender composition of the Maaori population in Counties Manukau DHB.

### PERCEPTIONS RELATING TO HEALTHY WEIGHT

- Maaori were similar to the total sample in terms of unprompted levels of awareness of what people can do to have a healthy diet, with 91 percent mentioning being physically active, 53 percent mentioning things to do with controlling fat intake, 33 percent mentioning controlling sugar intake, and 28 percent mentioning controlling portion size.
- They were more likely to agree that they were worried that they or someone in their family has or may get health problems because of being overweight (51% versus 40%)
- They were similar to the total sample in agreeing they were aware of their recommended body weight and body shape (71% for body weight and 69% for body shape). However, while there were relatively high proportions agreeing that they knew what the recommended weight or body shape was for them, the fact that the proportions of Maaori participants self-reporting being obese (15%) or overweight (48%) was less than the proportions found to be obese or overweight in the 2002/03 New Zealand Health Survey (where actual measurements were taken), suggests that there may be a knowledge gap with regard to knowing what a healthy weight or body shape is.

### HEALTHY EATING

- Nearly half of all Maaori participants were aware of the correct recommended minimum number of fruit and vegetable servings (47%).
- The Maaori average level of consumption of fruit and vegetables was 4.8 servings per day.
- Maaori were above average for eating more than needed at some stage in the previous week, but were similar to the total sample for doing so on five or more days.
- They were less likely than the total sample to have breakfast every day (average of 5.2 days in the week versus 5.6 for total sample).
- Their cooking with fat was an area where LBD could seek to make change (55% usually cooked chicken with the skin on versus one-third (34%) for the total sample; over half (57%) sometimes or usually cooked in butter or lard (versus 41%).
- Maaori were the least likely ethnic group to feel supported in healthy eating by other adults in their household, although the level was still just under two-thirds (65% versus 72%).

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<sup>8</sup> As noted previously, the researchers wanted to adjust for level of deprivation when weighting the data, but there was no 2006 Census data available at the time to enable this.

- Just over half of those who did attend a marae in the region felt the people there were supportive of healthy eating, so obviously there is room for some improvement in that regard. However the relatively low proportion using local marae does not necessarily make this an effective option for reaching large numbers of Maaori.
- Almost three quarters of those responsible for children felt they gave 'a lot' of support to them to eat healthily.
- One in five reported feeling that the eating habits of the children they care for could be 'a lot' healthier.
- Two thirds of Maaori were interested in eating more healthily than they currently do, which was at a similar level to the total sample.
- Of this group, just over a third reported that they did not find it difficult eating more healthily, while nearly another third reported only finding it 'a little' difficult.
- Of those who weren't interested in eating more healthily, 56 percent felt their current diet was already healthy enough.
- Almost four out of every ten Maaori who reported having any difficulty in eating more healthily, agreed that they couldn't afford the cost of healthier types of food, which was much higher than the 24 percent for the total sample.
- Knowledge about which foods are healthy for you (18%), and there not being enough healthy food available in the places where you shop (12%), were mentioned as barriers by Maaori at a similar frequency to the total sample.

## PHYSICAL ACTIVITY

- Just under half of Maaori thought they were doing less than the recommended minimum amount of physical activity, which was a similar level to the total sample.
- Maaori were above average for being 'physically active' (73% versus 67% for the total sample) and 'regularly physically active' (54% versus 48%)<sup>9</sup>.
- However, there were still 10 percent who were classified as sedentary<sup>10</sup>, which was similar to the total sample level.
- This pattern was also reflected in higher average hours of physical activity (12.5 versus 10.1 for the total sample) and higher average hours of vigorous activity (4.9 versus 3.3), which may in part be influenced by working in jobs that require physical activity.
- That Maaori already have above average rates of physical activity is positive in terms of preventing diabetes, however there are still obviously groups within the Maaori community who would benefit from more physical activity, particularly those who are currently 'sedentary'.
- Support to be physically active came from a wide range of sources, both within and outside the family and whanau, with levels being similar to the total sample.
- Three quarters felt that they gave their children 'a lot' of support to be physically active, which was again similar to the total sample.
- As with the total sample, just over half of Maaori felt their children were doing enough activity to be healthy, while a third felt they would need to do 'a bit' more and 14 percent 'a lot' more.
- Sixty-three percent of Maaori were interested in being more active, which was also similar to the total sample level.
- Three quarters of those who were interested in being more active reported some level of difficulty with being more active, with 42 percent saying it was 'somewhat' or 'very' difficult, these levels being similar to the total sample.

<sup>9</sup> 'Physically active' was defined as at least two and a half hours physical activity in the last week, with exercise accumulated on one or more days of the week. 'Regularly physically active' was defined as being active on five or more days and averaging 30 minutes over those days.

<sup>10</sup> 'Sedentary' was defined as doing less than half an hour of physical activity in the previous week.

- Of those who were not interested in being more active, two thirds felt they were already doing enough to be healthy.
- Of those who expressed some difficulty in being more active, 34 percent agreed that they 'can't afford the cost of things I would need such as babysitters, clothes, equipment, gym membership', which was not significantly higher than the 28 percent for the total sample.
- Availability was less of a barrier, with 12 percent agreeing that 'there aren't enough places in my area to go or join, such as parks, walking groups, or sports clubs'.

## ROLE OF PRIMARY CARE

- Six out of ten Maaori reported having contact with a doctor or nurse in the previous 12 months for their own personal health, which was not significantly lower than the 64 percent recorded for the total sample.
- Maaori were similar to the total sample for the types of health checks and advice they had received, except they were more likely to report having been talked to about stopping smoking (23% versus 18% for the total sample).
- Thirty-five percent identified as smokers, which was higher than the 19 percent reported by the total sample.

## AWARENESS AND UNDERSTANDING OF DIABETES

- When asked what can be done to prevent diabetes, just over half of the Maaori respondents mentioned keeping fit and active, while just under two thirds mentioned diet related issues and these levels were similar to the total sample. Maaori were less likely to mention reducing weight or not getting overweight (13% versus 18% for total sample). As with the total sample, there was low mention of reducing portion size (9% versus 11% for total sample).
- Almost three out of every ten Maaori rated their knowledge of diabetes as 'poor', which was higher than the 23 percent recorded by the total sample. Another three out of ten rated it as 'fair'.
- When asked some knowledge questions about diabetes, Maaori were similar to the total sample with their responses, with the main misunderstanding being that, 'it is mainly people who eat a lot of sugar that get diabetes' (47% saying 'true' for both Maaori and the total sample).
- Maaori were above the total sample levels for agreeing that, 'I am worried that I or someone in my family has diabetes or may get it' (40% versus 33% for total sample).

## PREVALENCE OF DIABETES AND AT RISK GROUPS

- The proportion of the Maaori sample who reported having diabetes was 4.6 percent. When the data was age-standardised, to allow direct comparison between different ethnic groups, the rate was 6.2 percent.
- This rate was lower than the 9.5 percent recorded for Maaori in CMDHB in the 2002/03 New Zealand Health Survey. While the under-representation of Maaori from high deprivation areas is likely to have contributed to some under-reporting of Maaori diabetes, it would not account for anything like the difference reported in the two surveys, which is more likely to be due to methodological differences.

**Table 7: Prevalence of diabetes for Maaori compared with Total Sample**

PREVALENCE OF DIABETES	Total	Maaori
	(2520)	(594)
	%	%
<b>2006/07 'Let's Beat Diabetes' survey (CMDHB region, persons 16 plus):</b>		
Crude rate	6.5	4.6
Age standardised	7.0	6.2
<b>2002/03 New Zealand Health Survey (CMDHB region estimate, persons aged 15 years and over):</b>		
Crude rate	4.9	6.7
Age standardised	5.0	9.5

- Maaori had high prevalence in the 'at risk' groups: obese persons (13%); overweight persons (44%); and having a family history of diabetes (31%).

#### COMMUNICATING WITH MAAORI

- In terms of communicating with Maaori, high proportions were watching Maaori TV at least once a week (85%), texting (75%), had in-home access to the internet (69%), used email for personal reasons at least once a week (60%), and listened to Maaori radio at least once a week (50%). Only one-quarter (23%) had a marae in the region at which they spent time and only one-quarter (23%) were regular church attenders.



## 1.5 SUMMARY OF KEY FINDINGS FOR PACIFIC PEOPLES

### RESEARCH METHODS

- Interviews were conducted with 712 Pacific persons, of whom 433 came from random selections of phone numbers selected from all of CMDHB. Because these random selections did not generate sufficient Pacific peoples, a Pacific booster sample provided an additional 279 interviews selected from areas where at least a quarter of the population were Pacific peoples.
- The analyses were based on all persons who specified a Pacific group as one of their ethnic groups (total response ethnicity). A separate question asked those specifying multiple groups to identify which group they 'most strongly identify with' and nine percent of this Pacific sample identified most strongly with a non-Pacific ethnic group. As the analyses were based on total response ethnicity, these 61 persons were included in the Pacific peoples analyses.
- The Pacific peoples grouping included: 295 Samoan, 173 Tongan, 186 Cook Island Maori, 62 Niuean and 58 Other Pacific.
- The Pacific sample was slightly over-represented in the proportion who came from high deprivation areas (83% versus 80%), but this is not expected to have any marked effect on the findings. The data has also been weighted to reflect the age within gender composition of the Pacific population in Counties Manukau DHB.

### PERCEPTIONS RELATING TO HEALTHY WEIGHT

- When asked what contributes to a healthy weight, Pacific peoples were less likely than others to mention things related to reducing fat consumption (mentioned by 48% of Pacific peoples compared with 55 percent for the total sample), especially eating less takeaways and junk food. They were also less likely to mention reducing sugar intake (31% versus 38%), but they were similar to the total sample for mention of reducing portion size (33% versus 31%). They were also similar for mention of eating fruit and vegetables.
- They were particularly high in agreeing that they were worried that they or someone in their family has or may get health problems because of being overweight (51% versus 40%).
- As with the total sample, most people agreed that they knew the body weight and body shape that was recommended for them to be healthy (72% of Pacific peoples for body weight and 71% for body shape). However, while there were relatively high proportions agreeing that they knew what the recommended weight or body shape was for them, the fact that the proportions of Pacific participants self-reporting being obese (27%) or overweight (56%) was less than the proportions found to be obese or overweight in the 2002/03 New Zealand Health Survey (where actual measurements were taken), suggests that there may be a knowledge gap with regard to knowing what a healthy weight or body shape is.

### HEALTHY EATING

- Pacific peoples had low awareness of the recommended minimum number of fruit and vegetable servings, with just 27 percent giving the correct figure of five servings, which is clearly an area that Let's Beat Diabetes could address.
- While Pacific peoples' fruit consumption matched the total sample (averaging 2.5 servings a day), their vegetable consumption was low (1.8 servings compared with 2.2 for the total sample).
- Almost two thirds of Pacific peoples reported drinking fizzy or energy drinks in the previous seven days, which was quite a lot higher than the 50 percent for the total sample.
- Seven out of every ten, (compared with six out of ten for the total sample), reported eating more than they needed in the previous seven days. However the proportion doing so on five or more days did not differ from the total sample.
- The average Pacific person had breakfast on 4.9 of the last seven days, which was the lowest for any ethnic group, the average being 5.6.

- As with Maaori, cooking with fat was an area where LBD could seek to make change: over two thirds (68%) 'sometimes' or 'usually' cooked in butter or lard (versus 41% for the total sample); only 39 percent 'usually' cooked meat (including corned beef) with the fat removed or drained off (versus 55%); while 46% 'usually' cooked chicken with the skin on (versus 34%).
- Pacific peoples were above average in their mentions of almost all the different sources that they felt supported them to eat more healthily. This included two thirds who felt they received support from their children.
- Over two thirds felt they gave 'a lot' of support to their children to eat healthily, which was a similar level to the total sample.
- Almost one in three felt their children's eating could be 'a lot' healthier, which compared with one in five for the total sample.
- There were a particularly high proportion of Pacific peoples who were interested in eating more healthily than they currently do (78% versus 65% for the total sample).
- Almost half of these people (46%) reported that they did not find it difficult eating more healthily, while another one in three (29%) reported only finding it 'a little' difficult, leaving a quarter who found it 'somewhat' or 'very' difficult.
- Of those who weren't interested in eating more healthily, 62 percent felt their current diet was already healthy enough.
- Just under a third (31%) of Pacific peoples who reported having any difficulty in eating more healthily agreed that they couldn't afford the cost of healthier types of food, which was higher than the 24 percent for the total sample.
- One in five of this group agreed that they didn't know enough about which foods are healthy for you, while 17 percent agreed there was not enough healthy food available in the places where they shopped.

## PHYSICAL ACTIVITY

- Forty-five percent of Pacific peoples thought they were doing less than the recommended minimum amount of physical activity (the total sample figure was 49%).
- Pacific peoples reported higher average hours of activity (13.4 versus 10.9 for the total sample) and vigorous activity (4.6 versus 3.3).
- However, they were not above average for the proportion who were classified as 'physically active' (70%), 'regularly physically active' (49%) and they were also average for sedentary (8%)<sup>11</sup>. Therefore it will still be important to encourage increased physical activity for many in the Pacific community.
- Pacific peoples were above average in their mentions of almost all the different sources that they felt supported them to be active. This included 71 percent who felt they received support from their children.
- Seven out of ten Pacific people responsible for children felt that they gave them 'a lot' of support to be physically active, which was similar to the total sample.
- Just over a quarter felt their children would need to do 'a lot' more activity to be healthy, which was higher than for the total sample (14%). Another 30 percent felt their children would need to do 'a bit more'.
- A high proportion of Pacific peoples (three quarters) expressed interest in being more physically active (the comparable total sample level was two thirds).

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<sup>11</sup> 'Physically active' was defined as at least two and a half hours physical activity in the last week, with exercise accumulated on one or more days of the week. 'Regularly physically active' was defined as being active on five or more days and averaging 30 minutes over those days. 'Sedentary' was defined as doing less than half an hour of physical activity in the previous week.

- Of these, just over a third reported not finding it difficult to be more active, which was higher than the 26 percent reported by the total sample. There were 29 percent who found it 'somewhat' or 'very' difficult.
- Of those who were not interested in being more active, 71 percent felt they were already doing enough to be healthy.
- Of those who expressed some difficulty in being more active, 38 percent agreed that they 'can't afford the cost of things I would need such as babysitters, clothes, equipment, gym membership', which was higher than the 28 percent for the total sample.
- Availability was less of a barrier, with 19 percent agreeing that 'there aren't enough places in my area to go or join, such as parks, walking groups, or sports clubs'.

## ROLE OF PRIMARY CARE

- Two thirds of Pacific peoples reported having contact with a doctor or nurse in the previous 12 months for their own personal health, which was similar to the total sample.
- Pacific peoples were higher than the total sample levels for receiving all but two of the types of health checks and advice that were asked about. On one of these other two they were also higher, but the difference was not significant. On the other (blood pressure test) they were similar to the total sample.
- Twenty-eight percent identified as smokers, which was higher than the 19 percent reported by the total sample.

## AWARENESS AND UNDERSTANDING OF DIABETES

- When asked what can be done to prevent diabetes, Pacific respondents were less likely than the total sample to mention keeping fit and active (46% versus 56%), controlling sugar intake (36% vs 42%), and reducing weight (6% versus 18%), but were more likely to mention drinking sufficient water (11% versus 6%). As with the total sample, there was low mention of reducing portion size (13% versus 11% for total sample).
- Over half (53%) rated their knowledge of diabetes as only 'fair' or 'poor', which was similar to the total sample (55%).
- When asked some knowledge questions about diabetes, Pacific peoples were less likely than the total sample to give the correct answers, although the majority still did give the correct answers on most of the items. The exception was 59 percent who thought that 'it is mainly people who eat a lot of sugar that get diabetes' (compared with 47% for the total sample).
- Pacific peoples were well above the total sample levels for agreeing that, 'I am worried that I or someone in my family has diabetes or may get it' (55% versus 33% for total sample).

## PREVALENCE OF DIABETES AND AT RISK GROUPS

- The rate of diabetes reported in the survey was 11.3 percent (see table below). After age standardisation, to allow direct comparisons with other ethnic groups, the rate was 14.6 percent. These were the highest rates of any ethnic group and compared with 6.5 and 7.0 respectively for the total sample.

Table 8: Prevalence of diabetes for Pacific Peoples compared with Total Sample

PREVALENCE OF DIABETES	Total (2520) %	Pacific Peoples (712) %
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**2006/07 'Let's Beat Diabetes' survey  
(CMDHB region, persons 16 plus):**

Crude rate	6.5	11.3↑
Age standardised	7.0	14.6↑

An upward arrow indicates a figure that is significantly higher than the total sample.

- In addition to the 15 percent with diabetes, there were another 58 percent who were considered to be 'at risk', with meant that almost three quarters (73%) were in one of these two groups. This was much higher than the 60 percent recorded for the total sample.
- The 'at risk' group included 45 percent who were overweight, 19 percent who were obese and 31 percent who had a family history of diabetes (the at risk group excluded people with diabetes).

## COMMUNICATING WITH PACIFIC PEOPLES

- In terms of communicating with Pacific peoples, the church was confirmed as a key vehicle, with 74 percent attending regularly. Two thirds were watching Pacific TV programmes at least weekly and a similar proportion listening to Pacific radio at least weekly. Just under half were reading Pacific newspapers or magazines at least weekly.
- While Pacific peoples were below average for use of electronic communications, there were still almost half who had internet access, 44 percent who were using personal emails at least once a week and over a quarter who added content to online blogs at least once a month. These rates were higher among 16 to 24 year olds.
- Pacific peoples had a similar rate to the total sample for membership of local groups, clubs, or committees (39%).

## 1.6 SUMMARY OF KEY FINDINGS FOR ASIAN PEOPLES

### RESEARCH METHODS

- Phone interviews were completed with 599 Asian peoples, randomly selected from persons listed in the white pages. The Asian analyses were based on all persons who included an Asian group as one of their ethnic groups (total response ethnicity). A separate question asked those specifying multiple groups to identify which group they 'most strongly identify with' and six percent of this Asian sample identified most strongly with a non-Asian ethnic group. As the analyses were based on total response ethnicity, these 34 persons were included in the Asian peoples' analyses.
- Within the Asian category, there were 222 from East Asia (including 173 from China), 299 from South Asia (including 185 from India and 98 Fijian Indians) and 91 from South East Asia. Compared with the 2006 Census data, Indians were over-represented (11% of the Asian sample versus 7% in Census). Findings related to these specific Asian groups are included within the main part of the report.
- The Asian peoples sample was a good match to the Counties Manukau DHB population in terms of level of deprivation and the data has been weighted to reflect the age within gender composition of the Asian population in this region.

### PERCEPTIONS RELATING TO HEALTHY WEIGHT

- Asian peoples were similar to the total sample for mention of the main responses for what people can do to have a healthy diet, although they were below average in their mention of controlling portion size (22% versus 31% for total sample).
- They were similar to the total sample in their level of agreement that they were worried that they or someone in their family has or may get health problems because of being overweight (41%).
- As with the total sample, most people agreed that they knew the body weight and body shape that was recommended for them to be healthy (78% of Asian peoples for body weight and 71% for body shape).
- Asian participants were the only ethnic group where the levels of those self-reporting as being obese (7%) or over-weight (28%) was slightly higher (rather than lower) than the levels found through measurements taken in the 2002/03 New Zealand Health Survey.

### HEALTHY EATING

- Asian peoples had low awareness of the recommended minimum number of fruit and vegetable servings, with just 28 percent giving the correct figure of five servings, so this is clearly an area that Let's Beat Diabetes could address.
- Consistent with this finding, Asian peoples were low in their average number of servings of fruit (2.1 versus 2.4 for the total sample) and vegetables (2.0 versus 2.2).
- The proportion who had consumed a fizzy or energy drink in the previous seven days was lower than for the total sample (44% versus 50%).
- They were also below average for having eaten more than they needed on at least one day in the previous week (49% versus 59%).
- Asian peoples had eaten breakfast on an average of 5.9 days in the previous week, which was higher than the 5.6 for the total sample.
- They were more likely than the total sample to never cook chicken with the skin on (47% versus 29% for total sample), although they showed an average pattern for cooking in butter or lard<sup>12</sup> and for removing or draining off fat.

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<sup>12</sup> If the respondent asked they were told to also include ghee

- Asian peoples were above average in mention of three of the sources of support for healthy eating: other adults in the household (77% versus 72% for the total sample), wider family and close friends (68% versus 57%), and people you work with (50% versus 42%).
- Almost three quarters of those responsible for children felt they gave them 'a lot' of support to eat healthily, which was similar to the total sample level.
- Just under a quarter (23%) felt that their children's eating could be 'a lot' healthier, while 30 percent felt it could be 'a bit healthier', this being a lower level than for the total sample (41%).
- Just under three quarters of Asian peoples (73%) were interested in eating more healthily than they currently do, which was higher than the 65 percent for the total sample.
- Of this group, almost half (49%) reported that they did not find it difficult eating more healthily, which was higher than for the total sample (41%).
- Of those who weren't interested in eating more healthily, two thirds felt their current diet was already healthy enough.
- Those who reported having any difficulty in eating more healthily were similar to the total sample in having relatively low levels of concern with issues relating to cost of healthier foods, the availability of healthy foods, and knowledge about which foods are healthy for you.

## PHYSICAL ACTIVITY

- Fifty-four percent of Asian peoples thought they were doing less than the recommended minimum amount of physical activity, which was not significantly different from the total sample level of 49 percent.
- Asian peoples were below average for being 'physically active' (60% versus 67% for the total sample), while their level for being 'regularly physically active' was not sufficiently lower to be significantly different from the total sample (43% versus 48%)<sup>13</sup>.
- There were 10 percent who were classified as sedentary<sup>14</sup>, which was the same as for the total sample.
- This pattern was also reflected in lower average hours of physical activity (9.0 versus 10.1 for the total sample) and lower average hours of vigorous activity (1.9 versus 3.3).
- As with healthy eating, Asian peoples were above average for reporting being supported to be physically active by other adults in their household (69% versus 62% for total sample) and wider family and close friends (64% versus 57%).
- While 62 percent felt that they gave their children 'a lot' of support to be physically active, they were above average for saying that they gave only 'a little' support (11% versus 6% for total sample).
- Just under half (48%) felt their children were doing enough activity to be healthy, which was not sufficiently lower than the 55 percent for the total sample to be significantly different. Fifteen percent felt the children would need to do 'a lot' more and 36 percent 'a bit' more.
- Seventy-two percent of Asian peoples were interested in being more active, which was higher than the 67 percent for the total sample level.
- Three quarters of those who were interested in being more active reported some level of difficulty with being more active, with 38 percent saying it was 'somewhat' or 'very' difficult, these levels being similar to the total sample.
- Of those who were not interested in being more active, two thirds felt they were already doing enough to be healthy.

<sup>13</sup> 'Physically active' was defined as at least two and a half hours physical activity in the last week, with exercise accumulated on one or more days of the week. 'Regularly physically active' was defined as being active on five or more days and averaging 30 minutes over those days.

<sup>14</sup> 'Sedentary' was defined as doing less than half an hour of physical activity in the previous week.

- Of those who expressed some difficulty in being more active, 24 percent agreed that 'there aren't enough places in my area to go or join, such as parks, walking groups, or sports clubs', which was higher than the 15 percent for the total sample.
- Asian peoples also showed some indications of cost being more of a barrier than for the total sample. They were less likely to disagree that, 'I can't afford the cost of things I would need such as babysitters, clothes, equipment, gym membership' (33% versus 42% for the total sample). The proportion agreeing was also higher than the total sample, but the difference was insufficient to be significant (33% versus 28%).

## ROLE OF PRIMARY CARE

- Asian peoples were below average for having visited a doctor or nurse in the previous 12 months for their own personal health (57% versus 64% for total sample), which may be a product of better health status, a preference for other forms of treatment or other reasons.
- Those who had visited a doctor or nurse were less likely than the total sample to have had measurements of their blood pressure (47% versus 57%) or their weight (44% versus 51%).
- Ten percent identified as smokers, which was lower than the 19 percent reported by the total sample.

## AWARENESS AND UNDERSTANDING OF DIABETES

- When asked what can be done to prevent diabetes, Asian respondents were more likely to mention controlling sugar intake (50% versus 42%).
- Half the Asian peoples rated their knowledge of diabetes as 'poor' or 'fair', which was similar to the total sample.
- When asked some knowledge questions about diabetes, Asian peoples were above average for incorrectly saying it is true that 'it is mainly people who eat a lot of sugar that get diabetes' (60% versus 47% for total sample).
- They were similar to the total sample for agreeing that, 'I am worried that I or someone in my family has diabetes or may get it' (35% versus 33% for total sample).

## PREVALENCE OF DIABETES AND AT RISK GROUPS

- The proportion of the Asian peoples' sample who reported having diabetes was 5.0 percent, which compared with 6.5 percent for the total sample. When the data was age-standardised, to allow direct comparison between different ethnic groups, the rate was 5.2 percent, which compared with 7.0 percent for the total sample.

**Table 9: Prevalence of diabetes for Asian Peoples compared with Total Sample**

PREVALENCE OF DIABETES	Total	Asian Peoples
	(2520)	(599)
	%	%
<b>2006/07 'Let's Beat Diabetes' survey (CMDHB region, persons 16 plus):</b>		
Crude rate	6.5	5.0
Age standardised	7.0	5.2

- In terms of 'at risk' groups, there were fewer overweight Asian peoples (25% versus 37% for total sample) , but they were similar to the total sample for the proportion who were obese (7% versus



9% in the total sample) and having a family history of diabetes (30% versus 25%). It should be noted that the 'at risk' group excluded persons who already had diabetes.

## COMMUNICATING WITH ASIAN PEOPLES

- Asian peoples were high users of electronic communication channels, with 89 percent having internet access (versus 77% for the total sample), 75 percent using personal email at least weekly (versus 63%), and 42 percent adding content or comments to websites or online blogs at least once a month. They were average in their use of texting (69%).
- Over half (56%) listened to ethnic radio at least weekly and almost half read ethnic newspapers or magazines at least weekly.
- Just over half (51%) attended a church or place of worship regularly, which was higher than the 31 percent for the total sample.
- They were below average for active membership of local groups, clubs or committees (30% versus 41% for total sample).



## 1.7 SUMMARY OF KEY FINDINGS FOR OTHER ETHNICITIES

### RESEARCH METHODS

- Phone interviews were completed with 998 persons who were classified as Other Ethnicities, which was predominantly New Zealand Europeans/ Pakeha. A separate question asked those specifying multiple groups to identify which group they 'most strongly identify with' and 195 (19%) of this Other Ethnicities sample identified most strongly with one of the other ethnic groups. As the analyses were based on total response ethnicity, these 195 persons were included in the Other Ethnicities' analyses.
- At the time this report was prepared, 2006 Census data was not available to see how well the Other Ethnicities sample matched the Counties Manukau DHB population in terms of level of deprivation, but the data was weighted to reflect the age within gender composition of the Other Ethnicities population in this region.
- Because 53 percent of the weighted sample were in this group, this summary focuses primarily just on those areas where this group differed significantly from the total sample.

### PERCEPTIONS RELATING TO HEALTHY WEIGHT

- When asked what people can do to have a healthy diet, people of Other Ethnicities were more likely to mention controlling portion size (37% versus 31%) and eating fruit (50% versus 45%).
- They were less likely to agree that they were worried that they or someone in their family has or may get health problems because of being overweight (29% versus 40%).
- While there were relatively high proportions agreeing that they knew what the recommended weight or body shape was for them, the fact that the proportions of people of Other Ethnicities self-reporting being obese (8%) or overweight (39%) was less than the proportions found to be obese or overweight in the 2002/03 New Zealand Health Survey (where actual measurements were taken), suggests that there may be a knowledge gap with regard to knowing what a healthy weight or body shape is.

### HEALTHY EATING

- People of Other Ethnicities were more likely to be aware of the recommended minimum number of fruit and vegetable servings (60% versus 45%).
- They were above average for the daily number of servings of vegetables (2.4 versus 2.2 for the total sample), but the same as the total sample for fruit (2.4).
- They had eaten breakfast on an average of 6.3 days in the previous week, which was higher than the 6.1 for the total sample.
- They were much more likely than the total sample to never cook meat or vegetables in butter or lard (70% versus 58% for total sample), and they were also more likely to usually remove or drain off fat (64% versus 55%). However, they were similar to the total sample for cooking chicken with the skin on.
- They were below average in mentioning receiving support to eat healthily from all sources outside of their immediate household.
- They were less likely to mention that their children's eating could be 'a lot' healthier (10% versus 20% for total sample), but above average for feeling that it could be 'a bit healthier' (50% versus 41%).
- They were below average for being interested in eating more healthily than they currently do (57% versus 65%).
- Those who reported having difficulty in eating more healthily were less likely to have concerns with not knowing enough about which foods are healthy for you (65% disagreed versus 56% for total sample).

## PHYSICAL ACTIVITY

- These people of Other Ethnicities were similar to the total sample on all the measures relating to their level of physical activity.
- They were below average for reporting being supported to be physically active by persons outside of their immediate household.
- This group were more likely to feel their children are already doing enough activity to be healthy (66% versus 55%).
- They were also below average in their interest in being more active themselves (62% versus 67%).
- However those who were interested in being more active were above average in saying they found it 'somewhat difficult' (34% versus 27%), which coupled with the 14 percent who found it 'very difficult' meant that almost half were in one of these two categories.
- Those who expressed some difficulty in being more active were below average in agreeing that cost (21% versus 28%) or availability (9% versus 15%) were barriers.

## ROLE OF PRIMARY CARE

- Those who had visited a doctor or nurse in the previous 12 months for their own personal health were less likely than the total sample to have been talked to about healthy eating or weight (26% versus 33%) , about their risk of diabetes or heart disease (23% versus 30%), about exercise or physical activity (31% versus 37%), or about smoking (11% versus 18%).

## AWARENESS AND UNDERSTANDING OF DIABETES

- When asked what can be done to prevent diabetes, they were more likely than the total sample to mention controlling weight (25% versus 18%) and having a healthy diet (14% versus 9%).
- When asked some knowledge questions about diabetes, this group were generally more likely to give the correct answer, although they were average for saying it was true that having diabetes increases your risk of developing heart disease (77% versus 81% for total sample).
- They were less likely to agree that, 'I am worried that I or someone in my family has diabetes or may get it' (23% versus 33% for total sample).

## PREVALENCE OF DIABETES AND AT RISK GROUPS

- The proportion of the Other Ethnicities sample who reported having diabetes was 5.1 percent, which compared with 6.5 percent for the total sample (see table below). When the data was age-standardised, to allow direct comparison between different ethnic groups, the rate was 4.5 percent, which compared with 7.0 percent for the total sample.
- As also shown in the table, the LBD diabetes levels were a little higher than those reported four years previously in the New Zealand Health Survey.

Table 10: Prevalence of diabetes for Other Ethnicities compared with Total Sample

PREVALENCE OF DIABETES	Total (2520) %	Other Ethnicities (998) %
<b>2006/07 'Let's Beat Diabetes' survey (CMDHB region, persons 16 plus):</b>		
Crude rate	6.5	5.1
Age standardised	7.0	4.5↓
<b>2002/03 New Zealand Health Survey (CMDHB region estimate, persons aged 15 years and over):</b>		
Crude rate	4.9	3.4
Age standardised	5.0	3.2

An downward arrow indicates a figure that is significantly lower than the total sample.

- In terms of 'at risk' groups, there were fewer obese persons in the Other Ethnicities group (6% versus 9% for total sample), but they were the same as the total sample for the proportion who were overweight (37%). They were less likely to report having a family history of diabetes (20% versus 25% for total sample). It should be noted that the 'at risk' group excluded persons who already had diabetes.

## COMMUNICATING WITH PEOPLE OF OTHER ETHNICITIES

- These people were above average for having internet access (84% versus 77% for the total sample), but were below average for adding content or comments to websites or online blogs at least monthly (20% versus 27%).
- They were also below average for regularly attending church (25% versus 39%).

## 2 INTRODUCTION

### BACKGROUND

'Let's Beat Diabetes' (LBD) is a major initiative being undertaken by Counties Manukau District Health Board (CMDHB) to develop a societal response to address Type 2 diabetes. This is in response to a growing epidemic of Type 2 diabetes, which is expected to have an increasingly major impact both on the health status of the CMDHB population but also the costs of providing health care. There are ten action areas in the Let's Beat Diabetes strategy. This research is being undertaken as part of the social marketing action area, but it is also being used to inform the evaluation of the overall project.

### RESEARCH OBJECTIVES

- This survey provides a benchmark for the Let's Beat Diabetes (LBD) programme in the Counties Manukau DHB (CMDHB) region, against which to assess its relative impact over time (supporting the overall evaluation work being undertaken by the School of Population Health, University of Auckland)
- .It also provides information to inform LBD programme planning, including its social marketing campaign development.

The focus of the research was on the general population, plus those who have been identified as having diabetes. There was also an interest in obtaining information on those who had diabetes but were unaware of it.

### LINKS BETWEEN LBD BENCHMARK SURVEY AND EXISTING SURVEYS

A Phoenix Research review of existing surveys did identify some national surveys that had measures that were relevant to LBD and were likely to be repeated over time. The regional data from these studies will provide additional sources of evidence of the impacts of LBD. It was still necessary for the LBD survey to include all the key measures, so that these could be related to one another within the survey (at an individual level) and also because the other data sources didn't have the large ethnic sub-samples.

Because the other surveys are being undertaken throughout New Zealand they will also provide a form of 'control' data, to see how any change in CMDHB compares with changes in other regions. However, it should be noted that the option of surveying control regions for the current study was ruled out, because of the lack of influence over what interventions are happening in the control regions, the difficulty of finding a matching population and the cost.

## 3 OVERVIEW OF RESEARCH METHODS

### 3.1 RESEARCH METHODS

#### QUESTIONNAIRE DEVELOPMENT

Considerable time and effort went into the design of the questionnaire, with the CMDHB team taking the lead role, supported by Phoenix Research. The CMDHB team included Maaori and Pacific members and Asian input was also obtained. The questionnaire was extensively pre-tested with the different ethnic groups to ensure the questions were working as intended.

#### METHOD OF DATA COLLECTION

A CATI (computer assisted telephone interviewing) method was used because it was the most cost-effective approach. It does enable high levels of call backs and provides a high degree of monitoring of interviewer quality. It also provides a level of anonymity (compared with face to face interviewing) that is good for surveying sensitive topics.

The disadvantage of any phone-based method is that people without landline phones and those with unlisted numbers are not included. The level of access to households with a landline telephone, from the 2006 Census, was 92 percent<sup>15</sup>. DHB level data was not available from the 2006 Census at the time this report was prepared, but in 2001 the CMDHB level of phone ownership was one percent lower in CMDHB compared with nationally.

2006 Census data on phone access for different ethnic groups was also not available at the time this report was produced. The most recently available data is based on the 2003/04 Household Economic Survey, which identified Maaori landline ownership at 79 percent nationally, Pacific peoples at 87 percent, Asian peoples at 97 percent, European/Pakeha at 97 percent and Other ethnic groups at 99 percent.

It is acknowledged that Maaori and Pacific peoples often have a preference for face-to-face interviews. However such interviewing is expensive and produces more variability in interviewing methods, which can affect the results.

All respondents were offered the opportunity to be interviewed by an interviewer from their ethnic group if they were Maaori, Pacific or Chinese<sup>16</sup>, and Pacific Island respondents were offered the choice of being interviewed in English, Samoan or Tongan. Forty-five interviews were completed in Samoan and 28 in Tongan, using translated questionnaires.

#### DATA COLLECTION/ SAMPLING

Interviews were completed with 2520 persons aged 16 years and over living in the Counties Manukau District Health Board region between 31 October 2006 and 8 March 2007. The interviewing was undertaken using computer assisted telephone interviewing (CATI) and the interviews averaged 24 minutes.

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<sup>15</sup> The level in the 2001 Census had been 96 percent, but this included people who only had mobile phones, as these were not asked about separately. The 2006 level of 92 percent is for those with landlines.

<sup>16</sup> The ethnicity of the respondent was not known until the call had been made to the household and the qualifying respondent selected.

