

**Department of Health, Social Services and Public Safety**

**An Roinn Sláinte, Seirbhísí Sóisialta agus Sábháilteachta Poiblí**

# **Health and Health Service Use in Northern Ireland: Social Variations**

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**A Report from the Health and Social Wellbeing Survey 1997**

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# 2

## Population characteristics and data handling

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### 2.1 Introduction

The Northern Ireland Health and Social Wellbeing Survey contains a rich database covering various aspects of health, enabling us to provide a comprehensive picture of the health of the population and health related behaviour.

This section details the main characteristics of the respondents which are pertinent to this report. The data analysed fell into four broad categories – demographic and social, socio-economic standing, health status and use of health services. The remainder of this chapter details how the data in these categories were handled.

### 2.2 Demographic and Social Characteristics

The Health and Wellbeing Survey collected a large amount of data relating to individual and household characteristics. Age and sex are obviously important determinants of the variation in health status and use of health services. Marital status and whether the person was living alone were also included, as was religious denomination, because of its local relevance. Seven age categories (16-24, 25-34...75+) were often used to describe the variations in health or service use; however, for clarity of presentation three age bands (16-44, 45-64, 65+) were used to describe the age-related variations in socio-economic standing and in the multiple regression modelling.

The marital status of respondents has generally been grouped into three categories:

Single;

Married or cohabiting;

Separated, divorced or widowed

Of the total respondents 26.2% were single, 59% were married or cohabiting and 14.8% were separated, divorced or widowed. Due to the relatively small numbers in the latter category, those people who were separated, divorced or widowed were generally

examined together, though occasionally widowed and separated/divorced were examined separately.

Respondents were asked about their current religious affiliation, and which denomination they had been brought up in. The 10% of respondents who did not complete the first of these questions were categorised according to the religion in which they were raised. Based on full or proxy responses the breakdown of the denomination category was as follows:

Religion	No	%
Catholic	2019	43.1
Protestant denominations		
Presbyterian	1097	23.4
Church of Ireland	894	19.1
Methodist	221	4.7
Baptist	73	1.6
Free Presbyterian	40	0.9
Brethren	33	0.7
Protestant – not specified	272	6.8
Total – usable	4649	99.2
Missing	39	0.8
Total	4688	100.0

Religious affiliation was then divided into broad two categories ‘Catholic’ and ‘Protestant’.

## 2.3 Socio-economic Status

### *Social class*

The social (occupational) class of the respondents was obtained from details of their current job if employed; their most recent job, if unemployed, or if retired, what had been their main job. The standard OPCS classification gives six social class groups: I, II, III non-manual, III manual, IV and V, however because of small numbers associated with some tables it was often necessary to aggregate them into non-manual and manual categories with 43.6% and 48.5% falling into these categories respectively.

### *Education*

Respondents were asked to indicate their highest educational qualification from a checklist. In the report these were grouped into two categories as follows:

- any educational qualification
- no educational qualifications.

60.1% of respondents had some type of educational qualification while 39.7% had no educational qualification.

### *Tenure*

Respondents were asked about their type of accommodation and for analysis purposes their responses were grouped into two categories of housing tenure

- Owner occupied –living in homes either owned outright or being bought by mortgage or loan
- Renting –living in homes rented for example from local authority, privately or from a housing association

71.9% of respondents were living in owner occupied accommodation while 28.1% were living in rented accommodation.

### *Car Availability*

Respondents were also asked whether or not they had access to a car or van and if so, the number available. (Respondents and households did not have to own these vehicles.) Almost 77% of respondents had access to a car while 23% had no car available to them.

### *Household Income*

The survey also captured data relating to gross annual household income. Income from all sources was assessed, including earned income, pensions, benefits, allowances, interest or annuities etc., with deductions for taxes, national insurance contributions, etc. However, gross income should be related to the household size specifically the number and age of the dependants. Thus for each household an equivalentised income was computed. This means estimating a weight for each household member, e.g. 1.0 for head of household, 0.59 for their spouse and 0.5 for children (the weighting for children

varied according to age<sup>1</sup>). From these calculations five categories were constructed ranging from wealthiest to poorest. Approximately one fifth of respondents fell into each category with the exception of the poorest category, which comprised 11% of respondents.

## **2.4 Area Characteristics**

A person's health status and their use of services may be determined or influenced by where they live as much by their own personal circumstances. For example, the use of some services may be lower in rural areas where accessibility to those services is reduced. Alternatively, people who are less-well-off may have a poorer perception of their health if they are living in a more affluent area where their relative disadvantage is more apparent. The only available indicator of this type in the survey itself was the Health and Social Services Board in which the respondent lived. It was however possible to ascribe area characteristics at a much finer geographical level to each individual household by using the postcode to place the household within an electoral ward. This approach makes the assumption that everyone within an electoral ward has the characteristics of that ward; this is known as the ecological fallacy. However, it is useful in that it enables us to examine if the characteristics of the area in which an individual lives adds any further explanation of health status or service uptake above and beyond that afforded through an understanding of their individual circumstances.

Two area characteristics were used in this study. The first was the Carstairs Index<sup>2</sup> of Deprivation, which is very closely related to the Townsend index<sup>3</sup>. The second was a measure of urban/rural living. The Carstairs Index of Deprivation is a composite of four equally weighted census variables,

1. The proportion of persons living in private households which have more than one person per room.
2. The proportion of men who are unemployed.
3. The proportion of persons in households where the head of household is in social class 4 or 5.

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<sup>1</sup> For details see Davies, H., Joshi, H., and Clarke, L. Is it cash the deprived are short of? (1997). *J R Statist Soc.* 160, 107-26.

<sup>2</sup> Carstairs V., Morris R. Deprivation and health in Scotland. Aberdeen: Aberdeen University Press 1999.

4. The proportion of all persons in private households with no car.

It is a widely used indicator of disadvantage at an area level and has been shown to be related to health status and service use.

