LIVERPOOL LIFESTYLES SURVEY 2007 – MAIN REPORT

Produced by the Liverpool Public Health Intelligence Team

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Special thanks to Sophie Kelly, Public Health Trainee.

Table of Contents

Section 1 - Background

The North West Lifestyles Survey involved a telephone survey conducted across the region between June and December 2007 by the North West Public Health Observatory (NWPHO). Liverpool PCT bought a sample 'boost' to make the city's findings more representative and there were 7,301 completed interviews from Liverpool residents over the age of 16 years.

The questionnaire covered six broad themes including:

- General Health
- Body Mass Index
- Diet and Nutrition
- Physical Activity
- Alcohol
- Smoking

For a detailed account of the methodology and justification of the questions selected refer to the NWPHO report, 'Lifestyles Surveys: Core Questions and Methods'[1].

1.1 Data Weighting

Although a survey conducted via a telephone interview is an accepted method, there are issues with this approach. Nationally some 8% of households do not have a land-line (this is higher in economically deprived areas)[2], and of those that do have a telephone a quarter are ex-directory[3]. Young adults, especially those living alone, are difficult to contact by land-lines as they rely heavily on mobile phones[4]. Furthermore, younger people are more likely to be out, either at work or with leisure activities. Historically, women are more likely to participate in surveys than men.

The following tables compare the responses to the Lifestyles Survey with the 2006 Mid-Year Population Estimates:

	Lifestyles Data		2006 Population Estimate[5]
	No.	%	%
Males	3,101	42.5	48.7
Females	4,200	57.5	51.3
Total	7,301	100.0	100.0

	Lifestyles Data		2006 Pop Est
	No.	%	%
16-24	363	5.0	20.6
25-34	466	6.4	16.6
35-44	1,063	14.6	17.0
45-54	1,473	20.2	15.5
55-64	1,459	20.0	12.3
65-74	1,408	19.3	9.8
75+	1,069	14.6	8.3
Total	7,301	100.0	100.0

[1] http://www.nwph.net/nwpho/publications/forms/dispform.aspx?ID=158
[2] Source: General Household Survey, 2003/04
[3] Source: 'Telephone Methods for Social Surveys', Roger Thomas and Susan Purdon, Social Research Update Issue 9
[4] Emerging advantages and drawbacks of telephone surveying in public health research in Ireland and the U.K, M Boland, MR Sweeney, E Scallan, M Harrington, & A Staines (2006)
[5] Source: ONS 2006 Mid-Year Population Estimates

These show that men and the younger population were under-represented in the Lifestyles Survey.

Further investigation of the over- and under-representation of particular groups involved the MOSAIC postcode classification tool. This considers over 400 indicators for every postcode in the country before assigning it a MOSAIC classification group. The table below compares the group breakdowns for those persons who took part in the Lifestyles Survey with the breakdown for Liverpool as a whole.

	Lifestyles Survey 2007				Liverpool Local Authority
	Deprivation Rank (1=most deprived)	No. of Interviewees	%		%
Group A	11	466	6.4		3.7
Group B	9	407	5.6		5.2
Group C	10	1,209	16.6		9.2
Group D	5	1,436	19.7		18.5
Group E	6	400	5.5		10.2
Group F	1	583	8.0		16.7
Group G	2	1,729	23.7		24.6
Group H	3	674	9.2		6.0
Group I	4	179	2.5		3.3
Group J	7	213	2.9		2.5

Summary of Group Classifications:

Group A	Career Professionals Living in Sought After Areas
Group B	Younger families in newer homes
Group C	Older families living in suburbia
Group D	Close-knit, inner city and manufacturing town communities
Group E	Educated, young, single people living in areas of transient populations
Group F	People living in social housing with uncertain employment in deprived areas
Group G	Low income families living in estate based social housing
Group H	Upwardly mobile families living in homes bought from social landlords
Group I	Older people living in social housing with high care needs
Group J	Independent older people with relatively active lifestyles

The MOSAIC analysis shows that there was an under-representation of households from particular deprived areas (Group F), as well as households with young single people (Group E), whilst there was an over-representation of older families living in suburbia (Group C).

To account for this over- and under-representation of particular population groups, Liverpool's overall population by age/gender/Index of Multiple Deprivation 2007 quintile was divided by that of the survey sample to give some weighting variables. A value of 1 was an exact representation of the true population whilst weighting variables over 1 were groups under-represented in the sample and those under 1 were groups over-represented. These weighting variables (below) have been applied to the raw survey data, and as a

result more weight has been given to Liverpool's younger and more deprived residents who were particularly hard to survey.

Unless specified the data in this report will have been weighted.

	IMD2007 quintile	16-24	25-34	35-44	45-54	55-64	65-74	75+
Male	**1**							
Male	**2**	1.716332	1.834188	1.61728	0.753937	0.532926	0.420756	0.399264
Male	**3**	2.142737	2.396401	1.194575	0.639342	0.570719	0.617989	0.492163
Male	**4**	4.744307	2.615619	1.318633	0.750192	0.601124	0.503182	0.599781
Male	**5**	6.131794	3.577161	1.745076	0.963257	0.660325	0.551896	0.588363
Female	**1**							
Female	**2**	4.184516	1.510508	0.784414	0.512433	0.419302	0.470799	0.441132
Female	**3**	1.431724	1.141886	0.641299	0.701741	0.557498	0.393549	0.475763
Female	**4**	3.350529	2.025437	0.772021	0.655522	0.537863	0.461166	0.614373
Female	**5**	5.353562	2.585802	1.171231	0.714009	0.629242	0.54101	0.583528

1.2 Statistical Analysis

The statistical analysis in this report has been limited to the main variables of interest. Data has been analysed, where appropriate, using the chi-square test with statistical probability being set at the customary level of $P<0.05$.

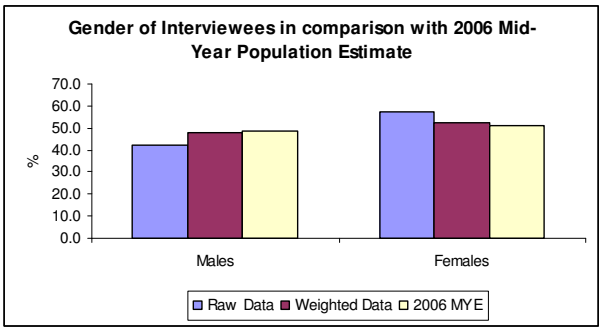
Briefly, the chi-square test statistic is used to test the null hypothesis that there is no association between the rows and columns of a categorical contingency table. When $P<0.05$, there is a less than 1 in 20 probability of observing a difference in frequencies that is at least as large as the frequencies observed by chance alone. It would therefore be concluded that the observed difference in the frequencies is unlikely to be explained by chance alone. We would reject the null hypothesis and consider this result statistically significant.

Additional statistical analysis is available on request.

Section 2 – Interviewee Characteristics

2.1 Gender

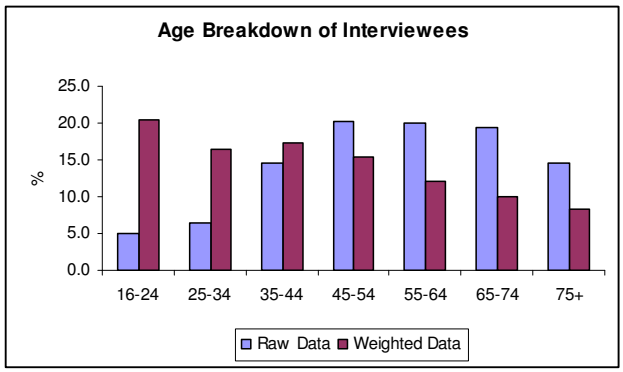
	Raw Data		Weighted Data			2006 Population Estimate[6]
	No.	%	No.	%		%
Males	3,101	42.5	3,494	47.9		48.7
Females	4,200	57.5	3,806	52.1		51.3
Total	7,301	100.0	7,301	100.0		100.0



- The original survey data reported an under representation of men (42.5% of interviewees). The application of the weighting variables boosted the male interviewees to within the level reported by the 2006 Mid-Year Population Estimate.

2.2 Age

	Raw Data		Weighted Data			2006 Population Estimate
	No.	%	No.	%		%
16-24	363	5.0	1,494	20.5		20.6
25-34	466	6.4	1,197	16.4		16.6
35-44	1,063	14.6	1,266	17.3		17.0
45-54	1,473	20.2	1,120	15.3		15.5
55-64	1,459	20.0	888	12.2		12.3
65-74	1,408	19.3	733	10.0		9.8
75+	1,069	14.6	603	8.3		8.3
Total	7,301	100.0	7,301	100.0		100.0



- Younger people were considerably under-represented in the Lifestyles Survey and older people were over-represented. For example, only 5% of those interviewed were aged 16-24 years whereas they constituted 21% of the adult population in 2006. Likewise 19% of those surveyed were aged 65-74 years whereas they comprised 10% of the adult population.
- The weighting of the data has attempted to address this situation bringing the number of interviewees by age in line with the 2006 population estimate.

[6] Source: ONS 2006 Mid-Year Population Estimates

2.3 Ethnicity

	Raw Data		Weighted Data			2001 Census[7]
	No.	%	No.	%		%
White - British	6,671	94.9	6,588	93.1		91.8
White - Irish	125	1.8	116	1.6		1.2
Other White background	59	0.8	63	0.9		1.3
Mixed ethnic group - White and Black Caribbean	4	0.1	4	0.1		0.5
Mixed ethnic group - White and Black African	7	0.1	12	0.2		0.5
Mixed ethnic group - White and Asian	11	0.2	19	0.3		0.3
Other Mixed background	5	0.1	7	0.1		0.5
Asian or Asian British - Indian	26	0.4	34	0.5		0.4
Asian or Asian British - Pakistani	5	0.1	5	0.1		0.2
Asian or Asian British - Bangladeshi	7	0.1	23	0.3		0.1
Other Asian background	11	0.2	16	0.2		0.3
Black or Black British - Caribbean	16	0.2	37	0.5		0.2
Black or Black British - African	26	0.4	58	0.8		0.7
Other Black background	4	0.1	9	0.1		0.3
Chinese or Other Ethnic Group	53	0.8	87	1.2		1.6
Total	7,030	100.0	7,076	100.0		100.0

- Some 2.8% of those surveyed were from a non-white BME background. This was boosted to 4.4% after the data was weighted.

2.4 Annual Income of Interviewees

	Weighted Data	%
Nil or a loss per week/none or a loss per year	440	8.7
Under £3,999 per year	563	11.1
£4,000 - £7,999 per year	911	17.9
£8,000 - £11,999 per year	813	16.0
£12,000 - £16,999 per year	783	15.4
£17,000 - 23,999 per year	700	13.8
£24,000 - £36,999 per year	612	12.0
£37,000 or more per year	258	5.1
Total	**5080**	**100.0**

- 3 out of 10 interviewees refused to disclose their annual income.
- Of those who did state their annual income before tax, national insurance, and other contributions, more than half earnt less than £12,000.