The sampling was designed to provide sufficient sized sub-groups of Maaori, Pacific peoples, Asian peoples and Other ethnic groups (including New Zealand European), to allow for identification of change over time. This necessitated three different stages of sampling:

- The main survey, which was randomly selected from Telecom white pages phone listings with all ethnic groups included, continuing until the Other ethnicities quota was completed
- The main booster sample, which was also randomly selected from the white pages listings, but the selection was for only Maaori, Pacific and Asian persons, continuing until the Maaori quota was completed, which also provided sufficient Asian persons
- A Pacific booster sample, which was randomly selected from areas within CMDHB where at least one-quarter (25%) of the population were Pacific peoples, these areas accounting for three-quarters (74%) of the Pacific population

## ETHNIC COMPOSITION OF SAMPLE/ MEASUREMENT OF ETHNICITY

The numbers generated from each sample were as shown below. It is important to note that a person was included in **each** ethnic group they mentioned, which is why summing the numbers in each ethnic group adds to more than the total number of interviews shown on the bottom line. It is also the reason why there are people in the Pacific booster sample who were also of other ethnicities.

**Table 11: Ethnic composition of sample**

TOTAL ETHNIC GROUP MENTIONS	Main Sample	Main Booster Sample	Pacific Booster sample	TOTAL
Maaori	122	453	19	<b>594</b>
Pacific Peoples	90	343	279	<b>712</b>
Asian	118	468	13	<b>599</b>
Other Ethnicities	762	217	19	<b>998</b>
<b>TOTAL</b>	<b>1,008</b>	<b>1,221</b>	<b>291</b>	<b>2520</b>

This sampling process provided the following numbers in each of the Pacific groups: 295 Samoan, 173 Tongan, 186 Cook Island Maaori, 62 Niuean and 58 Other Pacific. Within the Asian category there were 222 from East Asia (including 173 from China<sup>17</sup>), 299 from South Asia (including 185 from India and 98 Fijian Indians<sup>18</sup>) and 91 from South East Asia<sup>19</sup>.

A question was also included in the survey which asked people who mentioned more than one ethnic group to identify which group they "most strongly identify with". As shown in the table which follows, there were 96 people (14% of all Maaori mentions) who were classified as Maaori when using total response ethnicity who did not consider Maaori to be their main ethnic group. The comparable figure for Pacific peoples was nine percent and for Asian peoples it was six percent. With Other ethnic groups, one-fifth (19%) of those who were in this group for total response ethnicity did not count this as their main ethnic group.

<sup>17</sup> East Asian also included: Korean, Japanese and Taiwanese.

<sup>18</sup> South Asian also included: Pakistani, Sri Lankan, Bangladeshi, Nepalese, Afghan

<sup>19</sup> South East Asian included: Singaporean, Filipino, Indonesian, Cambodian, Malaysian, Vietnamese, Thai, Burmese, Laotian

Table 12: Comparison of ethnicity measures

ETHNIC GROUP	Total response ethnicity	Main ethnicity	Prioritised ethnicity
Maaori	594	498	594
Pacific peoples	712	651	657
Asian	599	565	568
Other ethnicities	998	803	698

Analyses were undertaken comparing data from the total response ethnicity Maaori group with those who specified Maaori as their main ethnic group. Approximately two thirds of the questions were included in these analyses and there were no significant differences.

The table also includes prioritised ethnicity, which was the measure of ethnicity that has tended to be used until recently, but there has been a change in policy within government departments that now favours the total response ethnicity, which is why it was used in this report. Under a prioritised ethnicity system anyone who is Maaori is always categorised as Maaori, so if a person was both Maaori and Pacific they would be categorised as Maaori only. Under this system, Pacific peoples get the next highest priority, followed by Asian and then Other ethnicities.

## RESPONSE RATES

If necessary, 30 calls were made to each number to try and obtain a completed interview. Participation was voluntary and no incentives were used to encourage participation.

The weighted response rate<sup>20</sup> for the General sample was 55 percent, which is the best indication of response rates. The weighted response rate for the Booster sample was 88 percent and for the Pacific Booster it was 89 percent, while for Samoan and Tongan language interviews it was 76 and 67 percent respectively. These rates provided an average of 75 percent. However, the booster sample rates were affected by the large proportions who said there were no qualifiers in the household (e.g. on the Pacific booster saying that there are no Pacific persons in the household). It is likely that some of these will have used this as a way to avoid a direct refusal and this will have led to inappropriately high weighted response rates.

<sup>20</sup> The weighted response rate is calculated using the method recommended by Public Health Intelligence at the Ministry of Health.

## WEIGHTING

For analysis purposes the data has been weighted with the intention of accurately reflecting the age within gender within ethnicity composition of the CMDHB population.

When comparing ethnic group data, the age composition of each ethnic group has been standardised, to ensure differences emerging are not due to the differing age compositions of the different ethnic groups. For all the other analyses reported the standard population weighting has been used, unless otherwise specified. The two different weightings have in some cases resulted in slightly different figures for the total sample. To retain consistency in the report, all total sample figures reported are based on the age standardised weighting.

## A SUFFICIENTLY REPRESENTATIVE SAMPLE TO GIVE CONFIDENCE IN THE RESULTS

A key question with any survey is how representative is the achieved sample, compared with the Counties Manukau population? The weighting by age, gender and ethnicity was designed to ensure that these groups were all represented in their correct proportions (e.g. that there was the correct proportion of Pacific males aged 16 to 24 years). However, at the time this analysis was undertaken, 2006 Census data was not available for CMBHB, so the weighting was based on modelled estimates that had been undertaken by CMDHB. As reported in the Demographics appendix, once the 2006 Census data came available it showed that the weighting slightly over-represented Maaori and Pacific peoples, but the largest difference was for Asian peoples, who were measured at 19 percent in the Census but were estimated to be 22 percent for the weighting. In particular, Indians, which included Fijian Indians, were over-represented, accounting for 11 percent of the weighted sample compared with seven percent recorded in the 2006 Census.

The other key variable that the weighting was not able to control was level of deprivation. At a total sample level, the weighted data was a close match to the levels of deprivation in the CMDHB region, which provides increased confidence that the results presented are representative of the CMDHB population. However, the Maaori sample had some under-representation in the high deprivation areas (47% of the sample was from these areas compared with 54% recorded in the 2006 Census) and over-representation in the low deprivation areas (17% compared with 11%)<sup>21</sup>. While this is an important difference to note, it is sufficiently small to still provide reasonable confidence in the research findings for Maaori. There is more detail on this in Appendix B, Demographics.

One of the concerns with surveys is that they may predominantly include the 'healthy and wealthy', While the deprivation data discussed above shows this is not the case in this survey, the high rates of diabetes reported, compared with some other surveys, also indicate that the survey has reached the at risk groups in the community.

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<sup>21</sup> As noted previously, the researchers wanted to adjust for level of deprivation when weighting the data, but there was no 2006 Census data available at the time to enable this.



## 4 RESEARCH FINDINGS

### 4.1 INTRODUCTION

This chapter presents all the research findings, with sub-sections for each major area covered by the research, these being:

- Perceptions relating to healthy weight
- Healthy eating
- Physical activity
- Links between healthy eating and physical activity
- Role of primary care
- Awareness and understanding of diabetes
- Prevalence of diabetes and at risk groups
- Undiagnosed diabetes
- Communicating with ethnic specific audiences

At the end of each of the sub-sections there is a Discussion section, which draws together the findings and considers the implications for Let's Beat Diabetes social marketing.

### 4.2 NOTES ON REPORTING

**It is important that this section is read before reading the main findings**, so that the reader understands what analyses have been undertaken and how the differences highlighted in the findings have been identified.

#### ANALYSES UNDERTAKEN

The level of analysis in this report is restricted to simple cross tabulations. These analyses are not able to address possible confounding effects, such as the impact of level of deprivation on the responses of different ethnic groups.

As part of the analyses, all questions were analysed for differences across the following variables, but only significant differences are specified in the report:

- Ethnic groups, based on all ethnicities mentioned (total response ethnicity)
- Pacific ethnic groups (Samoan, Tongan, Cook Island Maaori, Niuean, Other)
- Asian ethnic groups: East Asia (Chinese, Taiwanese, Japanese, Korean), Southern Asia (India, including Fijian Indians, and others from the sub-continent), South East Asia
- Persons with diabetes
- At risk group (excluding diabetics), which included:
  - ♦ Overweight persons (persons who thought a doctor would say they were overweight, including those who also thought the doctor would say they were obese)
  - ♦ Obese persons (persons who thought a doctor would say they were obese)

- ◆ Persons with a family history of diabetes
- ◆ Women with a history of diabetes during pregnancy (GDM), but who were not currently diabetic
- Persons interested in eating more healthily
- Persons interested in being more active
- Main meal preparers
- Household shoppers
- Age within gender (males and females in each of three age groups: 16 to 24 years, 25 to 44 years and 45 years and over)
- Level of deprivation (NZDep01), which is an established rating of areas in which people live, based on a number of socio-economic variables
- People with children and people with three or more children

Where considered appropriate, analyses were also undertaken to examine if there were any differences for the three Territorial Local Authorities in the region (Manukau, Franklin and Papakura).

## MARGINS OF ERROR

At the 99 percent confidence level, the margin of error for a reported proportion of 50 percent, based on the total sample of 2520, is plus or minus 2.6 percent. This means that, even though this was a sample of the population, one can be 99 percent confident that the real level is somewhere between 47.4 percent and 52.6 percent.

For a figure of 50 percent based on an ethnic sub-sample of 600 interviews, the margin of error is plus or minus 5.3 percent. The margin of error reduces as the percentage moves further away from 50 percent in either direction. For example, when asked what someone can do to have a healthy weight, 57 percent mentioned eating vegetables. The margin of error for this figure, which is near 50 percent was 2.5 percent. However the margin of error for the nine percent who mentioned eating foods high in fibre was 1.5 percent, because the smaller the number, the smaller the margin of error. Likewise 91 percent mentioned being physically active. As this is a long way from 50 percent, the margin of error is also smaller, being just 1.5 percent.

## SIGNIFICANCE TESTING

Significance testing is used to identify whether differences between figures are large enough to be likely to be showing real differences, as opposed to those that might have happened by chance. For example, if it is reported that diabetes was more prevalent among Pacific peoples, this means that the rate of diabetes for Pacific peoples was sufficiently high, compared with the total sample, for the statistical analyses to identify the difference as significant.

All significant differences have been reported, unless the analysis did not add sufficient value to understanding of the data to justify its inclusion.

Results are reported in the text which are significantly different from the total sample at the 99 percent confidence level. These are shown in the tables by upward arrows for those figures that are significantly higher and downward arrows for those that are significantly lower. Colour versions of the report also show figures that are significant at the 95 percent level shown in red. However the reporting has focussed on the 99 percent level, because the analyses have not made any adjustments for design effects and the fact that large numbers of significance tests have been undertaken.

When comparing the ethnic sub-samples with bases of approximately 600 respondents against the total sample, a figure of 50 percent needed to vary by 6.0 percent to be significant at the 99 percent confidence level. For example, 50 percent of the total sample had consumed fizzy drink in the previous seven days. The level for Asians was 44 percent, which was six percent different, so it was significant. However, the level for Maori was 52 percent, which was not a large enough difference from the 50 percent for the total sample to be significant.

### Bases reported in tables

The bases shown in the tables (the figures in brackets above the percentages) are the actual numbers of people interviewed (i.e. unweighted numbers), while all the percentages shown are based on weighted data.

### Response Scales

On some questions people were asked to specify how much they agreed or disagreed with a statement on a seven point scale from 'agree strongly' to 'disagree strongly'. In the reporting, the proportions saying either 'strongly agree' or 'agree' have been grouped into an 'agree' category. A similar process was used to create a 'disagree' category. People giving more neutral response are not reported, so the 'agree' and 'disagree' do not add to 100 percent. The neutral responses were: 'agree a little, neither agree nor disagree', 'disagree a little' and 'don't know'.

## 4.3 PERCEPTIONS RELATING TO HEALTHY WEIGHT

This section considers:

- How aware people were of what is required to have a healthy weight
- How concerned they were about getting diabetes and the health risks of being overweight
- Whether people felt they knew what their recommended weight and body shape was
- Types of people who were more likely to be overweight (this was based on persons' perceptions as to whether a doctor would say they were overweight)
- Types of people who are more likely to be obese (this was based on persons' perceptions as to whether a doctor would say they were obese)

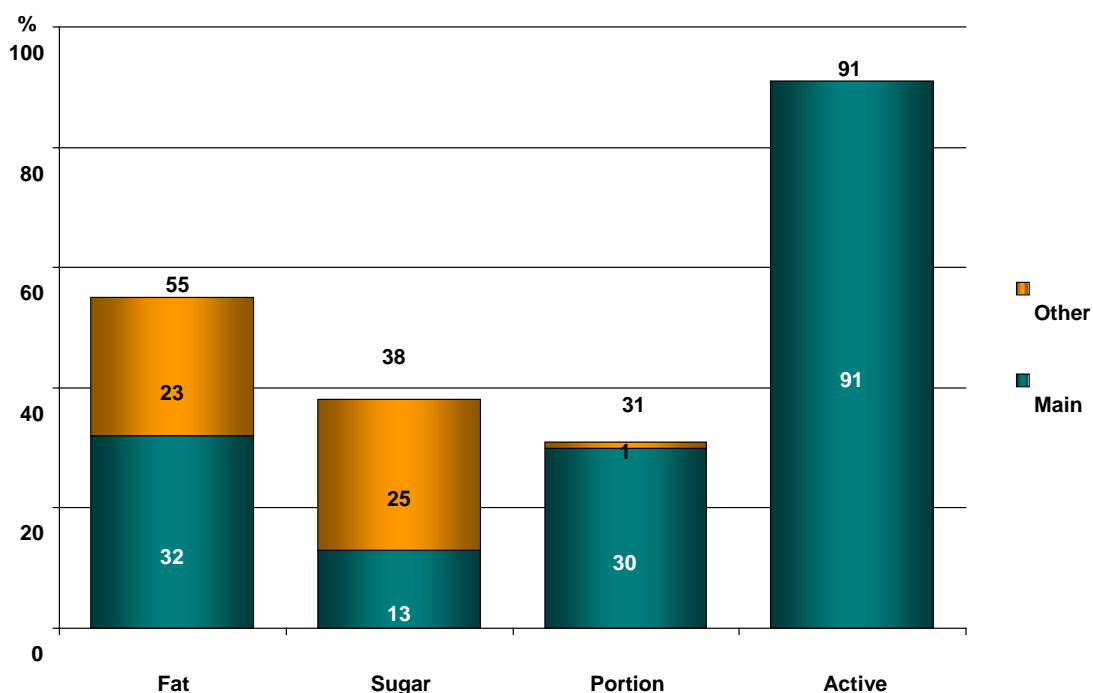
### AWARENESS OF OPTIONS FOR HAVING A HEALTHY WEIGHT

Respondents were asked what they could do if they wanted to have a healthy weight. The responses were all unprompted (i.e. no options were read out), which tends to produce lower levels of mentions than for prompted questions. The answers given were recorded verbatim and then coded into categories after interviewing.

The chart below categorises four key responses that are the focus of the LBD social marketing campaign: being physically active, controlling/reducing fat intake, controlling/reducing sugar intake and controlling/reducing portion size. The bottom part of each stacked category shows those who gave the main response only and the complete stack contains those who said the main or other related responses in that category (see table which follows for categories included under each heading).

- Most people (91%) mentioned being active
- Fat was much more often mentioned than sugar (55% compared with 38% for total mentions)
- Just under a third (31%) made some mention of portion size

## KEY RESPONSES FOR WHAT PEOPLE BELIEVED WOULD CONTRIBUTE TO A HEALTHY WEIGHT



The table which follows shows the more detailed responses with the above key categories bolded. The categories under the bold headings are those that made up the totals shown in the graph above<sup>22</sup>.

Apart from the categories mentioned above, other *more* prevalent mentions were: eating more vegetables (57%) and fruit (45%).

**Table 13: What someone can do to have a healthy weight**

WHAT SOMEONE CAN DO TO HAVE A HEALTHY WEIGHT	Total (2520) %	Maaori (594) %	Pacific Peoples (712) %	Asian (599) %	Other (998) %
Be physically active	91	91	90	90	93
<b>Total Fat group</b>	<b>55</b>	<b>53</b>	<b>48↓</b>	52	60
Control/reduce fat intake (Main group)	32	28	31	32	32
Eat less takeaways (Other group)	22	23	15↓	17↓	26
Eat less junk food (Other group)	15	11	8↓	17	17
Don't cook in fat or oil – grill (Other group)	5	5	4	7	5
<b>Total Sugar group</b>	<b>38</b>	<b>33</b>	<b>31↓</b>	<b>38</b>	<b>41</b>
Control / reduce sugar intake (Main group)	13	10	8↓	13	16
Eat less junk food (Other group)	15	11	8↓	17	17

<sup>22</sup> Where a person was in more than one category, they were only counted once in the total.

WHAT SOMEONE CAN DO TO HAVE A HEALTHY WEIGHT	Total (2520) %	Maaori (594) %	Pacific Peoples (712) %	Asian (599) %	Other (998) %
Drink water / so many glasses a day (Other group)	14	16	19↑	13	13
No soft / fizzy drinks (Other group)	5	2↓	7	8↑	3
<b>Total Portion Size group</b>	<b>31</b>	<b>28</b>	<b>33</b>	<b>22↓</b>	<b>37↑</b>
Control/reduce portion size (Main group)	30	27	31	20↓	35↑
<b>ALL OTHER RESPONSES:</b>					
Eat vegetables	57	55	55	54	59
Eat fruit	45	44	41	39	50↑
Eat red/lean meat	15	18	14	12	17
Eat a balanced diet	14	11	10↓	14	16
Eat foods high in fibre	9	8	5↓	7	11
Don't drink alcohol / watch alcohol	9	6	4↓	8	11
Eat fish / seafood	9	10	13↑	5↓	8
Eat regular meals	8	8	8	9	8
Reduce carbohydrates	8	8	7	6	9
Have a healthy diet (unspecified)	7	6	3↓	5	9
Don't smoke	6	6	4	6	7
Eat protein	6	3↓	3↓	8	7
Eat less meat	5	4	9↑	9↑	3↓
Eat 5+ per day	5	7	4	3	6

(Mentions of less than 5% have been excluded from the table)

Those who mentioned **eating vegetables** were *more* prevalent among:

- Females aged 16-24 years (68%) and females aged 25-44 years (67% vs 57% for the total sample)

And *less* prevalent among:

- Tongans (45%)
- Males aged 45 and over (49%)

People mentioning **eating fruit** were *more* prevalent among:

- Females aged 25-44 years (53%) and females aged 45 and over (51% vs 45% for total sample)
- Those of Other ethnic groupings (50%)

And *less* prevalent among:

- Tongans (29%)
- Males aged 45 and over (34%) and males aged 25-44 years (37%)

## CONCERN WITH HEALTH RISKS OF BEING OVERWEIGHT

Similar proportions (40%) both agreed and disagreed with the statement that they are worried that they or someone in their family has health problems or may get health problems because of being overweight<sup>23</sup>.

**Table 14: Concern with health risk of being overweight**

CONCERN	Total (2520) %	Maaori (594) %	Pacific Peoples (712) %	Asian (599) %	Other (998) %
<b>I am worried that I or someone in my family has health problems or may get health problems because of being overweight</b>					
Agree	40	51↑	66↑	41	29↓
Disagree	40	27↓	17↓	40	50↑

People *more* likely to **agree** that they were worried were:

- Obese persons (64% vs 40% for total sample)
- Overweight persons (which included those who were obese, 51%)
- Pacific peoples (66%), with levels being higher for Tongans (71%), Cook Island Maaori (70%) and Samoans (63%)
- Diabetics (60%)
- People from high deprivation areas (57%)
- Those with a family history of diabetes (55%)

<sup>23</sup> As with all the agree/disagree scales, the 'agree' figures are for those agreed and strongly agreed with the statement of interest. If the respondent had diabetes they responded to a slightly different statement that read: "I am worried that someone in my family has diabetes or may get it".

- Maaori (51%)
- Those interested in eating more healthily than they currently are and interested in being more physically active than they currently are (46% for both)
- Those responsible for children (46%), rising to over half (56%) for those responsible for three or more children

**Disagreement** with this statement was greater among:

- People from low deprivation areas (55% vs 40% for total sample)
- Those of Other ethnicity groupings (50%)

## AWARENESS OF RECOMMENDED WEIGHT AND BODY SHAPE

Three-quarters (76%) agreed that they know what the **recommended weight** is for them to be healthy, while less than one-in-ten (8%) disagreed.<sup>24</sup>

Nearly three-quarters (72%) agreed that they know what the **recommended body shape** is for them to be healthy, while less than one-in-ten (8%) disagreed.

**Table 15: Awareness of recommended weight and body shape**

AGREEMENT WITH STATEMENTS	Total (2520) %	Maaori (594) %	Pacific Peoples (712) %	Asian (599) %	Other (998) %
Know what the recommended weight is for me to be healthy					
Agree	76	71	72	78	77
Disagree	8	8	12↑	6	6
Know what the recommended body shape is for me to be healthy					
Agree	72	69	71	71	74
Disagree	8	11	9	8	7

Reported awareness of the **recommended weight** was *greater* among:

- Females aged 45 and over (82% vs 76% for total sample)

And *lower* among:

- Males aged 16-24 years (65%) and females aged 16-24 years (63%)

Reported awareness of the **recommended body shape** was not greater for any group but was *lower* among:

- Males aged 16-24 years (64%) and females aged 16-24 years (61% vs 72% for total sample)

<sup>24</sup> The 'agree' figures are those choosing 'agree' or 'strongly' agree, and likewise for the 'disagree' figures. The other possible responses were: 'agree/disagree a little' and 'neither agree nor disagree'.



## TYPES OF PEOPLE WHO ARE MORE LIKELY TO REPORT BEING OVERWEIGHT

There were forty-one percent of the sample who were self-classified themselves as 'overweight' (this included persons who were also 'obese'). This classification was based on their perceptions as to whether a doctor would say they were overweight. For this section of the report, this group includes any diabetics who were overweight<sup>25</sup>.

**Overweight persons** were *more* prevalent among:

- Pacific peoples (56% vs 41% for total sample), with the levels being high for all Pacific groups: Niueans (59%), Samoans (58%), Cook Island Maaori (57%) and Tongans (52%)
- Diabetics (56%)
- Maaori (48%)
- People from high deprivation areas (48%)
- Those responsible for three or more children (48%)
- Those with a family history of diabetes (47%)
- Females aged 45 years and over (47%)
- Those interested in eating more healthily than they currently are and those interested in being more physically active than they currently are (47% for each)

And *less* prevalent among:

- Males aged 16-24 years (21%) and females aged 16-24 years (28%)
- Asian peoples (28%), with the levels being low for all Asian groups: South East Asian peoples (20%), East Asian peoples (28%) and South Asian peoples (30%)
- People from low deprivation areas (33%)

## TYPES OF PEOPLE WHO ARE MORE LIKELY TO REPORT BEING OBESE

One in eight (12%) of the total sample were obese. Again this was based on how they thought a doctor would assess them and it includes any obese diabetics.

**Obese persons** were *more* prevalent among:

- Diabetics (35% vs 12% for total sample)
- Pacific peoples (27%), with the levels being highest for Samoans (30%), Tongans (28%), and Cook Island Maaori (26%)
- People from high deprivation areas (21%)
- Those responsible for three or more children (19%)
- Those with a family history of diabetes (16%)
- Females aged 25-44 years (16%)
- Those interested in eating more healthily than they currently are and those interested in being more physically active than they currently are (14% for each)

And *less* prevalent among:

---

<sup>25</sup> When analyses have been undertaken on other questions, the overweight 'at risk' group has been used, which excludes overweight diabetics. Similar comments apply in relation to obese persons and persons who were overweight but not obese.

- Males aged 16-24 years (4%)
- People from low deprivation areas (6%)
- Asian peoples (7%)
- Those of Other ethnic groupings (8%)

Those who were **overweight but not obese** were not *more* prevalent among:

- Females aged 45 and over (35% vs 29% for total sample)

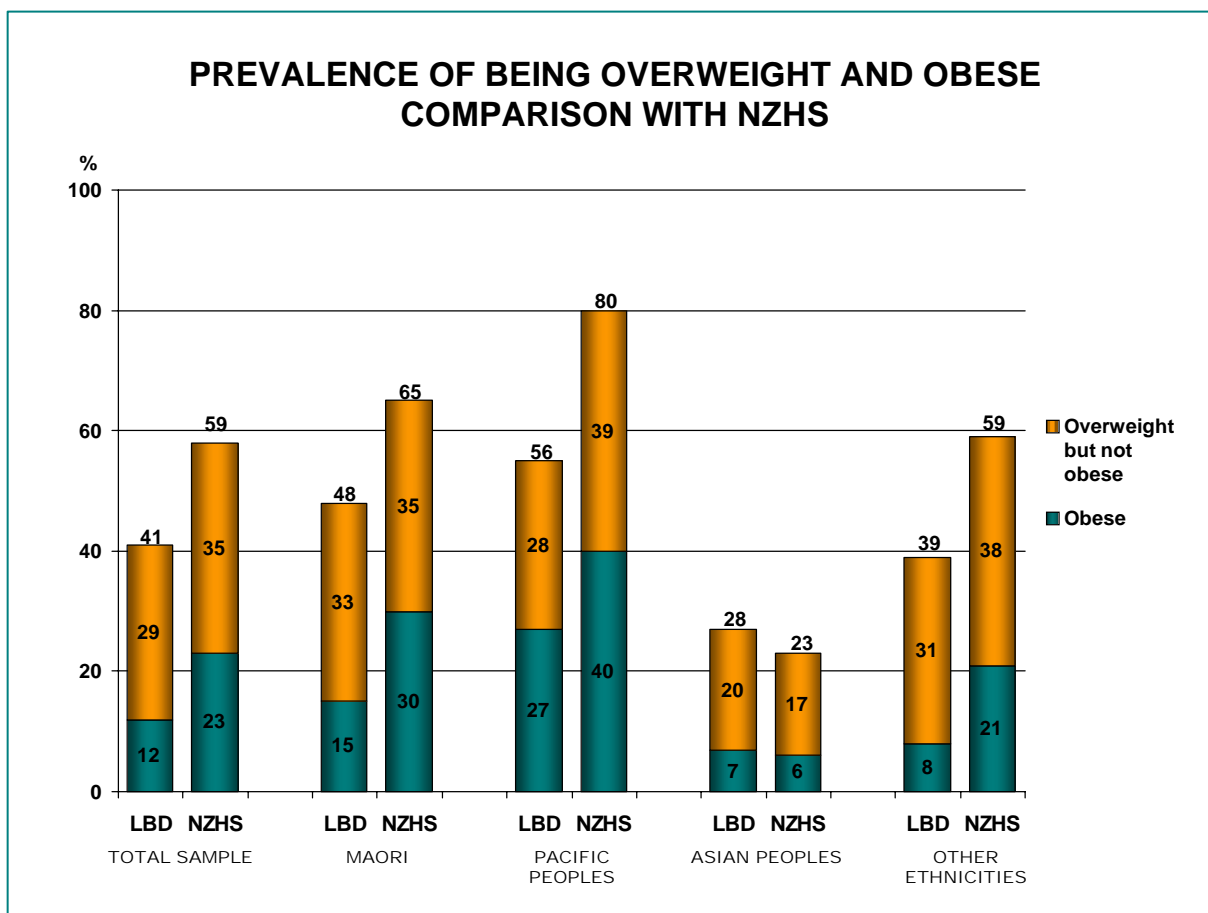
And *less* prevalent among:

- Males aged 16-24 years (16%)
- Asian peoples (20%), specifically South Asian peoples (21%)

### COMPARISONS WITH NZ HEALTH SURVEY DATA

It should be noted that the overweight and obesity figures in the 'Let's Beat Diabetes' survey were self-reported perceptions of the respondents, based on what they thought a doctor would say, and with the notable exception of Asian peoples, they were considerably lower than the levels assessed through measurement as part of the 2002/03 New Zealand Health Survey, as shown in the graph below.

It should also be noted that the overweight and obese levels for the current survey reported below include diabetics who were overweight and obese.



## DISCUSSION

### Room for improvement in awareness of different components of a healthy diet

People clearly have a good understanding that physical activity is an important contributor to having a healthy weight. They also realise that diet is important, but individual components of diet had differing levels of mention. Interpretation of the level of mentions for diet related items needs to take into account that there are many aspects of diet that could be mentioned and that this was an unprompted question. However, there would still seem to be some room for improvement for all of the diet related messages on which the social marketing campaign is focussing. There is currently least recall of the importance of reducing portion size and the link between sugar consumption and healthy weight is also relatively low in recall.

### A greater concern with risks to health of being overweight may motivate people more

Social marketing theory identifies that people are more likely to change their behaviours if they can see some benefit in it for them. If people believe they or someone close to them is at risk of health problems because of being overweight, then it might be expected that they would be more motivated to change. Among those who knew they were obese, nearly two-thirds (64%) expressed some concern with the health risks of being overweight, but this still left over one-third (36%) who didn't. Those who knew they were overweight (which includes the obese) were also above average in their concern, but at one-half (51%) this level was not particularly high.

### An opportunity to make people more aware of their obesity

The low levels of reported obesity, compared with what was measured in the 2002/03 New Zealand Health Survey, is obviously an issue that the social marketing campaign can seek to address. It might be assumed that if obese people were made more aware of their condition and the health implications of this, then they might be more motivated to reduce their risk. Similar comments apply in relation to being overweight.

### Questions as to whether as many people do know their recommended body weight and shape as claim to

With approximately three quarters claiming to know what their recommended body weight and body shape were, on the face of it these do not appear to be areas that need a lot of attention. However, the comparison with the 2002/03 NZ Health Survey, showing poor awareness of being obese or overweight, does raise questions as to how accurate people's perceptions of their recommended body weight might actually be.

## 4.4 HEALTHY EATING

This section examines the following issues relating to healthy eating.

- Fruit and vegetable consumption:
  - ♦ Awareness of minimum number of recommended servings
  - ♦ Reported levels of fruit and vegetable consumption
- Other eating behaviours: drinking fizzy/energy drinks, eating more than needed, having something to eat for breakfast
- Low fat cooking behaviours: cooking meat or vegetables in butter or lard, cooking meat with the fat removed or drained, cooking chicken with the skin on
- Sources of support to eat healthily
- Children's eating: Support given by caregivers to children to eat healthily and the perceived healthiness of the food their children eat
- Interest and difficulty in eating more healthily
- Possible barriers to healthy eating

Because it is a large and key section, it concludes with a section that seeks to integrate some of the findings relating to healthy eating. Each of the separate sub-sections ends with its own discussion.

### FRUIT AND VEGETABLE CONSUMPTION

#### Awareness Of Minimum Number Of Recommended Servings

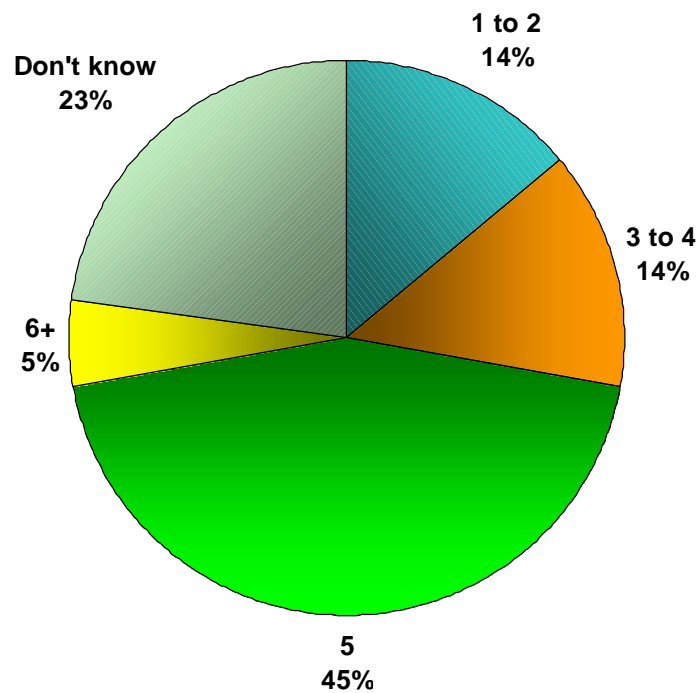
Respondents were asked: "What is the minimum number of fruit and vegetable servings that adults are recommended to eat per day to stay healthy?" If they asked, they were told that "one serving of fruit or vegetables is what fits into the palm of your hand or it's one cup of salad." This question came directly after questions asking them how many servings of fruit and vegetables they eat on a typical day, and servings were defined as part of those questions.

Under half (45%) gave the correct response of five servings while another one-in-twenty (5%) mentioned more than five servings.

One-in-ten (11%) said that three servings per day were recommended, whilst 14 percent said less than three. Almost a quarter (23%) acknowledged that they did not know the recommended number.

The mean number of minimum servings mentioned was just over four (4.2).

## RECOMMENDED MINIMUM NUMBER OF DAILY FRUIT AND VEGETABLE SERVINGS



**Table 16: Knowledge of recommended minimum number of fruit and vegetable servings per day**

MINIMUM NUMBER OF SERVINGS RECOMMENDED PER DAY	Total (2520) %	Maaori (594) %	Pacific Peoples (712) %	Asian (599) %	Other (998) %
One to two	14	11	21↑	24↑	8↓
Three	11	8	14	14	9
Four	3	5	6↑	3	2
Five	45	47	27↓	28↓	60↑
More than five	4	4	4	3	4
Don't Know	23	25	28↑	28↑	17↓
<b>Mean number of minimum servings</b>	<b>4.2</b>	<b>4.3</b>	<b>3.7↓</b>	<b>3.5↓</b>	<b>4.5↑</b>

The proportion of people giving the correct **five servings** per day was **higher** for:

- Females aged 16-24 years (62%) and females 25-44 years old (58% vs 45% for total sample)
- Those of Other ethnic groupings (60%).
- People from low deprivation areas (52%)
- Overweight persons (51%)
- Meal preparers (51%)

Those giving a recommended number **between one and four** were more prevalent among:

- Pacific peoples (41% vs 28% for total sample), with the levels being higher for Samoans (50%) and Tongans (39%)
- Asian peoples (41%), with the levels being higher for East Asian peoples (44%) and South Asian peoples (41%)
- People from high deprivation areas (34%)
- Males (32%)

Those who **did not know** the recommended number of servings per day were **more** prevalent among:

- Males aged 45 years and over (37% vs 23% for total sample)
- Pacific peoples (28%), with the levels being higher for Tongans (38%), Cook Island Maaori (36%) and Samoans (16%)
- Asian peoples (28%), with the levels being higher for South East Asian peoples (36%) and South Asian peoples (30%)

## REPORTED FRUIT AND VEGETABLE CONSUMPTION

### Number of fruit servings personally eat daily

Respondents were asked on average, how many, if any, 'servings' of fruit (fresh, frozen, canned or stewed) they eat on a typical day. The most prevalent mentions were 30 percent who said that they eat two servings, 23 percent one, followed by 22 percent who said they eat three. Sixteen percent consumed more than three servings, whilst five percent didn't eat fruit.

The average number of servings of fruit consumed on a typical day was just under two and a half (2.4 servings).

**Table 17: Fruit servings personally eat daily**

NUMBER OF FRUIT SERVINGS PERSONALLY EAT DAILY	Total (2520) %	Maaori (594) %	Pacific Peoples (712) %	Asian (599) %	Other (998) %
Don't eat fruit	5	5	2	3	6
One or less serving per day	25	25	23	33↑	22
Two servings per day	30	26	29	32	30
Three servings per day	22	22	21	20	22
More than three	17	22	21	11↓	19
Don't Know	1	1	2↓	1	0
<b>Mean number of fruit servings</b>	<b>2.4</b>	<b>2.5</b>	<b>2.5</b>	<b>2.1↓</b>	<b>2.4</b>

Those consuming a **higher** mean number of servings of fruit were:

- Males aged 16-24 years (2.7 servings) and females aged 25-44 (2.6 servings vs 2.4 servings for total sample)
- Tongans (2.7 servings)

Those consuming a **lower** mean number of servings of fruit:

- Sedentary persons (1.9 servings)
- Asian peoples (2.1 servings) and more specifically South Asian peoples (2.1 servings)
- Males aged 25-44 years (2.2 servings) and males aged 45 and over (2.0 servings)

### Number of vegetables servings personally eat daily

Equal proportions of respondents said they had one or two servings of vegetables or salad on a typical day (32%). This was followed by one-fifth (19%) who had three and one-in-ten (11%) who had more than three.

- The average number of servings of vegetables or salad on a typical day was just over two.