The measure of rurality was developed by researchers in Lancaster<sup>4</sup> and is a statistical combination of variables such as distance from large conurbations, population density and the percentage of people employed in agricultural occupations. For both of these variables five categories (most affluent to most disadvantaged, and most rural to most urban) were constructed so that approximately one fifth of the total Northern Ireland population was assigned to each. To maintain respondent confidentiality researchers at QUB only knew in which of these five categories the respondents lived, they did not have data associating respondents with individual electoral wards. Sometimes for presentational purposes these categories are collapsed into three categories, for example more affluent, average and more deprived for Carstairs and urban, average and rural for the measure of urban/rural living.

## **2.5 Health Measures**

The Health and Wellbeing Survey also measures and assesses the different aspects of the health of the population of Northern Ireland in a variety of different ways. This report focuses on (i) the self-perceptions of health including questions relating to general health, the presence of limiting long-standing illness and the presence of disability. (ii) the GHQ12 (General Health Questionnaire) which measures psychological morbidity in the general population and (iii) the SF36 (Short Form 36) which measures eight different aspects (dimensions) of general health. In order to minimise the amount of possible duress on respondents, the SF36 and GHQ12 were administered to different halves of the survey population. However, this limited the analysis that could be undertaken principally due to the problems of smaller numbers but also because the responses to both health measures could not be compared.

The question on general health is identical to one that has been proposed for inclusion in the forthcoming 2001 census; the longstanding illness question has been asked in the

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<sup>3</sup>Townsend P., Philmore P., Beattie A. Health and deprivation: Inequalities and the North London: Croom Helm 1988.

<sup>4</sup>Price Waterhouse Statistical research into the effects of rurality on the Capitation formula: Final Report. A report to the Department of Health & Social Services (NI) Belfast 1998.

Continuous Household Survey and parallels the limiting longterm illness question asked in the 1991 census. The longstanding illness question was asked in two stages; first the respondents were asked if they had any long standing illness, disability or infirmity, by 'long standing' meaning anything that had troubled them over a period of time or was likely to affect them over a period of time. If the response was affirmative, they were subsequently asked if this illness or disability limited their activities in any way. The general health question asked respondents 'over the last twelve months would you say your health has on the whole been..' 'good', 'fairly good' or 'poor'. Generally all three responses were described but occasionally, where the numbers were small, the three categories were contracted to two by combining 'fairly good' and 'poor'.

### *Self Perception of Health*

Respondents were asked about perceptions of their own general health, and about the presence of a limiting longstanding illness or any disabilities. These health measures provide valuable indicators of the general health of the population and are known to be strongly linked to the use of services. However a degree of caution is required; data based on self-assessments of health may not be completely reliable due to variations in the interpretation of the question or the readiness to report poor health. Responses to questions depend to some extent on attitudes and expectations, which are likely to vary throughout the population. Hence differing interpretations of what constitutes 'good health' or whether certain conditions represent a limiting longstanding illness are to be expected. Alternatively, some illnesses may be underreported due to a reluctance to reveal information to a lay interviewer and, finally, respondents may not be aware of their condition. Nevertheless, obtaining respondents' self assessments of their health is valuable as it provides information about the health of the whole population, and therefore extends the picture that can be obtained from hospital records or a doctors examination. In addition, it is thought that self perception of health may indicate potential demand for health services.

### *General Health Questionnaire (GHQ)*

The GHQ is the most widely used population measure of psychological disturbance in the United Kingdom. It was developed in England in the 1960s and 1970s and was intended for use in the setting of general practice. In the Northern Ireland Health and Social Wellbeing Survey the 12-item form (GHQ12) was used, which is more suitable

for use with older and more frail people. The GHQ is a self-completion questionnaire which concentrates on the broader components of psychological morbidity especially anxiety and depression. Each of the twelve items has four possible answers; the positive (e.g. better than or about the same as usual) are given a score of 0 and the negative responses (e.g. doing less well or much less well than usual) are given a score of 1. A maximum score of 12 is possible for each individual. A low score represents low probability of psychological morbidity whereas a high score indicates probable psychological disturbance. In addition to this overall score it is also possible to derive a measure of “caseness” that is individuals with a score above a certain threshold who would correspond to the average case referred to a psychiatrist. This is not to say that all respondents above this threshold have a psychological illness, as there will be some that have a high GHQ score but who do not have a psychological illness. This is known as a false positive. However, on average, patients with scores above this level would equate to the patients seen by psychiatrists. There is no agreed GHQ score which is to be used as a threshold for “caseness” and the threshold will vary a little from survey to survey. On the advice of local experts a score of 3 or over was used to define “caseness” in this report and reference to respondents with a ‘high’ GHQ12 score means scores at or above this threshold. This cut-off was chosen as balance between indicating the presence of probable psychiatric morbidity in the general population and yet providing sufficient numbers to make any analysis meaningful. In the English and Scottish health surveys a threshold of 4 or above was used. When comparing the Northern Ireland and English and Scottish levels a similar cut-off point was used.

#### *Short Form 36 (SF-36)*

This instrument was derived from a much longer set of questions used in the Medical Outcome Study in America. It has been adapted from the American version for use in the United Kingdom and has been repeatedly shown to be a valid and reliable instrument for measuring general health in a wide variety of settings from assessing the outcomes of clinical interventions to measuring population health. (More recently a slightly amended United Kingdom version has been introduced, which has been shown to have slightly improved reliability and probably greater responsiveness to change in population health over time. However, this was not used in time for the Northern Ireland Health and Social Wellbeing Survey).

The SF36 is a self-completion instrument of thirty-five questions that measure eight dimensions of health, which are:

- Physical Functioning
- Role Limitation – physical
- Bodily Pain
- General Health
- Energy and Vitality
- Social Functioning
- Role Limitation – emotional
- Mental Health

A thirty-sixth question asked respondents about changes in health over the last year. More recent work has suggested that the essentials of these eight dimensions can be described by two summary measures; the physical component summary comprises the first four dimensions in the list above and the mental component summary consists of the last four dimensions. Scores for each dimension range from 0 (for worst health) to 100 (for best possible health).