[7] Source: 2001 Census, Table UV09

2.5 Deprivation Quintile

The Lower Super Output Area (LSOA) score from the Index of Multiple Deprivation 2007[8] was assigned to the postcode of residence of those surveyed. The scores for the postcodes were then placed into quintiles based on all LSOA's nationally as follows:

Most deprived	Within the most deprived 20% of LSOA's nationally	67% of those surveyed in this quintile
Second	Within the 20% and 40% of LSOA's nationally	18% of those surveyed in this quintile
Third	Within the 40% and 60% of LSOA's nationally	12% of those surveyed in this quintile
Fourth	Within the 60% and 80% of LSOA's nationally	3% of those surveyed in this quintile
Least deprived	Within the 80% and 100% of LSOA's nationally	0% in this quintile

- As the above table shows, some 67% of interviewees were assigned to the most deprived 20% of LSOA's in the country. None of the interviewees were in the least deprived quintile nationally

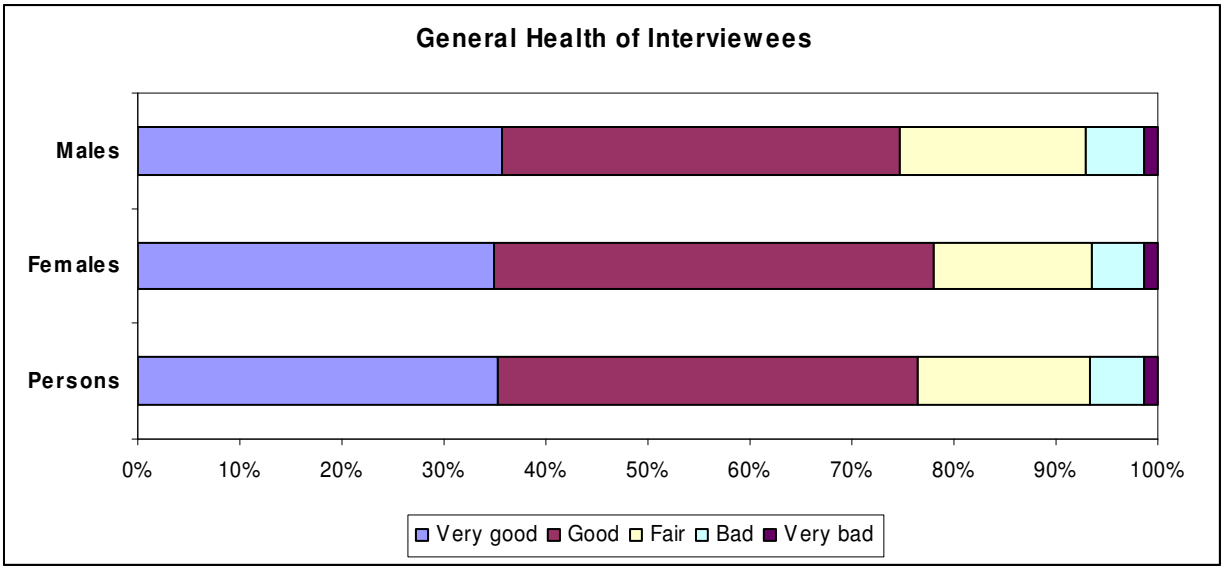
[8] See http://www.communities.gov.uk/communities/neighbourhoodrenewal/deprivation/deprivation07/ for information

Section 3 – General Health

Interviewees were asked to rate their general health on a scale from 'Very Good' to 'Very Bad'.

3.1 General Health by Gender

	Males		Females		Persons	
	No.	**%**	**No.**	**%**	**No.**	**%**
Very good	1,250	35.8	1,329	34.9	2,578	35.3
Good	1,362	39.0	1,641	43.1	3,003	41.1
Fair	638	18.3	593	15.6	1,230	16.9
Bad	195	5.6	191	5.0	385	5.3
Very bad	50	1.4	53	1.4	103	1.4
Total	**3,495**	**100.0**	**3,807**	**100.0**	**7,301**	**100.0**

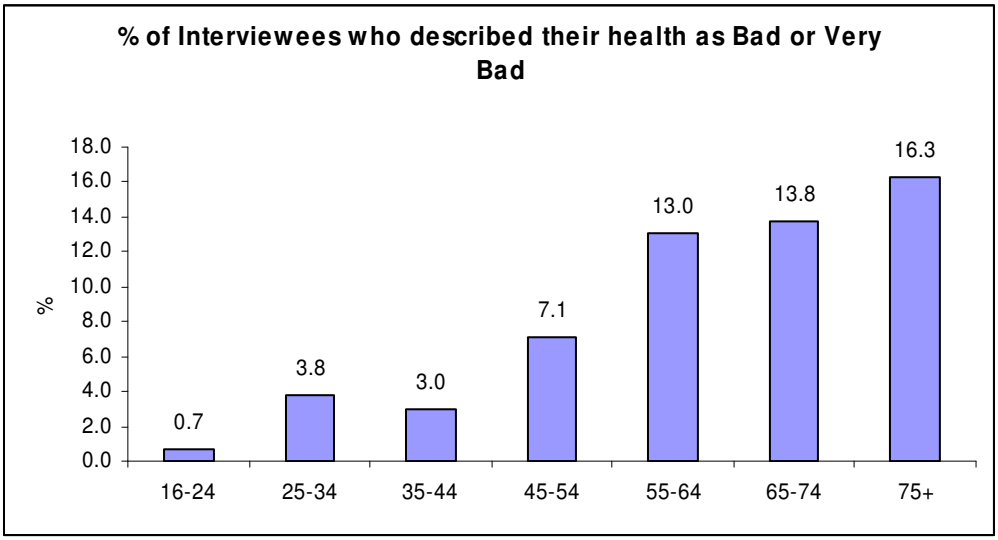


- More than three-quarters of interviewees described their general health as good or very good. This compares favourably with the 2001 Census where 64% of residents described their health as good[9].
- There was no major difference between men and women with regards their self-reporting of their general health.

[9] Source: 2001 Census, Table KS08

3.2 General Health by Age

	General Health				
	Very good	Good	Fair	Bad	Very bad
16-24	45.7	45.3	8.2	0.7	0.1
25-34	42.6	43.1	10.5	3.4	0.3
35-44	41.5	44.9	10.7	2.7	0.3
45-54	33.6	41.5	17.9	5.2	1.9
55-64	25.0	37.0	25.0	9.9	3.1
65-74	20.2	36.4	29.6	10.8	3.0
75+	19.1	30.2	34.5	12.3	4.0

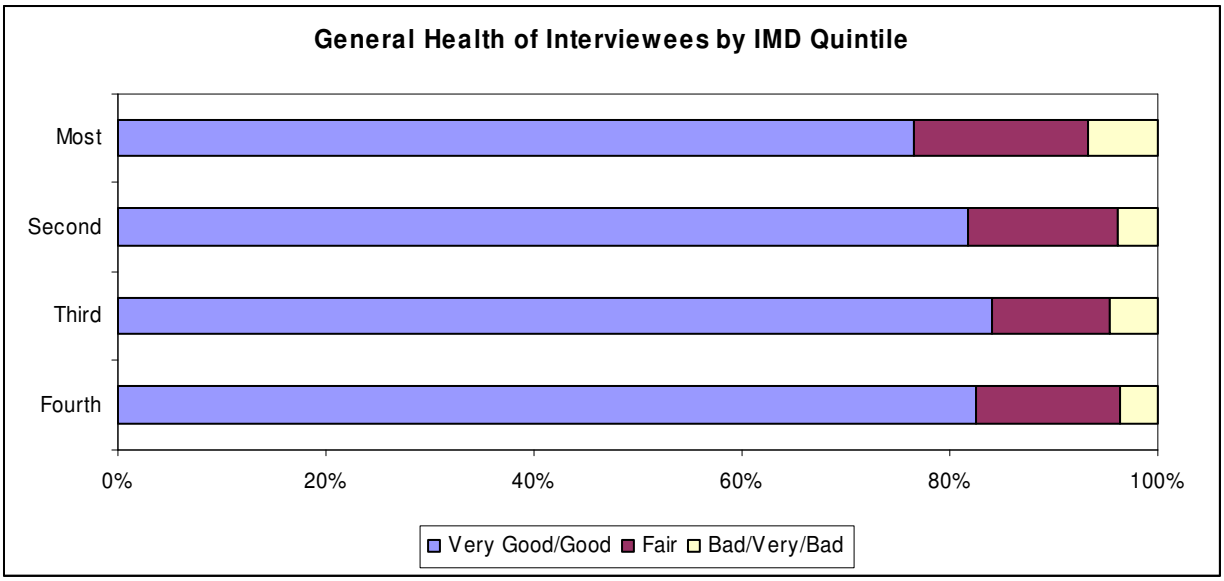


- Unsurprisingly general health deteriorated by age with 16% of the 75+ years interviewees describing their health as bad or very bad compared with under 1% of the 16-24 year olds (this is significant at the $p<0.05$ level).

3.3 General Health by Deprivation

Note: none of the interviewees belonged to the least deprived deprivation quintile.

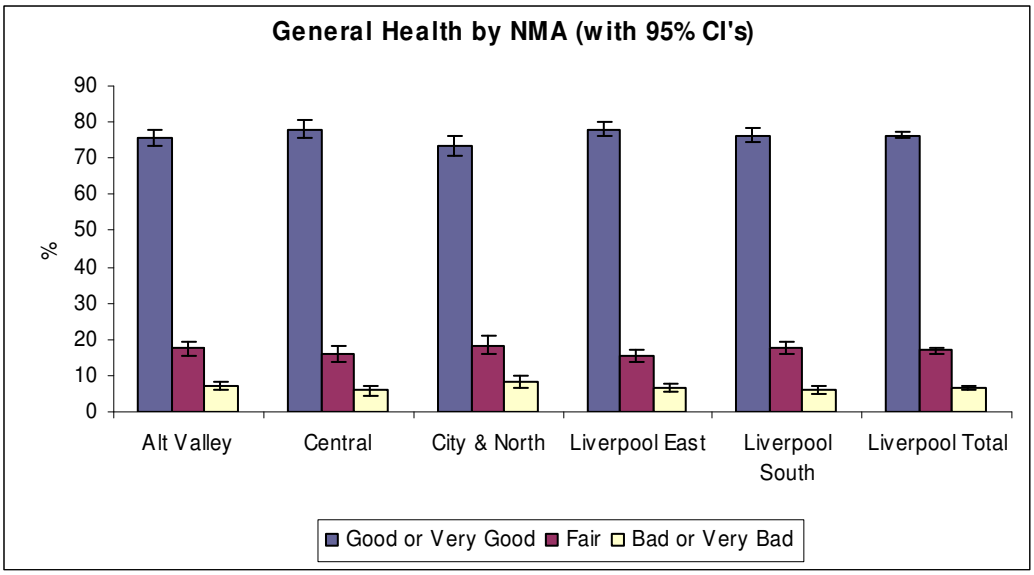
	General Health				
	Very good	**Good**	**Fair**	**Bad**	**Very bad**
Least	N/A	N/A	N/A	N/A	N/A
Fourth	38.6	43.8	13.9	2.4	1.2
Third	42.0	42.0	11.4	3.7	0.9
Second	40.2	41.6	14.3	3.1	0.8
Most	35.3	41.1	16.9	5.3	1.4



- There was some correlation between general health and deprivation (although due to the relatively small numbers from the fourth deprived quintile no degree of certainty can be made). In the most deprived quintile some 7% of interviewees described their general health as bad or very bad compared with 4% in the fourth deprived quintile.