**Table 18: Vegetable or salad servings personally eat daily**

NUMBER OF VEGETABLE OR SALAD SERVINGS PERSONALLY EAT DAILY	Total (2520) %	Maaori (594) %	Pacific Peoples (712) %	Asian (599) %	Other (998) %
Don't eat vegetables	1	1	2↑	0	0
One or less serving per day	34	33	46↑	36	28↓
Two servings per day	32	31	30	38↑	30
Three servings per day	19	20	12↓	16	23↑
More than three servings per day	13	13	7↓	8↓	18↑
Don't know	1	1	2↑	1	0
<b>Mean number of vegetables or salad servings personally eat daily</b>	<b>2.2</b>	<b>2.2</b>	<b>1.8↓</b>	<b>2.0↓</b>	<b>2.4↑</b>

Those consuming a **higher** mean number of servings of vegetables or salad were:

- Females aged 45 and over (2.6 servings vs 2.2 for total sample) and females aged 25-44 years (2.5 servings)
- Meal preparers (2.4 servings)
- Those of Other ethnic groupings (2.4 servings)
- People from Franklin (2.4 servings)
- People from low deprivation areas (2.4 servings)
- Household shoppers (2.3 servings)

Those consuming a **lower** mean number of servings of vegetables or salad were:

- Pacific peoples (1.8 servings), particularly Tongans (1.7 servings) and Samoans and Cook Island Maaori (1.8 servings for each)
- Males of all age groups (1.9 servings for each group)
- Asian peoples (2.0 servings), more specifically South Asian peoples (2.0 servings)
- People from high deprivation areas (2.0 servings)

### Total number of fruit and vegetable servings consumed

When the fruit and vegetable servings were combined, the mean number was 4.6, a little under the recommended minimum level of five.

Well under half (43%) were eating five or more servings per day. The more than half (55%) who were eating less than five included over one-third (36%) consuming less than four servings and close to one-fifth (18%) who were consuming less than three.



**Table 19: Total fruit and vegetable servings consumed**

TOTAL NUMBER OF FRUIT AND VEGETABLE SERVINGS	Total (2520) %	Maaori (594) %	Pacific Peoples (712) %	Asian (599) %	Other (998) %
Less than one	1	1	2	0	1
Less than three servings	18	18	17	19	17
Three servings per day	18	17	23↑	23↑	14↓
Four servings per day	19	21	18	23	18
Five servings per day	15	9↓	14	14	17
Six servings per day	12	12	11	7↓	13
More than six servings per day	17	21	13	12↓	2
Don't know/Refused	2	2	4↑	2	1
<b>Mean number of fruit and vegetables and servings</b>	<b>4.6</b>	<b>4.8</b>	<b>4.3</b>	<b>4.1↓</b>	<b>4.8↑</b>

Those consuming a **higher** mean number of total fruit and vegetables servings were:

- Females aged 45 and over (5.1 servings) and females aged 25-44 years (5.1 servings vs 4.6 servings for total sample)
- Meal preparers (4.9 servings)
- Those of Other ethnic groupings (4.8 servings)
- Household shoppers (4.8 servings)

Those consuming a **lower** mean number of total vegetables and salad servings were:

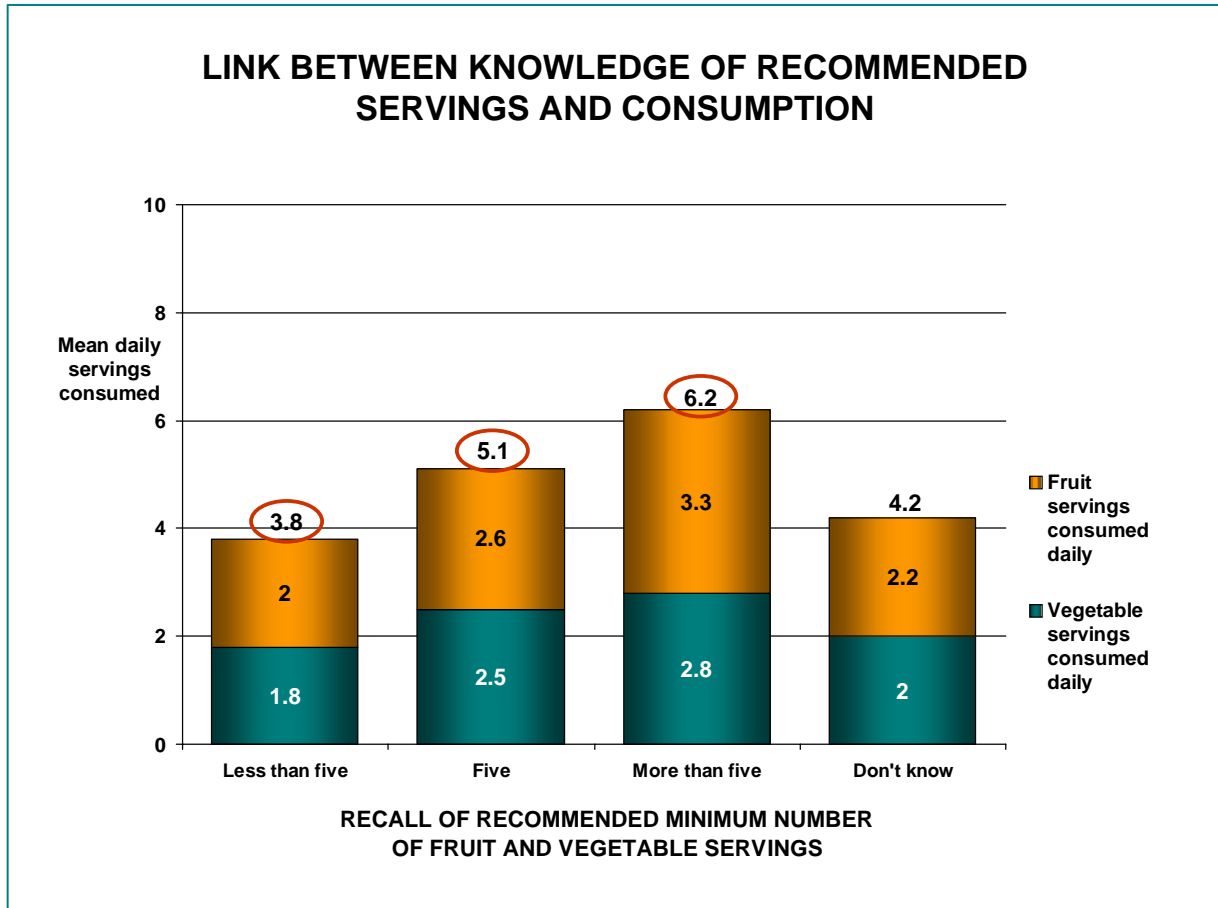
- Males aged 45 and over (3.8 servings)
- Sedentary persons (4.0 servings)
- Males aged 25-44 years (4.1 servings)
- Asian peoples (4.1 servings), more specifically South Asian peoples (4.1 servings)

Those **consuming less than four** servings were **more** prevalent among:

- Males aged 25-44 years and males aged 45 and over (48% for both vs 36% for total sample)
- Sedentary persons (45%)
- Asian peoples (42%)

## LINKS BETWEEN KNOWLEDGE AND BEHAVIOUR

- As shown in the graph below, people who reported a lower recommended minimum number of servings of fruit and vegetables tended to also consume lower amounts of fruit and vegetables. Likewise those who knew that five servings was the recommended minimum amount averaged five servings and those who thought the recommended amount was higher than five averaged six servings. Those who did not know the recommended minimum averaged four servings. Those who did not know the recommended minimum averaged four servings.



### Comparison with 2002/03 NZ Health Survey

The 2002/03 NZ Health Survey estimates for CMDHB for **consuming two or more fruit servings per day** was 49 percent, which was considerably less than the 69 percent in this LBD survey. The comparable levels for the different ethnic groups were: Maaori 43 percent for NZHS versus 69 percent for LBD, Pacific peoples 49 vs 71 percent, Asian peoples 47 vs 64 percent, and Other ethnicities 50 vs 71 percent.

In contrast to the fruit findings, the proportion consuming three or more vegetable servings was markedly lower than that estimated from the 2002/03 NZHS data. They estimated 58 percent while the LBD survey figure was 32 percent. The comparable levels for the different ethnic groups were: Maaori 64 percent for NZHS versus 33 percent for NDI, Pacific peoples 29 vs 19 percent, Asian peoples 34 vs 24 percent, and Other ethnicities 70 vs 41 percent.

The 2002/03 NZHS estimates for **consuming both two or more servings of fruit and three or more servings of vegetables** was 34 percent, which compared with 27 percent in the current study. The comparable levels for the different ethnic groups were: Maaori 33 percent for NZHS

versus 26 percent for LBD, Pacific peoples 22 vs 16 percent, Asian peoples 24 vs 19 percent, and Other ethnicities 40 vs 35 percent.

It is difficult to understand the differences between the findings for the two surveys, given the questions used were quite similar. The NZHS questions asked about eating "per day" whereas the LBD survey used the term "on a typical day". The LBD survey also described a serving as "what fits into the palm of your hand", whereas the NZHS relied just on examples, but these did include an example of adding different quantities. The LBD survey gave examples for fruit, but for vegetables simply described it as, "One serving of cooked vegetables is what fits into the palm of your hand or it's one cup of salad." The NZHS survey included examples that mentioned specific vegetables, namely potato/kumara and peas. It is also possible that the face to face nature of the NZHS may have allowed people more time to calculate their quantities. However, even if people were imagining different serving sizes, this doesn't explain why the LBD survey fruit figure was higher and the vegetable figure lower. There is a need to consider whether activities/changes in the CMDHB region over the four years between surveys may have contributed to the differences. For example, the introduction of the Fruit in Schools programme in low decile schools might have encouraged an increase in fruit consumption. Seasonal factors in eating patterns at the time of the two surveys may also be factors. The other possible explanation is the differences in research methods used in the two surveys, as discussed previously.

## DISCUSSION

### Room for improvement in fruit and vegetable consumption

While the mean number of daily fruit and vegetables servings reported was not very far below the recommended daily average, there were still over half (55%) who were eating less than five servings and over one-third (36%) eating less than four, so there is some room for improvement. In particular Pacific peoples could be encouraged to eat more vegetables.

### Opportunity to increase awareness of recommended minimum number of servings

Increasing awareness of the recommended minimum number of servings of fruit and vegetables is an obvious starting point, particularly for Pacific and Asian peoples, given their lower awareness of the recommended amount.

The findings relating to the possible relationship between the perceived recommended number of servings and actual consumption need to be interpreted with caution. These findings do not mean that increasing awareness of the recommended minimum amount will lead to increased fruit and vegetable consumption. It is possible that it might, but it is also possible that the results are simply evidence that people who do eat more fruit and vegetables are more likely to know the minimum recommended number of servings. Alternatively there could be some other explanation of the relationship that has not been explored by this research.

#### 4.4.1 OTHER EATING BEHAVIOURS

Respondents were asked how many times in the last seven days they adopted various eating/drinking habits. The **consumption of fizzy or energy drinks** was asked as an indicative measure of sugar consumption. Half had consumed these high sugar content drinks in the previous week, with one-in-seven (14%) doing so on five or more days. Those who consumed these drinks did so on an average of 3.2 days. This equated with an average of 1.6 days for the total sample.

Three-fifths (59%) agreed that they had **eaten more than they needed** at some stage in the previous seven days, with one-in-seven (14%) doing this on five or more days. Those undertaking this behaviour did so on an average of 3.1 days, which equated with an average of 1.8 days for the total sample.

Just over nine-in-ten (92%) said they **had something to eat for breakfast** on at least one day, and these people had breakfast on an average of 6.1 days. This equated with an average of 5.6 days for the total sample.

As well as the less than one-in-ten (8%) who **did not eat breakfast on any days**, there were another one-sixth (16%) who had breakfast on less than five days (i.e. one to four days).

**Table 20: Other eating behaviours**

	Total (2520)	Maaori (594)	Pacific Peoples (712)	Asian (599)	Other (998)
PROPORTION DOING THIS IN LAST 7 DAYS	%	%	%	%	%
Drink fizzy or energy drinks, not including diet or zero sugar versions	50	52	64↑	44↓	48
Eat MORE than you needed	59	65↑	70↑	49↓	59
Have something to eat for breakfast	92	88↓	90	93	93
<b>MEAN SCORES</b>					
<b>Drink fizzy or energy drinks, not including diet or zero sugar versions</b>					
Based on those who drank fizzy drinks on at least one day	3.2	3.3	3.1	3.0	3.2
Based on total sample	1.6	1.7	2.0↑	1.3↓	1.5
<b>Eat MORE than you needed</b>					
Based on those who ate more than they needed on at least one day	3.1	3.3	3.1	2.6↓	3.2
Based on total sample	1.8	2.2↑	2.2↑	1.3↓	1.9
<b>Have something to eat for breakfast</b>					
Based on those who had something for breakfast on at least one day	6.1	5.8↓	5.5↓	6.3↑	6.3↑
Based on total sample	5.6	5.2↓	4.9↓	5.9↑	5.8

The proportion who had **drunk fizzy/energy drinks in the last seven days** was *more* prevalent among:

- Males aged 16-24 years (84%) and males aged 25-44 years (70% vs 50% for total sample)
- Females aged 16-24 years (72%)

- Pacific peoples (64%), with higher levels for Other Pacific Island groups (68%), Cook Island Maaori (66%), Tongans (64%) and Samoans (63%)
- People from high deprivation areas (63%)
- Respondents who were responsible for their children (57%), rising to nearly two-thirds (63%) among those responsible for three or more children

And **less** prevalent among:

- Diabetics (33%)
- Meal preparers (40%)
- People from low deprivation areas (42%)
- Household shoppers (43%)
- Females 25-44 years (43%) and females aged 45 and over (24%)
- Asian peoples (44%)

The proportion who had **drunk fizzy/energy drink on five or more days** in the previous week was **greater** among:

- Males aged 16-24 years (40%) and males aged 25-44 years (19% vs 14% for total sample)
- People from high deprivation areas (17%)

The proportion who had **eaten more than they needed at some stage in the previous seven days** was **greater** among:

- Obese persons (82% vs 59% for total sample)
- Overweight persons (74%)
- Pacific peoples (70%) and particularly Samoans (77%)
- Females aged 25-44 years (67%)
- Those interested in being more physically active than they currently are (66%)
- Those interested in eating more healthily (66%)
- Maaori (65%)
- People from high deprivation areas (65%)
- Respondents who are responsible for children (64%), rising to under 70 percent among those responsible for three or more children

And **less** among:

- Asian peoples (49%), particularly East Asian peoples (47%) and South Asian peoples (50%)
- Females aged 45 and over (51%)
- Males aged 45 and over (52%)

The proportion who had **eaten more than they needed on five or more days** was **greater** among:

- Obese persons (25% vs 14% for total sample)
- Overweight persons (22%)
- Sedentary persons (22%)

The proportion of those who had **'nothing' to eat for breakfast** on any days was *greater* among:

- Females aged 16-24 years (15% vs 8% for total sample)
- Maaori (12%)
- People from high deprivation areas (12%)

And *less* prevalent among:

- Females aged 25-44 years (5%)

The proportion of those who had **breakfast on only one to four days** was *greater* among:

- Pacific peoples (28% vs 16% for total sample), with the levels being higher for Samoans (30%), Cook Island Maaori (28%) and Tongans (26%)
- Males aged 16-24 years (26%) and females aged 16-24 years (25%)
- Obese persons (26%)
- People from high deprivation areas (24%)
- Overweight persons (22%)
- Maaori (21%)
- Those responsible for three or more children (21%)

## DISCUSSION

### Sugar drinks widely consumed, especially by young males

With half the population consuming high sugar drinks at least once a week, there is clearly potential for improvement in this area. There is a smaller group who are more frequent consumers and they tend to be young males. There would be value in targeting this group to support a "swap 2 water" behaviour change.

### Support for campaign focus on portion size

The fact that well over half admitted to eating more than they needed at some time in the previous week and that these people did so on average of over three times each, does provide strong support for the LBD Swap2Win campaign including the reduction of portion size as a key campaign message. As noted previously, portion size received relatively low mention when asked what contributes to a healthy weight.

As would be expected, eating more than needed was a particularly prevalent problem among obese and overweight persons.

### Surprisingly few going without breakfast

The relatively low level of under one-in-ten (8%) who had not eaten breakfast on any of the last seven days is perhaps surprisingly low, given the reports of children arriving at schools without having had breakfast. As noted before, there is no evidence to suggest that the total sample under-represented people from high deprivation areas, so there can be some confidence in these findings. It certainly seems that most of the people in this survey of persons aged 16 years and over were getting the benefit of some form of breakfast on most if not all days. Obviously the survey did not have time to ascertain the quality of those breakfasts.

#### 4.4.2 LOW FAT COOKING BEHAVIOURS

Of main meal preparers, just under three-fifths (58%) said they 'never' **cook meat or vegetables in butter or lard**<sup>26</sup>, followed by nearly one-third (31%) who said 'sometimes' and one-in-ten (10%) who said they 'usually' do.

Over half (55%) said they 'usually' **cook meat with the fat removed or drained off**, followed by one-quarter (26%) who 'sometimes' do and one-sixth (16%) who 'never' do. Two percent indicated they were vegetarian.

Almost three-in-ten (29%) reported that they 'never' **cook chicken with the skin on**, while one-third (32%) 'sometimes' do and another one-third (34%) 'usually' do.

**Table 21: How often cook food in various ways**

HOW OFTEN COOK FOOD IN VARIOUS WAYS	Total (1550) %	Maaori (384) %	Pacific Peoples (377) %	Asian (316) %	Other (701) %
<b>*Cook meat or vegetables in butter or lard</b>					
Usually	10	13	20↑	15	5↓
Sometimes	31	44↑	48↑	27	25↓
Never	58	43↓	31↓	58	70↑
<b>**Cook meat, including corned beef, with the fat removed or drained off</b>					
Usually	55	51	39↓	48	64↑
Sometimes	26	31	43↑	23	21
Never	16	17	17	18	14
Do not cook meat - vegetarian	2	0	1	10↑	0↓
<b>**Cook chicken with the skin on</b>					
Usually	34	55↑	46↑	20↓	32
Sometimes	32	26	35	25	35
Never	29	16↓	18↓	47↑	29
Do not cook meat - vegetarian	2	0	1	10↑	0↓
Do not cook chicken	3	3	1	2	4

\*Note this question was only asked of meal preparers (N=1550)

\*\*This statement replaced a similar one early in interviewing so the base is less for this reason N=1401

Those who **'usually' cook their meat or vegetables in butter or lard** were more prevalent among:

- Pacific peoples (20% vs 10% for all persons answering), with the levels being higher for Cook Island Maaori (24%) and Samoans (21%)
- South Asian peoples (18%)
- People from high deprivation areas (16%)

<sup>26</sup> If the respondent asked, they were told that this included ghee.

Those who **'sometimes'** do were more prevalent among:

- Males aged 16-24 years (56% vs 31% for all persons answering)
- Obese persons (43%)
- People from high deprivation areas (41%)
- Pacific peoples (48%), with the levels being higher for Niueans (53%), Cook Island Maaori (50%), Samoans and Tongans (47% for both)
- Females aged 16-24 years (45%)
- Maaori (44%)
- Respondents responsible for children (37%), rising to 45 percent for those responsible for three or more

Those who **'never'** do were more prevalent among:

- Those of Other ethnic groupings (70% vs 58% for all persons answering)
- People from low deprivation areas (70%)
- Females aged 45 and over (68%)

Those who **'usually' cook meat with the fat removed or drained** were more prevalent among:

- Those of Other ethnic groupings (64% vs 55% for all persons answering)

Those who **'sometimes'** do were more prevalent among:

- Pacific peoples (43% vs 26% for all persons answering), with the levels being higher for Tongans (54%), Samoans (45%) and Cook Island Maaori (41%)
- People from high deprivation areas (40%)
- Diabetics (40%)
- Obese persons (37%)

Those who **'never'** cook meat with the fat removed or drained were more prevalent among:

- Males aged 45 and over (26% vs 16% for all persons answering)

Those who **'usually' cook chicken with the skin on** were more likely to be in the following groups:

- Males aged 16-24 years (60% vs 34% for all persons answering)
- Maaori (55%)
- Obese persons (52%)
- Pacific peoples (46%), with the levels being highest for Cook Island Maaori (47%)
- People from high deprivation areas (46%)
- Those responsible for three or more children (44%)

Those who **'sometimes'** did so were not more prevalent among any of the groups.

Those who **'never'** cooked chicken with the skin on were more likely to be in the following groups:

- Asian peoples (47% vs 29% for all persons answering), with the levels being particularly high for South Asian peoples (65%)
- People from medium deprivation areas (35%)



## DISCUSSION

### Opportunity to address Pacific and Maaori people's cooking patterns

While the messages about cooking in ways that reduce the fat intake have gained some acceptance, there is still room for improvement, especially in terms of removing skin from chicken.

Both Pacific peoples and Maaori were relatively high for cooking patterns that are likely to contribute to diabetes, so they need to be encouraged and supported to change these patterns.

### 4.4.3 SUPPORT TO EAT HEALTHILY

The ability of people to successfully adopt healthy eating patterns is likely to be influenced by the support they receive from people in their immediate environment. Therefore respondents were read a list and asked: "Which of these people encourage or do things to make it easier for you to be eat healthily?" Some of the options only applied to some respondents; for example if, when asked about support from their employers, they said they were not employed, they have been excluded from the base of people for whom the results are reported. The figures in brackets in the table which follows are the percentages based on the total sample. Taking 'people at your church or place of worship' as an example, there were over half (54%) of those who do regularly attend church who reported feeling supported by others who attended. However because only a limited proportion of the total sample attended church regularly, when based on the total sample the figure decreased to one-fifth (21%). When making comparisons between different options for encouraging support, the total sample figures are probably going to be the most useful to use.

As shown in the table which follows, other adults in the household were the most prevalent source of support (72%). Just under three-fifths (57%) mentioned the wider family/whanau and close friends, while a similar proportion mentioned doctors or medical centre staff.

**Table 22: Sources of support to eat healthily**

SOURCES OF SUPPORT TO EAT HEALTHILY	Total %	Maaori %	Pacific Peoples %	Asian %	Other %
Other adults in your household	72	65↓	75	77↑	70
Children in your household*	54(30)	52(32)	65↑(48↑)	56(32)	48(22↓)
Your wider family/whanau and close friends	57	53	67↑	68↑	49↓
Your employer**	34(25)	31(25)	52↑(41↑)	38(31↑)	24↓(17↓)
People you work with***	42(33)	38(31)	60↑(49↑)	50↑(42↑)	30↓(23↓)
People at your church or place of worship****	54(21)	61(13↓)	67↑(48↑)	53(27↑)	38↓(9↓)
People at your marae in Counties Manukau*****	NA	53(10)	NA	NA	NA
Doctor/medical centre staff	57	59	75↑	62	47↓

The base is total sample (N=2520), except for the categories marked with asterix.

\*This is only asked of those who are responsible for their children (N=1442)

\*\* The base excludes people who were not in employment or who felt the question was not applicable (presumably mostly because they were employers) (N=1931)

\*\*\* This base excludes people who were not in employment (N=1999)

\*\*\*\*This is only asked of those who regularly attended church or a place of worship (N=1029)

\*\*\*\*\* This is only asked of Maaori who have a marae in the region which they attend (N=101)

Those who said that **Other adults in the same household** encourage them or make it easier for them to eat healthily were *more* prevalent among:

- Tongans (82% vs 72% for total sample)
- Females aged 16-24 years (80%) and males aged 25-44 years (79%)
- Asian peoples (77%), with the levels being higher for South Asian peoples (81%)
- Those responsible for children (76%)

And *less* prevalent among:

- Females aged 45 and over (61%)
- Sedentary persons (62%)
- Meal preparers (64%)
- Maaori (65%)
- Household shoppers (66%)

Those saying it was their **children** who encouraged them were *more* prevalent among:

- Pacific peoples (65% vs 54% for all persons answering), with the levels being higher for Tongans (68%)
- Females aged 45 and over (65%)
- People from high deprivation areas (60%)

And *less* prevalent among:

- Males 16-24 years (33%)

Those saying it was their **wider family/whanau and close friends** were *more* prevalent among:

- Asian peoples (68% versus 57% for total sample), with the levels being high for all groups: South East Asian peoples (72%), South Asian peoples (68%) and East Asian peoples (67%)
- Pacific peoples (67%), with the levels being higher for Tongans (77%) and Samoans (65%)
- Females aged 25-44 years (65%)
- Those responsible for three or more children (65%)
- People from high deprivation areas (64%)
- Those interested in eating more healthily than they currently do (63%)
- Those interested in being more physically active than they currently are (62%)

And *less* prevalent among:

- Males aged 45 and over (47%)
- Those of Other ethnic groupings (49%)
- People from low deprivation areas (49%)

Those saying it was their **employer** were *more* prevalent among:

- Pacific peoples (52% vs 34% for all persons answering), with the levels being higher for Tongans (72%), Niueans (59%) and Samoans (50%)
- People from high deprivation areas (42%)
- Those responsible for three or more of their children (43%)

- Those with a family history of diabetes (41%)

And **less** prevalent among:

- People from low deprivation areas (23%)
- Those of Other ethnic groupings (24%)

Those saying it was the **people they worked with** were **more** prevalent among:

- Pacific peoples (60% versus 42% for all persons answering), with the levels being higher for Tongans (68%), Samoans (60%) and Cook Island Maaori (55%)
- Asian peoples (50%), particularly South Asian peoples (54%)
- People from high deprivation areas (52%)
- Those with a family history of diabetes (48%)

And **less** prevalent among:

- Those aged 55-64 years (30%)
- Those of Other ethnic groupings (30%)
- People from low deprivation areas (34%)

Those who said it was the people at their **church or place of worship** were **more** prevalent among:

- Diabetics (69% vs 54% for all persons answering)
- Pacific peoples (67%), with the levels being higher for Tongans (79%)
- People from high deprivation areas (64%)

And **less** prevalent among:

- People from low deprivation areas (37%)
- Those of Other ethnic groupings (38%)

Those saying it was their **doctors/medical centre staff** were **more** prevalent among:

- Diabetics (89% vs 57% for total sample)
- Pacific peoples (75%), with the levels being higher for Tongans (82%), Samoans and Cook Island Maaori (73% for both)
- South Asian peoples (69%)
- Obese persons (66%)
- People from high deprivation areas (65%)
- Those responsible for three or more children (64%)
- Those with a family history of diabetes (64%)
- Those interested in eating more healthily than they currently do (64%)
- Overweight persons (62%)

And **less** prevalent among:

- People from low deprivation areas (44%)
- Those of Other ethnic groupings (47%)

There were insufficient Maaori using local **marae** to comment on differences across groups.

## DISCUSSION

### Support greatest where most food consumed

Both the immediate and wider family networks were the most mentioned sources of support for healthy eating. This is a positive finding given that so much food consumption takes place in the home.

### Opportunities for increased support

People do seem to feel they get support from people around them to eat healthily, although obviously many of the reported levels could be increased, particularly for the workplace and doctors/medical staff.

### Children do have influence

It is interesting to note that half of those with children felt supported by the children, with this level being particularly high among Pacific peoples (two thirds). This finding tends to support anecdotal reports of children bringing home health messages from school and using these to advise their parents about what behaviours they should adopt.

### Not able to examine support in detail

The question asked did not ascertain the extent of support, so it could be that some forms of support have much more impact than others that were mentioned by the same person. The constraints on interview duration did not allow for more extensive questioning.

### Clear ethnic differences

There were some clear ethnic patterns, with Pacific and Asian peoples being more likely than others to feel they were receiving support from most sources, whereas Other ethnicities were less likely. This may in part reflect ethnic differences in being open to receiving support, as much as actual differences in the level of support that has been provided.

#### 4.4.4 CHILDREN'S EATING

##### SUPPORT GIVEN TO CHILDREN TO EAT HEALTHILY

Those who were responsible for children in their household aged under 16 years were asked: "How much support do you give to the children in your household to eat healthily?". They were read the answer options listed in the table which follows.

Most said they gave 'a lot' of support to their children to eat healthily (73%).

**Table 23: Support given to children to eat healthily**

SUPPORT GIVEN TO CHILDREN TO EAT HEALTHILY	Total (1442) %	Maaori (365) %	Pacific Peoples (521) %	Asian (357) %	Other (416) %
A lot	73	72	69	73	75
Some	19	19	19	17	19
A little	5	6	9↑	8	2
None	2	3	3	2	2
Don't Know	0	0	0	0	1

\* This was only asked of those who are responsible for their children (N=1442)

Note: Some of the bases are low – interpret with caution

Those who gave their children '**a lot**' of support were *more* prevalent among:

- Females aged 25-44 years and females aged 45 and over (82% for both, vs 73% for all persons answering)
- Meal preparers (82%) and household shoppers (79%)

Reported support was less prevalent among both males and females aged 16-24 years, which may well reflect them having infants, for whom they may feel the concept of giving support is not appropriate.

##### PERCEIVED HEALTHINESS OF FOOD CHILDREN EAT

Those responsible for children were asked: "And which of the following best describes how you feel about the overall type and amount of food they eat?" They were read the answer options shown in the table which follows.

One in five felt it could be 'a lot' healthier. The most common response was from two-fifths (41%) who felt it could be 'a bit healthier', whilst another two-fifths (39%) felt it was 'healthy enough'.

**Table 24: How felt about children's food**

HOW FELT ABOUT CHILDREN'S FOOD	Total	Maaori	Pacific Peoples	Asian	Other
	(1442)	(365)	(521)	(357)	(416)
	%	%	%	%	%
It could be a lot healthier	20	22	29↑	23	10↓
It could be a bit healthier	41	43	33↓	30↓	50↑
It is healthy enough	39	34	37	46	38
Don't Know/Refused/ Not relevant	0	1	0	1	1

\*This was only asked of those who are responsible for their children (N=1442)

Those who thought it could be **'a lot' healthier** were *more* prevalent among:

- Obese persons (30% vs 20% for all persons answering)
- Pacific peoples (29%), with the levels being higher for Tongans (32%) and Cook Island Maaori (31%)
- People from high deprivation areas (28%)

Those who thought it could be **'a bit' healthier** were *more* prevalent among:

- Those of Other ethnic groupings (50% vs 41% for all persons answering)

Those who thought it was **healthy enough** were not more prevalent among any group.

## LINK WITH SUPPORT GIVEN TO CHILDREN

As shown in the table which follows, those who thought their children's eating was healthy enough were above average in feeling they gave their children 'a lot' of support to eat healthily. Those who thought their children's eating could be 'a bit' healthier were below average for giving 'a lot' of support. However, those who felt their children's eating could be 'a lot' healthier were average in feeling they gave their children 'a lot' of support. There is therefore no consistently clear relationship between the level of support parents felt they were giving and the perceived healthiness of their children's diet.

**Table 25: Support given to children to eat healthily, by how felt about children's food**

SUPPORT GIVEN TO CHILDREN TO EAT HEALTHILY	HOW FELT ABOUT CHILDREN'S FOOD			
	Total* (1442)	It could be a lot healthier (316)	It could be a bit healthier (560)	It is healthy enough (553)
	%	%	%	%
A lot	73	75	67↓	80↑
Some	19	16	26↑	14↓
A little	5	8	5	4
None	2	1	3	2

\* Based on those responsible for children (N=1442)

## DISCUSSION

Parents already feel they are giving a lot of support to their children's eating

High proportions of caregivers reported providing 'a lot' of support to their children to eat healthily, which appears to be a very positive result. However, if there are questions that are likely to result in some people giving socially desirable responses, this one on support given to children is a likely candidate, as parents probably want to be seen to be doing what's considered best for their children.

Parents will need convincing that their children's diets need to be healthier

While over half felt their children's eating could be healthier, many of these people thought it only needed to be 'a bit' healthier. Therefore efforts to encourage parents to get their children to eat more healthily may face some resistance because of the perceived lack of need for change. However, these results may also reflect some parents not being aware of how healthy or unhealthy their children's eating actually is and, if this perception can be changed, there may be more desire to improve their children's diets.

More acknowledgement of need for change among some key groups

It should be noted that those who thought their children's eating could be 'a lot' healthier were more prevalent among three key groups, who should therefore be more receptive to social marketing initiatives: obese persons, Pacific persons and those from high deprivation areas.

Difficulties in interpreting change over time

It may be challenging interpreting change in this measure over time because, if parents become more aware of what is unhealthy eating, this will move the results in the direction of parents saying that their children's food could be 'a lot healthier'. However, if the parents perceive that the children have changed to eating healthier food, this will move the result in the opposite direction. It could well be that both changes occur at the same time.

### 4.4.5 INTEREST AND DIFFICULTY IN EATING MORE HEALTHILY

#### INTEREST IN EATING MORE HEALTHILY

Two-thirds (65 %) were interested in eating more healthily than they currently do.

**Table 26: Interest in eating more healthily**

INTEREST IN EATING MORE HEALTHILY	Total (2520) %	Maaori (594) %	Pacific Peoples (712) %	Asian (599) %	Other (998) %
Yes	65	66	78↑	73↑	57↓
No	34	34	22↓	26↓	43↑
Don't Know	1	0	0	1	1



Those interested in eating more healthily than they currently do were *more* prevalent among:

- Obese persons (80% vs 65% for total sample)
- Pacific peoples (78%), with the levels being higher for Tongans (81%), Samoans (78%) and Cook Island Maaori (77%)
- Those interested in being more physically active than they currently are (78%)
- Females aged 25-44 years (75%) and males aged 25-44 years (72%)
- Overweight persons (74%)
- Asian peoples (73%), with the levels being higher for South East Asian peoples (80%) and South Asian peoples (78%)
- Those responsible for children (72%), particularly those responsible for three or more children (75%)
- People from high deprivation areas (72%)
- Those with a family history of diabetes (71%)

And *less* prevalent among:

- Females aged 45 and over (56%) and males aged 45 and over (53%)
- People from low deprivation areas (56%)
- Those of Other ethnic groupings (57%)

## DIFFICULTY IN EATING MORE HEALTHILY

Those who said they were interested in eating more healthily were asked how difficult they found it to do so. The first table below shows two columns of data. The first is based on those who answered this question; those who were interested in eating more healthily. The second is the same data based on the total sample. For example, the first column of data shows that two-fifths (41%) of those who were interested in eating more healthily didn't find it difficult to do so. This represented just over one-quarter (27%) of the total sample; this being the proportion of people who were interested in eating more healthily and didn't have any difficulty doing so.

It can be seen that most of those who were interested in eating more healthily either didn't find it difficult or found it only 'a little' difficult.

**Table 27: Difficulty in eating more healthily**

DIFFICULTY IN EATING MORE HEALTHILY	Sample interested in eating more healthily ( 1694 ) %	Total Sample (2520) %
Don't find it difficult	41	27
Find it a little difficult	33	22
Find it somewhat difficult	17	11
Find it very difficult	8	5
Not Interested in eating more healthily	-	34
Don't know	0	1

**Table 28: Difficulty in eating more healthily, by ethnicity**

DIFFICULTY IN EATING MORE HEALTHILY	Sample interested in eating more healthily (*1694) %	Maaori (386) %	Pacific Peoples (561) %	Asian (440) %	Other (548) %
Interested, don't find it difficult	41	34	46	49↑	36
Interested, find it a little difficult	33	32	29	29	38
Interested, find it somewhat difficult	17	20	13	16	20
Interested, find it very difficult	8	13↑	12	6	6

\*Base are those who are interested in changing (N=1694)

Being interested in eating more healthily and **not finding it difficult** was *more* prevalent among:

- Asian peoples (49%), with the levels being higher for South East Asian peoples (57% vs 41% for all persons answering)

Being interested in eating more healthily and **finding it 'a little difficult'** was *more* prevalent among:

- Females aged 16-24 years (51% vs 33% for all persons answering)

Being interested in eating more healthily and **finding it 'somewhat difficult'** was *more* prevalent among:

- Obese persons (25%)
- Overweight persons (23%)

Being interested in eating more healthily and **finding it 'very difficult'** was *more* prevalent among:

- Diabetics (19% vs 8% for all persons answering)
- Cook Island Maaori (18%)
- Obese persons (16%)
- Sedentary persons (16%)
- Maaori (13%)

## LINK BETWEEN DIFFICULTY IN CHANGING AND REPORTED BEHAVIOURS

This analysis considers whether there was any relationship between people's reported difficulty in changing and their current eating behaviours.