## **2.6 Use of health services**

This section examines the use of different types of health services in Northern Ireland and the demographic, social, socio-economic and area factors that are associated with variations in this utilisation. The services examined are GP consultation, outpatient visits and inpatient stays. The first part of the section describes the variations as service use according to the different societal characteristics; the final part considers all of these factors together in the form of a multiple regression model. This has been done to try and unravel, from the multiplicity of associations, which are the pre-eminent factors that are related to utilisation. For example, we know from previous work that lower socio-economic status is associated with poorer health and a greater use of services is to therefore be expected, but does socio-economic status still have a bearing on service use once health differences have been taken into account? It might for example be that for a given level of health status that those with greater socio-economic disadvantage receive a lower level of service.

Inpatient stays were defined as staying in hospital overnight or longer, and outpatient visits included attendance at either casualty or an outpatient department. In the survey respondents were asked about the use of these services within the preceding year. Questions relating to GP consultations were more detailed but data relating to consultations within the last year were derived from the question asking about the time of the last GP consultation.

Clearly the accuracy of the data depends on respondents' recall, for example events may be forgotten and the timing of events may be misreported. Nevertheless the information provided by these questions is valuable as it provides a picture of the variations in the uptake of these services and the characteristics of the population who use them. A further caveat must be added to these data in that they do not provide any information as to why a consultation took place. Consequently a range of disparate clinical reasons (for example an emergency medical consultation, an antenatal visit, a routine health check, pre-holiday vaccinations etc) will all be treated equally when the data are analysed. Respondents were also asked how far (in terms of travel time) they lived from this GP, and it was therefore possible to see if consultation rates were affected by the proximity to this service.



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# 3

## **Social and socio-economic indicators: distribution in society and inter-relationships**

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### **SUMMARY**

- For many of the indications of deprivation and disadvantage men appeared better off than women.
- Increasing age was generally associated with an increase in prevalence of indicators of disadvantage and poverty, however some of these indicators such as social class and educational status may indicate shifts in the population norm over time.
- There was a greater proportion of Catholics in the younger age groups and a greater proportion of Protestants amongst the elderly. For a wide range of socio-economic indicators Catholics appeared more deprived than their Protestant peers. These differences were more marked at older ages.
- Household income (adjusted for the number and age of dependants) was closely associated with other indicators of disadvantage, especially car availability and tenure. The more affluent households tended to live in areas that were neither very rural nor very urban.
- Many of the indicators of socio-economic status showed that there were higher levels of disadvantage at both ends of the urban/rural spectrum. Area of residence also influenced the expression of disadvantage, for example, people in the poorest income band who lived in the most rural areas tended to own their own house and car, whereas in urban areas people in the equivalent income bands tended not to have a car and to rent their accommodation.
- There was general agreement between area and household indicators of disadvantage, however all areas contained a mixture of affluent and deprived people and targeting only deprived areas will therefore miss out significant numbers of deprived people who live in more affluent areas.
- Multiple deprivation was more common amongst the elderly and amongst women.

### **3.1 Introduction**

This section describes the demographic, social and socio-economic characteristics of the respondents. The variation in socio-economic standing by age and sex are also presented as well as the inter-relationship between the different measures of disadvantage and the association between area characteristics and individual circumstances.

The total number of respondents over the age of 16 eligible for interview was 5097, however the actual number of responses was 4688, (the short fall was due to refusals or non contacts). The age distribution of all respondents over 16 are presented in Table 3.1

### **3.2 Inter-relationships between selected variables**

#### *Gender, Social and Socio-Economic Factors*

Table 3.2 shows the distribution of social and socio-economic factors by age and sex. These data have been re-weighted so as to more closely reflect the general population in Northern Ireland. There was a slight excess of men below the age of 65 and a greater proportion of women in older age groups. Men were more likely than women to be single in each age group, with the exception of the over 75s where a higher proportion of women were single. Conversely women under 65 were more likely to be separated or divorced but at older ages the prevalence was higher in men. Men have generally higher mortality rates than women and, combined with the tendency for women to marry men older than themselves, it was therefore not surprising to find that there was a greater proportion of widows than widowers, a difference that increased with age. Women were also more likely to live in single person households, though this was really only marked at the oldest age group.

The proportion of men in the manual social classes remained at approximately 65% throughout the age spectrum and was consistently greater than the equivalent proportion of women. However, older women were more likely than younger women to be in a manual social class so that the difference between the sexes reduced as age increased. The relationship between age and social class is complex and probably represents a combination of cohort effects (the tendency for people to rise in social standing as they get older through promotion, qualification or marriage) and period effects (such as the increasing tendency for women to stay in employment). In addition the decline in

heavy industry in the UK over the last 30 years has also resulted in a large shift from lower to middle social class categories.

The majority of respondents had attained some level of educational qualification, had access to a car and owned their own homes. Relationships between these indicators and age were evident. 76.5% of those in the younger age bands had an educational qualification while almost 70% of those in the older age bands did not. Car availability was also more common in the lower age groups, with only 45.5% of the over 75s having access to a car. The greatest proportion of respondents in owner occupied homes were in the 45-64 age group. There was an increase in the proportion of older people renting their homes. Household income was also related to age. The greatest proportion of those in the youngest age group fell into the middle income category, while the majority of 45-64 year olds were in the middle to high income categories. Increasing age was associated with reduced wealth so that the majority of over 75 year olds were in the lowest income category.

For many of the indicators of disadvantage men appeared to be better off than women. For example, women were more likely to rent rather than own their own accommodation, this was especially evident among younger age groups. A greater proportion of women did not have access to a car especially in the 16-44 and the 65+ age groups. Older women were less likely to have an academic qualification though current school leavers appear to be reversing this trend.

Women were also more likely to have lower incomes than men. There were greater proportions of men than women in the highest earning categories especially among younger age groups. However, after retirement the distribution of income across the sexes became more equal. Similarly, a higher proportion of younger men than women were living in affluent areas according to Carstairs Deprivation Index, though at the middle to older age groups this trend was not so apparent. It is difficult to discern any pattern between urban/rural character of this area of residence and the demographics of the respondents though it could be argued that there was a slightly greater proportion of women in urban areas and at the youngest ages, a slightly greater proportion of men resided in the most rural areas.