3.4 General Health by Neighbourhood Management Area (NMA)

NMA	Very good	Good	Fair	Bad	Very Bad	Total		Total Nos.
	%	%	%	%	%	%		
Alt Valley	34.4	41.1	17.4	5.4	1.6	100.0		1,638
Central	39.2	38.9	16.0	5.0	0.9	100.0		1,228
City & North	36.8	36.5	18.5	6.4	1.9	100.0		968
Liverpool East	34.6	43.5	15.3	5.3	1.3	100.0		1,663
Liverpool South	33.4	43.0	17.5	4.7	1.4	100.0		1,803
Liverpool Total	35.3	41.1	16.8	5.3	1.4	100.0		7,300



- City and North NMA had the highest proportion of interviewees who reported their general health as bad or very bad (8.3%) compared with Central NMA who had the lowest (5.9%).
- The 95% Confidence Intervals indicate that the general health of interviewees is not statistically significantly different across all the NMA's.

3.5 Disease and Illness Prevalence

Interviewees were asked if they had ever suffered a heart attack or stroke:

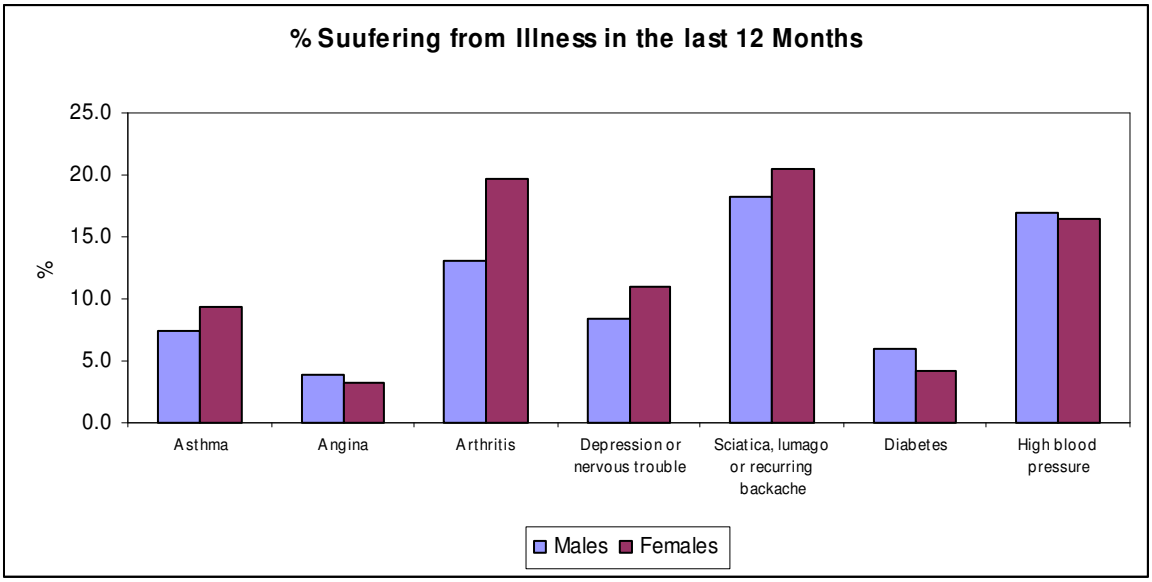
	Had a Heart Attack	Had a Stroke
	%	%
16-24	0.4	0.7
25-34	0.9	0.3
35-44	0.6	1.0
45-54	2.1	1.6
55-64	6.2	3.6
65-74	11.9	6.3
75+	13.3	9.6
Average	**3.7**	**2.5**

- Some 3.7% of interviewees had suffered a heart attack at some point compared with 2.5% who had suffered a stroke.
- The unadjusted prevalence for Coronary Heart Disease, and Stroke and Transient Ischaemic Attack reported in the 2006/07 Quality and Outcomes Framework (QOF) was 4.2% and 1.7% respectively. These figures are not directly comparable with the findings from the Lifestyle Survey and are inserted for information only[10].
- Not surprisingly heart attack and stroke prevalence increased according to age (significant at the $p<0.05$ level).

[10] Source: The Information Centre for Health and Social Care

Interviewees were also asked if they had suffered from any of the following illnesses in the last 12 months:

	Males	Females	Persons
	%	%	%
Asthma	7.4	9.4	8.4
Angina	3.9	3.2	3.5
Arthritis	13.0	19.7	16.5
Depression or nervous trouble	8.5	11.0	9.8
Sciatica, lumago or recurring backache	18.3	20.5	19.4
Diabetes	5.9	4.2	5.0
High blood pressure	16.9	16.4	16.7



- Almost a fifth of interviewees had suffered from sciatica, lumbago or recurring backache in the last 12 months and some 17% had experienced high blood pressure and arthritis.
- Women were more likely than men to suffer from asthma, arthritis, depression or nervous trouble, and sciatica, lumbago, and backache.
- The prevalence of diabetes was higher in the Lifestyles Survey than was reported in the QOF (5% compared with 3.6%) and this was also the case for asthma (8.4% compared with 5.6%).

Section 4 – Body Mass Index

Interviewees were asked to state their height and weight and their Body Mass Index (BMI) was then calculated.

What is BMI?

The Body Mass Index (BMI) is a tool that can be used to tell how healthy a person's weight is. It is calculated by dividing weight in kilograms by height in metres then dividing the result by height in metres again.

The BMI weight ranges, as set out by the World Health Organisation (WHO), are:

Underweight	BMI <18.5
Normal weight	BMI between 18.5 and 24.99
Overweight	BMI between 25 and 29.99
Obese	BMI greater than 30

Obesity as a Public Health Issue

If a person has a BMI greater than 25 then they have an increased risk of developing serious health problems such as heart disease and stroke, diabetes, hypertension and several forms of cancer[11], and the number of obese adults has trebled in the UK over the last 20 years[12]. People who are obese die on average 9 years earlier than those of normal weight[13]. Obesity has serious economic consequence with the cost of treating obesity related disorders, and of indirect consequences such as sickness absence, estimated at £3.3 - 3.7 billion in England in 2002[14]. It has been estimated that if no action is taken, by 2050 , 60% of men and 50% of women will be obese[15].

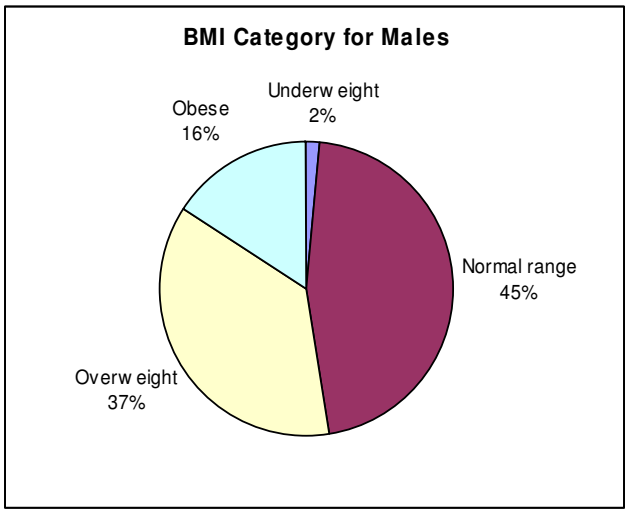
[11] Source: NHS Direct
[12] Source: National Audit Office, 2004
[13] Taken from the SEPHO website http://www.sepho.org.uk/Topics/obesity.aspx
[14] Source: House of Commons Health Select Committee, 2004
[15] Source: Foresight: Tackling Obesities: Future Choices project, 2007

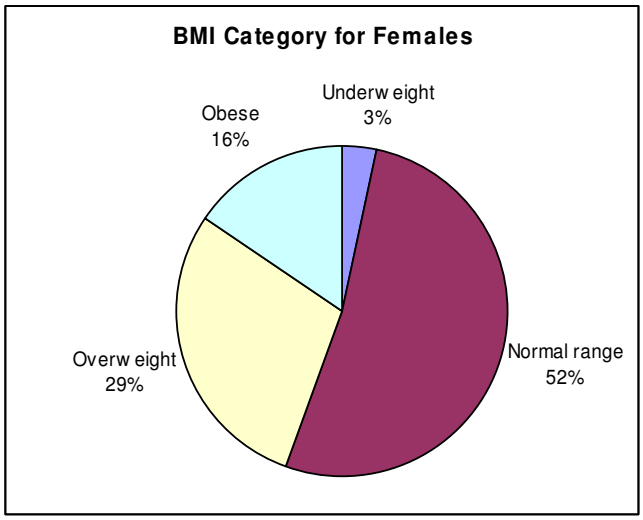
Key Findings

The tables below illustrate in which BMI categories those interviewed for the Lifestyle Survey fall:

4.1 BMI by Gender

	Males		Females		Persons	
	No.	%	No.	%	No.	%
Underweight	54	1.6	118	3.3	172	2.5
Normal range	1,559	45.9	1,860	52.1	3,419	49.1
Overweight	1,248	36.7	1,032	28.9	2,281	32.7
Obese	537	15.8	559	15.7	1,096	15.7
Total	**3,398**	**100.0**	**3569**	**100.0**	**6968**	**100.0**



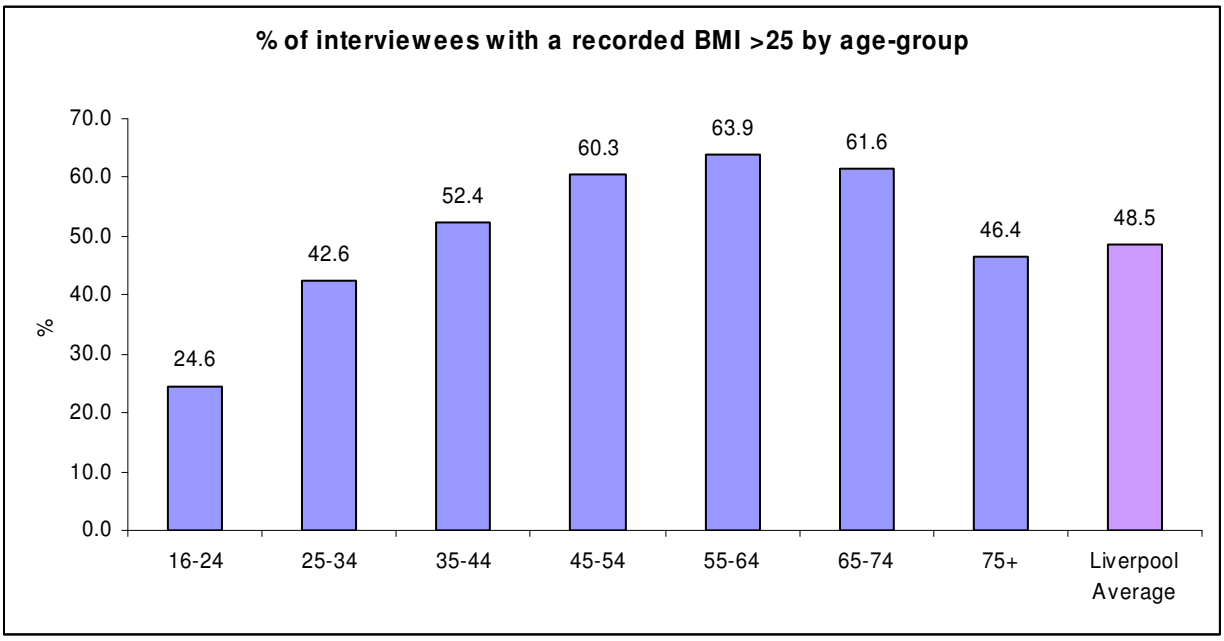


- Woman were twice as likely as men to be underweight, although this was still a relatively small proportion overall (3.3%).
- Half of those interviewed were in the normal weight BMI range.
- A third were overweight and some 16% obese. A higher proportion of men were overweight or obese (53%) compared with women (45%). However, there was no difference between the genders for those classified as obese (16%).
- This obesity percentage is lower than the 2003-2005 model-based obesity estimate of 22% for Liverpool[16]. However these synthetic estimates are artificially constructed estimates and assign expected values for lifestyle behaviour by applying national survey response rates to local Census characteristics. They are by no means an exact measure. Furthermore, although the Lifestyles obesity rate may be lower than expected this may be because people under-estimate their weight especially when asked over the telephone.