Those who found it **'very difficult'** to change were in fact eating less healthily, which was consistent with their reported difficulties in changing. They were:

- Below average in vegetable consumption (1.9 servings per day vs 2.2 for the total sample)

- Above average in the number of days they consumed fizzy/energy drink (2.1 vs 1.6) and ate more than needed (3.2 vs 1.8)
- Below average in the number of days they had breakfast (4.9 vs 5.6)

Those who found it **'somewhat difficult'** also showed some indications of less healthy eating, being above average for drinking fizzy/energy drink (2.0 vs 1.6 days for total sample) and eating more than needed (on 2.6 vs 1.8 days)

Those who found it **'a little difficult'** were also above average on some of the less healthy eating measures:

- Above average for having eaten more than they needed (2.2 vs 1.8 for the total sample)
- More likely to 'sometimes' cook meat with the fat removed or drained off (33% vs 26%)

Those who were interested in eating more healthily but **didn't find it difficult** had an average profile in terms of current eating behaviour; it was neither more nor less healthy than the average person.

## FEELINGS ABOUT CURRENT DIET

Those who said they were not interested in eating more healthily than they currently did were asked, "Which of the following best describes how you feel about your current diet?" They were read the three options shown in the table below. The first column of data shows that three-in-five (60%) of those answering this question felt their diet was already healthy enough. This equated with just over one-fifth (21%) of the total sample, who were not interested in eating more healthily because they felt their diet was already healthy enough.

**Table 29: How feel about current diet**

HOW FEEL ABOUT CURRENT DIET	Sample not interested in eating more healthily ( 826 ) %	Total Sample (2520) %
It is healthy enough	60	21
It could be a bit healthier	34	12
It could be a lot healthier	5	2
Are interested in eating more healthily (so didn't get asked this question)	-	65
Don't know	1	1

**Table 30: How feel about current diet, by ethnicity**

HOW FEEL ABOUT CURRENT DIET	Sample not interested in eating more healthily (*826) %	Maaori (208) %	Pacific Peoples (151) %	Asian (159) %	Other (450) %
It is healthy enough	60	56	62	66	59
It could be a bit healthier	34	37	26	25	37
It could be a lot healthier	5	7	12↑	8	3
Are interested in eating more healthily (so didn't get asked this question)	65	66	78↑	73↑	57↓
Don't know	1	0	0	1	1

\*Base are those who were not interested in eating more healthily (N=826)

Being not interested in eating more healthily because their diet is '**already healthy enough**' was **more** prevalent among:

- Both females and males aged 45 and over (71% vs 60% for all persons answering)

Those saying that their diet '**could be a bit healthier**' were **more** prevalent among:

- Females aged 16-24 years (55% vs 34% for all persons answering)
- Overweight persons (45%)

Those saying that it **could 'be a lot' healthier** were **more** prevalent among:

- Obese persons (16% vs 5% for all persons answering)
- Diabetics (16%)
- People from high deprivation areas (13%)
- Pacific peoples (12%), rising to 24 percent for Cook Island Maaori

## LINK BETWEEN FEELINGS ABOUT CURRENT DIET AND REPORTED BEHAVIOURS

Those who were not interested in eating more healthily because they thought their diet was already **healthy enough** were in fact eating more healthily than others, as reflected in the following:

- Above average for consumption of vegetables (2.5 servings per day versus 2.2 for total sample) and fruit (2.6 vs 2.4)
- Below average on number of days drink fizzy/energy drink (1.2 vs 1.6), and eating more than needed (1.2 vs 1.8)
- Above average for number of days eat breakfast (6.2 vs 5.6)
- More likely to 'never' cook meat or vegetables in butter or lard (71% vs 58%)
- Less likely to 'sometimes' cook chicken with the skin on (23% vs 32%)

Those who were **not interested** in eating more healthily but acknowledged that their diet **could be 'a lot' healthier** showed some signs of eating less healthily than others:

- Below average for consumption of fruit (1.8 vs 2.4 servings per day)
- Below average for the number of days they had breakfast (3.7 vs 5.6)
- More likely to 'never' cook meat with the fat removed or drained off (45% vs 16%)

Those who were **not interested** in eating more healthily but acknowledged that their diet **could be 'a bit' healthier** were average in their eating and cooking behaviours.

## DISCUSSION

### High interest in eating more healthily

It is a very positive finding that almost two thirds of respondents were interested in eating more healthily. This provides a large population who should potentially be receptive to the 'Let's Beat Diabetes' social marketing initiatives.

It is also a positive finding that the most at risk group, obese persons, were the most interested in eating more healthily, with four-fifths (80%) of them expressing this desire. Also positive was the above average interest in change by overweight persons, those from high deprivation areas and females aged 25 to 44 years, these latter two groups being among the most at risk demographic groups.

### Large group reporting few or any difficulties in changing

Almost half the total sample were interested in eating more healthily and either said they didn't find it difficult or found it only 'a little' difficult to eat more healthily. This suggests that change should be relatively easy to achieve with this large group, although it does raise the question as to why they haven't changed already if they find it this easy.

There were one-sixth (16%) who found it 'somewhat' or 'very' difficult to eat more healthily. However this level rose to over one-quarter (28%) for obese persons, so there are more challenges with this group.

### Only a small group who need to change and are resistant

Most of those who were not interested in changing already felt they were healthy enough and their reported behaviours indicated that this was the case. There were therefore only a small group who need to change but were resistant. There is no point in the social marketing campaign trying to address these people; the effort needs to go into working with those who are open to change.

## 4.5 POSSIBLE BARRIERS TO HEALTHY EATING

Those who reported that they had some difficulty in eating more healthily (N=979 respondents), were asked to respond to three agree/disagree statements relating to possible barriers to eating more healthily. While there are a number of different possible barriers that could have been asked about, the three selected (cost, knowledge and access) were factors on which it was felt the Let's Beat Diabetes programme could possibly have some influence.

Almost a quarter (24%) agreed that they **can't afford the cost of healthier types of food**, while 43 percent disagreed<sup>27</sup>.

One-sixth (15%) agreed that they **don't have enough knowledge about which foods are healthy for them**, while well over half (56%) disagreed with this.

One-in-eight (12%) agreed that there is **not enough healthy food available** in the places where they eat or shop, whilst almost two-thirds (64%) disagreed.

There were just under two-fifths (38%) who **agreed with at least one of these three statements** relating to barriers to purchasing and eating more healthy foods. There were one-quarter (24%) who **disagreed with all three statements**.

**Table 31: Possible barriers to eating more healthily**

POSSIBLE BARRIERS TO EATING MORE HEALTHILY	Total* (979) %	Maaori (253) %	Pacific Peoples (315) %	Asian (225) %	Other (342) %
<b>Can't afford the cost of healthier types of food</b>					
Agree	24	39↑	31↑	20	18
Disagree	43	36	32↓	47	49
<b>I don't know enough about which foods are healthy for you</b>					
Agree	15	18	20	19	9
Disagree	56	59	46↓	44↓	65↑
<b>There is not enough healthy food available in the places where I eat or shop</b>					
Agree	12	12	17	16	7
Disagree	64	66	57	54↓	70

\*Note this question was only asked of those who had difficulty in eating more healthily (N=979)

The more difficulty people reported with eating healthier, the more likely they were to mention the barriers. For cost, the level of agreement increased from one-fifth (20%) among those who found eating more healthily 'a little difficult' to nearly one-third (30%) among those who found it 'very difficult'. For not knowing enough, the levels of agreement increased from 14 to 27 percent, while for availability they increased from nine to 17 percent.

<sup>27</sup> The proportion that agree/disagree in this question are the people that strongly agreed/disagreed or agreed/disagreed with the statement of interest on a 7 point scale. The "Agree" and "Disagree" figures do not include those that "agreed a little" or "disagreed a little".

Those who **agreed** that they **can't afford the cost** of healthier types of food were *more* prevalent among:

- Those with a history of diabetes during pregnancy (GDM) (54% vs 24% for all persons answering)
- Diabetics (45%)
- Maaori (39%)
- Those responsible for three or more children (38%)
- Pacific peoples (31%), with the levels being higher for Tongans (42%)
- People from high deprivation areas (33%)

Those who **agreed** there is **not enough healthy food available** in the place where they eat or shop were *more* prevalent among:

- Those aged 55-64 years (23%)

Those who agreed that they **don't know enough about which foods are healthy for you** were *more* prevalent among:

- Tongans (29% vs 15% for all persons answering)

## DISCUSSION

Barriers not as great as might possibly have been expected

Cost of healthier foods was the main barrier, but at one-quarter (24%) it was perhaps lower than might have been expected in a population that has relatively high levels of deprivation. Even among those who found eating more healthily 'very difficult', less than one-third (30%) agreed that cost was a barrier.

Likewise availability of healthy foods did not seem to be an issue for many people. Given just under one-sixth (15%) agreed that they didn't know enough about which foods were healthy for them, there again does not seem to be a large problem in terms of lack of knowledge being a barrier.

However, while each of these was only a barrier for limited numbers, there were a reasonable proportion (41%) who mentioned at least one, so the cumulative effect is likely to be having more of an impact. It must be remembered that these barrier questions were only asked of the 37 percent who were interested in eating more healthily and reported some level of difficulty doing so. It might be assumed that such barriers will be much less of a problem for the rest of the respondents.

Obese persons not more likely to report barriers

It is interesting to note that the obese persons were not above average for any of the barriers. However there were some key groups for whom cost was more of a barrier: diabetics, persons with three or more children, those from high deprivation areas, and Pacific peoples.

#### 4.5.1 INTEGRATION OF HEALTHY EATING

This section draws together the various findings relating to healthy eating, to consider the implications of the findings for identifying priority groups for communicating healthy eating messages. It also examines the implications for impacting obese persons.

#### POSSIBLE PRIORITY AUDIENCES FOR PROMOTION OF HEALTHIER EATING

In terms of defining priority audiences via demographics, there are findings in the study that could justify almost every demographic group being made a priority. However, there is the strongest case for the following groups when promoting healthier eating:

- People from high deprivation areas, because of high rates of diabetes, high levels for being 'at risk', high interest in eating more healthily, more likely to have eaten more than needed, and less healthy cooking practices
- Pacific peoples, because of high rates of diabetes and being 'at risk', lower vegetable consumption, less healthy cooking practices, high level of interest in eating more healthily, and more likely to have eaten more than needed
- Maaori, because of high rates of being 'at risk', less healthy cooking practices, and more likely to have eaten more than needed
- Females 25 to 44, because of high risk, greater interest in eating more healthily, and more likely to have eaten more than needed
- Males 45 and over, because of high rates of diabetes, and lower levels of fruit and vegetable consumption, although it should be noted that they were below average in interest in eating more healthily
- Those responsible for children, because of greater interest in eating more healthily and because of the potential impact they have on their children's eating, plus they were more likely to have eaten more than needed
- Females 45 and over, because of high rates of diabetes, although it should be noted that they were not above average on any of the less healthy eating and cooking practices, and it should also be noted that they were below average for interest in eating more healthily

#### POSSIBLE STRATEGIES FOR OBESE PERSONS

The following section highlights some specific findings with regard to those who identified as being obese, given the relevance of this high risk group for the Let's Beat Diabetes programme. As noted above, obese persons expressed high levels of interest in improving their eating. While they were over-represented among those who find it hard to achieve such change, the levels finding it 'very difficult' were low enough to indicate some change is possible. They are a group with good reasons to want to change (they were among the most worried about the health risks of being overweight), but finding ways to support them to achieve positive change is going to be one of the key challenges for the Let's Beat Diabetes programme.

This group were very high for eating more than needed, so the strong promotion of this message may make some difference. They were not above average for mentioning this as an option for having a healthy weight, although, as reported in a later section, they were above average for mentioning reduced portion size for preventing diabetes.

This obese group were not above average (they also were not below average) in mention of reducing fat or sugar intake as an option for having a healthy weight, so some efforts to increase awareness of how these affect health may have some impact.



They are also one of the groups most likely to miss breakfasts, which may indicate unbalanced eating patterns among some of them. Possibly if they began the day with a healthy breakfast it might make it easier to avoid excessive eating later in the day.

There is also some room for improvement in their cooking behaviours, so that is another avenue that could be pursued. It would be useful to explore with this group whether changing cooking practices may be easier for them than changing their eating patterns<sup>28</sup>.

Impacting this group will not only improve their health, it may also improve the health of their children, as obese persons were above average for feeling that their children's eating could be 'a lot' healthier.

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<sup>28</sup> There is the ability to re-contact persons who agreed to this at the end of the survey.

## 4.6 PHYSICAL ACTIVITY

Issues addressed in this section are:

- Comparison of level of activity with recommended minimum levels
- Reported levels of physical activity
- Sources of support to be more physically active
- Support given to children to be more physically active and perceptions of children's physical activity levels
- Interest in being more physically active
- Possible barriers to being more physically active

### 4.6.1 COMPARISON WITH PERCEIVED RECOMMENDED MINIMUM LEVELS OF ACTIVITY

Respondents were asked to compare the amounts of physical activity they do with what they thought recommended levels of physical or vigorous activity (which were not specified to them).

Half (49%) believed they were doing less than the recommended minimum. Just over one-quarter (27%) said they do about the same, whilst almost one-fifth (18%) said they do more. Finally, less than one-in-ten (7%) were uncertain.

**Table 32: Comparison with perceived recommended minimum levels of activity**

COMPARISON WITH PERCEIVED RECOMMENDED MINIMUM LEVELS OF ACTIVITY	Total (2520) %	Maaori (594) %	Pacific Peoples (712) %	Asian (599) %	Other (998) %
Less than recommended minimum	49	46	45	54	48
More	18	19	18	12↓	20
Same/ about the recommended level	27	26	33↑	27	25
Don't Know	7	9	4↓	7	7

Those who reported **doing less than the recommended minimum levels** were *more* prevalent among:

- Sedentary persons (81% vs 49% for total sample)
- Obese persons (63%)
- Those interested in being more physically active than they currently are (62%)
- Diabetics (61%)
- Overweight persons (60%)
- Females aged 25-44 years (58%)
- South Asian peoples (57%)

Those who reported **doing more than the recommended minimum levels** were not more prevalent among any of the groups.

Those **doing the same/about the recommended minimum levels** were *more* prevalent among:

- Pacific peoples (33% vs 27% for total sample)

#### 4.6.2 LEVELS OF PHYSICAL ACTIVITY

Respondents were categorised into one of four different activity levels, as described below. The first three were designed to match classifications used in the 2002/03 New Zealand Health Survey, and the fourth accounts for all those who did not fit into one of the other three groups.

**Physically active**<sup>29</sup>: At least two and a half hours physical activity in the last week, with exercise accumulated on one or more days of the week.

**Minimally physically active**: Did between half an hour and two and a half hours physical activity in total during the last 7 days.

**Sedentary**<sup>30</sup>: Did less than half an hours physical activity in the last week.

**Regularly physically active**: At least two and a half hours physical activity in the last week, comprising at least 30 minutes of physical activity per day on five or more days of the last week was the definition used in the New Zealand Health Survey. The current study did not ask number of days on which people did at least 30 minutes activity, so a person was defined as being in this group if they were active on five or more days and *averaged* 30 minutes over those days.

Two-thirds (67%) of all respondents were 'physically active', which included almost half (48%) who were 'regularly physically active'. There were one-in-ten (9%) who were 'sedentary', leaving just under one-quarter (23%) who were 'minimally physically active'.

The best estimate available for the proportion of the sample reaching the **recommended level of physical activity** was 49 percent. The recommended level of physical activity is 30 minutes moderate or 15 minutes vigorous activity each day. As noted above, the best estimate available from this survey for those doing 30 minutes moderate activity for at least five days a week (those defined as 'regularly physically active') was 48 percent. There were 17 percent who did vigorous activity for at least five days and averaged at least 15 minutes. Almost all of this group were also in the 'regularly physically active' group, so there were a total of 49 percent who were in either group. This analysis would exclude people who were sometimes doing the 30 minutes moderate and sometimes the 15 minutes vigorous in the previous week, so it could be an under-representation. However the averaging of the hours over the week may have allowed some people who did one or a few long periods of activity over the week to be included when they were not doing the necessary amount each day.

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<sup>29</sup> Matches classification used in 2002/03 New Zealand Health Survey

<sup>30</sup> Ibid

These findings are comparable with those estimated from the **2002/03 New Zealand Health Survey** (NZHS), where almost three-quarters (73%) were 'physically active' and just over half (52%) 'regularly physically active' (see figures in brackets in table which follows). Both studies show Maori being higher and Asian peoples lower. The main difference was for Pacific peoples, where the NZHS levels tended to be lower relative to the total sample, whereas they were similar to the total sample in the LBD survey.

**Table 33: Physical activity levels (with comparable 2002/03 NZHS data in brackets)**

PHYSICAL ACTIVITY LEVELS	Total (2520) %	Maaori (594) %	Pacific Peoples (712) %	Asian (599) %	Other (998) %
Physically active	67 (73)	73↑ (76)	70 (66)	60↓ (62)	69 (76)
Minimally active	23	16↓	22	29↑	22
Sedentary	9	10	8	10	8
Don't know/Refused	1	1	0	1	1
Regularly physically active	48 (52)	54↑ (57)	49 (48)	43 (44)	50 (54)

Those classed as '**physically active**' were more prevalent among:

- Those of Other Pacific Island groups (85%) and Samoans (77% vs 67% for total sample)
- Males 16-24 years (78%)
- Maaori (73%)

Those classed as '**minimally physically active**' were more prevalent among:

- Asian peoples (29% vs 23% for total sample), with the levels being higher for East Asian peoples (32%)
- Females aged 25-44 years (28%)
- Those interested in being more physically active than they currently are (27%)

Those classed as '**sedentary**' were *more* prevalent among:

- People with diabetes (24% vs 9% for total sample)
- Females aged 45 and over (14%)

Those classed as '**regularly physically active**' were more prevalent among:

- Males aged 16-24 years (59% vs 48% for total sample)
- Maaori (54%)

## Number of days did ten minutes activity in last seven days

Respondents were asked on how many of the last seven days they did at least ten minutes physical activity, which was defined as "activity which increases your heart rate or breathing". Examples were given of "brisk walking, gardening, dancing, golf, tennis, through to activities that require more effort - activities like heavy lifting, digging, jogging, rugby and netball". They were asked to think about "activities at work, school, or home, getting from place to place, and any activities you did for exercise, sport or recreation". There were over nine-in-ten (93%) who did this level of activity on at least one day in the seven day period and these people averaged 4.9 days, which equated with 4.6 for the total sample.

**Table 34: Number of days did ten minutes activity out of the last seven**

NUMBER OF DAYS DID TEN MINUTES ACTIVITY OUT OF THE LAST SEVEN	Total (2520) %	Maaori (594) %	Pacific Peoples (712) %	Asian (599) %	Other (998) %
None	7	10	6	7	6
1 to 2 days	15	9	15	19	14
3 to 4 days	23	21	22	22	24
5 days	13	12	15	14	13
6 or more days	42	49	41	38	44
Don't Know/Not sure	0	1	0	0	0
<b>Mean number of days - among those doing activity</b>	<b>4.9</b>	<b>5.3↑</b>	<b>4.9</b>	<b>4.8</b>	<b>5.0</b>
<b>Mean number of days - total sample</b>	<b>4.6</b>	<b>4.8</b>	<b>4.6</b>	<b>4.4</b>	<b>4.7</b>

## Duration of physical activity

Respondents were asked how much time in total they were physically active over the last seven days. Those who were physically active averaged 10.9 hours, which equated with 10.1 for the total sample<sup>31</sup>. Those reporting high numbers of hours were mostly probably working in jobs that require a lot of physical activity.

<sup>31</sup> Three people with extreme values of over 100 hours were omitted from the analyses for this section.

**Table 35: Hours of physical activity in last seven days**

HOURS OF PHYSICAL ACTIVITY IN LAST SEVEN DAYS	Total (2520) %	Maaori (594) %	Pacific Peoples (712) %	Asian (599) %	Other (998) %
None	7	10	6	7	6
Less than 1 hour	8	5↓	7	8	8
One but less than 2 hours	11	7	10	13	11
Two but less than 3 hours	10	7	10	13↑	8
Three but less than 4 hours	11	9	9	11	11
Four but less than 6 hours	13	10	13	15	14
Six but less than 8 hours	9	11	6↓	9	10
Eight but less than 30 hours	21	24	23	15↓	22
Thirty or more hours	11	16↑	16↑	9	10
Don't Know	1	1	0	1	1
<b>Mean number of hours of physical activity - among those who are physically active</b>	<b>10.9</b>	<b>13.9↑</b>	<b>13.4↑</b>	<b>9.0↓</b>	<b>10.7</b>
<b>Mean number of hours of physical activity - based on total sample</b>	<b>10.1</b>	<b>12.5↑</b>	<b>12.5↑</b>	<b>8.4↓</b>	<b>10.0</b>

Those doing a **higher** mean number of hours of physical activity in total over the last seven days were:

- Males aged 16-24 years (13.7 hours vs 10.1 hours for total sample)
- Pacific peoples (12.5 hours), particularly Samoans (16.4 hours)
- Maaori (12.5 hours)
- People from high deprivation areas (11.6 hours)

Those doing a **lower** mean number of hours of physical activity in total over the last seven days were:

- Females aged 25-44 years (7.0 hours)
- Asian peoples (8.4 hours), with the level being lower for East Asian peoples (6.2 hours)
- Those interested in being more physically active than they currently are (8.0 hours)

### Number of days did vigorous activity

Respondents were then asked on how many days out of the last seven days they did 'vigorous activity'. This was described as 'activity that makes you breathe A LOT HARDER than normal ('huff and puff') – like heavy lifting, aerobics, jogging, rugby, netball'. Three-fifths (61%) of the total sample reported doing this level of activity on at least one day in the previous week, with these people doing it on an average of 3.4 days. This equated with an average of 2.1 days for the total sample. Just over two-fifths (42%) of the total sample did between one and four days of vigorous activity whilst one-fifth (19%) did at least five days.

**Table 36: Vigorous activity in last seven days**

NUMBER OF DAYS OF VIGOROUS ACTIVITY IN LAST SEVEN DAYS	Total (2520) %	Maaori (594) %	Pacific Peoples (712) %	Asian (599) %	Other (998) %
None	38	28↓	35	47↑	36
1 to 2 days	25	25	26	25	26
3 to 4 days	17	20	20	15	17
5 days	7	7	7	6	8
6 or more days	12	19↑	12	6↓	13
Don't Know	1	1	1	1	0
<b>Mean number of days of vigorous activity - among those undertaking such activity</b>	<b>3.4</b>	<b>3.8↑</b>	<b>3.4</b>	<b>3.1↓</b>	<b>3.5</b>
<b>Mean number of days of vigorous activity - among total sample</b>	<b>2.1</b>	<b>2.8↑</b>	<b>2.2</b>	<b>1.6↓</b>	<b>2.2</b>

### Duration of vigorous activity

Those undertaking vigorous activity did an average of 5.3 hours, which equated with an average of 3.3 for the total sample. There were almost three-in-ten (29%) who did three or more hours of vigorous activity.

**Table 37: Hours of vigorous activity**

HOURS OF VIGOROUS ACTIVITY	Total (2520) %	Maaori (594) %	Pacific Peoples (712) %	Asian (599) %	Other (998) %
None	38	28↓	35	47↑	36
Less than 1 hour	12	10	12	12	12
One but less than 2 hours	11	11	13	11	9
Two but less than 3 hours	10	12	7	9	11
Three but less than 7 hours	17	19	14	14	18
7 or more hours	12	19↑	18↑	6↓	12
Don't Know	1	2	1	1	1
<b>Mean number of hours on vigorous activity - among those engaged in it</b>	<b>5.3</b>	<b>6.9↑</b>	<b>7.2↑</b>	<b>3.7↓</b>	<b>5.2</b>
<b>Mean number of hours on vigorous activity - among total sample</b>	<b>3.3</b>	<b>4.9↑</b>	<b>4.6↑</b>	<b>1.9↓</b>	<b>3.3</b>

Those doing a **higher mean number of hours of vigorous activity** over the last seven days were:

- Males aged 16-24 years (5.0 hours) and males aged 25-44 years (4.6 hours vs 3.3 hours for total sample)
- Maaori (4.9 hours)
- Pacific peoples (4.6 hours), particularly Samoans (6.3 hours)
- People from high deprivation areas (4.2 hours)

Those doing a **lower** mean number of hours of vigorous activity over the last seven days were:

- Asian peoples (1.9 hours), with the level being lower for East Asian peoples and South Asian peoples (1.8 days for both)
- Females aged 45 and over (2.1 hours) and females aged 25-44 years (2.3 hours)
- Those saying they would like to be more physically active than they currently are (2.4 hours)

## MATCH BETWEEN ACTIVITY AND RECOMMENDED LEVELS

Of those who believed they were doing **more than the recommended minimum** level of activity (they were not told what the recommended minimum level was), there were four-fifths (80%) whose reported behaviour indicated that they were doing at least the minimum amount (the provisos regarding measurement of the minimum level, as noted previously, apply).

Of those who thought they were doing **about the recommended level**, three-fifths (61%) were estimated to have done the recommended level or above.

Among those who felt they were doing **less than the minimum**, three-quarters (73%) were estimated to be doing less than the minimum.

It must be remembered that the previous week's physical activity may not have been typical for all respondents. Allowing for this, it would seem that the people who are the primary audience for this social marketing message, those who are below the recommended level, are generally aware that they are below this level.

## DISCUSSION

Still a need to focus on key groups even when some activity levels are above average

While the proportions of Maaori who were 'physically active' and 'regularly physically active' were above average, as were the reported hours of activity, there are still obviously groups within the Maaori community who would benefit from more physical activity, particularly those who are currently 'sedentary'.

Pacific peoples also reported above average hours of activity, however they were not above average for the proportions who were classified as 'physically active' and 'regularly physically active', so it will still be important to encourage increased physical activity for many in the Pacific community.

Likewise, those from high deprivation areas were also above average for hours of activity, but the proportions who were 'physically active' and 'regularly physically active' were not above average, so seeking to increase physical activity within this group would also be appropriate.

Diabetics were more likely to be sedentary, but this may reflect their state of health.



## Promoting minimal activity level does not need to be a high priority

As noted above, it would seem that those whose activity levels are below the recommended level are generally aware that they are below this level. This suggests that there is not a lot of need to promote what the minimum activity level should be.

### 4.6.3 SUPPORT TO BE PHYSICALLY ACTIVE

Respondents were asked as to whether each of eight different types of people encourage them or do things to make it easier for them to become physically active. As shown in the table which follows, levels of support varied from three-fifths (62%) for children (among those with children) and from people on the marae (for Maaori with a local marae), down to two-fifths (40%) for employers (for those in employment).

As with the previous section on eating healthily, the numbers in brackets are the total sample figures, which may be the most useful when comparing the different forms of support.

**Table 38: Sources of support to be physically active**

SOURCES OF SUPPORT TO BE PHYSICALLY ACTIVE	Total %	Maaori %	Pacific Peoples %	Asian %	Other %
Other adults in your household	62	58	67↑	69↑	57
Children in your household*	64(35)	67(41↑)	71↑(53↑)	62(36)	60(27↓)
Your wider family/whanau and close friends	57	59	67↑	64↑	50↓
Your employer**	40(31)	41(33)	53↑(42↑)	42(36)	32↓(24↓)
People you work with***	48(38)	50(41)	63↑(51↑)	52(44↑)	39↓(30↓)
People at your church or place of worship****	59(23)	66(15↓)	73↑(52↑)	54(27)	47↓(11↓)
People at your marae in Counties Manukau*****	NA	62(12)	NA	NA	NA
Doctor/medical centre staff	50	48	70↑	56	41↓

The base was total sample (N=2520), except for the categories marked with asterix.

\*This was only asked of those who were responsible for children (N=1442)

\*\* The base excludes people who reported that they were not in employment, or who felt the question was not applicable (presumably mostly because they were employers). The base probably includes some people who gave an answer even though they were no longer in employment (N=1970)

\*\*\* This base excludes people who reported they were not in employment, or who felt the question was not applicable (N=2000)

\*\*\*\*This was only asked of those who regularly attended church or a place of worship (N=1029)

\*\*\*\*\* This is only asked of Maaori who had a marae in the region which they attend (N=101)

NA indicates the question was not asked of that specific ethnic group

Those who said that **other adults in the same household** encourage them or make it easier for them to be physically active were *more* prevalent among:

- Asian peoples (69% vs 62% for total sample), with the levels being higher for South Asian peoples (74%)
- Pacific peoples (67%), with the levels being higher for Samoans (72%)
- Females aged 25-44 years (69%)

- Those responsible for children (67%)

And **less** prevalent among:

- Sedentary persons (40%)

Those saying it was their **children** who encouraged them, were **more** prevalent among:

- Those responsible for three or more children (74% vs 64% for all persons answering)
- Pacific peoples (71%), with the levels being higher for Samoans (74%)

And **less** prevalent among:

- Sedentary persons (45%)
- Males 16-24 years (50%)

Those saying it was their **wider family/whanau and close friends** were **more** prevalent among:

- Females aged 16-24 years (73%) and males aged 16-24 years (71% vs 57% for total sample)
- Pacific peoples (67%), with the levels being higher for Tongans (73%) and Samoans (68%)
- Asian peoples (64%), with the levels being higher for South East Asian peoples (73%)
- People from high deprivation areas (63%)

And **less** prevalent among:

- Sedentary persons (41%)
- Males aged 45 and over (46%)
- Those of Other ethnic groupings (50%)
- People from low deprivation areas (51%)

Those saying it was their **employer** were **more** prevalent among:

- Pacific peoples (53% vs 40% for all persons answering), with the levels being higher for Tongans (63%) and Samoans (56%)
- People from high deprivation areas (49%)
- Those responsible for three or more children (48%)
- Males aged 25-44 years (47%)

And **less** prevalent among:

- Those of Other ethnic groupings (32%)
- People from low deprivation areas (27%)
- Females aged 16-24 years (28%)
- Sedentary persons (28%)

Those saying it was the **people they worked with** were **more** prevalent among:

- Pacific peoples (63% vs 48% for all persons answering), with the levels being higher for Tongans (70%) and Samoans (68%)
- South Asian peoples (57%)
- People from high deprivation areas (61%)

And **less** prevalent among:

- Sedentary persons (33%)
- People from low deprivation areas (36%)
- Males aged 45 years and over (38%)
- Those of Other ethnic groupings (39%)

Those who said it was the **people at their church or place of worship** were **more** prevalent among:

- Pacific peoples (73% vs 59% for all persons answering), with the levels being higher for Samoans (76%) and Tongans (74%)
- Males aged 16-24 years (73%) and females aged 16-24 years (72%)
- People from high deprivation areas (69%)

And **less** prevalent among:

- South East Asian peoples (40%)
- People from low deprivation areas (41%)
- Sedentary persons (42%)
- Those of Other ethnic groupings (47%)

Those saying it was their **doctors/medical centre staff** were **more** prevalent among:

- Diabetics (82% vs 50% for total sample)
- Pacific peoples (70%), with the levels being higher for Tongans (79%), Samoans (70%) and Cook Island Maaori (66%)
- South Asian peoples (63%)
- Obese persons (63%)
- Those responsible for three or more children (60%)
- Overweight persons and those with a family history of diabetes (56% for both)
- People from high deprivation areas (58%)
- Those interested in eating more healthily than they currently do (56%)
- Those interested in being more physically active than they currently are (55%)

And **less** prevalent among:

- People from Papakura (33%)
- People from low deprivation areas (40%)
- Those of Other ethnic groupings (41%)

There were insufficient Maaori using local **marae** to comment on differences across groups.

## Comparison with support to eat healthily

The table which follows indicates that children, workplace colleagues and employers tended to be more of a support for physical activity than healthy eating. The converse applied for other adults in the household and doctors. However none of these differences were particularly large.

The figures in brackets in the table are the percentages based on the total sample.

**Table 39: Sources of support to eat healthily and be physically active**

SOURCES OF SUPPORT	Be physically active	Eat healthily
	%	%
Other adults in your household	62	72↑
Children in your household*	64(35)	54↓ (30↓)
Your wider family/whanau and close friends	57	57
Your employer**	40(31)	34↓ (25↓)
People you work with***	48(38)	42↓ (33↓)
People at your church or place of worship****	59(23)	54(21)
People at your marae in Counties Manukau*****	NA	NA
Doctor/medical centre staff	50	57↑

The base is total sample (N=2520), except for the categories marked with asterix.

\*This is only asked of those who are responsible for their children (N=1442)

\*\* The base excludes people who were not in employment or who felt the question was not applicable (presumably mostly because they were employers) (N=1931)

\*\*\* This base excludes people who were not in employment (N=1999)

\*\*\*\*This is only asked of those who regularly attended church or a place of worship (N=1029)

\*\*\*\*\* This is only asked of Maaori who have a marae in the region which they attend (N=101)

## DISCUSSION

### Sedentary persons not being supported

A key finding was that 'sedentary' persons were below average for all sources of support for physical activity, so finding ways to increase support for them could be a useful option to pursue with the social marketing.

However, it is interesting that when it came to other levels of activity, there was no relationship evident to suggest that increased levels of support are associated with increased levels of activity. It needs to be noted that the measure of support used in this survey did not ascertain the extent of the support, so a more sensitive measure may find more relationship<sup>32</sup>.

### Varying levels of support for possible priority groups

Another priority audience for increasing physical activity, females aged 45 and over, were only average in their levels of support from all sources, so there is no particular avenue for supporting them that stands out. Other priority groups include females aged 25 to 44 years and they were above

<sup>32</sup> The wide scope of this survey limited the extent of questioning possible on specific topics.

average for support from other adults in the same household. Pacific peoples were above average in getting support from all the sources listed. Likewise those from high deprivation areas were above average for most forms of support, except other adults or children in their household. Maaori did not have any differentiating characteristics in terms of forms of support.

#### 4.6.4 CHILDREN'S PHYSICAL ACTIVITY

##### Support given to children to be physically active

More than two-thirds (69%) of those responsible for children or young people said they give them 'a lot' of support to be physically active, whilst one-fifth (21%) give them 'some'.

**Table 40: Support given to children to be physically active**

SUPPORT GIVEN TO CHILDREN TO BE PHYSICALLY ACTIVE	Total (1442) %	Maaori (365) %	Pacific Peoples (521) %	Asian (357) %	Other (416) %
A lot	69	75	70	62	69
Some	21	15	18	24	23
A little	6	6	8	11↑	3
None	3	3	4	2	4
Don't Know	1	1	0	1	1

\*This was only asked of those who were responsible for their children (N=1442)

Those who gave their children/young people **'a lot' of support** were *more* prevalent among:

- Meal preparers (76%) and household shoppers (74% vs 69% for all persons answering)
- Females aged 25-44 years (74%)

And *less* prevalent among:

- East Asians (46%)
- Males and females aged 16-24 years (47% for both)
- Sedentary persons (56%)

Those who gave their children/young people **no support** were *more* prevalent among males aged 16-24 years (9% vs 3% for all persons answering), which may reflect their children being infants.

##### Comparison with support given to children to eat healthily

There was not a lot of difference between the levels of support given to children for healthy eating and physical activity.

**Table 41: Comparison of support given to children to eat healthily and be physically active**

SUPPORT GIVEN TO CHILDREN	Eat healthily	Be physically active
	%	%
A lot	73	69
Some	19	21
A little	5	6
None	2	3
Don't Know	0↓	1

\*This was only asked of those who were responsible for children (N=1442)

### Perceptions of children's activity levels

Under one-sixth (14%) thought their children would need to do 'a lot more' physical activity to be healthy. Over half (55%) felt their children were already doing enough to be healthy, whilst almost a third (30%) thought their children would need to do 'a bit more' to be healthy.

**Table 42: How felt about children's physical activity levels**

HOW FELT ABOUT CHILDREN'S PHYSICAL ACTIVITY LEVELS	Total (1442) %	Maaori (365) %	Pacific Peoples (521) %	Asian (357) %	Other (416) %
They would need to do a lot more to be healthy	14	14	26↑	15	5↓
They would need to do a bit more to be healthy	30	32	30	36	28
They are doing enough to be healthy	55	53	44↓	48	66↑
Don't Know	1	1	0	0	1
Don't care/Not relevant to me	0	0	0	1	1

\*This was only asked of those who were responsible for children (N=1442)

Those who thought their children needed to do '**a lot more**' physical activity to be healthy were **more** prevalent among:

- Diabetics (27% vs 14% for all persons answering)
- Pacific peoples (26%), with the levels being higher for Tongans (31%), Cook Island Maaori (27%) and Samoans (22%)
- People from high deprivation areas (23%)
- Females aged 45 and over (22%)
- Obese persons (22%)

Those who thought their children needed to do '**a bit more**' were **more** prevalent among:

- Those aged 16-19 years (47% vs 30% for all persons answering)

Those who thought their children were **doing enough** were **more** prevalent among:

- Those of Other ethnic groupings (66% vs 55% of all persons answering)

- Those aged 25-34 years (66%)

### Link with support given to children

The table which follows shows a similar trend to that which was apparent in the previous section for eating, with no consistently clear pattern between levels of support given and perceived levels of activity by their children.