### *Denomination and socio-economic conditions.*

Table 3.3 shows the differences in social and socio-economic measures between the two communities. The Catholic population had a younger age structure compared to the Protestant community with 10% more of its population in the 16-44 year age band and 10% fewer in the over 65 age groups. There was little discernable difference between the two denominations in terms of those separated or divorced, though widowhood was more common amongst Catholics. The proportions of each community living alone were also quite similar.

The Catholic population was generally more deprived than their Protestant peers. The proportion classified as being in manual classes increased with age in both communities however at all ages, the proportion of Catholics so classified was greater than for Protestants, the difference being greatest at the oldest ages. The proportion of Catholics in rented accommodation or in the lowest income bands was greater than that of Protestants, the largest differences arising at the youngest age groups. Catholics were also more likely to have no academic qualifications though the differences at younger ages were not large. A greater proportion of Catholics did not have access to a car. There was a slightly greater proportion of Protestants in the most urban areas with twice as many Catholics residing in the most rural areas. Catholics were between three and four times as likely to be living in the most deprived areas of Northern Ireland.

### *Household income and other indicators of disadvantage*

The relationship between household income (adjusted for the number and type of dependants) and other indicators of disadvantage are shown in table 3.4. There was a clear relationship between increasing household poverty and the proportion of those classified in the manual social class and those without academic qualifications. The steepest gradients (strongest relationships) were seen in the proportions without access to a car or renting their accommodation, which adds further justification to the inclusion of these measures in various indicators of deprivation at an area level. Poorer households were more likely to comprise single households and people who were widowed, separated or divorced. For example, the proportion of those in the bottom three income bands who were either living alone or widowed, separated or divorced was two to three times that of the top two income bands. There was a clear relationship between household income and place of residence. About one in four of those with

incomes in the lowest two income bands lived in the most deprived areas compared to approximately one in ten of those in the most wealthy income group. The lower the household income the greater the likelihood of living in either a most urban or most rural area. More affluent households tended to live in areas that were less obviously “town or country”.

#### *Social class and disadvantage*

Table 3.5 demonstrates that social class showed the same general relationship with other indicators of disadvantage, as did income. As expected being a member of a lower social class was associated with an increased prevalence of disadvantage. However, there were subtle differences in the relationship between social class and income. There was a steeper gradient (stronger association) between tenure and car availability across income bands than across social class groupings while the reverse was true for presence of academic qualifications. This seems intuitively correct as the ability to buy a house or a car is obviously linked to income while one’s social (occupational) class may be determined to a large extent by the level of academic attainment. The relationship between lone person household and social class was much less clear than it was with income. There was a greater proportion of those in the lower social class living in areas classified as deprived and also in more urban areas. However, unlike the income bandings there was little association between social class and the inclination to rural dwelling. This may truly be the case or it might also have arisen because of how those in the agricultural industry are classified within the social class system.

#### *Urban/rural character of Area of residence and indicators of disadvantaged*

The electoral wards in Northern Ireland were divided into five groups (from most urban to most rural) so that approximately one fifth of the N. Ireland population (at the time of the Census) fell into each. Table 3.6 shows how the socio-economic characteristics of these areas varied. The proportion of those who were separated, or divorced was slightly higher in the most urban areas, and there was an association between increasing urbanisation and an increasing proportion of single person households. Overall the religious breakdown in urban areas reflected that of the general Northern Ireland population but more rural areas had a greater proportion of Catholics.

Most of the individual or household socio-economic indicators suggested that there were higher levels of disadvantage at both ends of the urban/rural spectrum, with residents in the “average” areas being better off. This relationship was most clearly seen when looking at the indicators for low income, manual class and no academic qualifications. However, the indicators of renting or without access to a car were more clearly associated with urban dwelling and a greater proportion of urban areas were defined as being deprived (according to the Carstairs Index). The latter is not too surprising when it is recalled that two of the four variables used to classify areas as deprived or affluent were social class and car availability.

Tables 3.7 and 3.8 examine the relationship between rural dwelling and tenure and car availability having first stratified by household income. These tables show that irrespective of area of residence low income families were more likely to rent rather than own their own accommodation and were less likely to have access to a car. However, within income bands there was a clear association between rural residence and household ownership and car availability i.e. in urban areas those on the lowest incomes tended to rent and not to have access to a car, while in rural areas the equivalent families were more likely to own their own homes and to have a car. These findings may be related to the availability of rented accommodation in urban areas and the necessity of having a car in rural areas to overcome problems of accessibility.

#### *Areas and household measures of disadvantage*

Table 3.9 (a) describes the social and socio-economic characteristics of individual respondents grouped according to the degree of affluence or deprivation of their area of residence. Deprived areas were associated with higher proportions of separated, widowed or divorced people and with higher proportions of single person household. The most affluent areas were predominantly Protestant (85.4%) while in deprived areas there was a predominance of Catholics (66.6%). There was the expected association between the area affluence/deprivation classification and the socio-economic characteristics of the residents of those areas even for indicators such as no qualifications and low income which were not used to classify the areas. A greater proportion of the most deprived electoral wards were in urban areas though the more affluent wards were not in the most rural areas. (see table 3.9(b)).

Table 3.9(c) looks similar to the previous table but addresses a different research and policy question. Where are the various types of people to be found? This is of particular relevance when area deprivation scores are used to target resources. In this table each of the separate rows add to 100%. Thus it can be seen that each area deprivation category contained about 20% of the total population. As expected disadvantaged households were more commonly found in more deprived areas though the extent to which this occurs varied with the measure of disadvantage. For example, the deprived and most deprived areas contained 63.2% of people who rent but only 39.8% of lone person households. However, even the most affluent areas contained significant proportions of households that were disadvantaged. Targeting only deprived areas will therefore miss a large number of people who are equally disadvantaged but who do not live in those areas, for example, more than half of the lowest income households resided in areas other than those classified as deprived or as most deprived.