[16] Source: National Centre for Social Research/NHS Information Centre, Healthy Lifestyle Behaviours: Model-Based Estimates 2003-2005.

4.2 BMI by Age

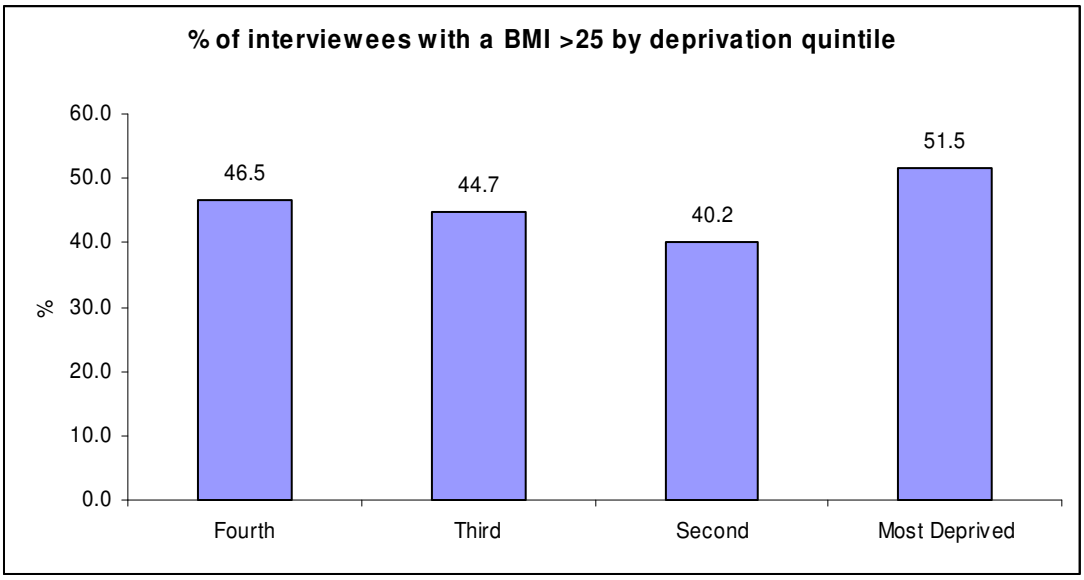
	16-24	25-34	35-44	45-54	55-64	65-74	75+	Lpool Average
	%	%	%	%	%	%	%	%
Underweight	5.5	2.3	1.1	1.1	1.0	1.7	4.3	2.5
Normal range	70.0	55.1	46.5	38.6	35.1	36.7	49.3	49.1
Overweight	17.6	32.6	34.3	38.0	41.1	40.9	32.9	32.7
Obese	7.0	10.1	18.1	22.3	22.8	20.8	13.5	15.7
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0



- The BMI of interviewees increased by age-group until the more elderly age-groups where it started to decrease (significant at the $p<0.05$ level).
- A quarter of 16-24 year olds had a BMI that was greater than 25, compared with more than 4 in 10 for 25-34 year olds, and more than half of 35-44 year olds.
- For the older age-groups that are more susceptible to suffering from illnesses that can be partly attributed to a high BMI, more than 6 out of 10 were overweight or obese.

4.3 BMI by Deprivation

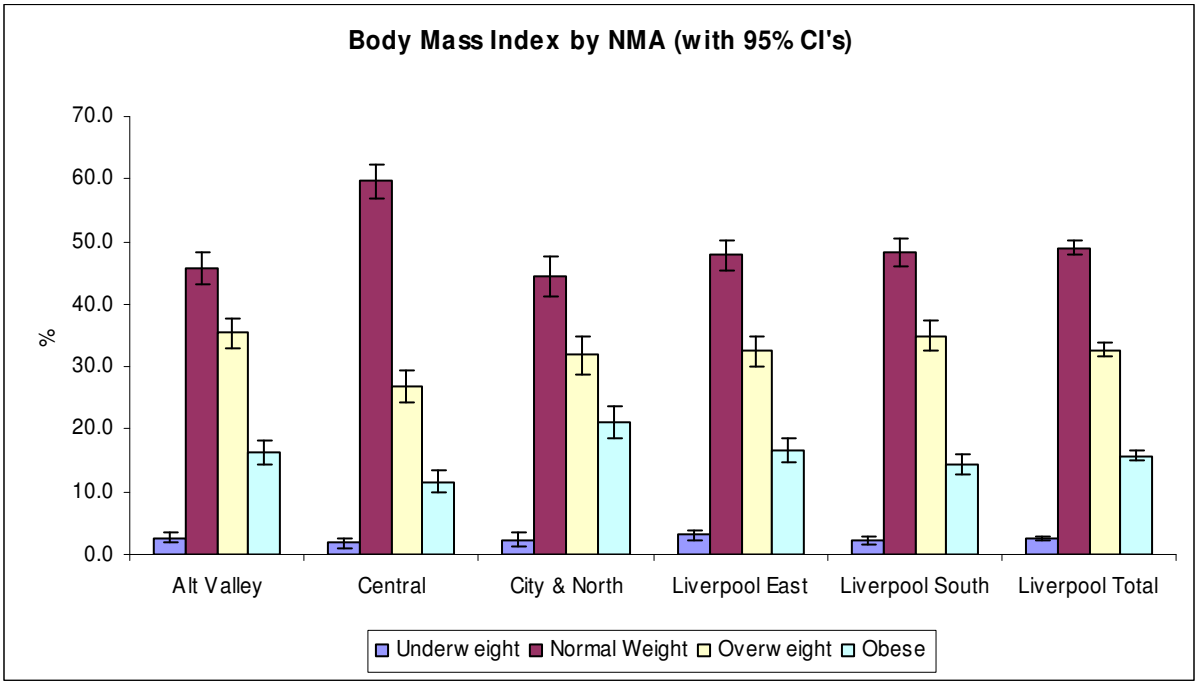
	Fourth	Third	Second	Most Deprived
	%	%	%	%
Underweight	2.5	3.5	3.1	2.1
Normal range	51.0	51.8	56.7	46.3
Overweight	36.2	32.9	27.6	33.9
Obese	10.3	11.7	12.5	17.7
Total	100.0	100.0	100.0	100.0



- Interviewees living in the most deprived quintile were more likely to be overweight or obese compared with those living in less deprived areas of the city (significant at the $p<0.05$ level).
- However, a higher proportion of people living in the fourth deprivation quintile (i.e. the least deprived in Liverpool) had a BMI >25 than people living in the third and second quintiles.

4.4 BMI by Neighbourhood Management Area

NMA	Underweight	Normal Weight	Overweight	Obese	Total		Total Nos
	%	%	%	%	%		
Alt Valley	2.7	45.7	35.4	16.3	100.0		1569
Central	1.8	59.7	26.9	11.6	100.0		1198
City & North	2.4	44.5	31.9	21.2	100.0		921
Liverpool East	3.1	47.8	32.5	16.6	100.0		1562
Liverpool South	2.3	48.3	35.0	14.5	100.0		1720
Liverpool Total	2.5	49.1	32.7	15.7	100.0		6970



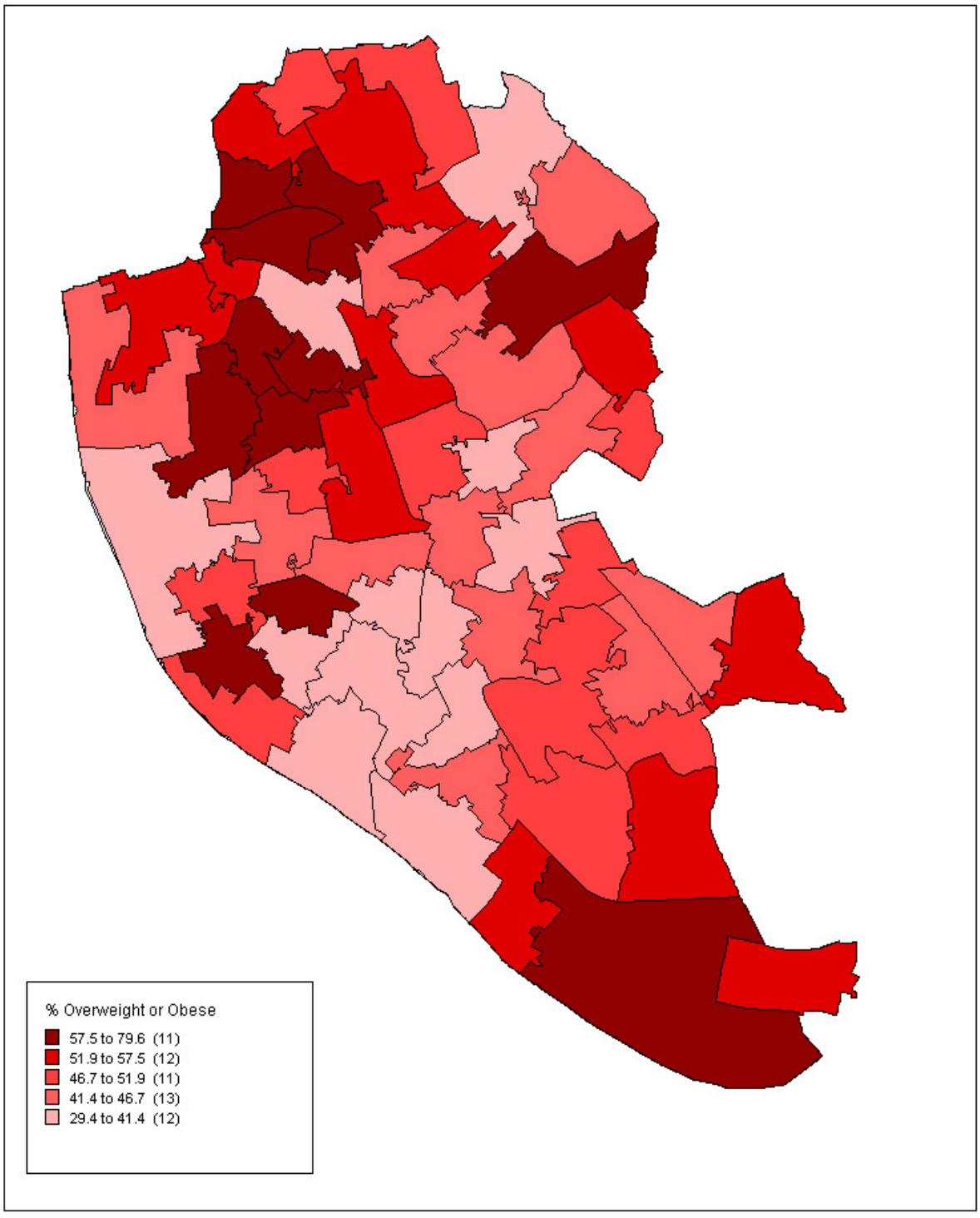
- The BMI of 6 out of 10 interviewees living in Central NMA was of normal weight.
- A fifth of interviewees from City and North NMA were obese compared with 12% from Central NMA.