**Table 43: Support given to children to be physically active, by how felt about children's physical activity levels**

SUPPORT GIVEN TO CHILDREN TO BE PHYSICALLY ACTIVE	Total* (1442) %	HOW FELT ABOUT CHILDREN'S PHYSICAL ACTIVITY LEVELS		
		Need to do a lot more (231) %	Need to do a bit more (443) %	Are doing enough (750) %
A lot	69	65	59↓	76↑
Some	21	20	31↑	17↓
A little	6	11	7	5
None	3	4	3	2

\* Based on those responsible for children (N=1442)

## DISCUSSION

### Limited concern with children's activity levels

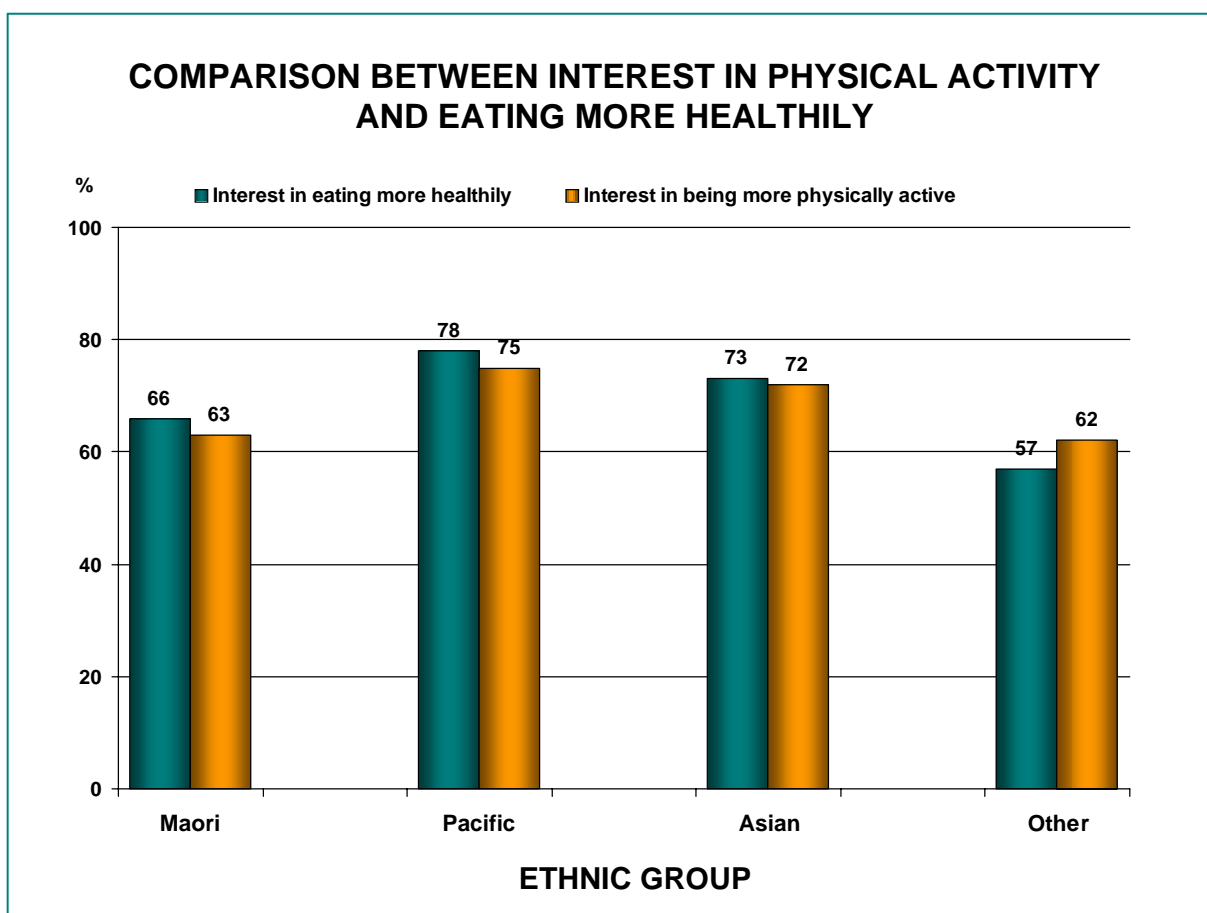
Even more so than with eating, parents tended to see their children's activity levels as being healthy enough (55% compared with 39% for eating). It is worth noting that parents can probably rely on schools to provide some physical activity for their children, whereas eating is an area for which parents have to take greater responsibility.

### Impacting obese persons may also impact their children

As observed with the healthier eating, impacting obese persons will not only improve their health, it may also improve the health of their children, as obese persons currently are above average for feeling that their children need to do 'a lot' more activity to be healthy.

#### 4.6.5 INTEREST IN BEING MORE PHYSICALLY ACTIVE

Two-thirds were interested in being more physically active than they currently are. The graph below shows that the levels were similar to the levels of interest in eating more healthily.



Those interested in being more physically active were *more* prevalent among:

- Obese persons (83% vs 67% for total sample)
- Those interested in eating more healthily than they currently do (80%)
- Females aged 25-44 years (79%)
- Sedentary persons (79%)
- Overweight persons (76%)
- Pacific peoples (75%), with the levels being higher for Tongans (77%) and Samoans (76%)
- Those responsible for children (73%), including those responsible for three or more children (74%)
- People from high deprivation areas (72%)
- Asian peoples (72%), particularly South Asian peoples (76%)
- 'At risk groups' (72%)

And *less* prevalent among:

- Males aged 45 and over (54%)
- Females aged 45 and over (60%)
- Those of Other ethnic groupings (62%)



## DIFFICULTY IN BEING MORE PHYSICALLY ACTIVE

Those who said they were interested in being more physically active were asked how difficult they found it to do so. The first table below shows two columns of data. The first is based on those who answered this question; those who were interested in being more physically active. The second is the same data based on the total sample. For example, the first column of data shows that a just over a quarter (26%) of those who were interested in being more active didn't find it difficult to do so. This represented one-sixth (17%) of the total sample; this being the proportion of people who were interested in being more active and didn't have any difficulty doing so.

In total there were three-quarters (74%) of those who were interested in being more physically active who had some difficulty in doing so.

The first table which follows shows that people find it more difficult to be more physically active than they do to eat more healthily (the eating healthily data is in the last two columns).

**Table 44: Difficulty in being more physically active compared with difficulty in eating more healthily**

DIFFICULTY IN BEING MORE PHYSICALLY ACTIVE	Sample interested in being more physically active	Total Sample	Sample interested in eating more healthily	Total Sample
	(1723) %	(2520) %	( 1694 ) %	(2520) %
Don't find it difficult	26	17	41	27
Find it a little difficult	34	22	33	22
Find it somewhat difficult	27	18	17	11
Find it very difficult	13	9	8	5
Not Interested in being more physically active	-	33	-	34
Don't know	0	0	0	1

**Table 45: Difficulty in being more physically active, by ethnicity**

DIFFICULTY IN BEING MORE PHYSICALLY ACTIVE	Sample interested in being more physically active	Maori	Pacific Peoples	Asian	Other
	(*1723)	(386)	(544)	(445)	(605)
Don't find it difficult	26	25	34↑	27	21
Find it a little difficult	34	33	36	35	32
Find it somewhat difficult	27	25	17↓	25	34↑
Find it very difficult	13	17	12	13	14

\*Base was those who were interested in changing (N=1723)

**Not finding it difficult** was *more* mentioned by:

- South East Asian peoples (42% vs 26% for all persons answering)
- Males aged 16-24 years (35%)
- Pacific peoples (34%), with the levels being higher for Tongans (41%)

- People from high deprivation areas (31%)
- Finding it '**a little difficult**' was not *more* mentioned by any of the groups.

Finding it '**somewhat difficult**' was *more* mentioned by:

- Sedentary persons (37% vs 27% for all persons answering)
- Those of Other ethnic groupings (34%)

Finding it '**very difficult**' was *more* mentioned by:

- Diabetics (28% vs 13% for all persons answering)
- Sedentary persons (26%)
- Obese persons (23%)

## LINK BETWEEN DIFFICULTY IN CHANGING AND REPORTED BEHAVIOURS

All of **those who expressed some difficulty with being more physically active** were above average in feeling they were doing less than the recommended amount of activity. The percentage who felt this way increased from six-in-ten (62%) among those found it 'a little' difficult, up to four-fifths (80%) among those who found it 'very difficult'. In comparison, the level was just 46 percent for those who didn't find it difficult.

The reported levels of physical activity and vigorous activity were consistent with the above findings. All showed clear decreasing trends as the level of perceived difficulty with being active increased. For example:

- The number of hours of physical activity decreased from 8.1 among those who found it 'a little' difficult to 4.9 among those who found it 'very difficult'
- The number of hours of vigorous activity decreased from 2.1 among those who found it 'a little' difficult to 1.3 among those who found it 'very difficult'

## FEELINGS ABOUT CURRENT LEVEL OF ACTIVITY

Those who said they were not interested in being more physically active than currently, were asked, "Which of the following best describes how you feel about your current level of physical activity?" They were read the three options shown in the table below. The first column of data shows that 70 percent of those answering this question felt they were already doing enough physical activity to be healthy. This equated with a quarter (24%) of the total sample.

The comparison with eating in the table shows that people were a little more likely to feel that their current level of activity was sufficiently healthy (70%) than was the case with eating (61%).

**Table 46: How feel about current level of activity compared with how feel about current diet**

HOW FEEL	Sample not interested in being more active ( 797 ) %	Total Sample (2520) %	Sample not interested in eating more healthily ( 826 ) %	Total Sample (2520) %
Doing enough to be healthy (activity)/ It is healthy enough (diet)	70	24	61	21
Would need to do a bit more to be healthy (activity)/ It could be a bit healthier (diet)	24	8	33	12
Would need to do a lot more to be healthy (activity)/ It could be a lot healthier (diet)	5	2	5	2
Are interested in being more active/ eating more healthily (so didn't get asked this question)	-	66	-	65
Don't know	1	0	1	1

**Table 47: How feel about current level of activity, by ethnicity**

HOW FEEL	Sample not interested in being more active (*797) %	Maaori (208) %	Pacific Peoples (168) %	Asian (154) %	Other (393) %
Doing enough to be healthy	70	66	71	65	72
Would need to do a bit more to be healthy	24	28	21	29	23
Would need to do a lot more to be healthy	5	6	6	5	4
Don't know	1	0	1	1	0

\*Base are those who are not interested in being more active (N=797)

Not being interested in keeping physically active because they were **already healthy enough** was not *more* mentioned by any of the groups.

'**Could be healthier**' was *more* mentioned by:

- Females aged 16-24 years (44% vs 24% for all persons answering)

'**Could be a lot healthier**' was *more* mentioned by:

- Overweight persons (11% vs 5% for all persons answering)

## LINK BETWEEN FEELINGS ABOUT CURRENT LEVEL OF ACTIVITY AND REPORTED BEHAVIOURS

Those who were **not interested in changing because they felt they were healthy enough** were more likely to feel they were doing the recommended amount of activity (40% vs 27% for total sample), and their reported levels of activity showed them to be clearly the most active group:

- Did at least 10 minutes activity on 5.8 days (versus 4.6 average) and vigorous activity on 3.1 days (vs 2.1)
- Did 15.9 hours physical activity (vs 10.1) and 5.8 hours of vigorous activity (vs 3.3)

## DISCUSSION

### High interest in being more active

As with eating more healthily, there was a high level of interest in being more active, which is a positive sign for the social marketing campaign.

There were a lot of the same people who were interested in eating more healthily and being more active, which should contribute to some efficiencies with the campaign.

### High interest from key groups

It was again a positive finding that the most at risk group, obese persons, were the most interested in being more physically active, with over four-fifths (83%) being interested in such change. Overweight persons were also above average in their interest in being more active.

There was above average interest expressed in being more active by a number of other key groups: sedentary persons, Pacific persons, those responsible for children, people from high deprivation areas and females aged 25 to 44 years.

### Activity change more difficult than diet change

The findings indicate that it may be easier to get people to eat more healthily than it will be to get them to be more physically active; this is certainly how respondents perceived things.

Obese and overweight persons were more likely than most others to mention some degree of difficulty in being more active, but it is interesting to note that there were still only one-fifth (19%) of obese persons and one-in-eight (13%) of overweight persons who reported finding it 'very difficult'.

## 4.6.6 POSSIBLE BARRIERS TO BEING MORE PHYSICALLY ACTIVE

Respondents who had difficulty with being more physically active (N=1266 respondents) were asked to rate two attitude statements relating to possible barriers. While there are a number of different possible barriers that could have been asked about, the two selected (cost and access) were factors on which it was felt the Let's Beat Diabetes programme could possibly have some influence.

Over one-quarter (28%) agreed that they **can't afford the cost of things they would need "such as babysitters, clothes, equipment and gym membership"**. One-sixth (15%) agreed that there **weren't enough places in their area for them to go or join, such as parks, walking groups or sports clubs**.

Just over one-third (35%) **mentioned at least one of these two barriers**, with the level rising to almost a half (46%) for both Pacific and Asians (46% and 45% respectively), while the level for Maaori was over a third (37%) and Other ethnicities one-quarter (25%).

There were a third (33%) who **disagreed with both of these two barriers**, with the level rising to two-fifths (41%) for Other ethnicities, while the level was one-third (32%) for Maaori, and a quarter (24%) for both Pacific and Asian peoples.

### Table 48: Possible barriers to being more physically active

POSSIBLE BARRIERS TO BEING MORE PHYSICALLY ACTIVE	Total (1266) %	Maaori (298) %	Pacific Peoples (363) %	Asian (325) %	Other (481) %
<b>Can't afford cost of things I would need such as babysitters, clothes, equipment, gym membership</b>					
Agree	28	34	38↑	33	21↓
Disagree	42	42	27↓	33↓	51↑
<b>There aren't enough places in my area for me to go or join such as parks, walking groups or sports clubs</b>					
Agree	15	12	19	24↑	9↓
Disagree	62	59	56	50↓	70↑

\*Note this question was only asked of those who had difficulty being more physically active (N=1266)

Cost was more of a concern for those who expressed 'a lot' of difficulty in being more active (37% vs 28% for all persons answering). However availability concerns did not vary across the different levels of difficulty in being more active. While there was an indication that cost was more mentioned by those who felt their children would need to do 'a lot more' physical activity to be healthy (41%), it was not a significant difference.

Agreement that **cost issues** were creating difficulty was **more** prevalent among:

- Obese persons (41% vs 28% for all persons answering)
- People from high deprivation areas (40%)
- Pacific peoples (38%), with levels being higher for Tongans (48%)
- South Asian peoples (38%)
- Females aged 25-44 years (37%)

And **less** prevalent among:

- People from low deprivation areas (19%)
- Those in Other ethnic groupings (21%)

People with **availability** concerns were **more** prevalent among:

- Asian peoples (24%), particularly East Asian peoples (24%) and South Asian peoples (25%)

And **less** prevalent among:

- Those in Other ethnic groupings (9%)

## DISCUSSION

Limited concern with barriers and not related to levels of activity

Once again the barriers that were asked about were not as prevalent as might have been anticipated. A key finding was that mention of barriers did not differ in terms of people's current levels of activity, suggesting that these barriers are not impacting on the current activity levels.

Cost was more mentioned as an issue by obese persons, so that does increase its importance as an issue.

Availability seems to be less of a concern and none of the 'at risk' or priority groups were above average on this item. Once again, it needs to be remembered that these questions were only asked of the half (49%) who were interested in being more physically active and reported some level of difficulty doing so. It would be expected that the others would have fewer issues with barriers.

## 4.7 LINKS BETWEEN HEALTHY EATING AND PHYSICAL ACTIVITY

As this survey has focussed on both healthy eating and physical activity, there is benefit in examining the links between the two areas.

### INTEREST IN CHANGE

The table which follows shows the relationship between the responses for interest/difficulty in eating more healthily and being more physically active. Unlike most of the tables in this report, the table has been prepared so that the percentages in all the cells total 100 percent<sup>33</sup>. It shows that there is a strong relationship between the response given for both eating and activity. If people did not give the same response, they often gave one in the next category (e.g. moving from 'a little difficult' to 'somewhat difficult').

**Table 49: Interest/difficulty in being active and eating healthily**

INTEREST/DIFFICULTY IN BEING ACTIVE	INTEREST/DIFFICULTY IN EATING HEALTHILY							TOTAL
	Interested, don't find it difficult	Interested, find it a little difficult	Interested, find it somewhat difficult	Interested, find it very difficult	Not interested, healthy enough	Not interested, could be healthier	Not interested, could be a lot healthier	
	%	%	%	%	%	%	%	
Interested, don't find it difficult	9	3	1	1	3	1	0	17
Interested, find it a little difficult	6	7	2	1	3	2	0	23
Interested, find it somewhat difficult	4	6	4	1	2	1	0	18
Interested, find it very difficult	1	2	2	2	1	1	0	9
Not interested, healthy enough	4	2	1	0	12	3	0	24
Not interested, could be healthier	2	1	1	0	1	3	0	8
Not interested, could be a lot healthier	0	0	0	0	0	0	0	2
<b>Totals</b>	<b>27</b>	<b>21</b>	<b>11</b>	<b>5</b>	<b>22</b>	<b>12</b>	<b>2</b>	<b>100</b>

NB: Numbers don't add to the totals shown because of rounding.

### BEHAVIOURS

There were some links between eating and activity behaviours:

- Those who were more active tended to eat more healthily:

<sup>33</sup> On the table they total 96% because of rounding.

- ♦ Those who were 'regularly active' were higher for consumption of fruit (2.6 servings per day vs 2.4 for the total sample) and the combined fruit and vegetables (4.9 vs 4.6).
- ♦ Those who were 'sedentary' were below average for consumption of fruit (2.1 vs 2.6) and the combined fruit and vegetables (4.1 vs 4.6).
- ♦ Those who were 'minimally active' were below average for servings of vegetables (2.0 vs 2.2).
- There were no differences for mean number of days on which fizzy or energy drinks were consumed by any of the activity groupings.
- Sedentary persons ate larger portions more frequently (2.3 days per week vs 1.9) and breakfast on fewer days (5.2 vs 5.6).
- There were no significant differences across the different activity levels for healthy/less healthy cooking behaviours.

## BARRIERS

Those who mentioned barriers for activity were also above average for mentioning barriers for eating. However, it did not seem to matter which barriers were considered. For example those mentioning the cost barrier for activity were above average for mentioning all three barriers for eating, with no indication of the cost barrier being more frequently mentioned than any of the others.

## DISCUSSION

This analysis identifies that there is some overlap between healthy eating and physical activity. This is perhaps not surprising given both are promoted as important for one's health. However what is perhaps more surprising is that there is not more overlap and even stronger relationships. This suggests the possibility of a strategy that encouraged active people to take the same care with their body when it comes to eating as they do in keeping active and fit. Likewise those who eat healthily, but are not so active, could be encouraged to see the logic in also looking after their body by being more active.

The high degree of overlap in interest in change and level of difficulty for both eating and activity may assist with some providing some efficiencies in social marketing initiatives.

## 4.8 ROLE OF PRIMARY CARE

This section considers the role of primary care, specifically the role of GPs and nurses, in addressing healthy eating, activity, obesity and diabetes and also links back to the findings relating to perceived levels of support provided by doctors and nurses. This section also includes information on the prevalence of smoking.

Please note that due to the need to limit the survey interview time, the survey did not extend to asking participants about services delivered to them by personnel in health promotion teams and by community health workers (i.e. in relation to healthy eating, increasing activity and reducing obesity).

### CONTACT WITH DOCTOR/NURSE

Nearly two-thirds (64%) said they had spoken to a doctor or nurse in the last twelve months about their own personal health.

As shown in the table which follows, these levels are lower than reported in the New Zealand Health Survey (NZHS). However, the same pattern was found across ethnic groups in both surveys.

The NZHS rate for males was three-quarters (75%), compared with three-fifths (58%) in the current survey, while for females the rates were 83 percent in the NZHS and 68 percent in the LBD survey.

**Table 50: Contact with Doctor/Nurse in last twelve months for own personal health**

CONTACT WITH DOCTOR /NURSE IN LAST 12 MONTHS	Total (2520)	Maori (594)	Pacific Peoples (712)	Asian (599)	Other (998)
Let's Beat Diabetes Survey	64	60	65	57↓	67
2002/03 NZ Health Survey*	79	75	76	71	83

\* These figures represent those who reported contact with a doctor specifically. Contact with nurses was recorded separately in the NZHS survey.

Those who **had spoken with a doctor/nurse** in the last twelve months were *more* prevalent among:

- Diabetics (93% vs 64% for total sample)
- Females aged 45 and over (78%) and males aged 45 and over (71%)

Those who **had not spoken with a doctor/nurse** in the last twelve months were *more* prevalent among:

- Males aged 16-24 years (59%) and males aged 25-44 years (47% vs 36% for total sample)
- Asian peoples (42%), with the levels being higher for East Asian peoples (49%)
- Those responsible for children (41%)

The main 'at risk' groups were all average for speaking with a doctor or nurse in the previous twelve months. The level was 64 percent for obese persons, 62 percent for overweight persons, 66 percent for those with a family history of diabetes and 62 percent for 'sedentary' persons.



## HEALTH CHECKS/ ADVICE

Persons who had spoken with a doctor or nurse about their own health in the previous twelve months were read a list of items and asked to indicate which they had received during their visits to doctors or nurses over that period. The figures shown in the last column in the table which follows are the results for this sub-sample who visited the doctor or nurse. The first column of data is the same information presented for the total sample. So, for example, nearly nine-in-ten (88%) of all the people who had contact with a doctor or nurse received a blood pressure test and this equated with nearly three-fifths (57%) of the total sample. The figures reported in the rest of this section are all based on the total sample.

In terms of tests, close to three-fifths (57%) of the total sample reported having had a blood pressure test, half (51%) reported having their weight measured, followed by two-fifths (39%) who had a cholesterol test and over one-third (36%) a diabetes test.

Nearly two-fifths (37%) were talked to about their exercise or physical activity, followed by one-third (33%) who were talked to about healthy eating or weight, and under a third (30%) who were talked to about their risk of diabetes or heart disease. There were over two-fifths (44%) who mentioned any one of these three, rising to nine-in-ten (90%) among diabetics and over a half (55%) among those who were obese. However, there was no indication of greater advice giving for other 'at risk' groups. For those who were overweight, the level was nearly half (47%), for those with a family history of diabetes it was under half (46%), while for 'sedentary' persons it was just over two-fifths (42%).

A third (33%) had been spoken to about healthy eating or weight and 12 percent had been given a green prescription.

Nearly one-fifth (18%) were spoken to about stopping smoking. However, there were one-in-ten (10%) people who said they were not currently smokers who also said the doctor or nurse had talked to them about stopping smoking. It seems unlikely that all of these people had stopped smoking since the doctor talked to them, so these findings may be indicative of under-reported smoking behaviour (see smoking section later in this chapter).

**Table 51: Health checks/consultation received in previous twelve months**

HEALTH CHECKS/ CONSULTATION RECEIVED IN PREVIOUS 12 MONTHS	Total Sample (2520) %	Been to doctor (*1570) %
Given you a blood pressure test	57	88
Given you a cholesterol test	39	60
Given you a diabetes test	36	55
Measured your weight	51	79
Talked to you about stopping smoking	18	27
Talked to you about healthy eating or weight	33	52
Talked to you about your risk of diabetes or heart disease	30	47
Talked to you about exercise or physical activity	37	57
Given a green prescription	12	18

\*Base in this second column of data is those who had consulted a doctor/nurse in last twelve months

**Table 52: Health checks/advice received in previous twelve months**

HEALTH CHECKS/ ADVICE RECEIVED IN PREVIOUS 12 MONTHS	Total	Maaori	Pacific Peoples	Asian	Other
	(2520)	(594)	(712)	(599)	(998)
	%	%	%	%	%
Given you a blood pressure test	57	53	58	47↓	61
Given you a cholesterol test	39	36	43	34	39
Given you a diabetes test	36	34	45↑	32	33
Measured your weight	51	49	57↑	44↓	51
Talked to you about stopping smoking	18	23↑	35↑	15	11↓
Talked to you about healthy eating or weight	33	35	51↑	33	26↓
Talked to you about your risk of diabetes or heart disease	30	32	48↑	27	23↓
Talked to you about exercise or physical activity	37	37	52↑	35	31↓
Given a green prescription	12	11	26↑	13	5↓

**Table 53: Health checks/advice by 'at risk' groups**

HEALTH CHECKS/ ADVICE BY 'AT RISK' GROUPS	Total (2520) %	"AT RISK" GROUPS					
		Diabetics (169) %	Overweight* (943) %	Obese (273) %	Family history (683) %	History of GDM** (30) %	Sedentary (210) %
		Give you a blood pressure test	57	91↑	56	58	57
Give you a cholesterol test	39	85↑	39	46	41	58	41
Give you a diabetes test	36	88↑	36	46↑	38	61↑	35
Measure your weight	51	86↑	51	55	51	58	48
Talk to you about stopping smoking	18	40↑	17	26↑	20	38↑	16
Talk to you about healthy eating or weight	33	75↑	39↑	49↑	36	44	34
Talk to you about your risk of diabetes or heart disease	30	86↑	33	47↑	33	56↑	26
Talk to you about exercise or physical activity	37	85↑	41↑	50↑	38	56	34
Given a green prescription	12	42↑	13	21↑	11	25	7
Have not been to the doctor	36	7↓	38	36	35	27	38

NB: All the 'at risk' groups exclude diabetics

\* The 'overweight' category includes 'obese' persons

\*\* Note that only 30 in this category, so findings need to be interpreted with caution. GDM is diabetes during pregnancy.

Those who received a **blood pressure test** in the previous twelve months were *more* prevalent among:

- Diabetics (91% vs 57% for total sample)
- Females aged 45 and over (74%) and males aged 45 and over (68%)
- Meal preparers (62%) and household shoppers (61%)

And **less** prevalent among:

- Males aged 16-24 years (23%)
- Males aged 25-44 years (44%)
- Females aged 16-24 years (46%)
- Asian peoples (47%), with the levels being lower for East Asians (36%)
- Those responsible for children (51%)

Those who received a **cholesterol test** were **more** prevalent among:

- Diabetics (85% vs 39% for total sample)
- Females aged 45 and over (58%) and males aged 45 and over (57%)
- Tongans (50%)
- Household shoppers and meal preparers (43% for both)

And **less** prevalent among

- Females aged 16-24 years (11%) and males aged 16-24 years (12%)
- East Asian peoples (26%)
- Males aged 25-44 years (29%) and females aged 25-44 years (30%)

Those who **received a diabetes test** were **more** prevalent among:

- Diabetics (88% vs 36% for total sample)
- Those with a history of diabetes during pregnancy (GDM) (61%)
- Females aged 45 and over (52%) and males aged 45 and over (49%)
- Obese persons (46%)
- Pacific peoples (45%), with levels being higher for Tongans (51%) and Samoans (45%)

And **less** prevalent among:

- Males aged 16-24 years and females aged 16-24 years (13% for both)
- East Asian peoples (20%)
- Males aged 25-44 years (27%)

While those who were obese were more likely to have received a diabetes test, as noted above, the other 'at risk' groups were only at average levels. For those who were overweight, the rate of diabetes testing was 36 percent, while for those with a family history of diabetes it was 38 percent.

Those who had their **weight measured** were **more** prevalent among:

- Diabetics (86% vs 51% for total sample)
- Females aged 45 and over (65%)
- Pacific peoples (57%), with levels being higher for Samoans (61%)
- Meal preparers (55%)

And **less** prevalent among:

- Males aged 16-24 years (29%) and males aged 25-44 years (41%)
- Asian peoples (44%), with the levels being lower for East Asian peoples (34%)

Those who were **talked to about stopping smoking** were *more* prevalent among:

- Diabetics (40% vs 18% for total sample)
- Those with a history of history of diabetes during pregnancy (GDM) (38%)
- Pacific peoples (35%), with levels being higher for Tongans (43%), Samoans (34%) and Cook Island Maaori (30%)
- People from high deprivation areas (28%)
- Those responsible for three or more children (28%)
- Obese persons (26%)
- Maaori (23%)

And *less* prevalent among:

- People from low deprivation areas (9%)
- Males aged 16-24 years (10%)
- East Asian peoples (11%)
- Those of Other ethnic groupings (11%)

Those who were **talked to about healthy eating or weight** were *more* prevalent among:

- Diabetics (75% vs 33% for total sample)
- Pacific peoples (51%), with levels being higher for Tongans (56%), Samoans (51%) and Cook Island Maaori (49%)
- Obese persons (49%)
- People from high deprivation areas (45%)
- South Asian peoples (42%)
- Overweight persons (39%)
- Those interested in eating more healthily than they currently are (37%)
- Those interested in being more physically active than they currently are (37%)

And *less* prevalent among:

- Males 16-24 years (20%)
- People from low deprivation areas (21%)
- East Asian peoples (23%)
- Those of Other ethnic groupings (26%)

Those who were **talked to about the risk of diabetes or heart disease** were *more* prevalent among:

- Diabetics (86% vs 30% for total sample)
- Those with a history of diabetes during pregnancy (GDM) (56%)
- Pacific peoples (48%), with levels being higher for Tongans (54%), Samoans (49%) and Cook Island Maaori (43%)
- Obese persons (47%)
- People from high deprivation areas (40%)
- Males aged 45 and over (40%) and females aged 45 and over (36%)

And **less** prevalent among:

- Females aged 16-24 years (14%) and males aged 16-24 years (15%)
- East Asian peoples (17%)
- People from low deprivation areas (18%)
- Those of Other ethnic groupings (23%)

While the rate was higher for obese persons and those with a history of diabetes during pregnancy (GDM), it was not so for the two other 'at risk' groups. Of those who were overweight, a third (33%) were talked to about the risk of diabetes or heart disease, and the rate was the same for those with a family history of diabetes.

Those who were **talked to about exercise or physical activity** were **more** prevalent among:

- Diabetics (85% vs 37% for total sample)
- Obese persons (50%)
- Pacific peoples (52%), with levels being higher for Tongans (58%), Samoans (52%) and Cook Island Maaori (48%)
- People from high deprivation areas (46%)
- Overweight persons (41%)
- Females aged 45 and over (41%)

And **less** prevalent among:

- Females aged 16-24 years (24%) and males aged 16-24 years (25%)
- East Asian peoples (26%)
- People from low deprivation areas (27%)
- Those of Other ethnic groupings (31%)

Those who said they were **given a green prescription** were **more** prevalent among:

- Diabetics (42% vs 12% for total sample)
- Pacific peoples (26%), with levels being higher for Samoans (30%), Tongans (28%) and Cook Island Maaori (23%)
- Obese persons (21%)
- People from high deprivation areas (19%)
- Those responsible for three or more of their children (17%)
- Males aged 45 years and over (16%)

And **less** prevalent among:

- Males aged 16-24 years (3%)
- People from low deprivation areas (5%)
- Those of Other ethnic groupings (5%)
- Females aged 16-24 years (5%)

## SMOKERS

One-fifth (19%) identified as smokers. This was ascertained by simply asking them "Do you smoke?" The prevalence of smoking was much lower than that estimated from the 2002/03 NZ Health Survey for the CMDHB region, where the level was a quarter (27%), and rising to half (50%) for Maaori. While smoking prevalence may have decreased in the four year period, it seems unlikely that it would be to this extent. The NZHS asked a different question "Do you smoke one or more tobacco cigarettes a day?" It may be that the less definite question in the LBD survey resulted in some people feeling they could define a smoker in terms that allowed them to exclude themselves.

**Table 54: Smoker**

SMOKER	Total (2520) %	Maaori (594) %	Pacific Peoples (712) %	Asian (599) %	Other (998) %
Yes	19	35↑	28↑	10↓	17
No	81	65↓	72↓	90↑	83

Those who smoked were *more* prevalent among:

- Maaori (35% vs 19% for total sample)
- Pacific peoples (28%), with levels being higher for Cook Island Maaori (36%) and Samoans (27%)
- People from high deprivation areas (30%)
- Those responsible for three or more children (29%)
- Males aged 25-44 years (27%)

And *less* prevalent among:

- Asian peoples (10%), with the levels being lower for South Asian and East Asian peoples (9% for both)
- People from low deprivation areas (13%)
- Females aged 45 and over (14%)

## DISCUSSION

Primary care has important role to play

Clearly primary care has an important role to play in both the prevention and treatment of diabetes. It is obviously necessary to acknowledge the constraints that doctors and nurses operate under, with limited time available for consultations. They appear to have given Pacific peoples greater attention, which is obviously appropriate given their higher rates of diabetes and risk factors. Obese persons have also been appropriately identified for higher levels of diabetes testing and discussion about the risk of diabetes and heart disease. However it would be useful if the other at risk groups could also receive greater attention, these being those who are overweight and those with a family history of diabetes.

With over a third (36%) of the total sample reporting not having been to a doctor, this limits the role that primary care can take in reducing obesity and diabetes. While some of the groups with low usage were low risk groups (younger males and Asian peoples), those with children were over-represented in this group, which is a particular concern. Over four in every ten people with children

had not been to a doctor about their own personal health in the previous twelve months. While this may reflect their being healthy, it is more likely to reflect barriers to use of primary healthcare. Hopefully the national strategies being adopted to enhance access to primary healthcare will assist in this regard.

The lower level of contact with doctors in the current survey confirms the previous conclusions earlier in this report that this sample does not over-represent the more privileged sectors of the community.

### Diabetics and obese persons receiving high levels of intervention

Diabetics were clearly receiving appropriately high levels of interventions from their doctors or nurses. Those with obesity were above average for appropriate interventions.

While overweight persons were above average for being spoken to about healthy eating/weight and exercise/physical activity, they were only average (at one third) for being spoken to about the risk of diabetes or heart disease. This suggests doctors/nurses could be making a stronger link with these people between their weight and their risk of diabetes.

### Primary care a key source of support

The previously reported information on levels of support received from doctors shows they are the most prevalent source of support outside the family. However at under three-fifths (57%) for eating healthily, and half for being physically active, the levels initially appear quite low. However, when it is considered that only just less than two-thirds (64%) had been in contact with a doctor or nurse in the previous twelve months, these levels of support appear more reasonable.

Another key finding was that doctors/medical centre staff were the only source of support that obese persons were above average in mentioning, although it should be noted that they weren't below average for anything either. The rates of advice and testing these people had received in the previous twelve months from doctors tends to confirm that they are receiving support from this source.