#### *Multiple deprivation*

Most of the investigation and discussion surrounding socio-economic factors has so far considered each measure of disadvantage in isolation. However, many people experience different forms of disadvantage simultaneously and, as will be shown in later chapters, each additional measure of disadvantage further increases the likelihood of ill health. Here the extent and distribution of multiple disadvantage by age and sex is illustrated in table 3.10. Four measures of disadvantage have been used. These were being in a manual social class, renting accommodation, no car availability and no academic qualifications. For each respondent a simple count of the number of these factors present was made giving a range from 0 to 4.

28.7% of respondents had no disadvantage (as measured by these four indicators). 46.2% of the population were experiencing multiple disadvantage i.e. the presence of two or more indicators of disadvantage and 8.2% had all four indicators. Multiple disadvantage was associated with old age, 67.1% of those aged over 65 had multiple disadvantage compared to 37.8% of those aged 16-44. 18.9% of over 65 year old and 4.9% of 16-44 year old had all four indicators. A greater proportion of women than men were multiply disadvantaged and the gender differences increased with increasing age, for example, one in five women and one in seven men over the age 65 were multiply disadvantaged.

**Table 3.1 Survey respondents by age and sex**

		16-24	25-34	35-44	45-54	55-64	65-74	75+	Base
Men	%	17.1	18.1	18.0	17.1	12.6	10.6	6.6	2105
Women	%	16.0	18.9	18.0	15.5	11.1	11.7	8.8	2583
All Adults	%	16.5	18.5	18.0	16.2	11.8	11.2	7.8	4688

**Table 3.2 Distribution of social and socio-economic factors by age and sex \***

		Men			Women		
		16-44	45-64	65+	16-44	45-64	65+
Total population	%	53.2	28.9	17.9	52.8	26.2	20.9
Separated/divorced	%	3.0	6.4	4.5	9.0	8.0	1.8
Widowed	%	0.0	3.3	19.2	0.5	11.5	48.0
Lone person	%	5.6	10.7	27.7	4.2	12.1	44.1
SC manual	%	60.5	60.4	62.8	40.4	49.2	55.2
No qualification	%	24.1	45.5	59.1	23.1	53.3	77.4
Renting	%	26.9	17.3	32.0	34.0	21.9	32.8
No car	%	15.2	14.5	32.5	32.9	20.2	49.4
Poorest income category	%	30.6	28.1	46.5	35.6	31.6	46.6
Most deprived area	%	17.2	16.7	18.9	19.5	17.5	18.5
Most urban area	%	18.7	15.8	19.5	20.3	18.4	21.8
Most rural area	%	20.8	20.8	18.4	18.2	20.0	19.2

\* Numbers relate to the percentage in each age band with a particular social or socio-economic characteristic

**Table 3.3** Distribution of social and socio-economic factors by age and denomination\*

		Catholic			Protestant		
		16-44	45-64	65+	16-44	45-64	65+
Total population	%	58.6	27.5	13.9	49.5	27.5	23.2
Separated/divorced	%	6.7	7.2	3.6	6.0	7.3	2.9
Widowed	%	0.3	9.0	39.8	0.3	6.7	35.0
Lone person	%	4.7	11.8	37.5	4.9	11.4	37.5
SC manual	%	51.8	58.7	69.8	47.8	52.2	54.5
No qualification	%	25.4	55.4	76.2	22.4	46.3	67.5
Renting	%	36.3	23.1	36.7	26.9	17.6	31.1
No car	%	23.7	17.5	47.0	15.5	17.5	40.8
Poorest income category	%	20.6	14.9	11.2	10.5	5.8	3.5
Most deprived area	%	30.4	28.5	39.6	9.7	10.0	10.8
Most urban area	%	18.6	16.0	19.1	20.3	17.7	21.5
Most rural area	%	26.2	29.3	31.9	14.5	14.8	13.9

**Table 3.4** Distribution of social and socio-economic factors by household income\*

		Wealthiest	Wealthy	Average	Poor	Poorest
Separated/divorced	%	2.8	2.7	5.2	9.0	12.8
Widowed	%	4.0	4.9	14.6	14.4	4.7
Lone person	%	8.4	6.3	18.4	20.9	7.9
RC	%	32.0	34.4	35.3	41.8	59.5
SC manual	%	26.9	43.5	62.0	71.2	65.5
No qualification	%	13.4	27.8	49.3	59.4	49.8
Renting	%	5.0	8.5	36.0	45.7	58.1
No car	%	1.6	8.1	28.7	41.5	41.2
Most deprived area	%	7.6	15.5	19.5	23.4	28.0
Most urban area	%	13.8	16.0	21.7	22.8	26.6
Most rural area	%	12.9	17.9	21.1	22.8	22.7

\* Numbers relate to the percentage in each age band with a particular social or socio-economic characteristic

**Table 3.5 Distribution of social and socio-economic factors by social class \***

		SC I	SC II	SC III <sub>nm</sub>	SC III <sub>m</sub>	SC IV	SC V
Separated/divorced	%	2.0	5.6	4.3	6.0	8.2	7.5
Widowed	%	6.6	7.4	7.9	8.4	10.9	12.6
Lone person	%	17.2	13.0	10.4	14.8	13.8	16.2
RC		30.3	37.3	34.7	38.8	41.8	40.6
No qualification	%	4.6	22.2	19.2	46.1	56.3	74.8
Renting	%	14.6	8.0	19.7	28.9	41.7	47.5
No car	%	7.9	7.0	16.6	21.3	34.8	42.5
Poorest income category	%	7.7	15.5	25.0	38.6	47.7	46.9
In most deprived area	%	6.7	8.0	13.0	20.6	24.3	31.7
In most rural area	%	13.9	19.6	14.8	23.4	19.0	15.9
In most urban area	%	15.9	11.6	20.7	18.2	20.4	25.7