4.5 Geographical Distribution of Interviewees with BMI >25

The map below shows the prevalence of overweight and obese interviewees by Middle Layer Super Output Area[17].

The survey suggests that there are pockets of particularly high rates of BMI >25 around the wards of Everton/Anfield, County/Warbreck, Princes Park/Riverside, West Derby and south Liverpool in Speke/Garston.

[17] Middle Layer Super Output Areas were created for the 2001 Census and have a mean population of 7,200 people. There are 59 MSOA's in Liverpool.



% of Interviewees whose BMI was classified as Overweight or Obese
Source: NWPHO 2007 Lifestyles Survey/ LPHIT

Date: 13/06/2008

Public Health Dept, Liverpool PCT
First Floor, 1 Arthouse Sq, 61-69 Seel St, Liverpool, L1 4AZ

Map Produced by Richard Jones
Health Intelligence Manager

4.6 BMI linked to Disease or Illness Prevalence?

The introduction to this section stated that persons with a BMI >25 were at greater risk to heart disease, stroke, diabetes, and hypertension. The table below compares BMI with the prevalence of these illnesses.

Had a heart attack or stroke

	Had a Heart Attack		Had a Stroke	
BMI	**Number**	**%**	**Number**	**%**
underweight <18.5	5	3.0	3	1.8
normal range 18.5 to 24.99	92	2.8	77	2.3
overweight 25 to 29.99	109	5.0	57	2.6
obese >29.99	60	5.8	41	3.9

Suffered from diabetes or high blood pressure in last 12 months

	Diabetes		High Blood Pressure	
BMI	**Number**	**%**	**Number**	**%**
underweight <18.5	3	1.8	14	8.3
normal range 18.5 to 24.99	76	2.2	354	10.4
overweight 25 to 29.99	131	5.8	450	19.8
obese >29.99	151	13.8	358	32.7

- According to the Lifestyles Survey findings, interviewees who were overweight or obese were significantly more likely to have suffered from heart attacks, strokes, diabetes, and high blood pressure than were those with a normal BMI.
- For example, overweight interviewees were twice as likely to have suffered from high blood pressure in the last 12 months than people who were of normal weight, and obese people were more than 3 times as likely.

Section 5 – Diet and Nutrition

This section reports the interviewees' consumption of different types of bread, milk, butter and fruit and vegetables as well as usage of oils and salt.

Diet as a Public health Issue

Diet is the major risk factor in heart disease, some cancers, obesity and diabetes. The nation's poor diet costs the economy an estimated £10 billion, of which £7.7 billion comprises NHS treatment that could be avoided if people cut down on fatty and salty foods and ate more fresh fruit and vegetables[18].

5.1 Bread

Bread is a starchy food and such foods should comprise a third of a person's diet. Wholegrain, wholemeal and brown bread contains B vitamins, vitamin E, fibre and a wide range of minerals. White bread also contains a range of vitamins and minerals, but it has less fibre than brown or wholemeal bread.

Interviewees were asked the types of bread, rolls or hard dough that they ate.

	Males		Females		Persons	
	No.	%	No.	%	No.	%
White	1,561	45.4	1,265	34.4	2,826	39.7
Brown	691	20.1	908	24.7	1,599	22.5
Wholemeal	905	26.3	1,298	35.3	2,203	30.9
Other	279	8.1	211	5.7	490	6.9
Total	3,436	100.0	3,682	100.0	7,118	100.0

- Some than 97.5% of those interviewed ate bread as part of their diet.
- Men were more likely than women to eat white bread (45% compared with 34%), and women were more likely to eat the healthier brown and wholemeal breads (60% compared with 46%).

[18] Source: Cabinet Office, 'Food: an analysis of the issues', January 2008

5.2 Milk

Milk is a source of protein and vitamins A and B2 and is also an important source of calcium. Semi-skimmed and skimmed milk contain less fat than whole milk so are considered a healthier option.

Interviewees were asked the types of milk that they usually use for drinks or on cereals.

	Males		Females		Persons	
	No.	%	No.	%	No.	%
Whole milk	662	19.6	430	12.1	1,092	15.8
Semi-skimmed milk including dried semi-skimmed	2,232	66.2	2,418	68.2	4,650	67.2
Skimmed milk including dried skimmed	433	12.8	664	18.7	1,097	15.9
No usual type	43	1.3	36	1.0	79	1.1
Total	**3,370**	**100.0**	**3,548**	**100.0**	**6,917**	**100.0**

- Some 95% of interviewees consumed milk as part of their diet.
- Almost a fifth of men used whole milk with drinks and on cereal compared with 12% of women.
- Two-thirds of all interviewees used semi-skimmed milk and there was no major difference between the genders.
- Women were more likely than men to use skimmed milk (19% compared with 13%).

5.3 Oil or Fat used for cooking or frying food

Interviewees were asked the type of oil or fat that they usually used for cooking or frying food.

	Males		Females		Persons	
	No.	%	No.	%	No.	%
Butter, ghee, lard, suet, solid cooking fat or coconut oil	103	3.5	85	2.7	189	3.1
Hard or soft margarine, half fat butter or ghee	8	0.3	11	0.3	19	0.3
Vegetable oil	2,803	96.2	3,061	97.0	5,864	96.6
Total	**2,914**	**100.0**	**3,157**	**100.0**	**6,072**	**100.0**

- Some 83% of interviewees used oil or fat for cooking or frying food.
- Almost 97% of those who used oil or fat for cooking used vegetable oil as opposed to butter, fat, margarine.

5.4 Butter, Margarine, or Spread

Margarine and butter have roughly the same relatively high levels of fat content (81g fat per 100g). Many of the products sold alongside butter and margarine are low-fat spreads and can contain up to half the fat. There are also cholesterol lowering spreads (e.g. Benecol, Pro-Active).

Interviewees were asked the kind of butter, margarine or spread that they usually used.

	Males		Females		Persons	
	No.	**%**	**No.**	**%**	**No.**	**%**
Butter, full fat ghee or hard margarine	1,080	34.6	1,224	35.7	2,304	35.2
Low fat spread or half fat ghee	1,821	58.3	1,972	57.5	3,793	57.9
Cholesterol lowering spread	190	6.1	195	5.7	386	5.9
Another spread	34	1.1	37	1.1	71	1.1
Total	**3125**	**100.0**	**3428**	**100.0**	**6554**	**100.0**

- Almost 9 out of 10 interviewees used butter margarine or spread in their diet.
- More than a third used butter, full fat ghee or hard margarine.
- Almost 6 out of 10 of interviewees used the healthier option of low fat spreads.
- There was no major difference between the genders.

5.5 Salt

Salt contains sodium which the body needs to help maintain the concentration of body fluids at correct levels. However, too much salt is linked to high blood pressure which in turn is linked to a greater risk of coronary heart disease and stroke. The government recommends that adults should eat 6g of salt a day and it has been estimated that if average salt consumption were cut to this level then there would be 70,000 fewer heart attacks and strokes each year nationally[19]. The main sources of salt in the diet are processed foods and salt added during cooking or at the table.

Interviewees were asked if they added salt to food during cooking:

	Males		Females		Persons	
	No.	**%**	**No.**	**%**	**No.**	**%**
Yes	1,614	46.2	1,795	47.2	3,409	46.7
No	1,769	50.6	1,874	49.2	3,643	49.9
'Lo salt' or light alternative used	111	3.2	137	3.6	248	3.4
Total	**3,494**	**100.0**	**3,806**	**100.0**	**7,301**	**100.0**

- Approximately half of the interviewees added salt to food whilst cooking whereas the other half did not.

[19] Source: Food Standards Agency

- There was no difference between the genders although younger people were less likely to add salt than older people. Some 45% of people aged 16-24 years added salt to food whilst cooking compared with 60% of 75+ year olds.

Interviewees were asked if they added salt to their food 'at the table'.

	Males		Females		Persons	
	No.	**%**	**No.**	**%**	**No.**	**%**
Generally add salt without tasting it first	408	11.7	359	9.4	767	10.5
Taste the food, but then generally add salt	218	6.2	267	7.0	485	6.6
Taste the food, but then occasionally add salt	900	25.8	868	22.8	1,767	24.2
Rarely or never add salt at the table	1,968	56.3	2,313	60.8	4,281	58.6
Total	**3,494**	**100.0**	**3,807**	**100.0**	**7,301**	**100.0**

- More than 1 in 10 interviewees added salt to their food at the table without tasting it first, but almost 6 out of 10 rarely or never added salt at the table.
- A quarter would occasionally add salt after tasting their food.
- Women were marginally more likely than men to rarely or never add salt to their food (59% compared to 56%). There was no apparent difference in behaviour by age group.

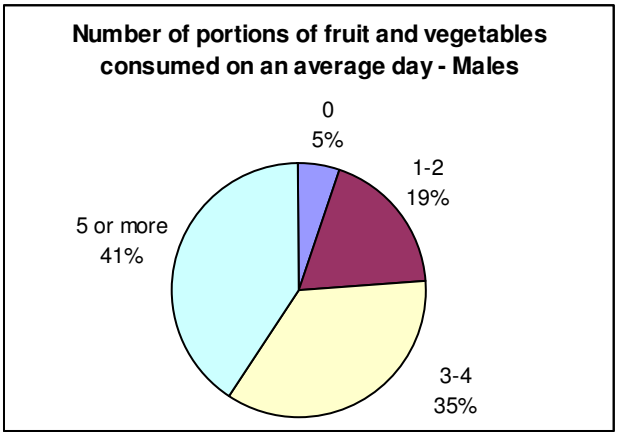
Consumption of Fruit and Vegetables

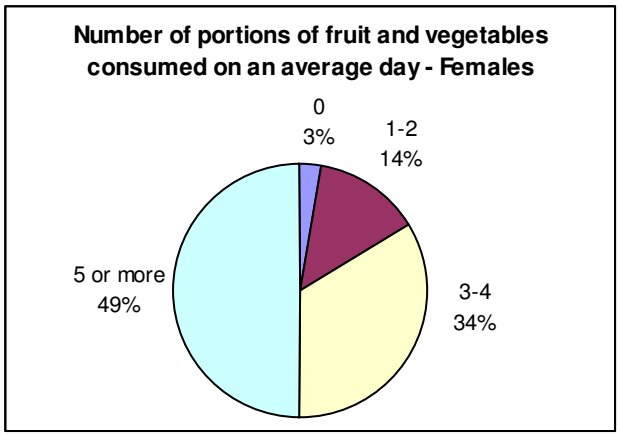
Increasing consumption of fruit and vegetables can significantly reduce the risk of many chronic diseases. It has been estimated that eating at least 5 portions of a variety of fruit and vegetables a day could reduce the risk of deaths from chronic heart disease, stroke, and cancer by up to 20%[20].