## 4.9 AWARENESS AND UNDERSTANDING OF DIABETES

While the previous sections have been primarily about factors that contribute to diabetes, this section specifically addresses diabetes, including:

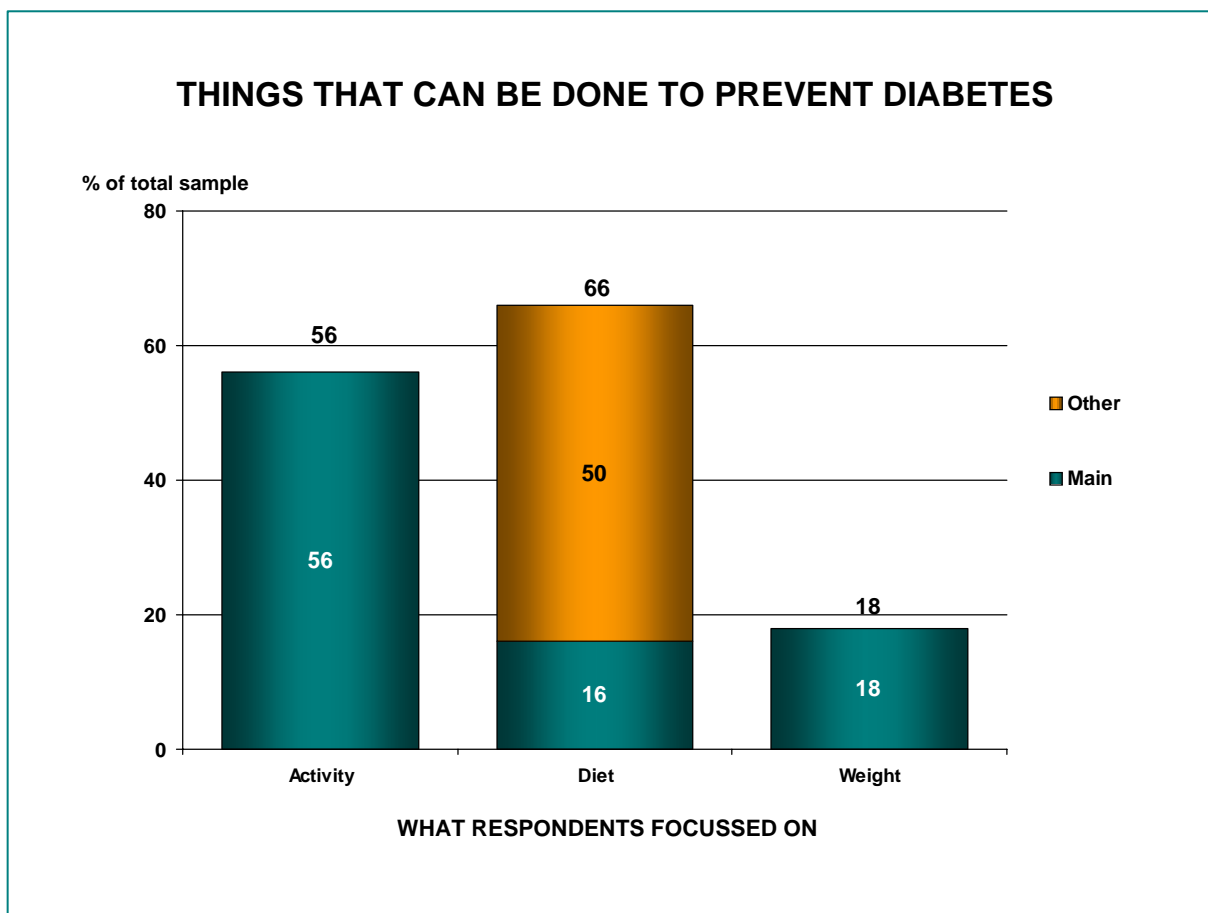
- Awareness of how to prevent diabetes
- Knowledge of diabetes, including ability to correctly answer key questions
- Concern about getting diabetes

### AWARENESS OF HOW TO PREVENT DIABETES

At the end of the survey respondents were asked, "What can be done to prevent diabetes?" The unprompted responses were grouped into categories after the interviewing. The chart below shows the division of prevention aspects into three key categories.

- Half (50%) mentioned controlling or reducing sugar or fat which was the 'main' diet classification, while a total of two-thirds (66%) made some diet related mention

- Over half (56%) percent mentioned keeping fit or active
- Less than one-fifth (18%) mentioned reducing weight or not getting overweight



**Active** responses were *more* prevalent among:

- Females aged 25-44 years (65% versus 56% for total sample)
- And *less* prevalent among:
  - Females aged 16-24 years (42%)
  - Pacific peoples (46%), with the levels being lower for Cook Island Maori and Tongans (41% for both)
  - People from high deprivation areas (48%)

**Diet** responses were *more* prevalent among:

- Females aged 25-44 years (73% versus 66% for total sample)
- Asian peoples (73%), rising to three-quarters (75%) for South Asian peoples

And *less* prevalent among:

- Tongans (52%) and Cook Island Maori (55%)
- Diabetics (55%)



**Weight** responses were *more* prevalent among:

- Those of Other Ethnic groupings (25% versus 18% for total sample)
- Females aged 45 and over (24%)
- People from low deprivation areas (24%)
- Overweight persons (22%)
- Household shoppers (21%)

And *less* prevalent among:

- Males aged 16-24 years (5%)
- Pacific peoples (6%), with the levels being lower for Tongans (3%), Cook Island Maaori (5%) and Samoans (8%),
- Diabetics (9%)
- Females aged 16-24 years (9%)
- People from high deprivation areas (10%)
- Those responsible for three or more children (12%)
- Maaori (13%)

The table which follows shows more detailed responses with the above groupings bolded. Just under two times more respondents mentioned reducing sugar (42%) compared with those who mentioned reducing fat (23%).

Other comments made that were not part of the key categories included one-in-eight (12%) who mentioned having regular health checks, followed by one-in-ten (9%) who mentioned having a healthy diet, but did not give any detail about this. There were also less than one-in-ten (7%) who mentioned having a balanced diet.

**Table 55: What can be done to prevent diabetes**

WHAT CAN BE DONE TO PREVENT DIABETES	Total (2520) %	Maaori (594) %	Pacific Peoples (712) %	Asian (599) %	Other (998) %
Keep fit/active	56	51	46↓	61	60
<b>Total diet group</b>	<b>66</b>	<b>64</b>	<b>61</b>	<b>73↑</b>	<b>64</b>
Control / reduce sugar intake (main group)	42	41	36↓	50↑	42
Eat vegetables (other group)	26	25	28	29	24
Control / reduce fat intake (main group)	23	24	27	21	22
Eat fruit (other group)	21	22	19	19	22
Control / reduce portion size /amount of food they eat (other group)	11	9	13	10	12
No soft / fizzy drinks (other group)	9	8	10	9	9
Eat less junk food (other group)	8	8	8	10	7
Drink water / 8 glasses per day (other group)	6	7	11↑	7	4
Eat less takeaways (other group)	6	4	4	4	8
<b>Total weight group</b>	<b>18</b>	<b>13↓</b>	<b>6↓</b>	<b>14</b>	<b>25↑</b>
Reduce weight/not get overweight (main group)	18	13↓	6↓	14	25↑
<b>OTHER RESPONSES:</b>					
Have regular health checks : GP	12	12	10	16	12
Have a healthy diet (unspecified)	9	5↓	4↓	4↓	14↑
Eat a balanced diet	7	6	4	7	7
Reduce carbohydrates	6	4	5	11↑	5
Don't drink alcohol / watch alcohol	6	6	2↓	5	7
Eat red meat / lean meat	6	6	7	4	6
Information / education	5	6	4	4	6

(Mentions of less than 5% have been excluded from the table)

Those who said you could **control / reduce sugar intake** were *more* prevalent among:

- Asian peoples (50% vs 42% for total sample), rising to 51% for South Asian peoples
- Females aged 25-44 years (49%)

And *less* prevalent among:

- Pacific peoples (36%)
- People from high deprivation areas (37%)

Those who said you could **control / reduce fat intake** were *more* prevalent among:

- Samoans (37% vs 23% for total sample)

Those who said you could **eat vegetables** were *more* prevalent among:

- Samoans (34% vs 26% for total sample)
- Females aged 25-44 years (33%)

Those who said you could **eat fruit** were *more* prevalent among:

- Females aged 25-44 years (28% vs 21% for total sample)
- And *less* prevalent among:
- Diabetics (11%)

Those who said you could **control / reduce portion size** were *more* prevalent among:

- Obese persons (20% vs 11% for total sample)

And *less* prevalent among:

- Males aged 16-24 years (1%)

## KNOWLEDGE OF DIABETES

Respondents were asked to rate their knowledge of diabetes from 'poor' to 'very good', using options read out to them. Under half (45%) thought their knowledge was either 'good' or 'very good'. Just under a quarter (23%) thought it was 'poor', whilst nearly a third (32%) rated it in between at 'fair'.

**Table 56: Knowledge of diabetes overall**

OVERALL KNOWLEDGE OF DIABETES	Total	Maaori	Pacific Peoples	Asian	Other
	(2316) %	(568) %	(709) %	(589) %	(818) %
Poor	23	29↑	27	20	22
Fair	32	31	26↓	30	35
Good	27	20↓	26	32	26
Very good	18	18	20	18	16
Don't Know	1	1	1	1	0

\*This question was added after the survey began and so the number answering is 2316 rather than 2520.

Those thinking their knowledge was '**poor**' were *more* prevalent among:

- Males aged 16-24 years (43%) and males aged 25-44 years (32% vs 23% for all persons answering)
- Sedentary persons (31%)
- Tongans (33%)
- Maaori (29%)

Those thinking their knowledge was **'fair'** were not more prevalent among any of the groups.

Those thinking their knowledge was **'good'** were *more* prevalent among:

- South Asian peoples (37% vs 27% for all persons answering)
- Females aged 45 and over (33%)

Those thinking their knowledge was **'very good'** were *more* prevalent among:

- Diabetics (41% vs 18% for all persons answering)
- Females aged 45 and over (26%)
- Obese persons (21%)

While it would be expected that diabetics would have better knowledge, there were still one-in-ten (11%) who rated their level of knowledge of diabetes as 'poor' and a further one-in-ten (12%) who rated it as only 'fair'.

### Knowledge of specific information about diabetes

Knowledge of diabetes was also ascertained by asking respondents to rate some statements as either true or false. The proportion who thought it was true that it is people who mainly eat a lot of sugar who get diabetes (48%) was slightly higher than those who thought it was false (44%), the balance being those who were unsure.

An overwhelming proportion said that it was false that diabetes doesn't affect young people (88%), while one-in-ten (9%) thought it was true.

An even larger proportion thought it was true that it is possible that you can have diabetes and not realise it (92%), while one-in-twenty (5%) thought it was false.

More than eight-in-ten said it was true that diabetes increases your risk of developing heart disease (82%), whereas under one-in-twenty (4%) thought it was false.

Over four-fifths (83%) thought it false that there is nothing you can do to prevent getting diabetes, whilst one-in-ten (10%) thought it true.

There was a clear **relationship between correct responses on these items and perceived knowledge of diabetes**. For example, those saying they had a 'poor' knowledge were:

- More likely to say it is true that it is mainly people who eat a lot of sugar who get diabetes (58% vs 49 % for total sample)
- Less likely to say it is false that diabetes doesn't affect young people (83% vs 88%)
- Less likely to say it is false that there is nothing you can do to prevent diabetes (74% vs 83%)

While these figures show there is definitely a relationship, the levels of correct response among those rating their knowledge as 'poor' was not a long way below the average person.

**Table 57: How much know about diabetes**

HOW MUCH PEOPLE KNOW ABOUT DIABETES	Total* (2501) %	Maaori (591) %	Pacific Peoples (712) %	Asian (597) %	Other (982) %
<b>It is mainly people who eat a lot of sugar that get diabetes</b>					
True	47	47	59↑	60↑	38↓
False	44	43	32↓	35↓	51↑
<b>Diabetes doesn't affect young people</b>					
True	9	10	18↑	11	5↓
False	87	85	77↓	87	92↑
<b>You can have diabetes and not realise it</b>					
True	91	94	88↓	88↓	94
False	5	2	9↑	8↑	2↓
<b>Having diabetes increases your risk of developing heart disease</b>					
True	81	80	85↑	87↑	77
False	4	4	4	4	5
<b>There is nothing you can do to prevent getting diabetes</b>					
True	10	11	19↑	9	7↓
False	83	81	75↓	86	85

\* Base is N=2501 people, not the full 2520 as 19 people were not asked this question due to a skip that was in effect when the survey began but was subsequently deleted.

Those who thought it was **true** that it's mainly **people who eat a lot of sugar that get diabetes** were **more** prevalent among:

- Males aged 16-24 years (68% vs 47% for total sample)
- Pacific peoples (59%), with levels being higher for Other Pacific Island groups (71%), Cook Island Maaori (66%) and Tongans (62%)
- Asian peoples (60%), with the levels being higher for all groups: South East Asian peoples (67%), East Asian peoples (62%) and South Asian peoples (58%)
- People from high deprivation areas (57%)
- Those responsible for their children (52%)

Those who thought that it was **false** were **more** prevalent among:

- Females aged 45 and over (56% vs 44% for total sample)
- Those of Other ethnicities (51%)
- Meal preparers (49%)

Those who thought it was **false** that **diabetes doesn't affect young people** were *more* prevalent among:

- Those of Other ethnicities (92% vs 87% for total sample)
- Females aged 25-44 years (91%)

Those who thought it was **true** were *more* prevalent among:

- Diabetics (19% vs 9% for total sample)
- Pacific peoples (18%), with levels being higher for Tongans and Cook Island Maaori (25% for both)
- People from high deprivation areas (14%)

Those who thought it was **true** that **you can have diabetes and not realise it** were not more prevalent among any groups, whereas those who thought it was **false** were *more* prevalent among:

- Pacific peoples (9% vs 5% for total sample), with the levels being higher for Samoans (16%)
- Asian peoples (8%), with the levels being higher for South Asian peoples (9%)
- Obese persons (9%)

Those who thought it **true** that having diabetes **increases your risk of developing heart disease** were *more* prevalent among:

- Diabetics (94% vs 81% for total sample)
- Asian peoples (87%), with the levels being higher for South Asian peoples (88%)
- Pacific peoples (85%), with the levels being higher for Tongans (90%)

Those who thought it was **false** were *more* prevalent among :

- Obese persons (8% vs 4% for total sample)

Those who thought it was **false** that there is **nothing you can do to prevent getting diabetes** were *more* prevalent among:

- Females aged 25-44 years (88% vs 83% for total sample)

Whereas those who thought it was **true** were *more* prevalent among:

- Diabetics (27% vs 10% for total sample)
- Pacific peoples (19%), with the level being higher for Tongans (36%)
- People from high deprivation areas (17%)
- Those responsible for three or more children (14%)

## CONCERN ABOUT GETTING DIABETES

Respondents were asked to respond to the following statement on a seven point agree-disagree scale: "I am worried that I or someone in my family has diabetes or may get it". If the person already had diabetes they responded to a statement that read: "I am worried that someone in my family has

diabetes or may get it". A third agreed that they were worried that they/someone in their family may have diabetes or may get it, whereas over two-fifths (44%) disagreed<sup>34</sup>.

When considered in conjunction with the previously reported data for concern about them or someone in their family having or getting health problems because of being overweight, there were half (50%) who agreed with at least one of these two statements, with the level being nearly three-quarters (72%) for Pacific peoples, three-fifths (61%) for Maaori, over half (54%) for Asian peoples and three-eighths (38%) for Other ethnicities. The level was also higher for diabetics (75%), those with a family history of diabetes (72%) and those who were obese (69%).

**Table 58: Concern about getting diabetes**

CONCERNS	Total (2520) %	Maaori (594) %	Pacific Peoples (712) %	Asian (599) %	Other (998) %
<b>I am worried that I or someone in my family has diabetes or may get it</b>					
Agree	33	40↑	55↑	35	23↓
Disagree	44	35↓	24↓	40	55↑

**Agreeing** that they were **worried that they or someone in their family has diabetes or may get it** was *more* mentioned by:

- Diabetics (61%) and those with a family history of diabetes (59% vs 33% for total sample)
- Pacific peoples (55%), with levels being higher for Tongans (64%), Samoans (55%), Niueans (53%) and Cook Island Maaori (50%)
- People from high deprivation areas (48%)
- Obese persons (47%)
- Those responsible for three or more children (40%)
- Maaori (40%)
- Those interested in eating more healthily than they currently are (37%)

**Disagreement** with this statement was *more* prevalent among:

- People from low deprivation areas (57%)
- Those of Other ethnic groupings (55%)

## DISCUSSION

### Room for improvement in knowledge about diabetes

There is clearly considerable room for improvement in knowledge about diabetes, with more than half the people rating their knowledge as 'poor' or 'fair'. Even among diabetics, there were almost a quarter who rated their knowledge of diabetes as only 'poor' or 'fair'.

<sup>34</sup> As with all the agree/disagree scales, the 'agree' figures are for those who 'agreed' and 'strongly agreed' with the statement of interest.

There main awareness/knowledge issue that needs to be addressed is the widespread misconception that it is mainly people who eat a lot of sugar who get diabetes. As well as response to the true/false question, this was also reflected in the options given for reducing diabetes. While 'fat' mentions exceeded 'sugar' when asked what would contribute to a healthy weight, when it came to prevention of diabetes, the pattern was reversed. However, because reducing sugar consumption is important for reducing weight, messages about sugar will have to be carefully managed.

There also needs to be a greater awareness that reducing weight or not getting overweight is a key strategy for reducing the risk of obesity. Unprompted recall of this message was relatively low and was particularly low among some key groups: diabetics, Pacific peoples, Maaori, people from high deprivation areas, and those with three or more children.

This study provides support for the LBD social marketing focus on reducing portion size as one of its four key messages, as this had relatively low mentions. Also, obese, overweight and inactive persons were the most likely to admit more frequently eating more than they needed and they are obviously key groups to impact.

There is also still room to improve awareness of the importance of reducing fat consumption and for improving awareness that physical activity, along with diet, is important in the prevention of diabetes.

### Obese persons showing only limited concern with getting diabetes

While obese persons were above average in their concern about them or someone in their family having or getting diabetes, there were still over half of them who were not expressing any real concern. This suggests that these people may not have a sufficient understanding of the link between obesity and diabetes. Alternatively they may be in denial and believe that their obesity is not a problem.



## 4.10 PREVALENCE OF DIABETES AND AT RISK GROUPS

### PREVALENCE OF DIABETES

The study confirms that diabetes is a major problem in CMDHB, with seven percent of the sample reporting **having diabetes**, (this was both the crude rate and the age standardised rate - see table below).

The Pacific figure was highest at 11 percent, which increased to 15 percent after age standardisation. The age standardised rates for the separate Pacific groups were: 19 percent for Cook Island Maaori, 15 percent for Samoan, 12 percent for Tongan, six percent for Niuean and 10 percent for Other Pacific groups<sup>35</sup>.

The rate of diabetes for Maaori was 5 percent, which increased to 6 percent after age standardisation, but the Maaori under-representation of high deprivation areas may have resulted in the Maaori diabetes rates being a little lower than they should be.

The rate for Asian peoples was five percent (both crude and age standardised). The age standardised rates for the specific Asian groupings were seven percent for South Asian peoples, four percent for East Asian peoples, and three percent for South East Asian peoples.

Other ethnicities, which included New Zealand Europeans, had the lowest rate at five percent (both crude and age standardised). It should be remembered that persons are included in the findings for all ethnic groups to which they said they belonged.

The 7.0 percent with diabetes consisted of 2.0 percent with Type 1, 3.0 percent with Type 2 and 2.0 percent who did not know what type they had.

**Table 59: Prevalence of diabetes**

PREVALENCE OF DIABETES	Total (2520) %	Maaori (594) %	Pacific Peoples (712) %	Asian (599) %	Other (998) %
2006/07 'Let's Beat Diabetes' survey (CMDHB region, persons 16 plus):					
Crude rate	6.5	4.6	11.3↑	5.0	5.1
Age standardised	7.0	6.2	14.6↑	5.2	4.5↓
2002/03 New Zealand Health Survey (CMDHB region estimate, persons aged 15 years and over):					
Crude rate	4.9	6.7	NR	NR	3.4
Age standardised	5.0	9.5	NR	NR	3.2

NM = Not measured, NR= Not reported

NB Significant differences are shown only for the LBD survey data

<sup>35</sup> The numbers in the Niuean and Other Pacific sub-samples were relatively small and therefore these findings need to be interpreted with some caution.

## COMPARISONS WITH OTHER SURVEY DATA

The table on the previous page also makes comparison with the New Zealand Health Survey (NZHS), however it needs to be noted that it was undertaken four years earlier than this 'Let's Beat Diabetes' survey. It was completed face to face and had a higher response rate. However it only sampled 1019 in the CMDHB region and the numbers in different ethnic groups were considerably smaller. To overcome the small sample sizes the NZHS analyses combined the CMDHB region data with six other DHBs that were the closest in terms of key demographics. This data was then re-weighted to reflect the demographic profile of the CMDHB region, however this method does mean that the results will have been influenced by prevalence levels in the six other DHBs. Because of the small sample size, no Pacific or Asian prevalence rates were provided.

The Maaori rate was higher in the NZHS than in the LBD survey, which adds strength to the conclusion that the current study probably understates the Maaori rate a little due to the under-representation in the high deprivation group. In contrast, the Other ethnicities diabetes prevalence was higher in the current survey.

Another study has also been undertaken, covering both the CMDHB and Auckland regions. This was the 2002/03 Diabetes Heart and Health survey. However, it only sampled persons aged 35 to 74 years and did not undertake any weighting to ensure the data was representative in terms of age within gender within ethnicity, so attempting to make comparisons with this data base is difficult. The higher level for Pacific peoples compared with other ethnic groups in the current survey was consistent with the Diabetes Heart Health survey, where the rate was 20 percent compared with seven percent for the total sample. It reported a prevalence for Maaori of 12 percent and four percent for New Zealand Europeans (Asians and minority ethnic groups were not included).

## OTHER DEMOGRAPHIC DIFFERENCES IN PREVALENCE

Other groups in the current study where diabetes was *more* prevalent were:

- Females aged 45 years and over (12.4%) and males aged 45 years and over (11.6 %)
- People from high deprivation areas (10.0%)

It was *less* prevalent among:

- People from low deprivation areas (1.7%)
- Females aged 16-24 years (0.5%), males aged 25-44 years (1.8%) and females aged 25-44 years (3.5%)

## PERSONS AT RISK OF DIABETES

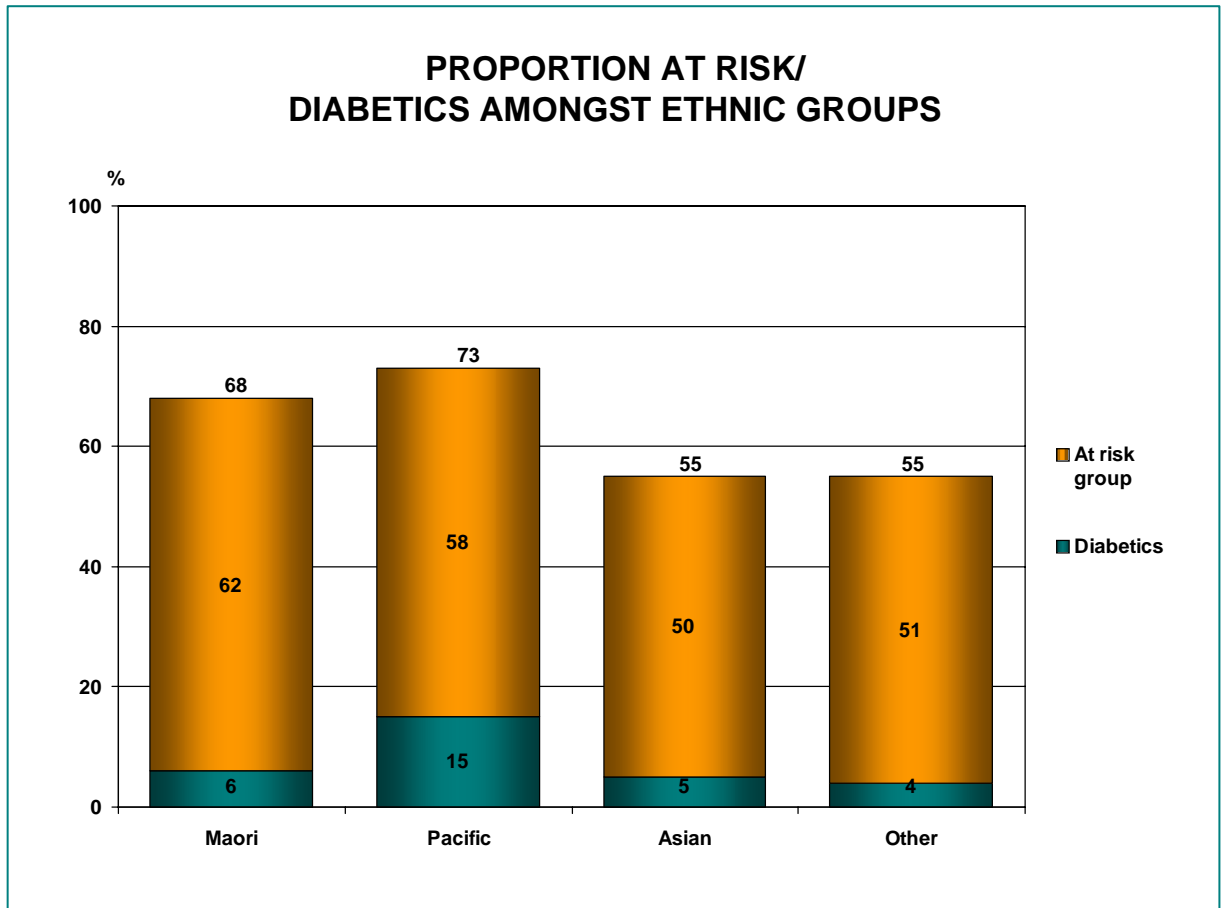
In addition to the seven percent who already had diabetes, just over half (53%) were categorised as being possibly 'at risk' of getting diabetes.

Over one-third (37%) of those 'at risk' believed a doctor checking their body shape and weight would say they were overweight. Included in the overweight group were one-in-ten (9%) who believed the doctor would say they were obese.

The 'at risk' group excluded those who already had diabetes, but if they are included there were two-fifths (41%) who were overweight<sup>36</sup> and one-in-eight (12%) who were obese (56% of diabetics said they were overweight and this included 35% who said they were obese).

The 'at risk' group also included one-quarter who had a family history of diabetes. There were under one-in-ten (8%) who were classified as 'sedentary', which was defined as doing less than half an hours physical activity in the last week. Both of these categories excluded people who already had diabetes. One percent had diabetes during pregnancy but no longer had diabetes. Those who were in the 'at risk' group were in an average of 1.3 of the 'at risk' categories.

The graph below shows the proportion in each ethnic group with diabetes, plus the proportion at risk.



<sup>36</sup> Based on what they thought a doctor would say.

**Table 60: 'At risk' groups**

AT RISK GROUPS	Total	Maaori	Pacific Peoples	Asian	Other
	(2520)	(594)	(712)	(599)	(998)
	%	%	%	%	%
Overweight (but not diabetic)	37	44↑	45↑	25↓	37
- Obese	9	13↑	19↑	7	6↓
- Overweight, but not obese	27 <sup>37</sup>	31	26	19↓	30
Family history of diabetes	25	31↑	31↑	30	20↓
History of GDM (diabetes during pregnancy, but not currently diabetic)	1	2	1	1	1
Sedentary <sup>38</sup>	8	9	5	9	7
'At risk group'	53	62↑	58	50	51

Those **"at risk"** were *more* prevalent among:

- Maaori (62% versus 53% for total sample)
- Females aged 25-44 years (61%)
- People from high deprivation areas (59%)
- Those interested in eating more healthily than they currently are and those interested in being more physically active than they currently are (58% for both)

And *less* prevalent among:

- Males aged 16-24 years (37%)
- East Asian peoples (43%)
- People from low deprivation areas (46%)

Those with a **family history of diabetes** were *more* prevalent among:

- Those with a history of diabetes during pregnancy (GDM) (49% vs 25% for total sample)
- Obese persons (43%)
- South Asian peoples (34%)
- People from high deprivation areas (33%)
- Overweight persons (32%)
- Pacific peoples (31%), with Niueans being particularly high at 45 percent
- Females aged 25-44 years (31%)
- Maaori (31%)

And *less* prevalent among:

- People from low deprivation areas (18%)

<sup>37</sup> The 9% and 27% don't add exactly to the combined total of 37% because of rounding.

<sup>38</sup> 'Sedentary' was classified as doing less than 30 minutes of physical activity in the previous week.

- Those of Other ethnic groupings (20%)

Reporting on those who were overweight, obese and sedentary is included in later sections.

## DISCUSSION

Over half the CMDHB region 'at risk' of diabetes

This study confirms that diabetes is a major problem in the Counties Manukau DHB region, with seven percent reporting having diabetes and more than half (53%) being 'at risk'.

When prevalence of diabetes and risk factors are combined, Pacific peoples are clearly the most at risk. It is interesting to note that while Maaori rates of diabetes were similar to the average, the proportion 'at risk' was particularly high.

The study also confirms a link between diabetes and higher levels of deprivation. Therefore the ethnic differences in prevalence of diabetes are likely to be influenced by the higher levels of deprivation experienced by Pacific peoples and to a lesser extent Maaori. Multivariate analyses of this data at a later date should be able to identify the extent to which the differences exist for ethnic groups after controlling for the effects of deprivation and other possible confounding effects.

In terms of age within gender groups, both males and females aged 45 years and over were predictably higher for prevalence of diabetes, but it was 25 to 44 year old females who were more likely to be 'at risk', so all these age within gender groups need to be included when considering priority audiences for social marketing.

High reported rates of diabetes adds to confidence in survey data

The rates of diabetes identified in this survey provide further confidence that this survey has succeeded in reaching the full spectrum of the community, including those most likely to have diabetes or be at risk of getting it.

### 4.11 UNDIAGNOSED DIABETES

At the time this survey was developed there was a lack of data available to ascertain the level of undiagnosed diabetes in the community, with some people believing it may be as high as the proportion already diagnosed. Therefore, at the end of the survey persons who were not already diagnosed as diabetics were asked the following question:

*"Type 2 Diabetes now affects young and old, and many people may have Type 2 diabetes without realising it – which can cause serious health problems later on.*

*Counties Manukau District Health Board would like to know how common this problem is. They are therefore asking everybody in this survey if they will have a free check to see if they have diabetes or are at high risk of getting it. The earlier it can be detected, the sooner help can be provided to get a better outcome for that person.*

*Would you like to get checked or be sent some more information about what is involved?"*

Information was also provided to interviewers to allow them to respond to questions that might be asked: "How the test is done, where, and what happens if I get diagnosed with diabetes?"

## INTEREST IN BEING CHECKED FOR DIABETES

Nearly half (48%) said they would like to get checked and a further 17 percent were willing to be sent some more information about what is involved.

**Table 34: Interest in being checked for diabetes**

INTEREST IN BEING CHECKED FOR DIABETES	Total*	Maaori	Pacific Peoples	Asian	Other
	(2355) %	(561) %	(648) %	(573) %	(945) %
Yes - would like to get checked	48	52	61↑	54	42↓
Would like more information	17	14	11↓	12↓	22↑
No, don't want to get checked or want any further information	34	34	28↓	34	37

\*This question was asked of those without diabetes

Those who **would like to get checked** were *more* prevalent among:

- Pacific peoples (61% vs 48% for all persons answering), with there being higher levels for Tongans (70%) and Samoans (64%)
- Obese persons (61%)
- Those who had a family history of diabetes (58%)
- People from high deprivation areas (56%)
- Those interested in eating more healthily than they currently are (55%)
- Males aged 25-44 years (55%)
- Those who were interested in being more physically active than they currently are (54%)
- Those who were responsible for children (54%), especially those responsible for three or more children (62%)
- Overweight persons (53%)

Those who **would like to receive more information** were *more* prevalent among:

- Males aged 16-24 years (31%) and females aged 16-24 years (26% vs 17% for all persons answering)
- Those of Other ethnic groupings (22%)

Those who **didn't want to get checked or receive any further information** were *more* prevalent among:

- Males aged 45 and over (42% vs 34% for all persons answering)

## REASONS DON'T WANT TO GET CHECKED OR GET INFORMATION

Of those who said they didn't want to get checked or want any further information, over two-fifths (43%) said they had already been tested. One-sixth (16%) said they had regular tests/checks, but didn't specifically say or know whether they had been tested for diabetes. Other reasons given for not wanting to have a screening test included one-in-ten (11%) who felt they had a low health risk and less than one-in-ten (8%) who didn't have the time.

**Table 61:** Reasons don't want to get checked or get information

REASONS DON'T WANT TO GET CHECKED OR GET INFORMATION	Total* (795) %	Maaori (193) %	Pacific Peoples (176) %	Asian (186) %	Other (365) %
Already been tested	43	40	36	29↓	50
Already tested / have regular tests/ checks (no specific mention of diabetes)	16	16	23	20	13
Low health risk	11	9	12	14	10
No time	8	7	8	6	8
No family history of diabetes	6	5	1↓	6	8
Have a healthy diet	6	4	1	4	8
Know enough to get tested if need to / know what to look for	6	4	4	6	6
Prefer to deal with own GP / midwife	5	7	8	5	5
Haven't got any symptoms / indicators	5	3	4	5	5
Not overweight	4	3	1	3	6

\*This question was asked of those who didn't want to get checked or want any further information (N=795)

Those who reported having **already been tested** were *more* prevalent among:

- Obese persons (64% vs 43% for all persons answering)
- Females aged 45 and over (56%)
- 'At risk groups' (52%)

And *less* prevalent among:

- Males aged 16-24 years (5%)
- Females aged 16-24 (25%)
- Asian peoples (29%), with the levels being lower for East Asian peoples (18%)

Those who **had regular tests/ checks** (no specific mention of diabetes) were *more* prevalent among:

- Samoans (32% vs 16% for all persons answering)
- And *less* prevalent among:
- Those responsible for three or more children (5%)

Those who said they had a **low health risk** were *more* prevalent among:

- Males aged 16-24 years (24% vs 11% for all persons answering)

And **less** prevalent among:

- Overweight persons (5%)

Those who said they **don't have time** were **more** prevalent among:

- Males aged 16-24 years (22% vs 8% for all persons answering)

Those who said they had **no family history of diabetes** were **more** prevalent among:

- Females aged 16-24 years (17% vs 6% for all persons answering)

And **less** prevalent among:

- Pacific peoples (1%)

Those who **preferred to deal with own GP / midwife** were **more** prevalent among:

- Samoans (14% vs 5% for all persons answering)

## FORM OF TESTING RECEIVED

Those who said they had already been tested were asked a series of questions to ascertain if they had received a full test (fasting glucose blood test) within the last year. There were one-fifth (21%) whose test had been more than twelve months before, another fifth (20%) who only had a finger prick test, while another eight percent did not have a fasting test. After accounting for those who were unsure, this left less than half (45%) who had apparently received a full test in the previous twelve months.

Of this group, over half (55%) said they were willing to have the lab results of their previous tests made available to the study. Of those who had not received a full test, just under two-fifths (38%) were willing to consider having another test or be sent information about what was involved.

## PARTICIPATION IN SCREENING

All respondents who either agreed to getting tested or to receiving information about getting tested were sent an information pack to explain the process, their rights, and what would happen if they found out they had diabetes. Participants were invited to have a fasting glucose blood test at any Diagnostic Medlab facility in the CMDHB area, and to consent to their results being shared not only with the study, but also their GP should results of the test confirm or indicate diabetes.

A number of actions were taken to support interested participants to get tested. This included receiving a follow-up call from a qualified nurse to answer any queries about the information pack, a reminder letter, and where relevant, an offer of transport to and from a local Diagnostic Medlab centre. Participants were assured that should the results of the test confirm or indicate diabetes, that not only would the nurse contact them to answer any queries, but also that the cost of an initial visit to their GP would be covered, to ensure steps were taken to manage their condition.



Of the 1191 persons<sup>39</sup> who agreed to screening, a quarter (23%) were actually screened as a result of follow-up by a nurse employed by Counties Manukau DHB. Of the other 369 who agreed to being sent information, one-in-ten (11%) did get screened. Of the 67 people who said they had been tested but were then found not to have had a full test, and who then said they were willing to consider having another test or being sent some information about it, one-in-twenty (18%) of them did get screened. So overall, under one-sixth (14%) of all the people in the survey who did not have diabetes actually had a screening test.

## REPRESENTATIVENESS OF THOSE WHO PARTICIPATED IN SCREENING

As the objective of offering the screening test to respondents was to attempt to identify the extent of undiagnosed diabetes in the population, it is important to consider how those who did get screened compared with the total sample (from which those with diabetes have been excluded).

There were no significant differences for the at-risk groups. The proportion who were obese but not diabetic was one-in-ten (10%) for both those who did get screened and the total sample (less the diabetics). The proportion who were overweight but not obese was a little higher for those who did get screened (34% vs 29% in the total sample), but this difference was not significant. The proportion with a family history of diabetes was also a little higher among those who were screened (31% vs 27%), but again it was not significant. The proportion who were sedentary was similar (9% vs 8%).

How difficult people found it to be more active and to eat healthier food was similar between those who were screened and the total sample.

Those who were screened were not significantly more or less likely to report having had the various checks or consultations from doctors/nurses that were asked about in the survey.

There were indications of the screened group being more prevalent among those from low deprivation areas, but the difference was not significant (38% vs 32%).

The screened group did include more females aged 45 and over (33% of those screened versus 21% of total sample) and fewer males aged 16 to 24 years (1% vs 9%).