**Table 3.6 Distribution of social and socio-economic factors by area of residence \***

		Most urban	Urban	Average	Rural	Most rural
Separated/divorced	%	8.3	6.6	6.8	4.0	3.9
Widowed	%	10.7	7.8	9.0	8.8	10.3
Lone person	%	17.4	13.3	12.4	10.3	11.9
RC	%	36.7	36.3	25.2	42.3	55.3
SC manual	%	55.6	48.8	48.0	53.4	58.6
No qualification	%	42.7	36.3	36.1	38.2	45.8
Renting	%	40.9	29.3	23.4	20.8	27.2
No car	%	38.5	26.0	19.8	15.1	17.1
Poorest income category	%	42.9	31.2	27.4	32.5	41.3
Most deprived area	%	33.0	17.7	15.0	13.5	12.1

\* Numbers relate to the percentage in each age band with a particular social or socio-economic characteristic

**Table 3.7 Proportion of households who are renting by income band and area of residence**

Income Category		Area of Residence					
		Most Urban	Urban	Average	Rural	Most Rural	All NI
		%	%	%	%	%	%
Lowest	Tenure renting	62.3	53.3	49.2	42.2	40.8	49.9
Middle	renting	32.6	23.4	23.2	14.8	19.6	22.6
Highest	renting	3.8	7.7	2.2	5.3	6.5	4.9

**Table 3.8 Proportion of households without a car by income band and area of residence**

Income Category		Area of Residence					
		Most Urban	Urban	Average	Rural	Most Rural	All NI
		%	%	%	%	%	%
Lowest	Car available No	59.9	49.5	42.6	31.1	23.2	41.4
Middle	No	29.3	22.5	18.0	10.7	13.0	18.6
Highest	No	1.5	0.0	2.6	1.0	2.4	1.5

**Table 3.9(a) Distribution of social and socio-economic factors by Carstairs category of deprivation \***

		<b>Most affluent</b>	<b>Affluent</b>	<b>Average</b>	<b>Deprived</b>	<b>Most deprived</b>
Separated/divorced	%	4.0	4.0	5.8	6.8	9.3
Widowed	%	7.9	8.7	9.0	9.0	12.2
Lone person	%	11.3	12.7	13.1	11.6	16.6
RC	%	14.5	26.7	39.5	53.7	66.6
SC manual	%	33.3	46.9	56.2	61.9	70.3
No qualification	%	27.3	34.6	41.0	45.0	53.6
Renting	%	12.9	21.8	22.4	37.6	50.2
No car	%	10.5	16.7	21.6	28.2	42.0
Poorest income category	%	17.6	30.0	36.9	45.4	48.6
Most urban area	%	12.8	15.9	12.1	23.0	35.0
Most rural area	%	2.6	15.1	31.9	36.9	13.1

**Table 3.9(b) Distribution of population across income bands by the urban/rural character of area of residence**

	<b>Most Urban</b>	<b>Urban</b>	<b>Average</b>	<b>Rural</b>	<b>Most Rural</b>	<b>Total</b>
Lowest	42.9	31.2	27.4	32.5	41.3	34.9
Middle	41.9	43.7	43.6	44.1	44.2	43.5
Highest	15.2	25.1	29.1	23.3	14.5	21.6

\* Numbers relate to the percentage in each age band with a particular social or socio-economic characteristic

**Table 3.9(c) Distribution of social and socio-economic factors by Carstairs deprivation \***

		<b>Most affluent</b>	<b>Affluent</b>	<b>Average</b>	<b>Deprived</b>	<b>Most deprived</b>
% tot pop	%	21.6	20.8	20.8	18.5	18.1
Separated/divorced	%	14.9	14.2	20.7	21.5	28.7
Widowed	%	18.4	19.5	20.2	17.9	23.9
Lone person	%	18.8	20.4	21.1	16.6	23.2
RC	%	7.9	14.3	21.1	25.5	31.1
SC manual	%	14.1	18.7	22.2	21.0	24.0
No qualification	%	14.9	18.1	21.4	21.0	24.5
Renting	%	10.0	16.2	16.7	24.8	32.4
No car	%	9.8	15.1	19.5	22.6	33.0
Poorest income category	%	11.0	17.9	21.8	24.3	25.0
Most rural area	%	2.8	16.0	34.1	34.9	12.1
Most urban area	%	14.5	17.2	13.1	22.1	33.0

**Table 3.10 Distribution of multiple disadvantage by age and sex<sup>+</sup>**

	<b>Men</b>				<b>Women</b>			
	16-44	45-64	65+	Total	16-44	45-64	65+	Total
	%	%	%	%	%	%	%	%
4 indicators of disadvantage present	3.8	5.1	14.9	6.1	5.9	8.4	21.6	9.9
3 indicators of disadvantage present	13.5	10.4	13.9	12.7	12.6	14.3	20.7	14.8
2 indicators of disadvantage present	19.5	29.6	33.3	24.9	20.1	25.9	28.3	13.3
1 indicator of disadvantage present	36.3	28.0	18.7	30.8	23.4	19.6	15.3	20.7
no disadvantage	26.9	27.0	19.2	25.5	37.9	31.8	14.0	31.3

+Includes social class, tenure, car availability, qualification

\* Numbers relate to the percentage in each age band with a particular social or socio-economic characteristic



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# 2

## Population characteristics and data handling

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### 2.1 Introduction

The Northern Ireland Health and Social Wellbeing Survey contains a rich database covering various aspects of health, enabling us to provide a comprehensive picture of the health of the population and health related behaviour.

This section details the main characteristics of the respondents which are pertinent to this report. The data analysed fell into four broad categories – demographic and social, socio-economic standing, health status and use of health services. The remainder of this chapter details how the data in these categories were handled.

### 2.2 Demographic and Social Characteristics

The Health and Wellbeing Survey collected a large amount of data relating to individual and household characteristics. Age and sex are obviously important determinants of the variation in health status and use of health services. Marital status and whether the person was living alone were also included, as was religious denomination, because of its local relevance. Seven age categories (16-24, 25-34...75+) were often used to describe the variations in health or service use; however, for clarity of presentation three age bands (16-44, 45-64, 65+) were used to describe the age-related variations in socio-economic standing and in the multiple regression modelling.