Interviewees were asked how many portions of fruit and vegetables they ate on an average day.

5.6 Fruit and Vegetables by Gender

	Male		Female		Total	
	No.	%	No.	%	No.	%
0 portions	185	5.3	107	2.8	292	4.0
1-2 portions	652	18.7	522	13.7	1174	16.1
3-4 portions	1228	35.1	1276	33.5	2504	34.3
5 or more portions	1429	40.9	1901	49.9	3330	45.6



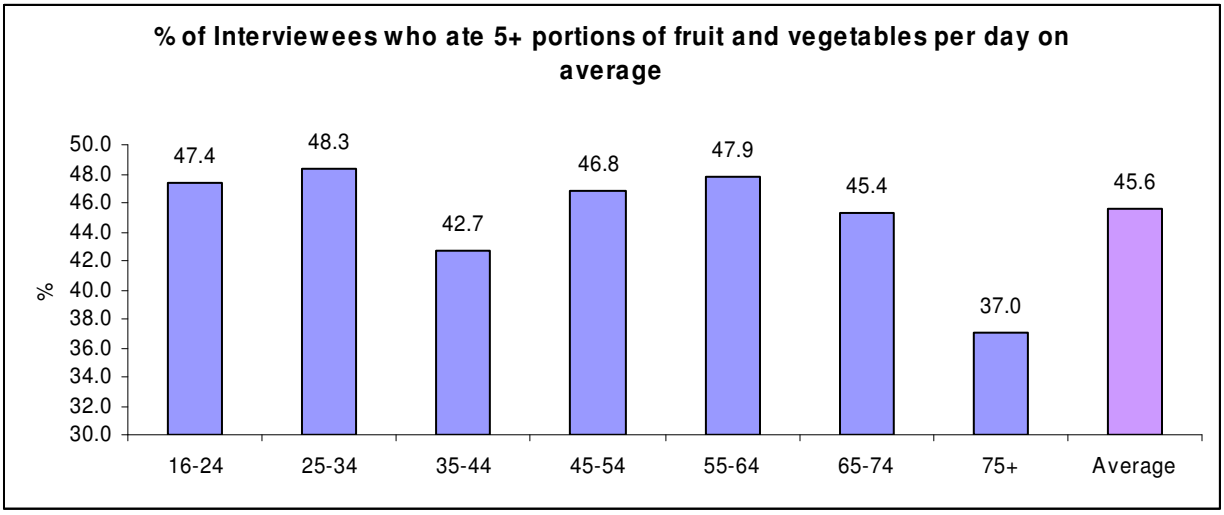


- Women were more likely to eat 5 or more portions of fruit and vegetables a day than men (50% compared with 41%).
- The overall figure of 46% of interviewees consuming 5 or more portions of fruit and vegetables per day is considerably higher than the 2003-2005 synthetic estimate of 21% for Liverpool Local Authority (England average = 26%)[21]. However, the Foods Standard Agency Consumer Attitudes Survey found that in 2006 some 55% of respondents nationally consumed 5 or more portions of fruit and vegetables, which had leapt from 30% in 2005. Their conclusion was that the way the question around fruit and vegetable consumption is framed impacts on the findings. For their 2006 Survey and for the Liverpool Lifestyles Survey it was explained in the questionnaire what constituted a portion which appears to have assisted respondents[22].

[20] Source: Department of Health
[21] Source: Source: National Centre for Social Research/NHS Information Centre, Healthy Lifestyle Behaviours: Model-Based Estimates 2003-2005
[22] Source: Food Standards Agency, 'Consumer Attitudes to Food Standards', February 2007

5.7 Fruit and Vegetables by Age

	5+ portions			0 portions	
	No.	%		No.	%
16-24	707	47.4		60	4.0
25-34	578	48.3		46	3.8
35-44	540	42.7		55	4.3
45-54	524	46.8		47	4.2
55-64	425	47.9		33	3.7
65-74	332	45.4		30	4.1
75+	223	37.0		21	3.5
Total	**3329**	**45.6**		**292**	**4.0**



- The 25-34 years age-group had the highest proportion of people who consumed 5 or more portions of fruit and vegetables (48%) whereas the 75+ year olds had the lowest (37%) (significant at the p<0.05 level).

5.8 Fruit and Vegetables by Deprivation

	5+ portions			0 portions	
	No.	%		No.	%
Fourth	141	56.2		4	1.6
Third	488	55.5		19	2.2
Second	687	52.1		57	4.3
Most deprived	2,014	41.5		212	4.4
Total	3,330	45.6		292	4.0

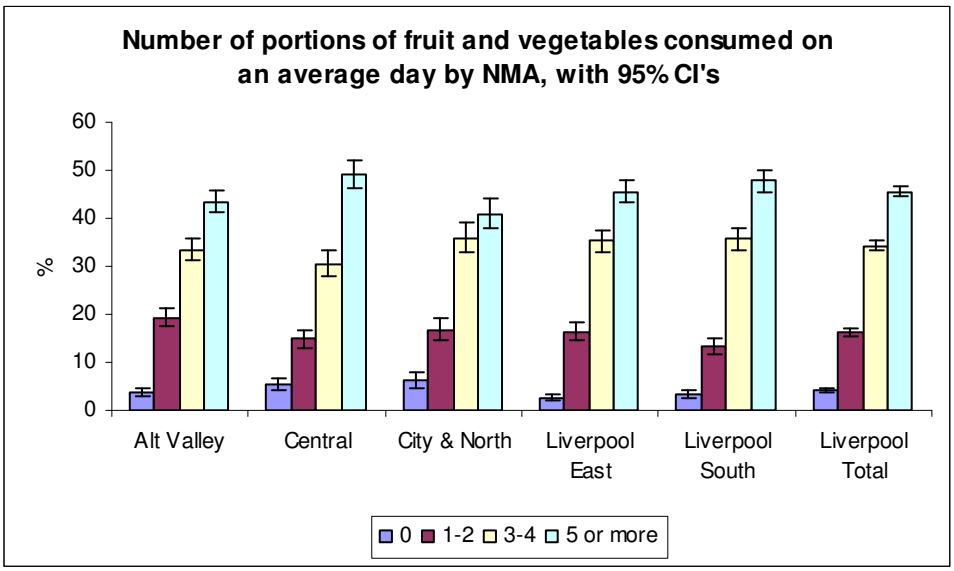
- Consumption of fruit and vegetables varies according to deprivation. Some 42% of interviewees living in the most deprived deprivation quintile consumed on average 5 or more portions per day compared with 56% living in the fourth deprivation quintile.

- This supports research undertaken by the FSA Consumer Attitudes Survey 2005 which found evidence of higher fruit and vegetable consumption in more affluent social groups[23].

[23] Department of Health, Health Challenge England: factsheets, 2006

5.9 Fruit and Vegetables by Neighbourhood Management Area

	Number of portions						
NMA	0	1-2	3-4	5 or more	Total		Total Nos
	%	%	%	%	%		
Alt Valley	3.8	19.2	33.5	43.5	100.0		1,638
Central	5.5	14.8	30.6	49.1	100.0		1,228
City & North	6.2	16.8	36.0	41.0	100.0		969
Liverpool East	2.7	16.4	35.4	45.5	100.0		1,663
Liverpool South	3.2	13.4	35.7	47.7	100.0		1,804
Liverpool Total	4.0	16.1	34.3	45.6	100.0		7,301

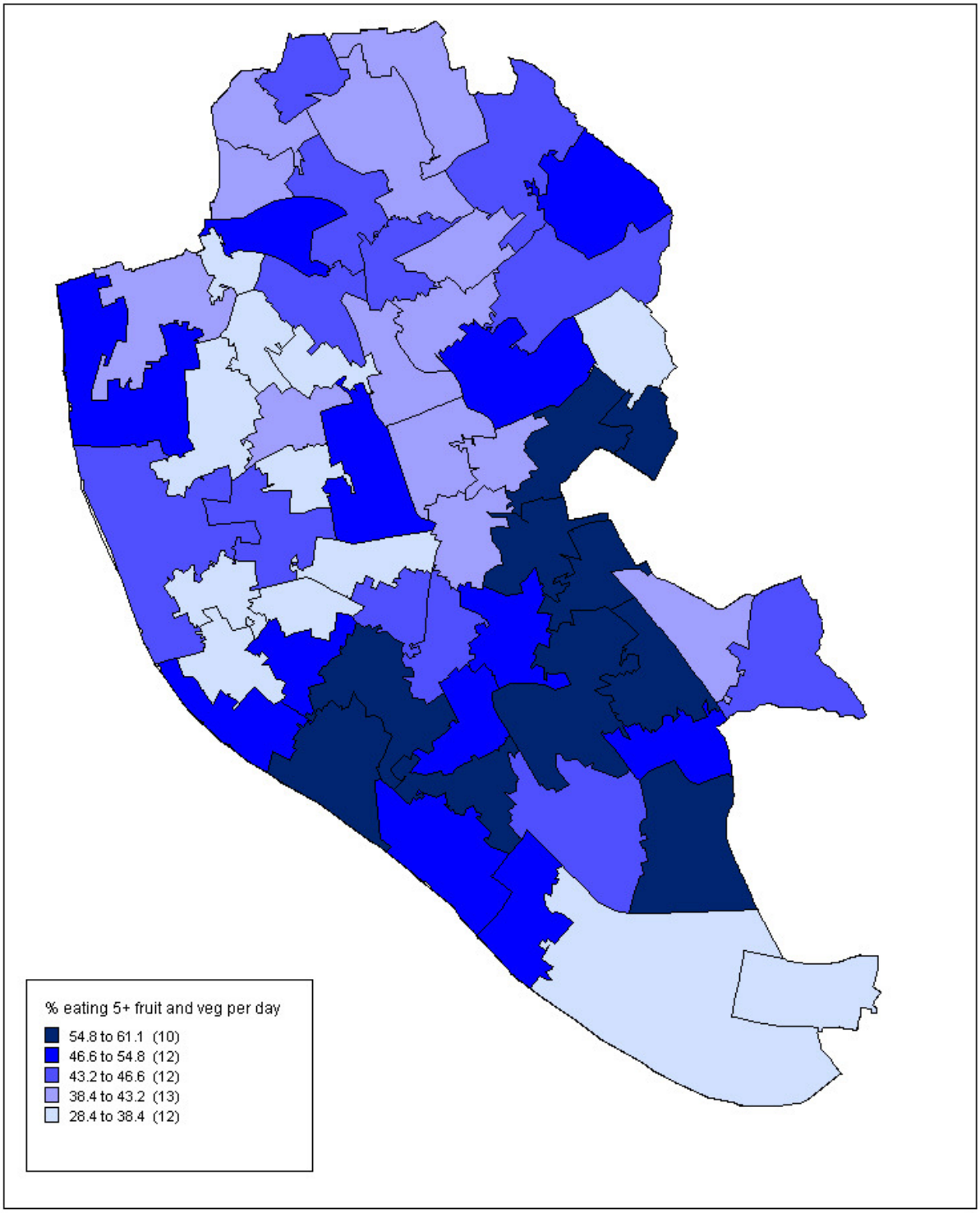


- Central NMA had the highest proportion of interviewees who ate 5 or more portions of fruit and vegetables a day whilst City and North NMA had the lowest (49% compared with 41%).
- City and North NMA had the highest proportion who did not eat any portions of fruit and vegetables whereas Liverpool East had the lowest (6% compared with 3%).