## OUTCOME OF SCREENING

Of the 321 people who were screened, the proportion identified as having diabetes was 0.9 percent, while 2.6 percent had pre-diabetes conditions. These percentages are based on age-standardised weighted data. Because of the small numbers involved, it is also worth noting the unweighted levels. The five people identified as having diabetes was 1.6 percent of the 321 who were screened, while the 10 having pre-diabetes conditions was 3.1 percent. There were another nine for whom the outcome was uncertain, while all the rest were identified as not having either diabetes or pre-diabetes conditions.

All five who had diabetes and eight of the ten who had pre-diabetes were in the 'at risk' group reported in this survey. All five of those with diabetes were overweight and three had a family history of diabetes. Seven of the ten with pre-diabetes conditions were overweight, four had a family history, one had a history of diabetes during pregnancy (GDM) and one was 'sedentary'.

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<sup>39</sup> This section is based on actual numbers of respondents, while all the previous sections have been weighted data.

The numbers are too small to allow for any valid analysis by ethnic group or other variables.

## DISCUSSION

The efforts to identify the rate of undiagnosed diabetes were somewhat thwarted by the low proportion of people who participated in the screening. However, those who did were a good match with the wider sample on many of the key variables, including all the risk factors. Therefore the identified level of 0.9 percent for undiagnosed diabetes could be given some tentative credence.

Since the survey was undertaken research findings from the 2002/03 Diabetes Heart Health Survey have been published. That survey, of the Auckland region with persons aged 35 to 74 years, identified 2.6 percent undiagnosed compared with 6.7 percent diagnosed. It is difficult to make comparisons between the two studies because of the different age groups and their data not being weighted to reflect the age, gender and ethnicity composition of the population.

## 4.12 COMMUNICATING WITH ETHNIC SPECIFIC AUDIENCES

Questions were included to assist in identifying how best to reach the different ethnic audiences with social marketing communications. The table which follows shows the extent to which the different ethnic groups engaged with various media and other possible vehicles for reaching people, such as marae and church.

As the findings differ by age, the age breakdowns for each ethnic group are detailed in tables at the end of this section. Also included are the levels for the different Pacific and Asian ethnic groups. Analyses have also been undertaken to see what differences exist within each ethnic group across the demographics, at risk groups and those interested in eating more healthily or being more physically active.

**Table 62: Engagement with media and community/cultural groups**

ENGAGEMENT WITH MEDIA AND COMMUNITY/CULTURAL GROUPS	Total (2520) %	Maaori (489) %	Pacific Peoples (623) %	Asian (530) %	Other (879) %
Have a marae in Counties Manukau at which I spend time	NA	23	NA	NA	NA
Listen to own ethnic radio stations at least once a week	NA	51	66	56	NA
Read own ethnic newspapers/magazines at least once a week	NA	25	47	48	NA
Watch own ethnic TV programmes at least once a week	NA	85	67	NA	NA
Text on a mobile phone at least once a week	68	75↑	57↓	69	69
Have internet access at home	77	69↓	49↓	89↑	84↑
Use email for personal use rather than work reasons at least once a week	63	60	44↓	75↑	66
Add content/comments to websites or online blogs at least once a month	27	29	27	42↑	20↓
Am an active member of a local group, club or committee	41	45	39	30↓	44
Attend a local church or a place of worship regularly	39	23↓	74↑	51↑	25↓

NA indicates the question was not asked; if it was not asked of at least one ethnic group, it was not appropriate to give a total sample figure.

## MAAORI

- In total nearly all (97%) of Maaori mentioned one of the first four options on the list (i.e. Maaori media or marae in the region)
- Just under a quarter (23%) of Maaori had a marae in the Counties Manukau region, with the level increasing with age from one-in-twenty (6%) among those aged 16-24 years up to one-third (32%) for those aged 45 years and over. The level was higher for Maaori diabetics (44%)<sup>40</sup> and Maaori living in Franklin (38%). The level did not change when the Maaori grouping was limited to those who identified Maaori as their main ethnic group<sup>41</sup>
- Maaori were below average for regular church attendance (23%)
- A high proportion watched Maaori TV programmes at least once a week (85%) and half listened to Maaori radio stations (51%)
- The proportion watching Maaori TV programmes was lower among Maaori from low deprivation areas (72%)
- Readership of Maaori newspapers or magazines was not particularly prevalent (25%), especially compared with readership levels for print media among Pacific and Asian peoples. This is likely to be due in part to there being no weekly Maaori newspaper. Sedentary Maaori were more likely to be reading Maaori newspapers or magazines (45%)
- Maaori were high users of texting (75%), rising to nine-in-ten (90%) among 16-24 year olds and close to nine-in-ten (87%) for 25-44 year olds, although this was less prevalent among those aged 45 and over (60%) and diabetics (54%)
- While Maaori were below average for having internet in the home, there were still seven-in-ten (69%) who did have such access and there were three-in-ten (29%) who actively engaged with websites or blogs. More prevalent among Maaori respondents using the internet were those from low deprivation areas (88%)
- Those who actively engaged with websites or blogs were more prevalent among those aged 16-24 years (49%)
- Just under half of Maaori were active members of local groups (45%), however this was less prevalent among those aged 16-24 years (27%)
- Maaori were below average for using email for personal use (63%), however the level was higher for Maaori from low deprivation areas (77%)

## PACIFIC PEOPLES

- The findings confirm that churches are a good option for reaching Pacific peoples, with three-quarters (74%) being regular attendees
- In total nearly all (96%) of Pacific peoples mentioned either the church or Pacific media
- Mention of the church was more prevalent among Tongans (89%) and less prevalent among people from low deprivation areas (45%), Niueans (48%), and Cook Island Maaori (58%), with the level for Samoans being over three-quarters (78%)
- Two thirds mentioned both Pacific TV programmes and Pacific radio, while just under half mentioned Pacific newspapers or magazines
- Pacific radio was more mentioned by Pacific diabetics (84%) and less by those aged 16-24 years (49%)
- Pacific newspapers or magazines were more mentioned by Tongans (68%) and less by people from low deprivation areas (7%) and Cook Island Maaori (30%)
- Pacific peoples were below average for internet access, with just half (49%) having access at home, but one-quarter (27%) were actively engaging with the internet, which was at the same level as the

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<sup>40</sup> There were only 29 Maaori diabetics, so this finding needs to be interpreted with caution.

<sup>41</sup> Persons who reported more than one ethnic group were asked which group they most strongly identified with.

total sample. Pacific peoples using the internet were more prevalent in medium deprivation areas (70%)

- Adding content/comments to websites was more prevalent among those aged 16-24 years (44%)
- Well under half (44%) used email for personal use, although this level was higher for those aged 16-24 years (63%), but lower for those aged 45 and over (28%) and diabetics (29%)
- Pacific peoples were comparatively low users of texting (57%), but again it showed a strong age trend from four-fifths (81%) among those aged 16-24 years down to one-third (33%) among those aged 45 and over
- Pacific diabetics were also low users of texting (35%)
- Almost one in four Pacific peoples (39%) were active members of a local group

## ASIAN PEOPLES

- Nearly all (97%) of Asian peoples mentioned either place of worship or Asian specific media
- On half (51%) were regular attendees at a place of worship, but the proportion was lower for East Asian peoples (39%)
- They were particularly likely to have internet access (89%) and be actively engaged (42%)
- The level of internet access was higher among East Asian peoples (96%) and people from low deprivation areas (96%) and lower among Asian diabetics (61%)<sup>42</sup>
- Asian peoples were also high users of email for personal use (75%), but this was less prevalent among Asian diabetics (45%)<sup>20</sup>
- Asian peoples were not particularly engaged as active members of local groups, clubs or committees (30%) and this level was particularly low for those responsible for three or more children (1%)
- Quite a high proportion, over two-thirds (69%), were users of texting, with the level being higher among those aged 16-24 years (87%) and lower among diabetics (44%)<sup>20</sup>
- Half (48%) read ethnic newspapers, but this level was lower among those living in Franklin (16%) and South East Asian peoples (19%)
- Well over half listened to Asian radio (56%), rising to nearly three-quarters (72%) among South Asian peoples and over two-thirds (69%) for overweight persons, while being lower among South East Asian peoples (13%)

## OTHER ETHNIC GROUPS

- This group, which was predominantly New Zealand Europeans, was high for internet access (84%), but relatively low for active engagement on the internet (20%)
- Engagement on the internet was more prevalent among those aged 16-24 years (42%) and less prevalent for those aged 45 and over (14%) and sedentary persons (5%)
- Internet use was higher among those responsible for children (90%) and lower among diabetics (67%), people from high deprivation areas (72%) and those aged 45 and over (76%)
- This ethnic grouping were high users of texting (69%), with there again being a clear age trend, from nearly all (95%) for 16-24 year olds down to a half (48%) for those aged 45 and over
- Text use was also higher among persons responsible for children (77%), particularly those responsible for three or more children (82%), plus those interested in eating more healthily (73%), while it was lower among sedentary persons (50%)
- Two-thirds used email for personal reasons, with the level being higher among those aged 25-44 years (75%) and lower among those aged 45 and over (56%)
- Well under half (44%) were active members in a local group

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<sup>42</sup> There were only 25 Asian diabetics, so these findings need to be interpreted with caution.

- They were relatively low on regular church attendance (25%), but this level rose to 45 percent among those responsible for three or more children

## DISCUSSION

### Valuable information for reaching ethnic groups

These findings provide a lot of valuable information that can be utilised by the social marketing campaign for reaching the different ethnic groups. It is also information that will be of interest to other organisations wanting to reach similar audiences.

### Need to consider different media options for different ethnic groups

The findings clearly point to the need to consider different media options for the different ethnic groups and also for the different age groups within these. Ethnic specific media appears to be reaching high proportions within each ethnic group. Maaori television programmes are particularly high for Maaori, while Pacific television programmes also feature strongly for Pacific peoples. Pacific radio is also confirmed as a medium that reaches a lot of Pacific peoples, more so than Maaori radio with Maaori, although this is still reaching half the Maaori population. Ethnic radio is also a good option for reaching Asian peoples, along with ethnic newspapers and magazines.

### Relatively high access to internet

Relatively high proportions had internet access. While it was lower for Pacific peoples, it was still almost half the households. Asian peoples were particularly likely to have internet access and be actively engaged with websites or online blogs, or using email. There was also high use of texting, particularly among Maaori.

### Church key for Pacific peoples

The church was confirmed as a key vehicle for reaching Pacific peoples. The church or place of worship would also appear to be an option for consideration with some Asian communities, particularly those from South and South East Asia.

### Limitations of measures need to be acknowledged

It must be remembered that these questions were not asking the detailed frequency of using these media. For example, these findings did not differentiate between a person who listened to Pacific radio stations most of the time and someone who listened once a week. Such detailed questioning was not feasible given the time constraints and breadth of content in the current study.

**Table 63: Maaori engagement with media and community/cultural groups, by age**

MAAORI ENGAGEMENT WITH MEDIA AND COMMUNITY/CULTURAL GROUPS	Total* (489) %	16-24 years (82) %	25-44 years (217) %	45 years and over (188) %
Have a marae in Counties Manukau at which I spend time	23	6↓	19	32
Listen to own ethnic radio stations at least once a week	51	46	41	61
Read own ethnic newspapers/magazines at least once a week	25	20	20	30
Watch own ethnic TV programmes at least once a week	85	80	82	90
Text on a mobile phone at least once a week	75	90↑	87↑	60↓
Have internet access at home	69	73	75	63
Use email for personal use rather than work reasons at least once a week	60	69	66	52
Add content/comments to websites or online blogs at least once a month	29	49↑	31	21
Am an active member of a local group, club or committee	45	27↓	43	53
Attend a local church or a place of worship regularly	23	25	21	23

\* Maaori people only answering this section (N=489)

\* These results and the ones below have all been run as age standardised weightings

**Table 64: Pacific peoples engagement with media and community/cultural groups, by age**

PACIFIC ENGAGEMENT WITH MEDIA AND COMMUNITY/CULTURAL GROUPS	Total*	16-24 years	25-44 years	45 years and over
	(624) %	(159) %	(313) %	(150) %
Listen to own ethnic radio stations at least once a week	66	49↓	66	73
Read own ethnic newspapers/magazines at least once a week	47	41	44	52
Watch own ethnic TV programmes at least once a week	67	57	67	72
Text on a mobile phone at least once a week	57	81↑	71↑	33↓
Have internet access at home	49	55	54	41
Use email for personal use rather than work reasons at least once a week	44	63↑	52	28↓
Add content/comments to websites or online blogs at least once a month	27	44↑	30	17
Am an active member of a local group, club or committee	39	32	41	40
Attend a local church or a place of worship regularly	74	75	67	81

\*Pacific people only answering this section (N=624)

**Table 65: Pacific peoples engagement with media and community/cultural groups, by Pacific ethnic group**

PACIFIC ENGAGEMENT WITH MEDIA AND COMMUNITY/CULTURAL GROUPS	Total	Samoans	Tongans	Cook Island Maaori	Niueans
	(*624) %	(266) %	(162) %	(159) %	(54) %
Listen to own ethnic radio stations at least once a week	66	68	71	57	66
Read own ethnic newspapers/magazines at least once a week	47	44	68↑	30↓	47
Watch own ethnic TV programmes at least once a week	67	64	73	66	61
Text on a mobile phone at least once a week	57	59	47	57	67
Have internet access at home	49	54	44	43	65
Use email for personal use rather than work reasons at least once a week	44	52	35	37	45
Add content/comments to websites or online blogs at least once a month	27	24	25	29	32
Am an active member of a local group, club or committee	39	40	39	39	38
Attend a local church or a place of worship regularly	74	78	89↑	58↓	48↓

\*Pacific people only answering this section (N=624).

**Table 66: Asian peoples engagement with media and community/cultural groups, by age**

ASIAN ENGAGEMENT WITH MEDIA AND COMMUNITY/CULTURAL GROUPS	Total*	16-24 years	25-44 years	45 years and over
	(530)	(101)	(298)	(130)
	%	%	%	%
Listen to own ethnic radio stations at least once a week	56	43	58	58
Read own ethnic newspapers/magazines at least once a week	48	37	50	50
Text on a mobile phone at least once a week	70	87↑	74	58
Have internet access at home	90	92	90	88
Use email for personal use rather than work reasons at least once a week	76	80	81	67
Add content/comments to websites or online blogs at least once a month	43	55	47	33
Am an active member of a local group, club or committee	30	29	29	33
Attend a local church or a place of worship regularly	51	38	50	57

\* Asian people only answering this section (N=530)

**Table 67: Asian peoples engagement with media and community/cultural groups, by Asian ethnic group**

ASIAN ENGAGEMENT WITH MEDIA AND COMMUNITY/CULTURAL GROUPS	Total*	South East Asian people	South Asian people	East Asian peoples
	(530)	(76)	(271)	(192)
	%	%	%	%
Listen to own ethnic radio stations at least once a week	56	13↓	72↑	47
Read own ethnic newspapers/magazines at least once a week	48	19↓	48	58
Text on a mobile phone at least once a week	70	67	71	70
Have internet access at home	90	92	84	96↑
Use email for personal use rather than work reasons at least once a week	76	78	71	79
Add content/comments to websites or online blogs at least once a month	43	44	39	47
Am an active member of a local group, club or committee	30	32	30	32
Attend a local church or a place of worship regularly	51	55	56	39↓

\* Asian people only answering this section (N=530)



**Table 68: Other ethnic groups engagement with media and community/cultural groups, by age**

OTHER ETHNIC GROUPS ENGAGEMENT WITH MEDIA AND COMMUNITY/CULTURAL GROUPS	Total* (882) %	16-24 years (87) %	25-44 years (307) %	45 years and over (487) %
Text on a mobile phone at least once a week	69	95↑	82↑	48↓
Have internet access at home	84	91	90	76↓
Use email for personal use rather than work reasons at least once a week	66	71	75↑	56↓
Add content/comments to websites or online blogs at least once a month	20	42↑	18	14↓
Am an active member of a local group, club or committee	44	37	41	51
Attend a local church or a place of worship regularly	25	25	27	24

\* People of Other ethnic groups only answering this section (N=882)

## APPENDIX A: RESEARCH METHODS

This appendix provides additional and more detailed information on the research methods, to support the Overview of Research Methods chapter of the report.

### QUESTIONNAIRE DEVELOPMENT

Counties Manukau DHB consulted widely within their organisation in the design of the questionnaire. This included on-going input from the Maaori and Pacific teams. Asian input was obtained via Samson Tse at the School of Population Health.

There were difficult choices to make when prioritising questions, to keep to the 20 minute intended duration. Some questions were deemed essential in order to evaluate the project, while others were included with more of a focus on the social marketing. There was a trade off between breadth and depth of questioning on topics. This meant that questions were included that were indicators of wider areas. For example, there was one question on consumption of fizzy drinks, as an indicator of sugar consumption.

Where possible question wording was used that matched questions used in other surveys, against which comparisons might want to be made. However, it was considered more important to ensure that the questions were appropriate for the CMDHB population, many of whom have English as a second or other language. In particular, the questions on physical activity, as used in the New Zealand Health Survey and SPARC surveys, were modified so they were more easily understood. Extensive pre-testing of the questions was undertaken to come up with wording that worked as intended.

### SAMPLE SIZE AND ETHNICITY

The target sample size was 2400, with 600 each for Maaori, Pacific peoples and Other ethnicities and at least 500 for Asian peoples, based on prioritised ethnicity. These proportions were designed to provide larger sub-samples for analysis purposes. The achieved sample sizes were 2520 in total, with 594 Maaori, 657 Pacific peoples, 568 Asian peoples and 698 Other ethnicities. It was on the basis of this ethnic classification that respondents were assigned to the different ethnic questions about media usage and involvement in community and cultural activities.

In addition to the 2520, there were 14 interviews excluded because the interviewer considered their responses were "probably mostly inaccurate", based on a rating interviewers had to complete at the end of the survey.

In the time between the survey being designed and the analysis undertaken, there was a shift in policy in New Zealand with regard to how ethnicity was reported, moving from prioritised to total response ethnicity. Under a prioritised ethnicity system anyone who is Maaori is always categorised as Maaori, so if a person was both Maaori and Pacific they would be categorised as Maaori only. Under this system, Pacific peoples get the next highest priority, followed by Asian and then Other ethnicities. Under the total response ethnicity method, people are included in all groups that they specify. Therefore all of the analyses have been reported for total response ethnicity.

The final sample size was larger than planned because the initial calls were inadvertently made from a list of phone numbers that had not been randomised and this resulted in 126 too many numbers being rung from some areas. This required additional interviews, and the over-sampling in these

areas was adjusted for at the analysis stage. This was achieved by giving each person in the over-sampled regions a lower weighting, so that in the final weighted sample this region accounted for the correct proportion of the population.

## DATA COLLECTION

Fieldwork was between 31 October 2006 and 8 March 2007. No interviewing was undertaken between 14 December and 7 January. Interviews were undertaken primarily in the evenings, from 5pm to 9pm and weekends from 10am to 5pm, extending to 7pm if necessary. There was also a small amount of day time interviewing Monday to Friday.

There were three different samples: the general sample; the main booster sample, which selected for Maaori, Pacific persons and Asian persons; and the Pacific booster sample.

The Pacific booster sample interviews were all undertaken by Pacific interviewers. All respondents in the general sample and main booster sample were offered the opportunity to be interviewed by an interviewer from their ethnic group if they were Maaori, Pacific or Chinese.

People were also advised that interviews were able to be done in Samoan and Tongan. There were 45 Samoan and 28 Tongan interviews completed.

The interview durations were as follows: general sample 23 minutes 5 seconds, main booster sample 23 minutes 46 seconds, Pacific booster sample 24 minutes 13 seconds, Samoan language interviews 31 minutes 33 seconds, and Tongan language interviews 25 minutes 37 seconds.

Eligible respondents were all persons aged 16 years and over who normally lived in the household. The most recent birthday method was used to randomly select one person from within each household. If that person refused the interview there was no replacement within the household.

Eligible respondents had to live in the CMDHB region. There were 133 of the 2520 who had lived in the region for less than twelve months and of these 61 had been there for less than 6 months. In the repeat survey to measure the impact of the Let's Beat Diabetes programme, consideration will need to be given as to whether persons who have not been in the region long enough to have had much exposure to the campaign should be included.

## SAMPLE SELECTION

### General sample and main booster sample

Both the general sample and main booster sample were randomly selected from electronic versions of the white pages. This sampling frame did not include unlisted numbers or listed mobile phones. It also excluded any second landlines in households, so each household had equal probability of selection.

Telecom used meshblock data linked to their phone numbers to identify which numbers were within the CMDHB region. This meant that a small proportion of numbers were excluded from the sampling frame because they were not matched to meshblocks<sup>43</sup>. Three completed interviews were deleted because their addresses identified that they were from outside the CMDHB region.

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<sup>43</sup> The suppliers of this sample appear to be unwilling to specify the exact proportion that are excluded.

## Pacific booster sample

The Pacific booster sample was drawn from Area Units where Pacific peoples accounted for a quarter or more of the population. This included 28 Area Units which represented three-quarters (74%) of the Pacific population in CMDHB, based on 2001 Census data.

Telecom provided a random sample of numbers from these Area Units. Pacific interviewers then rang these numbers to ascertain if there were Pacific peoples living in the households. Within households there was a random selection from qualifying persons. This method did have a bias towards Pacific peoples who live in areas of high Pacific concentration. However, randomly ringing numbers from all the white pages to find Pacific peoples was not a cost effective option.

## DIFFERENCES DUE TO TWO PACIFIC SAMPLING FRAMES

Given the Pacific sample was drawn from two different sampling frames, it is important to consider what impact this might have had on the Pacific findings and the overall total sample findings.

The table which follows, which is based on weighted data, shows that the Pacific booster sample, drawn from regions with higher proportions of Pacific peoples, was more likely to include people from high deprivation areas. This was not surprising, given Pacific peoples are heavily represented in the high deprivation group. However, as noted in the Overview of Research Methods, the overall Pacific peoples sample was only slightly over-represented in the high deprivation areas. Therefore having the Pacific booster sample helped to provide a more representative Pacific peoples sample than would have otherwise been the case. The sampling frame for the main survey and the main booster sample was phone numbers currently listed in Telecom white pages. Examination of the proportion of numbers selected for different areas showed lower proportions in the more deprived areas. It was assumed this reflected lower phone ownership rates.

**Table 69: Deprivation levels for sample comparisons**

NZDep	Total (2520) %	Total Pacific Peoples (712) %	Total Pacific less Pacific Booster (433) %	Pacific Booster (291) %
Low (1-3)	30	4↓	7↓	0↓
Medium (4-8)	39	18↓	28↓	5↓
High (9-10)	31	77↑	66↑	95↑

The next question to address is what impact the two sampling frames has on comparing the findings for the different Pacific ethnic groups. As shown in the table which follows, the ethnic composition of the Pacific booster sample was a reasonable match with the Pacific sample generated from the other sampling frame. Tongan were a little more represented in the booster while Niueans were less represented. It would therefore seem that comparisons can be made between Pacific groups with some confidence and likewise for comparison of these groups with the total sample data.

The age within gender composition of the Pacific booster sample was similar to that for the rest of the Pacific sample.

**Table 70: Pacific groups by Pacific survey group comparisons**

PACIFIC GROUPS	Total	Total Pacific Peoples	Total Pacific less Pacific Booster	Pacific Booster
	(2520)	(712)	(433)	(291)
	%	%	%	%
Samoan	8	40	40	37
Cook Island Maaori	5	27	28	24
Tongan	5	26	22	30
Niuean	2	8	10	5
Other Pacific	1	7	7	6

## SAMPLE STRATIFICATION

Because it was a limited geographical region, the sample was not stratified by region.

## QUOTAS

Apart from the targets for each ethnic group, there were no quotas. The gender composition was closely monitored to make sure that the proportion of males was adequate. However, given the focus in part of the questionnaire was on meal preparers, a bias towards females was considered useful. There were 37 percent of the general sample who were males, while in the main and Pacific booster samples the levels were 42 percent and 46 percent respectively.

## CALL PATTERNS AND CALL BACKS

Because particularly high response rates were required, a minimum of 25 calls was made to each number if necessary to try and obtain an interview.

To enhance the response rate, people were given the option of being rung on mobile phones to schedule or conduct the interview, if the household contact identified that this would be the best way of obtaining an interview with the qualifying person.

## RESPONSE RATES

The final status of the calls and the weighted response rates are as listed below.

FINAL STATUS OF CALL	General Sample	Main Booster Sample	Pacific Booster Sample	Samoa Booster Sample	Tongan Booster Sample
A; Completed full phone interview	1006	1214	245	45	28
B: Refusal (able to establish were qualifiers in household (includes partial interviews)	647	0	0	0	5
C: Refusal (not able to establish were qualifiers)	0	774	110	0	0
D: No answer	34	85	11	1	0
E: Answering machine	20	42	9	1	1
F: Engaged on last call	3	10	3	0	0
G: Unable to contact/ill/ absent	7	24	7	12	8
H: Language barrier	118	296	19	0	0
I: Disconnected number/Invalid number – business or other non-residential	143	729	184	7	2
J: Fax machine (for 5 consecutive calls)	8	38	7	0	0
K: Ineligible – no Maaori/Pacific/Asian in household	0	7798	1050	0	0
<b>TOTAL</b>	<b>1986</b>	<b>11010</b>	<b>1645</b>	<b>66</b>	<b>44</b>
Weighted response rate	54.8%	88.0%	89.1%	76.3%	66.7%

In accord with Ministry of Health (Public Health Intelligence) policy, a weighted response rate was calculated. This takes into account the fact that only some of those who refused and had other outcomes would have qualified for the interview.

The response rate was calculated as:

- $(\text{Number of eligible responding}) / (\text{number of eligible responding} + \text{number of eligible non-responding} + \text{estimated eligibles from the unknowns})$

The 'estimated eligibles from the unknowns' was calculated as:

- $\text{Number of unknowns} * (\text{number of eligible responding} + \text{number of eligible non-responding}) / (\text{number of eligible responding} + \text{number of eligible non-responding} + \text{number of ineligible})$

Unknowns were those categories labelled C to H above. It should be noted that those classified as fax machines were where a fax was reached on five consecutive occasions and it was therefore deemed to be a dedicated fax line and was not included in the qualifying phone numbers.

The weighted response rates provided an overall average rate of 75 percent. However, the rate for the General sample of over half (55%) is the best indication of response rates. This is because the booster sample rates were affected by the large proportions who said there were no qualifiers in the household (e.g. on the Pacific booster saying that there are no Pacific persons in the household). It is likely that some of these will have used this as a way to avoid a direct refusal and this will have led to inappropriately high weighted response rates.

## QUALITY ASSURANCE PROCEDURES

### Pre-testing

The survey was pre-tested by interviewers from the different ethnic groups to ensure the questions were understood and working as intended. Once changes were made in response to the pre-testing feedback, further pre-testing was undertaken, until there was confidence that the questions were all working as intended. Researchers who had been involved in in-depth qualitative research for Let's Beat Diabetes were involved in the pre-testing and were able to utilise their greater understanding of the topic when seeking to determine whether the questions were working.

### IQS Accredited

The Phoenix Research CATI centre is IQS accredited, this being the recognised industry quality standard.

### Interviewer briefing and debriefing

Interviewers received a detailed briefing, usually from Dr Allan Wyllie, who had overall responsibility for the project within Phoenix Research. A representative from the Let's Beat Diabetes team attended the main briefing and provided background information on the project. The briefings included going through each question, using a data projector to show the questions on a large screen. Interviewers were also given typed briefing notes. Following the briefing, interviewers undertook practice interviews among themselves and with friends, until they felt sufficiently familiar and confident with the survey to go live.

The briefing included discussion of response rates and how to maximise these, plus most interviewers received further coaching on improving response rates over the duration of the survey, especially any who were getting higher rates of refusals. If an interviewer had three refusals on a shift they had to advise their supervisor who would put them on to another project or give them more training.

### Monitoring of interviewing

One of the main benefits of the CATI system is the ability to monitor all the calls, as they are being undertaken from a central location. The shift supervisor(s) monitored calls during the shift. In addition to this, two 'call catchers' recorded all interviews and these could be monitored at any time following the interview. This allowed for more thorough and systematic monitoring than was possible during interviewing. It also meant that if there were any problems identified with any interviewer, all their interviews could be checked. A minimum of one-in-ten (10%) of each interviewer's work was checked via the call catchers.

## WEIGHTING

### Adjusting for probability of selection

Weighting was necessary to adjust for people in households with larger numbers of potential qualifying persons having less chance of being selected. Therefore the data were weighted by the number of eligible persons in the household. In the main booster sample, the data was weighted by

the number of qualifying Maaori, Pacific or Asian persons in the household. Likewise, the Pacific booster sample was weighted by the number of qualifying Pacific peoples in the household.

Most households had between one and four eligible persons. To avoid individuals having undue influence on the results, the 124 people (21% of the sample) from households of more than four eligible persons were treated as four person households for weighting purposes.

## Post-stratification to obtain a representative sample

It was also necessary to weight the data to ensure that the final sample was as representative as possible to the Counties Manukau DHB population. The weighting variables were:

- Prioritised ethnicity (Maaori, Pacific peoples, Asian peoples, Other)
- Age (16 to 24 years, 25 to 44 years, 45 years and over)
- Gender (male, female)

To be able to undertake the weighting each person had to be assigned to just one ethnic group. Prioritised ethnicity data was not available from the 2006 Census, so CMDHB modelled estimates were utilised, which used 2006 population projections based on 2001 Census data. CMDHB had compared the modelled data with the limited 2006 Census data that was available and believed the modelled data looked sound. These estimates provided the age within gender within ethnicity data needed for the weighting.

Efforts were made to include a measure of deprivation (NZDep01) as a weighting variable, because there was such variation in deprivation levels within the region and having this being representative in the final sample would have been of real value. However such data matched to the 2006 Census was not available at the time of the analyses, so this variable could not be included.

## Age standardisation

Because the different ethnic groups have differing age compositions, all ethnic group analyses were run with age standardised weighting. This meant that each ethnic group was given the same age composition.

All the other analyses by other variables (e.g. age within gender, NZDep etc) used the standard weighting. The two weightings did sometimes produce slightly different total sample results. As the findings in the report include tables showing the ethnic group differences, the age standardised total sample figures are used throughout the report for consistency and to avoid confusing readers.

## Weighting method

The weights were calculated using the formula below.

The weight assigned to the *i*th respondent in the *h*th stratum (or weighting cells) was equal to

$$w_{hi} = \frac{W_h}{\sum_{\substack{\text{respondent in } h\text{th} \\ \text{stratum}}} \frac{1}{\pi_{hj}}} \cdot \frac{1}{\pi_{hi}}, \text{ where } \pi_{hi} \text{ denoted the selection probability of that respondent and}$$



$W_h$  denoted the proportion of respondents in the  $h$ th stratum from the Statistics New Zealand 2001 Census data.

## ETHICAL ISSUES

This study received approval from the Northern Region ethics committee.

## APPENDIX B: DEMOGRAPHIC COMPOSITION OF SAMPLE

This section provides information on the demographic composition of the sample, including information on: persons mainly responsible for food choices and shopping, main meal preparers, and persons with children aged under 16 for whom they are responsible.

The table which follows presents the key demographics and how these varied between the actual percentages interviewed and the percentages after the two weightings. The ethnicity, gender and age within gender data shown in the third column was the best available estimate of the CMDHB population, which was used to form the weighting.

### ETHNICITY

It is important to remember that persons were included in all ethnic groups to which they belonged. The data shown in the table which follows reflects the fact that Maaori and Pacific were deliberately over-represented in the interviews that were undertaken. For example, it shows that 594 interviews were undertaken with Maaori (as shown in the first column of data), which formed 24 percent of the interviews (as shown in the second column). The third column shows that after weighting the data to represent the best known representation of age within gender within ethnicity composition for the CMDHB region, Maaori accounted for 14 percent. This figure remained unchanged in the fourth column, which shows the ethnic composition after the weighting was redone to ensure each ethnic group had the same age composition (age standardised).

After the weighting and analyses were undertaken, the 2006 Census data for CMDHB became available and this showed that Asian peoples accounted for 19 percent, so at 22 percent they were slightly over-represented in the weighted total sample figures. Other ethnicities were slightly under-represented, with the Census showing they were 56 percent versus the 53 percent in the weighted sample. Maaori and Pacific peoples were represented in the correct proportions.

**Table 71: Demographic composition – ethnic group**

DEMOGRAPHIC COMPOSITION	Number interviewed	Percent interviewed	Percent Standard Weighting	Percent Age Standardised
		%	%	%
<b>Ethnic group</b>				
Maaori	594	24	14	14
Pacific	712	28	20	20
Asian	599	24	22	22
Other ethnic groupings	998	40	53	53

In terms of specific **Pacific ethnic groups**, Samoans were correctly represented in the weighted sample at 8.1 percent. Cook Island Maaori were over-represented, accounting for 5.5 percent compared with 3.3 percent in the 2006 Census. Likewise Tongans were 5.2 percent of the weighted sample and 3.2 percent in the Census. Niueans were 1.8 percent of the weighted sample and 1.3

percent in the Census, while Other Pacific groups were 1.5 percent in the survey and 0.7 percent in the Census.

In terms of specific **Asian ethnic groups**, there were 6.2 percent of the weighted sample who were Chinese, which was a close match with the 6.8 percent recorded in the 2006 Census. However, Indians, which included Fijian Indians, were over-represented at 10.6 percent compared with 6.9 percent in the Census.

## GENDER AND AGE

Overall 41 percent of those interviewed were males, which varied between 36 percent for Maaori, 44 percent for Pacific peoples, 46 percent for Asian peoples and 37 percent for Other ethnicities.

As shown in the table which follows, the sample under-represented males aged 45 years and over and over-represented females aged 25 to 44 years. Males and females aged 16 to 24 years were represented in proportions that were a close match to the population.

As noted previously, because the age composition varied across ethnic groups, the comparisons between ethnic groups have been based on age standardised weightings.

**Table 72: Demographic composition - others**

<b>DEMOGRAPHIC COMPOSITION</b>	<b>Number interviewed</b>	<b>Percent interviewed</b>	<b>Percent Standard Weighting</b>	<b>Percent Age Standardised</b>
<b>Gender</b>				
Male	1023	41	49	49
Female	1497	59	51	51
<b>Age within gender</b>				
Males 16 to 24 years	210	8	9	9
Males 25 to 44 years	441	18	20	20
Males 45 years or over	371	15	21	21
Males don't know/refused age	1	-	0	0
Females 16 to 24 years	219	9	8	8
Females 25 to 44 years	693	28	21	21
Females 45 years or over	580	23	22	22
Females don't know/refused age	5	-	0	0
<b>NZ Dep</b>				
Low (1-4)	646	26	31	30
Medium (4-8)	955	38	39	39
High (9-10)	919	36	30	31
<b>TLA</b>				
Manukau	1978	78	80	80
Papakura	143	6	6	6
Franklin	399	16	14	15
<b>Household shopper</b>	<b>1742</b>	<b>69</b>	<b>65</b>	<b>65</b>
<b>Meal preparer</b>	<b>1550</b>	<b>62</b>	<b>56</b>	<b>56</b>
<b>Have responsibility for children</b>	<b>1442</b>	<b>57</b>	<b>54</b>	<b>55</b>
<b>Have responsibility for 3 or more children</b>	<b>441</b>	<b>18</b>	<b>15</b>	<b>15</b>

## DEPRIVATION

The table which follows compares the NZDep distribution for the survey data with estimates based on the 2006 Census and the NZDep01 (provided by CMDHB). This shows that the overall sample was a very good representation of the CMDHB population in terms of deprivation levels.

**Table 73: NZ Deprivation Comparisons**

NZDep	Estimated CMDHB population	Survey Total Sample
	%	%
Low (1-3)	31	30
Medium (4-8)	38	39
High (9-10)	31	31

Comparable figures were not available at the level of the individual ethnic groups, as the deprivation analyses undertaken in the report linked deprivation ratings at a meshblock level and ethnic level data was only available at an area unit level<sup>44</sup>. Analyses have been undertaken by CMDHB examining deprivation based on area units, comparing the unweighted survey data with the 2006 CMDHB Census data, as shown in the table below. Data was not available for Other ethnicities. This analysis shows that the Maaori sample is a little under-represented in the high deprivation group (47% versus 54%), the Pacific sample slightly over-represented, while the Asian sample appear to be a good match. These small biases are not expected to have any marked effect on the total sample findings or Pacific people's findings, and the Maaori bias is small enough to still provide a reasonable degree of confidence in the Maaori findings.