The marital status of respondents has generally been grouped into three categories:

Single;

Married or cohabiting;

Separated, divorced or widowed

Of the total respondents 26.2% were single, 59% were married or cohabiting and 14.8% were separated, divorced or widowed. Due to the relatively small numbers in the latter category, those people who were separated, divorced or widowed were generally

examined together, though occasionally widowed and separated/divorced were examined separately.

Respondents were asked about their current religious affiliation, and which denomination they had been brought up in. The 10% of respondents who did not complete the first of these questions were categorised according to the religion in which they were raised. Based on full or proxy responses the breakdown of the denomination category was as follows:

Religion	No	%
Catholic	2019	43.1
Protestant denominations		
Presbyterian	1097	23.4
Church of Ireland	894	19.1
Methodist	221	4.7
Baptist	73	1.6
Free Presbyterian	40	0.9
Brethren	33	0.7
Protestant – not specified	272	6.8
Total – usable	4649	99.2
Missing	39	0.8
Total	4688	100.0

Religious affiliation was then divided into broad two categories ‘Catholic’ and ‘Protestant’.

## 2.3 Socio-economic Status

### *Social class*

The social (occupational) class of the respondents was obtained from details of their current job if employed; their most recent job, if unemployed, or if retired, what had been their main job. The standard OPCS classification gives six social class groups: I, II, III non-manual, III manual, IV and V, however because of small numbers associated with some tables it was often necessary to aggregate them into non-manual and manual categories with 43.6% and 48.5% falling into these categories respectively.

### *Education*

Respondents were asked to indicate their highest educational qualification from a checklist. In the report these were grouped into two categories as follows:

- any educational qualification
- no educational qualifications.

60.1% of respondents had some type of educational qualification while 39.7% had no educational qualification.

### *Tenure*

Respondents were asked about their type of accommodation and for analysis purposes their responses were grouped into two categories of housing tenure

- Owner occupied –living in homes either owned outright or being bought by mortgage or loan
- Renting –living in homes rented for example from local authority, privately or from a housing association

71.9% of respondents were living in owner occupied accommodation while 28.1% were living in rented accommodation.

### *Car Availability*

Respondents were also asked whether or not they had access to a car or van and if so, the number available. (Respondents and households did not have to own these vehicles.) Almost 77% of respondents had access to a car while 23% had no car available to them.

### *Household Income*

The survey also captured data relating to gross annual household income. Income from all sources was assessed, including earned income, pensions, benefits, allowances, interest or annuities etc., with deductions for taxes, national insurance contributions, etc. However, gross income should be related to the household size specifically the number and age of the dependants. Thus for each household an equivalentised income was computed. This means estimating a weight for each household member, e.g. 1.0 for head of household, 0.59 for their spouse and 0.5 for children (the weighting for children

varied according to age<sup>1</sup>). From these calculations five categories were constructed ranging from wealthiest to poorest. Approximately one fifth of respondents fell into each category with the exception of the poorest category, which comprised 11% of respondents.

## **2.4 Area Characteristics**

A person's health status and their use of services may be determined or influenced by where they live as much by their own personal circumstances. For example, the use of some services may be lower in rural areas where accessibility to those services is reduced. Alternatively, people who are less-well-off may have a poorer perception of their health if they are living in a more affluent area where their relative disadvantage is more apparent. The only available indicator of this type in the survey itself was the Health and Social Services Board in which the respondent lived. It was however possible to ascribe area characteristics at a much finer geographical level to each individual household by using the postcode to place the household within an electoral ward. This approach makes the assumption that everyone within an electoral ward has the characteristics of that ward; this is known as the ecological fallacy. However, it is useful in that it enables us to examine if the characteristics of the area in which an individual lives adds any further explanation of health status or service uptake above and beyond that afforded through an understanding of their individual circumstances.

Two area characteristics were used in this study. The first was the Carstairs Index<sup>2</sup> of Deprivation, which is very closely related to the Townsend index<sup>3</sup>. The second was a measure of urban/rural living. The Carstairs Index of Deprivation is a composite of four equally weighted census variables,

1. The proportion of persons living in private households which have more than one person per room.
2. The proportion of men who are unemployed.
3. The proportion of persons in households where the head of household is in social class 4 or 5.

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<sup>1</sup> For details see Davies, H., Joshi, H., and Clarke, L. Is it cash the deprived are short of? (1997). *J R Statist Soc.* 160, 107-26.

<sup>2</sup> Carstairs V., Morris R. Deprivation and health in Scotland. Aberdeen: Aberdeen University Press 1999.

4. The proportion of all persons in private households with no car.

It is a widely used indicator of disadvantage at an area level and has been shown to be related to health status and service use.

The measure of rurality was developed by researchers in Lancaster<sup>4</sup> and is a statistical combination of variables such as distance from large conurbations, population density and the percentage of people employed in agricultural occupations. For both of these variables five categories (most affluent to most disadvantaged, and most rural to most urban) were constructed so that approximately one fifth of the total Northern Ireland population was assigned to each. To maintain respondent confidentiality researchers at QUB only knew in which of these five categories the respondents lived, they did not have data associating respondents with individual electoral wards. Sometimes for presentational purposes these categories are collapsed into three categories, for example more affluent, average and more deprived for Carstairs and urban, average and rural for the measure of urban/rural living.

## **2.5 Health Measures**

The Health and Wellbeing Survey also measures and assesses the different aspects of the health of the population of Northern Ireland in a variety of different ways. This report focuses on (i) the self-perceptions of health including questions relating to general health, the presence of limiting long-standing illness and the presence of disability. (ii) the GHQ12 (General Health Questionnaire) which measures psychological morbidity in the general population and (iii) the SF36 (Short Form 36) which measures eight different aspects (dimensions) of general health. In order to minimise the amount of possible duress on respondents, the SF36 and GHQ12 were administered to different halves of the survey population. However, this limited the analysis that could be undertaken principally due to the problems of smaller numbers but also because the responses to both health measures could not be compared.