5.10 Geographical Distribution of Interviewees who ate 5 or more portions of fruit and vegetables by Middle Layer Super Output Area

The map suggests that high consumption of fruit and vegetables mirrors deprivation across the city. In the more affluent areas of Childwall, Woolton, Church, St Michaels, and Mossley Hill more than 55% of interviewees ate 5 or more portions of fruit and vegetables a day.

Lower levels of consumption are found in the more deprived areas of Everton, Anfield, Yew Tree, Princes Park, Picton and Speke-Garston.



% of Interviewees who reported eating 5 or more pieces of fruit and vegetables per day
Source: NWPHO 2007 Lifestyles Survey/ LPHIT

Date: 13/06/2008

Public Health Dept, Liverpool PCT
First Floor, 1 Arthouse Sq, 61-69 Seel St, Liverpool, L1 4AZ

Map Produced by Richard Jones
Health Intelligence Manager

Section 6 – Physical Activity

Physical Activity as a Public Health Issue

Being physically active can help prevent obesity, heart disease, osteoporosis, high blood pressure, stroke, diabetes and cancer. It can also have benefits for emotional, social and mental health. The Chief Medical Officer recommends that adults should do a minimum of 30 minutes moderate-intensity physical activity, five days a week.

Liverpool Lifestyle Survey Findings

Taken from the Global Physical Activity Questionnaire Analysis Guide produced by the World Health Organisation[24], the Liverpool Lifestyles Survey questionnaire asked about activity at work, activity when travelling, recreational activities, and sedentary behaviour of interviewees in a typical week.

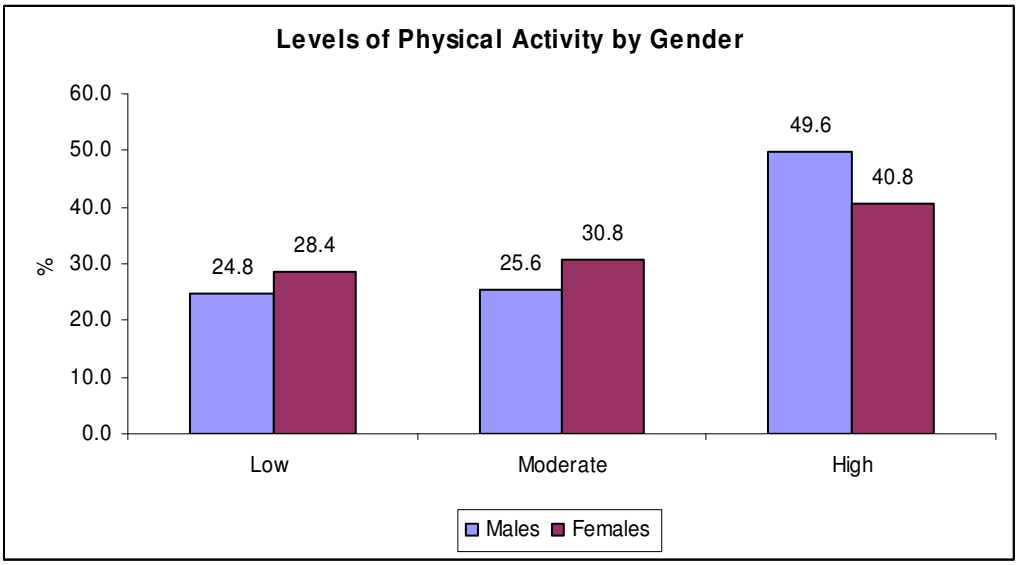
Using the information collected it was possible to determine the time and intensity that an interviewee spent in physical activity during a typical week. Metabolic Equivalents minutes per week (METs) are used to express the intensity of physical activities with 4 METs per minute denoting moderate activity and 8 METs per minute denoting vigorous activity. The total number of METs for each interviewee was calculated and they were assigned to one of the following three categories:

- **High** – A person who had vigorous intensity activity on at least 3 days achieving at least 1,500 MET minutes per week; OR had any combination of walking, moderate, or vigorous intensity activities achieving at least 3,000 MET minutes per week
- **Moderate** – A person who did not meet the 'high' category but who had 3 or more days of vigorous intensity activity of at least 20 minutes a day; OR 5 or more days of moderate intensity activity or walking of at least 30 minutes a day; OR 5 or more days of any combination of walking, moderate, or vigorous intensity activities achieving at least 600 MET minutes per week.
- **Low** – A person not meeting any of the above criteria

[24] http://www.who.int/chp/steps/GPAQ/en/index.html

6.1 Physical Activity by Gender

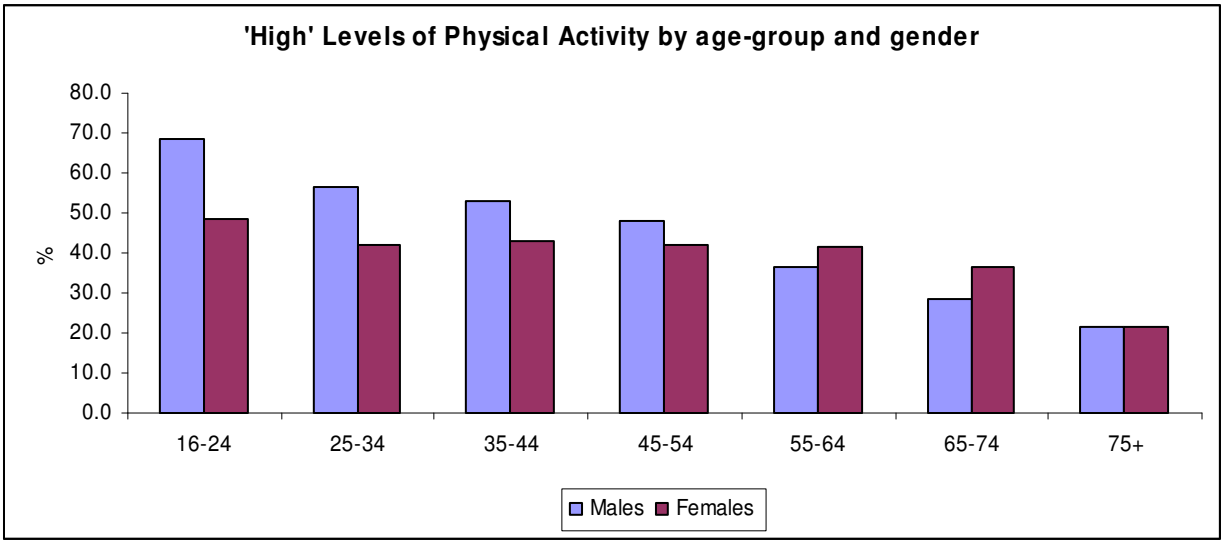
	Males		Females		Persons	
	No.	%	No.	%	No.	%
Low	867	24.8	1,082	28.4	1,949	26.7
Moderate	893	25.6	1,173	30.8	2,066	28.3
High	1,735	49.6	1,551	40.8	3,286	45.0
Total	**3,495**	**100.0**	**3,806**	**100.0**	**7,301**	**100.0**



- Some 45% of those surveyed engaged in high levels of physical activity as defined above.
- 5 out of 10 men engaged in high levels in physical activity compared to 4 out of 10 women.

6.2 Physical Activity by Age-Group

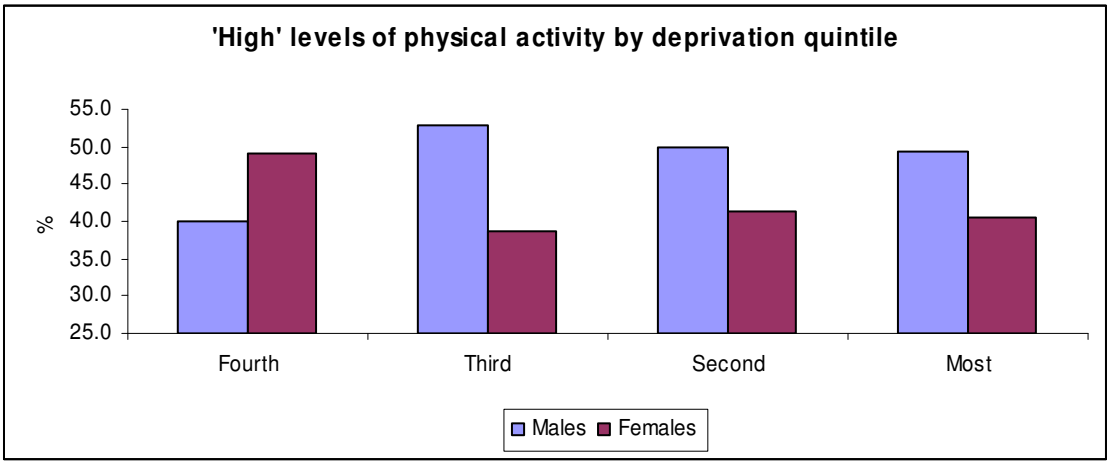
	Males			Females			Persons		
	Low	Moderate	High	Low	Moderate	High	Low	Moderate	High
	%	%	%	%	%	%	%	%	%
16-24	9.9	21.5	68.6	14.9	36.8	48.4	12.4	29.3	58.2
25-34	22.4	20.9	56.7	24.2	33.9	41.9	23.2	27.5	49.2
35-44	20.5	26.4	53.1	27.3	29.8	43.0	23.9	28.0	48.0
45-54	24.3	27.7	48.0	31.3	26.8	41.9	27.9	27.2	44.8
55-64	36.2	27.4	36.4	27.9	30.5	41.5	31.9	29.1	39.1
65-74	40.6	31.0	28.4	34.5	28.9	36.6	37.4	29.9	32.7
75+	47.3	31.3	21.4	54.4	24.3	21.4	51.7	26.9	21.4



- The Lifestyle Survey suggested that high physical activity levels decrease with age. For example, almost 6 out of 10 of 16-24 year olds engaged in high levels of physical activity compared with 2 in 10 of 75+ year olds (significant at the $p<0.05$ level).
- Men were more likely than women to engage in high levels of physical activity in the age-groups 16-24 years to 45-54 years. For the more elderly age-groups this situation is reversed.

6.3 Physical Activity by Deprivation

	Males			Females			Persons		
	Low	Moderate	High	Low	Moderate	High	Low	Moderate	High
	%	%	%	%	%	%	%	%	%
Fourth (least deprived)	27.5	32.5	40.0	19.2	31.5	49.2	23.5	31.9	44.6
Third	22.6	24.5	53.0	28.5	32.7	38.8	25.7	28.8	45.6
Second	21.7	28.3	49.9	27.8	30.8	41.4	24.9	29.6	45.5
Most deprived	25.9	24.6	49.5	29.0	30.5	40.5	27.5	27.7	44.8



- There was no difference in high physical activity levels for all persons by deprivation.
- However, males from the most deprived deprivation quintile were more likely than those from the least (fourth) deprived to engage in high levels of physical activity (50% compared with 40%).
- This situation is reversed when looking at high levels of physical activity for women, with 41% from the most deprived areas expending high amounts of physical activity compared with 49% in the most affluent areas. (It should be noted that this is **not** statistically significant as p>0.05).