**Table 74: NZ Deprivation by Total Response ethnicity**

NZDep	Maaori	Pacific Peoples	Asian
	%	%	%
<b>Unweighted survey data</b>			
Low (1-3)	17	5	42
Medium (4-8)	36	12	33
High (9-10)	47	83	25
<b>2006 Census</b>			
Low (1-3)	11	4	39
Medium (4-8)	35	17	34
High (9-10)	54	80	27

Numbers don't necessarily add to 100% because of rounding.

The table below shows the weighted survey data that has also used NZDep based on meshblocks. It is known from other studies that Phoenix Research have done that NZDep can give quite different results when based on meshblocks versus area units. The comparison of the table below with the table above shows that both are similar for Maaori, while there are smallish differences for Pacific peoples. However, Asian peoples show marked differences, which is likely to reflect the way they cluster as a population, leading to the meshblock method giving different results to the areas units,

<sup>44</sup> The country is divided into meshblocks and groupings of meshblocks form 'area units'.

which take in a much wider population and are probably less accurately reflecting Asian deprivation levels.

**Table 75: NZ Deprivation by Total Response ethnicity**

NZDep	Total	Maaori	Pacific Peoples	Asian	Other
	(2520)	(594)	(712)	(599)	(998)
	%	%	%	%	%
Low (1-3)	30	16↓	4↓	33	42↑
Medium (4-8)	39	38	18↓	51↑	43
High (9-10)	31	46↑	77↑	17↓	15↓

## TERRITORIAL LOCAL AUTHORITY

Most of the sample came from the Manukau territorial local authority (78%), which was a little over-represented compared with the 2001 Census figures (73%)<sup>45</sup>. The 16 percent from Franklin in the survey compared with 14 percent in the Census, but the six percent from Papakura was lower than the 11 percent in the Census.

People from **Manukau** differed from the total sample in terms of:

- Ethnicity, with Pacific peoples being more prevalent (96% of Pacific peoples lived in this region versus 80% of the total sample who lived in this region), as well as Asian peoples (93%). Other ethnic groupings (70%) and Maaori (73%) were less prevalent
- Deprivation rates, with people from high areas of deprivation being more prevalent (89%) and those from low deprivation areas being less prevalent (74%)
- Age, with people aged 65-74 years being less prevalent (67%)

People from **Franklin** differed in the following ways:

- Ethnicity, with Other ethnic groupings being more prevalent (24% lived in Franklin versus 15% of the total sample who lived in this region). Pacific peoples (1%) and Asian peoples (3%) were less prevalent
- Deprivation rates, with people from low areas of deprivation being more prevalent (21%) and those from high areas being less prevalent (4%)

Those from **Papakura** were more likely to be:

- Maaori (11% of Maaori lived in Papakura vs 6% of the total sample)

And less likely to be:

- Pacific peoples (2%)

## PERSON WHO CHOOSES FOOD AND SHOPS

After weighting, two-thirds (65%) of the respondents were involved in choosing or doing the food shopping, although other persons could also be involved. Two-fifths (40%) said their spouse/partner

<sup>45</sup> 2006 Census data was not available at DHB level at the time this report was prepared.

was involved, one-fifth (21%) their parents/step-parents/spouse's partner and less than one-in-ten (7%) their children.

Food shoppers were *more* prevalent among:

- Meal preparers (88%)
- Females (79%), particularly females aged 45 and over (90%) and females aged 25-44 years (89%)
- Diabetics (76%)

And *less* prevalent among:

- Females aged under 25 years (25%)
- Males (49%), with the rates being lowest for males aged 16-24 years (15%). For males aged 25-44 years, over half (56%) were shoppers, as were the oldest male group (57%)

## MAIN MEAL PREPARER

Fifty-six percent of the respondents were the person in the household who made most of the meals<sup>46</sup>. One-third (34%) said their spouse/partner took this role, one-fifth (19%) their parents/step-parents and one-in-twenty (5%) their children.

**Table 76: Main meal preparers**

MAIN MEAL PREPARER	Total (2520) %	Maaori (594) %	Pacific Peoples (712) %	Asian (599) %	Other (998) %
Me	56	58	50↓	51	60
Spouse/partner	34	33	33	36	33
Mother/stepmother/fathers partner	15	12	16	19	14
Father/stepfather/mothers partner	4	4	4	3	4
Daughter(s)	3	5	6↑	1	2
Son(s)	2	2	5↑	1	1
Sister(s)	2	2	4↑	1	1

Main meal preparers were *more* prevalent among:

- Females (78%), particularly females aged 45 and over (89%) and females aged 25-44 years (84%)
- Household shoppers (77%)

And *less* prevalent among:

- Females aged under 25 years (31%)
- Males (34%), with the rates being lower for males aged 16-24 years (16%), whilst for males aged 25-44 years and males 45 and over the rate was 38 percent for both
- Pacific peoples (50%), particularly Tongan respondents (41%)

<sup>46</sup> If meal preparation was shared 50:50, both persons were recorded.

## NUMBER OF CHILDREN AGED UNDER 16 IN THE HOUSEHOLD

Over half (55%) had children aged under 16 years living in the household, whom they helped look after. One-fifth (21%) had one child, one-fifth (19%) had two, and one-sixth (15%) had three or more. As shown in the table which follows, Pacific persons were more likely to be responsible for children and also for greater numbers of children.

**Table 77: Number of children aged under 16 responsible for in household**

NUMBER CHILDREN	Total	Maaori	Pacific Peoples	Asian	Other
	(2520) %	(594) %	(712) %	(599) %	(993) %
None	45	38↓	26↓	43	54↑
One	21	19	20	29↑	19
Two	19	19	19	23	17
Three	9	13↑	18↑	4↓	7
Four	3	4	10↑	1↓	2
Five or more	3	6↑	7↑	0↓	1↓
Mean number of children	1.1	1.5↑	1.9↑	0.9↓	0.9↓



# APPENDIX C: QUESTIONNAIRE

Ref: R4284-37.doc

## COUNTIES MANUKAU LET'S BEAT DIABETES

Good morning/afternoon/evening. I'm [Q0IV] calling on behalf of your local Counties Manukau District Health Board and I'm from PHOENIX Research.

We're conducting a study with people in the Counties Manukau area and the findings will be used to help improve the health of the local community.

(Have you got a minute now so I can see if there is anyone in your household who may be able to help us?)

\_If the person does not speak English well enough to do the selection, ask if there is someone else in the household you can explain the study to.\_

\_If no one with better English, establish which language they speak. If Samoan or Tongan Code 2, Other languages Code 3, and specify.\_

1. Continue in English (Go Q99JMP)
2. Offer call-back by interviewer who speaks Samoan or Tongan (continue)
3. Speak other languages (specify) (Go Q99PRE3)

**Q99PRE2.** I will get someone who speaks your language to call you back at some other time. It will be around ...  
\_(indicate date when these interviews beginning).\_  
\_

Are there particular times that it is best to call?  
Thank you for your time.

\_Set for call-back with interviewer with appropriate language skills.\_

GO Q99JMP

**Q99PRE3.** \_Arrange call-back (unless a refusal). If one call-back already done and still language problems, code as 'language barrier' in outcomes.\_

We will call back another time to see if there is anyone else who may be able to assist us.

Q99JMP

**Q99NUM.** Could you please tell me how many people aged 16 years and over normally live in this household?

IF NONE THANK AND CLOSE

**Q99CH.** And would I be able to speak to the person from this group who had their birthday last?

\_If need to, arrange time to call back. If passed to new person, code 2 to reintroduce survey.\_

1. Continue with same person
2. Passed to new person

**Q99REQ.** If you are Maaori, Pacific or Chinese, we can arrange for

you to talk to an interviewer from your ethnic group if you would prefer and we are able to do interviews in Samoan and Tongan languages.

Would you be able to help us with this survey? The interview should take about 15-20 minutes. Do you have time to do it now?

\_If need to, arrange time to call back.\_  
\_If necessary set call-back for appropriate type of interviewer.\_

**Q99CONF.** I'd like to reassure you that all your answers are completely confidential. Your answers will be combined with those of other people who take part and there will be nothing reported that could identify you.

For quality control purposes some of my calls may be monitored by my supervisor.

**Q99LIV.** Have you lived in the Counties Manukau region for the last 12 months?

1. Yes
2. No
3. \*\*Don't know\*\*
4. \*\*Refused\*\*

ASKED OF THOSE CODED 2:

**Q99MTH.** How many months have you lived in this region?

\_Record number of months\_

**Q1.** \_Code gender\_

1. Male
2. Female

**Q2.** We need to speak to people from a variety of ethnic backgrounds so can you please tell me which ethnic group or groups you belong to?

\_Code all mentions\_  
\_Read only if necessary\_

1. NZ European
2. Maori
3. Samoan
4. Cook Island Maaori
5. Tongan
6. Niuean
7. Other Pacific Island (specify)
8. Chinese
9. Indian
10. Fijian Indian
11. Korean
12. Other Asian (specify)
13. Other (specify)
- 
14. \*\*Don't know\*\*
15. \*\*Refused\*\*

IF MORE THAN ONE ETHNIC GROUP, ASK:

**Q3.** Which ethnic group do you MOST strongly identify with?

\_Read only if necessary\_

1. NZ European
2. Maaori
3. Samoan
4. Cook Island Maaori
5. Tongan
6. Niuean
7. Other Pacific Island (specify Q2PAC)
8. Chinese
9. Indian
10. Fijian Indian
11. Korean
12. Other Asian (specify Q2AS)
13. Other (specify Q2OTH)
14. \*\*Don't know/not willing to choose one\*\*
15. \*\*Refused\*\*

IF MOST STRONGLY IDENTIFY WITH MAAORI, ASK:

**Q4G. Which of the following apply to you?**

1. Have a marae in the Counties Manukau area at which I spend time
  1. Yes
  2. No
  3. \*\*Don't know\*\*
  4. \*\*Refused\*\*
2. Listen to Maaori radio stations at least once a week
3. Read Maaori newspapers or magazines at least once a week
4. Watch Maaori TV programmes at least once a week
5. Text on a mobile phone at least once a week
6. Have internet access at home
7. Use email for personal rather than work reasons at least once a week
8. Add content or comments to websites or online blogs at least once a month
9. Am an active member of a local group, club or committee
10. Attend a local church or a place of worship regularly

IF MOST STRONGLY IDENTIFY WITH PACIFIC, ASK:

**Q5G. Which of the following apply to you?**

1. Listen to Pacific radio stations at least once a week
2. Read Pacific newspapers or magazines at least once a week
3. Watch Pacific TV programmes at least once a week
4. Text on a mobile phone at least once a week
5. Have internet access at home
6. Use email for personal rather than work reasons at least once a week
7. Add content or comments to websites or online blogs at least once a month
8. Am an active member of a local group, club or committee
9. Attend a local church or a place of worship regularly

IF MOST STRONGLY IDENTIFY WITH ASIAN, ASK:

**Q6G. Which of the following apply to you?**

1. (ASIANS WHO ARE NOT CHINESE, KOREAN OR INDIAN) Listen to Asian radio stations at least once a week
2. (ASIANS WHO ARE NOT CHINESE, KOREAN OR INDIAN) Read Asian newspapers or magazines at least once a week
3. (CHINESE ONLY) Listen to Chinese radio stations at least once a week
4. (CHINESE ONLY) Read Chinese newspapers or magazines at least once a week
5. (KOREAN ONLY) Listen to Korean radio stations at least once a week
6. (KOREAN ONLY) Read Korean newspapers or magazines at least once a week
7. (INDIAN ONLY) Listen to Indian radio stations at least once a week
8. (INDIAN ONLY) Read Indian newspapers or magazines at least once a week
9. Text on a mobile phone at least once a week
10. Have internet access at home
11. Use email for personal rather than work reasons at least once a week
12. Add content or comments to websites or online blogs at least once a month
13. Am an active member of a local group, club or committee
14. Attend a local church or a place of worship regularly

IF OTHER ETHNIC GROUP, ASK:

**Q6BG. Which of the following apply to you?**

1. Text on a mobile phone at least once a week
2. Have internet access at home
3. Use email for personal rather than work reasons at least once a week
4. Add content or comments to websites or online blogs at least once a month
5. Am an active member of a local group, club or committee
6. Attend a local church or a place of worship regularly

ASK ALL:

**Q7. How many, if any, children are there aged UNDER 16 living in this household who you help look after?**

\_Record number\_

NUM 0-20

**Q8. Which age group are YOU in?**

\_Read unless age offered\_

1. 16 to 19 years
2. 20 to 24 years
3. 25 to 34 years
4. 35 to 44 years
5. 45 to 54 years
6. 55 to 64 years
7. 65 to 74 years
8. 75 years and over
9. \*\*Don't know\*\*
10. \*\*Refused\*\*

**Q9. We are now moving on to questions relating to health matters. If someone wants to have a healthy weight, what can they do?**

\_If mention changing diet/eating properly, probe for details\_

\_Do NOT read\_ \_Code all mentioned\_

1. Control/reduce fat intake
2. Control/reduce sugar intake
3. Control/reduce portion size/ amount of food they eat
4. Be physically active
5. Join a weight loss programme
6. Eat less takeaways
7. Other (specify)  
-----
8. \*\*Don't know\*\*
9. \*\*Refused\*\*

**Q10. Who chooses what food gets bought for your household and does the food shopping?**

\_Do NOT read\_ \_If shared, code more than one\_

\_Person has to be doing it at least once a month\_

1. Me
2. Spouse/partner
3. Mother/stepmother/fathers partner
4. Father/stepfather/mothers partner
5. Daughter(s)
6. Son(s)
7. Brother(s)
8. Sister(s)
9. Grandmother
10. Grandfather
11. Flatmate
12. Other (specify)

- 13. **\*\*Don't know \*\***  
14. **\*\*Refused\*\***

**Q11. And who in your household makes MOST of the meals?**

\_Do NOT read\_ \_If shared 50:50 - code more than one\_

1. Me
2. Spouse/partner
3. Mother/stepmother/fathers partner
4. Father/stepfather/mothers partner
5. Daughter(s)
6. Son(s)
7. Brother(s)
8. Sister(s)
9. Grandmother
10. Grandfather
11. Flatmate
12. Other (specify)

- 13. **\*\*Don't know \*\***  
14. **\*\*Refused\*\***

**Q12. On average how many, if any, 'servings' of FRUIT (fresh, frozen, canned or stewed) do YOU eat on a typical day?  
A serving is what fits into the palm of your hand, like a medium apple, one medium or two small plums. Please do NOT include fruit juice or dried fruit.**

\_Do NOT read - code one

1. Don't eat fruit
2. Less than 1 serving per day (specify)
3. One serving per day
4. Two servings per day
5. Three servings per day
6. Four or more servings per day (specify)
7. **\*\*Don't know\*\***
8. **\*\*Refused\*\***

**Q13. And on average how many, if any, 'servings' of VEGETABLES OR SALAD (fresh, frozen, or canned) do YOU eat on a typical day?  
One serving of cooked vegetables is what fits into the palm of your hand or it's one cup of salad. Please do not include vegetable juices.**

\_Do NOT read - code one

1. Don't eat vegetables
2. Less than 1 serving per day (specify)
3. One serving per day
4. Two servings per day
5. Three servings per day
6. Four or more servings per day (specify)
7. **\*\*Don't know\*\***
8. **\*\*Refused\*\***

**Q14. What is the minimum number of fruit AND vegetable servings that adults are recommended to eat PER DAY to stay healthy?**

\_Do NOT read - code one

\_If asked:\_ One serving of fruit or vegetables is what fits into the palm of your hand or it's one cup of salad.

\_Interviewer note: If R asks what the recommended amount\_ is AFTER giving an answer, it is 5 servings a day\_

1. One
2. Two
3. Three
4. Four
5. Five
6. Six
7. Seven
8. Eight
9. More than eight
10. \*\*Don't know\*\*
11. \*\*Refused\*\*

**Q15. On how many of the LAST SEVEN DAYS did YOU....**

1. Drink fizzy or energy drinks, not including diet or zero sugar versions (\_Interviewer note: If asked, this includes RTDs and soft drinks\_)  
\_as mixers\_
2. Eat MORE than you needed
3. Have something to eat for breakfast (Interviewer note: If asked, this includes liquid food like\_'Up and Go' and smoothies but NOT drinks\_)

1. 1 day
2. 2 days
3. 3 days
4. 4 days
5. 5 days
6. 6 days
7. 7 days
8. \*\*None\*\*
9. \*\*Don't know/Not sure\*\*
10. \*\*Refused\*\*

Q16JMP

IF MEAL PREPARER (CODED 1 IN Q11), ASK:

**Q16. How often do you ...**

1. Cook meat or vegetables in butter or lard (\_Interviewer note: If asked, this includes ghee\_)
4. Cook meat, including corned beef, with the fat removed or drained off
5. Cook chicken with the skin on

\_Read - code one\_

1. Usually
2. Sometimes
3. Never
4. \*\*Do not cook meat - vegetarian\*\*
7. \*\*Don't cook chicken\*\*
5. \*\*Don't know\*\*
6. \*\*Refused\*\*

**Q17. Are you interested in eating more healthily than you currently do?**

1. Yes
2. No
3. \*\*Don't know\*\*
4. \*\*Refused\*\*

ASKED OF THOSE CODED 2-4 IN Q17

**Q18. Which of the following best describes how you feel about your current diet?**

\_Read - code one\_

1. It is healthy enough
2. It could be a bit healthier

3. It could be a lot healthier
4. **\*\*Don't know\*\***
5. **\*\*Refused\*\***
6. **\*\*Don't care\*\***

ASK OF THOSE CODED 1 IN Q17:

**Q19. How difficult do you find it to eat more healthily?**

\_Read - code one\_

1. Not difficult
2. A little difficult
3. Somewhat difficult
4. Very difficult
5. **\*\*Don't know\*\***
6. **\*\*Refused\*\***

ASK IF CODED 2-4 IN Q19:

**Q19PRE. Here are some things other people have said. Please tell me how much you agree or disagree with each statement.**

The answer options are:

\_Read\_

1. Agree strongly
2. Agree
3. Agree a little
4. Neither agree nor disagree
5. Disagree a little
6. Disagree
7. Disagree strongly

**Q19B. How much do you agree or disagree that, it is difficult for me to eat more healthily because:**

RANDOM ORDER

1. I can't afford the cost of healthier types of food
2. I don't know enough about which foods are healthy for you
3. There is not enough healthy food available in the places where I eat or shop

**Q20. Now some questions about physical activity. On how many of the LAST SEVEN DAYS did you do physical activity for at least TEN MINUTES at a time? By physical activity I mean activity that increases your heart rate or breathing for at least TEN MINUTES at a time. This includes things like BRISK walking, gardening, dancing, golf, tennis, through to activities that require more effort - activities like heavy lifting, digging, jogging, rugby, and netball.**

Think about activities at work, school, or home, getting from place to place, and any activities you did for exercise, sport or recreation.

So, on how many, if any, of the LAST SEVEN DAYS did you do physical activity for at least TEN MINUTES at a time?

\_Do not read - code one\_

1. 1 day
2. 2 days
3. 3 days
4. 4 days
5. 5 days
6. 6 days
7. 7 days
8. **\*\*None\*\***

9. **\*\*Don't know/Not sure\*\***  
10. **\*\*Refused\*\***

IF 8-10 IN Q20 GO Q29

**Q22. Adding up this activity, how much time IN TOTAL were you physically active over these [Q20]?**

Interviewer note: Record time in hours or part-hours  
For example, enter 15 minutes as 0.25, an hour and  
three-quarters as 1.75 etc

**Q22CHK. So can I just check that what I have is correct, that when you add up the time you have been active over those [Q20], it TOTALS [Q22] hours?**

1. Yes  
2. No

IF CODED 2, REASK Q22

**Q22B. On how many of those [Q20] did you do VIGOROUS activity? This is activity that makes you breathe A LOT HARDER than normal ('huff and puff') - like heavy lifting, aerobics, jogging, rugby, netball.**

**So, on how many of those [Q20] did you do VIGOROUS activities for at least 10 minutes?**

Do not read - code one

1. 1 day  
2. 2 days  
3. 3 days  
4. 4 days  
5. 5 days  
6. 6 days  
7. 7 days  
8. **\*\*None\*\***  
9. **\*\*Don't know/Not sure\*\***  
10. **\*\*Refused\*\***

**Q22C. And if you were to add it all up, how much time IN TOTAL did you do this VIGOROUS activity over these [Q22B]?**

Interviewer note: Record time in hours or part-hours  
For example, enter 15 minutes as 0.25, an hour and  
three-quarters as 1.75 etc

**Q22CHK. So can I just check that what I have is correct, that when you add up the time you have been vigorously active over those [Q22B], it TOTALS [Q22C] hours?**

1. Yes  
2. No

IF CODED 2, REASK Q22C

**Q29. Overall, do you think the amount of physical activity that you are doing is less, about the same, or more than the recommended minimum levels for physical activity?**

Do not read

After question answered: If asked, can tell them that  
recommended minimum level is 30 minutes of moderate  
activity or 15 minutes of vigorous activity per day



\_Code one\_

1. Less than recommended minimum
2. More
3. Same/ about the recommended level
4. \*\*Don't know/ Don't know what recommended level is\*\*
5. \*\*Refused\*\*

**Q30. Are you interested in being more physically active than you currently are?**

1. Yes
2. No
3. \*\*Don't know\*\*
4. \*\*Refused\*\*

IF CODED 2-4 ASK:

**Q31. Which of the following best describes how you feel about your current level of physical activity?**

\_Read - code one\_

1. I am doing enough to be healthy
2. I would need to do a bit more to be healthy
3. I would need to do a lot more to be healthy
4. \*\*Don't know\*\*
5. \*\*Refused\*\*
6. \*\*Don't care\*\*

IF CODED 1 IN Q30, ASK:

**Q32. How difficult do you find it to be more physically active?**

\_Read - code one\_

1. Not difficult
2. A little difficult
3. Somewhat difficult
4. Very difficult
5. \*\*Don't know\*\*
6. \*\*Refused\*\*

IF CODED 2-4, ASK:

**Q32BPRE. Here are some things other people have said. Please tell me how much you agree or disagree with each statement.**

\_Read if not previously used the scale, or if appropriate\_

The answer options are:

1. Agree strongly
2. Agree
3. Agree a little
4. Neither agree nor disagree
5. Disagree a little
6. Disagree
7. Disagree strongly

**Q32B. How much do you agree or disagree that, it is difficult for me to be more physically active because:**

RANDOM ORDER

1. I can't afford the cost of things I would need such as babysitters, clothes, equipment, gym membership
2. There aren't enough places in my area for me to go or join such as parks, walking groups or sports clubs

**Q33G. Which of the following people encourage or do things to make it easier for you to be physically active?**

1. Other adults in your household
  1. Yes
  2. No
  3. \*\*Don't know\*\*
  4. \*\*Refused\*\*
  5. \*\*Not in paid employment\*\*
  6. \*\*Not applicable\*\*
2. Children in your household
3. Your wider family/whanau and close friends
4. Your employer
5. People you work with
6. People at your church or place of worship
7. People at your marae in Counties Manukau
8. Your doctor or other medical centre staff

**Q33BG. And which of these people encourage or do things to make it easier for you to EAT HEALTHILY?**

1. Other adults in your household
2. Children in your household
3. Your wider family/whanau and close friends
4. Your employer
5. People you work with
6. People at your church or place of worship
7. People at your marae in Counties Manukau
8. Your doctor or other medical centre staff

ASK IF RESPONSIBLE FOR CHILDREN (>0 IN Q7)

**Q34A. Thinking now about the children or young people that you are responsible for in your household, how much support do YOU give to them to be physically active?**

\_Read - code one\_

1. A lot
2. Some
3. A little
4. None
5. \*\*Don't know\*\*
6. \*\*Refused\*\*

**Q34B. And how much support do YOU give to the children in your household to eat healthily?**

\_Read - code one\_

1. A lot
2. Some
3. A little
4. None
5. \*\*Don't know\*\*
6. \*\*Refused\*\*

**Q34D. And which of the following best describes how you feel about the overall type and amount of food THEY eat?**

\_Read - code one\_

1. It could be a lot healthier
2. It could be a bit healthier
3. It is healthy enough
4. \*\*Don't know\*\*
5. \*\*Refused\*\*
6. \*\*Don't care/ Not relevant to me\*\*

**Q34E. Which of the following best describes how you feel about THEIR overall levels of PHYSICAL ACTIVITY?**

\_Read - code one\_

1. They would need to do a lot more to be healthy
2. They would need to do a bit more to be healthy

3. They are doing enough to be healthy
4. \*\*Don't know\*\*
5. \*\*Refused\*\*
6. \*\*Don't care/ Not relevant to me\*\*

**Q36. Have you spoken to a doctor or nurse in the last 12 months about YOUR OWN personal health?**

1. Yes
2. No
3. \*\*Don't know\*\*
4. \*\*Refused\*\*

IF CODED 1, ASK:  
GO Q38

**Q37G. And thinking of all the times when you met with him or her over the past 12 months did they ever ...?**

1. Give you a blood pressure test
2. Give you a cholesterol test
3. Give you a diabetes test (IF CHINESE: that is a test for Tang niao (nel) Bing?\_)
4. Measure your weight
5. Talk to you about stopping smoking
6. Talk to you about healthy eating or weight
7. Talk to you about your risk of diabetes or heart disease
8. Talk to you about exercise or physical activity

IF CATEGORY 8 CODED YES, ASK:

**Q37B. Did they give you a 'green prescription' where they recommend exercise as the treatment?**

1. Yes
2. No
3. \*\*Don't know/can't remember\*\*
4. \*\*Refused\*\*

**Q38. If a doctor was checking your body shape and weight today, do you think they would say you were overweight?**

1. Yes
2. No
3. \*\*Don't know\*\*
4. \*\*Refused\*\*

IF CODED 1, ASK:

**Q39. And would the doctor be likely to say you were obese (IF CHINESE: that is Fei Pang)?**

1. Yes
2. No
3. \*\*Don't know (if would be obese)\*\*
4. \*\*Don't understand term obesity\*\*
5. \*\*Refused\*\*

**Q40. Do you smoke?**

\_Interviewer note: Do not include marijuana\_

1. Yes
2. No
3. \*\*Don't know\*\*
4. \*\*Refused\*\*

**Q41. Have you ever been told by a doctor that you have**

**diabetes (CHINESE: that is Tang niao (nei) Bing)?**

\_If respondent says yes - ask if knows whether it's\_  
\_Type 1 or Type 2 diabetes\_

1. Yes - Type 1
2. Yes- Type 2
3. Yes - not sure which
4. No
5. \*\*Don't know\*\*
6. \*\*Refused\*\*

IF 1-3 CODED AND FEMALE, ASK:

**Q42A. Did you have diabetes during any pregnancies?**

1. Yes
2. No
3. \*\*Don't know\*\*
4. \*\*Not applicable (i.e. have not been pregnant)\*\*
5. \*\*Refused\*\*

IF 1 CODED, ASK:

**Q42B. And do you still have diabetes?**

1. Yes
2. No
3. \*\*Don't know (if have diabetes)\*\*
4. \*\*Refused\*\*

ASK ALL:

**Q43. Have any of your parents, children, brothers or sisters ever had diabetes?**

1. Yes
2. No
3. \*\*Don't know\*\*
4. \*\*Refused\*\*

**Q44G. Here are some things other people have said. Please tell me how much you agree or disagree with each statement.**

\_Read if not previously used the scale, or if appropriate\_

The answer options are:

1. Agree strongly
2. Agree
3. Agree a little
4. Neither agree nor disagree
5. Disagree a little
6. Disagree
7. Disagree strongly

**Q44. (How much do you agree or disagree....)**

RANDOM ORDER

2. I know what the recommended weight is for me to be healthy
3. I know what the recommended body shape is for me to be healthy
4. I am worried that I or someone in my family has diabetes or may get it
5. I am worried that someone in my family has diabetes or may get it
6. I am worried that I or someone in my family has health problems or may get health problems because of being overweight

**Q44B. How would you rate your knowledge of diabetes?**

\_Read\_

1. Poor

2. Fair
3. Good
4. Very good
5. \*\*Don't know\*\*
6. \*\*Refused\*\*

Q45JMP

**Q45G. The District Health Board wants to find out which areas people know a lot about and which ones need more public education.**

**I am going to read you some statements about diabetes and for each I would like you to tell me whether it is TRUE or FALSE, or if you DON'T KNOW.**

1. It is mainly people who eat a lot of sugar that get diabetes
2. Diabetes doesn't affect young people
3. You can have diabetes and not realise it
4. Having diabetes increases your risk of developing heart disease
5. There is nothing you can do to prevent getting diabetes

**Q46. What can be done to prevent diabetes?**

\_Do NOT read - probe fully\_  
\_Code all mentioned\_

1. Keep fit/active
2. Reduce weight/not get overweight or obese
3. Other (specify)  
-----
4. \*\*Don't know\*\*
5. \*\*Refused\*\*

**Q47C. That is the end of the survey questions, so thank you for doing that. The information you've shared will make a positive difference to improving the well-being of the local community.**

Q48JMP

IF HAVE DIABETES (IF 1-3 IN Q41 AND NOT 2-4 IN Q42B), ASK:

**Q48. There may be some future research specifically with people who have diabetes. Would you be willing to be re-contacted by us some time in the future to take part in this?**

1. Yes
2. No
3. \*\*Don't know\*\*
4. \*\*Refused\*\*

IF CODED 1, ASK:

**Q49. So that we can contact you, can I please get your name and double check your telephone number?**

**Do you have a mobile number we could call you on?**

\_Interviewer: Record name and phone number in\_  
\_appropriate space\_

\_If no mobile number, enter N in mobile space\_

Name: []  
Phone number: []  
Mobile number: []

IF DON'T HAVE DIABETES, ASK:

**Q50. Type 2 diabetes now affects young and old, and many people may have Type 2 diabetes without realising it - which can cause serious health problems later on.**

**Counties Manukau District Health Board would like to know how common this problem is. They are therefore asking everybody in this survey if they will have a free check to see if they have diabetes or are at high risk of getting it. The earlier it can be detected, the sooner help can be provided to get a better outcome for that person.**

**Would you like to get checked or be sent some more information about what is involved?**

\_Code all that apply\_

1. Yes - would like to get checked and be sent more information
2. Would like more information only
3. No, don't want to get checked or want any further info

IF 1-2 CODED, ASK:

**Q51. Can you please give me your FULL NAME and MAILING ADDRESS?**

\_Interviewer: Record full name and address details in appropriate space\_

\_Please enter name and address details as you would see them on an envelope\_

\_Interviewer note: Please get R to spell out their name\_

First Name: []  
Last Name: []  
Street/P.O. Box: []  
Suburb: []  
Town/City: []

**Q52. Can I please confirm what is the best telephone number to contact you on? This so the DHB nurse who helps people get checked, can follow-up to answer any questions you might have.**

**Do you have a mobile number we could call you on?**

**What is the best time of day to reach you? \_(Check if daytime Monday to Friday OK)\_**

\_Interviewer: Record name and phone number in appropriate space, best time to contact and whether specific language skills are needed for follow-on contact. Enter Y or N for whether daytime Mon to Fri OK\_

\_If no mobile number, enter N in mobile space\_

Phone number: []  
Mobile number: []  
Best contact time: []  
Day time Monday to Friday OK: []  
Specific language skills needed for follow-on contact: []

**Q53 \_If R requested further information, read appropriate parts\_**

\_below, otherwise hit enter to continue\_

**\_How?\_ The test is done by having a blood sample taken. Its called a 'fasting glucose blood test'**

**\_Where?\_ People don't have to make appointments with their GPs for these tests - they are done at community labs across South Auckland. The information we send out shows where they are located and their opening hours.**

**\_What happens if I get diagnosed with diabetes?\_ The nurse in charge of the study will make sure that an appointment is made with your GP to discuss the next steps. If you'd like, you can bring a family member or friend with you to this.**

**If you don't have a GP, the nurse will help you connect with one. The first GP visit will be paid for out of the funding for this study.**

IF NOT WANTING TO BE CHECKED FOR DIABETES, ASK:

**Q54. To help the District Health Board understand why people choose not to get checked for diabetes, could you tell us the reasons for your decision?**

\_Probe fully\_

1. Already been tested for diabetes
2. Other (specify)  
-----
3. **\*\*Don't know\*\***
4. **\*\*Refused\*\***

IF CODED 1, ASK:

**Q55A. Was the test done more than a year ago?**

1. Yes
2. No
3. **\*\*Don't know\*\***
4. **\*\*Refused\*\***

IF CODED 1, ASK:

**Q55B. Was the test done by pricking your finger?**

1. Yes
2. No
3. **\*\*Don't know\*\***
4. **\*\*Refused\*\***

IF IF CODED 1, ASK:

**Q55C. Did you have to NOT eat for some time before you had the test?**

1. Yes
2. No
3. **\*\*Don't know\*\***
4. **\*\*Refused\*\***

IF NOT 1 CODED IN Q55C, ASK:

**Q55D. The results of your previous test may not be suitable for the current study. Would you be willing to consider having a new test, or being sent some more information about what is involved?**

1. Yes
2. No
3. **\*\*Don't know\*\***

4. **\*\*Refused\*\***

IF 1 CODED IN Q55C (IE HAD APPROPRIATE TEST DONE IN PREVIOUS 12 MONTHS)

**Q55E. Would you be willing to have the lab results of your previous tests made available for this study?**

1. Yes, willing to make previous results available
2. No/Refused

IF CODED 1, ASK:

**Q55E2. Can you please give me your full name, address and date of birth so that the District Health Board can access these?**

\_Interviewer: Record full name and address and DOB details\_  
\_in appropriate space\_

\_Please enter name and address details as you would see\_  
\_them on an envelope\_

\_Interviewer note: Please get R to spell out their name\_

First Name: []  
Last Name: []  
Street/P.O. Box: []  
Suburb: []  
Town/City: []  
Date of birth: []

**Q56. Would you like us to send you a summary of the overall results of this study?**

1. Yes
2. No

IF NAME AND ADDRESS NOT PREVIOUSLY OBTAINED, ASK:

**Q56C. Can you please give me your FULL NAME and MAILING ADDRESS so we can send you the information? Do you have an email address we could send the results to?**

\_Interviewer: Record full name and address details in\_  
\_appropriate space, ask for email address also\_

\_Please enter name and address details as you would see\_  
\_them on an envelope\_

\_Interviewer note: Please get R to spell out their name\_

First Name: []  
Last Name: []  
Street/P.O. Box: []  
Suburb: []  
Town/City: []  
Email address: []

**Q57. Would you be willing to be called again within the next two years to participate in other Counties Manukau DHB survey research, if required?**

1. Yes, I would be willing to be contacted again
2. No
3. **\*\*Don't know\*\***
4. **\*\*Refused\*\***



IF CODED 1 AND NOT PREVIOUSLY SUPPLIED PHONE NUMBER, ASK:

**Q58A. So that we can contact you, can I please double check your telephone number?**

**Do you have a mobile number we could call you on?**

\_Interviewer: Record name and phone number in appropriate space\_  
\_If no mobile number, enter N in mobile space\_

Phone number: []

Mobile number: []

**Thank you very much for your time we really appreciate it.**

**Finally, I'd just like to remind you that I'm \_[Q0IV]\_ from PHOENIX Research. If you have any queries at all about this survey, please feel free to phone PHOENIX Research during office hours on 0800 2 PHOENIX. That is the same as 0800 274 636.**

Q59A. \_Interviewer to code if English version of interview\_

Respondent assistance because of difficulties with English language?

1. Assisted in own language
2. Assisted in English
3. Assisted in both English and own language
4. Not assisted

Q59B. \_Interviewer to code\_

Respondent difficulty understanding questions?

1. None
2. A little
3. Some
4. A lot
5. \*\*Don't know\*\*

Q59C. \_Interviewer to code\_

Accuracy of respondent answers?

1. Probably all accurate
2. Probably mostly accurate
3. Probably mostly inaccurate
4. Somewhere in between
5. \*\*Don't know\*\*

Q99IQS.

\_Interviewer note: Please answer Yes if you agree\_  
\_with the statement below regarding this interview\_  
\_or No if you do not.\_

I hereby certify that this interview I administered was conducted in accordance with the Market Research Society's Code of Practice.

1. Yes
2. No

IF 2 CODED:

Q99IQSR. \_Interviewer note: Please state why you don't feel the interview\_  
\_was carried out according to the Code of Practice and what was\_  
\_the difficulty/problem with the interview