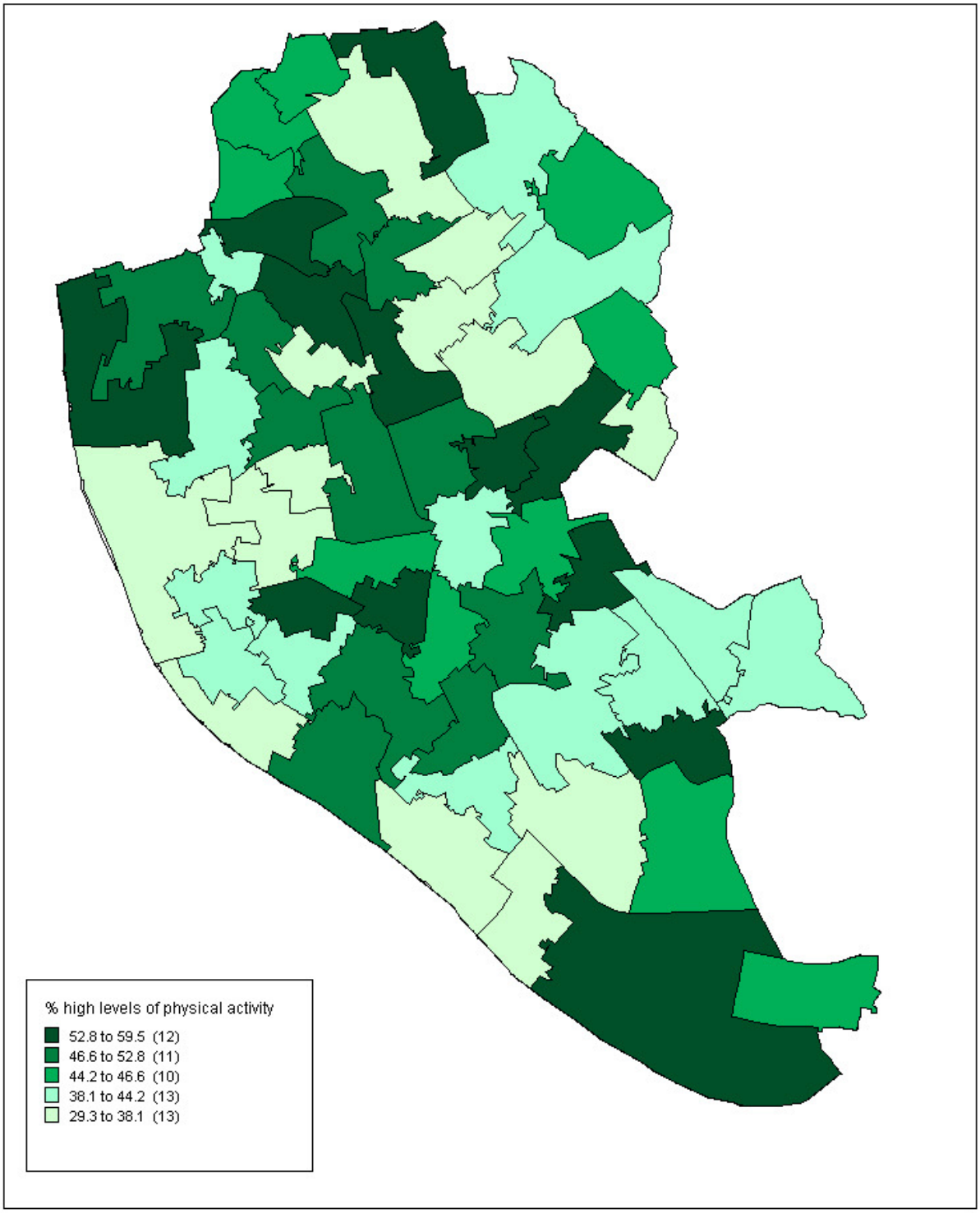
6.4 Physical Activity by Neighbourhood Management Area

NMA	Level of Physical Activity					
	Low	Moderate	High	Total		Total Nos
	%	%	%	%		
Alt Valley	26.7	27.9	45.4	100.0		1638
Central	25.4	28.4	46.1	100.0		1227
City & North	27.5	28.4	44.1	100.0		968
Liverpool East	25.1	29.3	45.6	100.0		1662
Liverpool South	28.6	27.5	43.8	100.0		1804
Liverpool Total	26.7	28.3	45.0	100.0		7299

- There was no apparent difference across the NMA's for physical activity levels.

6.5 Geographic Distribution of High Levels of Physical Activity by Middle-Layer Super Output Area

The map below suggests that there is no discernible pattern to high levels of physical activity across the city.



% of Interviewees who reported 'high' levels of physical activity
Source: NWPHO 2007 Lifestyles Survey/ LPHIT

Date: 13/06/2008

Public Health Dept, Liverpool PCT
First Floor, 1 Arthouse Sq, 61-69 Seel St, Liverpool, L1 4AZ

Map Produced by Richard Jones
Health Intelligence Manager

6.6 Physical Activity Levels and Body Mass Index

The following table examines if there is a pattern between a person's physical activity and BMI.

	Physical activity levels		
BMI	**Low**	**Moderate**	**High**
	%	**%**	**%**
Underweight <18.5	25.6	22.7	51.7
Normal range 18.5 to 24.99	22.9	29.5	47.6
Overweight 25 to 29.99	28.2	26.5	45.3
Obese >29.99	35.3	27.6	37.1

- The Lifestyles Survey suggests that people who were obese were less likely to have high levels of physical activity than was the case for those people of normal weight.
- Likewise some 35% of obese people and 28% of overweight people had lower levels of physical activity than those of normal weight (23%) (this is significant at the $p<0.05$ level).

Section 7 - Alcohol

Alcohol as a Public Health Issue

The abuse of alcohol causes problems for society, in terms of alcohol-related violence and disorder, and can cause health problems for people who drink too much of it.

In 2005-06, Liverpool had the highest rates of alcohol-specific and alcohol-attributable admissions to hospital in the country, and ranked the second worst for alcohol-attributable mortality. Likewise, alcohol-related recorded crime was amongst the highest in the country. Liverpool men can expect to lose nearly 16 months of life through alcohol and females 9 months of life[25].

The cost to the NHS of treating the effects of alcohol misuse is up to £1.7billion each year[26].

Key Findings – Liverpool Lifestyles Survey

Do you drink alcoholic drinks?

7.1 Drink Alcohol by Gender

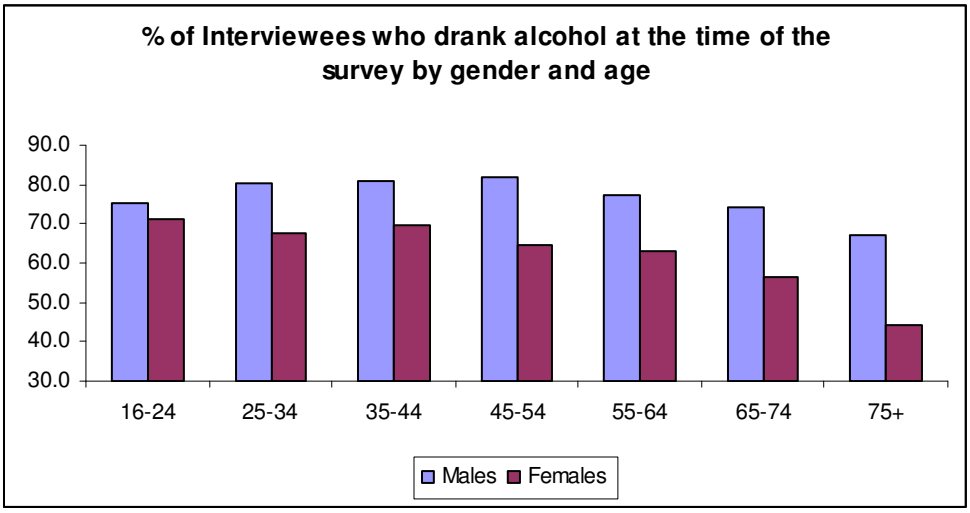
	Male		Female		Total	
	No.	%	No.	%	No.	%
Yes	2,715	77.7	2,444	64.2	5,159	70.7
No	779	22.3	1,362	35.8	2,141	29.3
Total	3,494	100.0	3,806	100.0	7,300	100.0

- More than three-quarters of men drank alcohol at the time of the survey compared with less than two-thirds of women.

[25] Source: NWPHO, 'Local Alcohol Profiles' http://www.nwph.net/alcohol/lape/LAProfile.aspx?reg=b
[26] Liverpool PCT' Alcohol Harm Reduction Strategy, 7 November 2007

7.2 Drink Alcohol by Age

	% of Men who drank alcohol	% of Women who drank alcohol
16-24	75.3	71.2
25-34	80.3	67.7
35-44	80.6	69.8
45-54	81.6	64.5
55-64	77.5	62.9
65-74	74.2	56.4
75+	67.0	44.3



- More men drink alcohol than do women in every age-group.
- The proportion of both men and women who drink alcohol tends to decrease from the 35-44 years age-group onwards.

7.3 Drink Alcohol by Deprivation Quintile

	Yes	No
Fourth (least deprived)	76.8	23.2
Third	76.2	23.8
Second	75.7	24.3
Most deprived	68.0	32.0

- Interviewees living in the most deprived areas of Liverpool were less likely to drink alcohol than those living in less deprived areas.

Harmful and Hazardous Drinking

Interviewees were asked about their alcohol consumption in the week prior to their participation in the survey. After calculating all of the weekly units the following classifications were produced:

- drinking within recommended guidelines,
- hazardous drinking (consumption of between 22 and 50 units of alcohol per week for males, and between 15 and 35 units for females), and
- harmful drinking (consumption of more than 50 units of alcohol per week for males, and more than 35 units for females).

Note: those people who did not drink alcohol have been excluded from the following analysis.

7.4 Alcohol Consumption by Gender

	Males		Females		Total	
	No.	%	No.	%	No.	%
Within guidelines	2,117	78.0	2,062	84.4	4,179	81.0
Hazardous	456	16.8	321	13.1	777	15.1
Harmful	141	5.2	61	2.5	202	3.9
Total	2,714	100.0	2,444	100.0	5,158	100.0

- Some 8 out of 10 interviewees who drank alcohol at the time of the survey claimed to drink within recommended guidelines.
- Men were more likely than women to engage in hazardous drinking (17% compared with 13%).
- Men were also more than twice as likely as women to engage in harmful drinking (5.2% compared with 2.5%).
- The overall hazardous and harmful percentages as reported in the Lifestyles Survey are lower than those reported by the North West Public Health Observatory. The latter estimated that for 2005 some 23% of **all** 16+ year olds engaged in hazardous drinking and 8% in harmful drinking[27]. This compares to 15% and 4% for the Lifestyles Survey (if all interviewees are included – i.e. those persons who do not drink alcohol - then these figures change to 11% and 3%).
- One possible reason for this anomaly is that people may under-report the full extent of their alcohol consumption for personal or cultural reasons. Research has shown that, 'Individuals are less likely to answer potentially sensitive questions related to their health and health-related behaviour truthfully over the phone'[28].

[27] Source: NWPHO, Local Alcohol Profiles, http://www.nwph.net/alcohol/lape/LAProfile.aspx?reg=b
[28] Source: Telephone methods for social surveys', Roger Thomas and Susan Purdon, Social Research Update Issue 9.