The question on general health is identical to one that has been proposed for inclusion in the forthcoming 2001 census; the longstanding illness question has been asked in the

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<sup>3</sup>Townsend P., Philmore P., Beattie A. Health and deprivation: Inequalities and the North London: Croom Helm 1988.

<sup>4</sup>Price Waterhouse Statistical research into the effects of rurality on the Capitation formula: Final Report. A report to the Department of Health & Social Services (NI) Belfast 1998.

Continuous Household Survey and parallels the limiting longterm illness question asked in the 1991 census. The longstanding illness question was asked in two stages; first the respondents were asked if they had any long standing illness, disability or infirmity, by 'long standing' meaning anything that had troubled them over a period of time or was likely to affect them over a period of time. If the response was affirmative, they were subsequently asked if this illness or disability limited their activities in any way. The general health question asked respondents 'over the last twelve months would you say your health has on the whole been..' 'good', 'fairly good' or 'poor'. Generally all three responses were described but occasionally, where the numbers were small, the three categories were contracted to two by combining 'fairly good' and 'poor'.

### *Self Perception of Health*

Respondents were asked about perceptions of their own general health, and about the presence of a limiting longstanding illness or any disabilities. These health measures provide valuable indicators of the general health of the population and are known to be strongly linked to the use of services. However a degree of caution is required; data based on self-assessments of health may not be completely reliable due to variations in the interpretation of the question or the readiness to report poor health. Responses to questions depend to some extent on attitudes and expectations, which are likely to vary throughout the population. Hence differing interpretations of what constitutes 'good health' or whether certain conditions represent a limiting longstanding illness are to be expected. Alternatively, some illnesses may be underreported due to a reluctance to reveal information to a lay interviewer and, finally, respondents may not be aware of their condition. Nevertheless, obtaining respondents' self assessments of their health is valuable as it provides information about the health of the whole population, and therefore extends the picture that can be obtained from hospital records or a doctors examination. In addition, it is thought that self perception of health may indicate potential demand for health services.

### *General Health Questionnaire (GHQ)*

The GHQ is the most widely used population measure of psychological disturbance in the United Kingdom. It was developed in England in the 1960s and 1970s and was intended for use in the setting of general practice. In the Northern Ireland Health and Social Wellbeing Survey the 12-item form (GHQ12) was used, which is more suitable

for use with older and more frail people. The GHQ is a self-completion questionnaire which concentrates on the broader components of psychological morbidity especially anxiety and depression. Each of the twelve items has four possible answers; the positive (e.g. better than or about the same as usual) are given a score of 0 and the negative responses (e.g. doing less well or much less well than usual) are given a score of 1. A maximum score of 12 is possible for each individual. A low score represents low probability of psychological morbidity whereas a high score indicates probable psychological disturbance. In addition to this overall score it is also possible to derive a measure of “caseness” that is individuals with a score above a certain threshold who would correspond to the average case referred to a psychiatrist. This is not to say that all respondents above this threshold have a psychological illness, as there will be some that have a high GHQ score but who do not have a psychological illness. This is known as a false positive. However, on average, patients with scores above this level would equate to the patients seen by psychiatrists. There is no agreed GHQ score which is to be used as a threshold for “caseness” and the threshold will vary a little from survey to survey. On the advice of local experts a score of 3 or over was used to define “caseness” in this report and reference to respondents with a ‘high’ GHQ12 score means scores at or above this threshold. This cut-off was chosen as balance between indicating the presence of probable psychiatric morbidity in the general population and yet providing sufficient numbers to make any analysis meaningful. In the English and Scottish health surveys a threshold of 4 or above was used. When comparing the Northern Ireland and English and Scottish levels a similar cut-off point was used.

#### *Short Form 36 (SF-36)*

This instrument was derived from a much longer set of questions used in the Medical Outcome Study in America. It has been adapted from the American version for use in the United Kingdom and has been repeatedly shown to be a valid and reliable instrument for measuring general health in a wide variety of settings from assessing the outcomes of clinical interventions to measuring population health. (More recently a slightly amended United Kingdom version has been introduced, which has been shown to have slightly improved reliability and probably greater responsiveness to change in population health over time. However, this was not used in time for the Northern Ireland Health and Social Wellbeing Survey).

The SF36 is a self-completion instrument of thirty-five questions that measure eight dimensions of health, which are:

- Physical Functioning
- Role Limitation – physical
- Bodily Pain
- General Health
- Energy and Vitality
- Social Functioning
- Role Limitation – emotional
- Mental Health

A thirty-sixth question asked respondents about changes in health over the last year. More recent work has suggested that the essentials of these eight dimensions can be described by two summary measures; the physical component summary comprises the first four dimensions in the list above and the mental component summary consists of the last four dimensions. Scores for each dimension range from 0 (for worst health) to 100 (for best possible health).

## **2.6 Use of health services**

This section examines the use of different types of health services in Northern Ireland and the demographic, social, socio-economic and area factors that are associated with variations in this utilisation. The services examined are GP consultation, outpatient visits and inpatient stays. The first part of the section describes the variations as service use according to the different societal characteristics; the final part considers all of these factors together in the form of a multiple regression model. This has been done to try and unravel, from the multiplicity of associations, which are the pre-eminent factors that are related to utilisation. For example, we know from previous work that lower socio-economic status is associated with poorer health and a greater use of services is to therefore be expected, but does socio-economic status still have a bearing on service use once health differences have been taken into account? It might for example be that for a given level of health status that those with greater socio-economic disadvantage receive a lower level of service.

Inpatient stays were defined as staying in hospital overnight or longer, and outpatient visits included attendance at either casualty or an outpatient department. In the survey respondents were asked about the use of these services within the preceding year. Questions relating to GP consultations were more detailed but data relating to consultations within the last year were derived from the question asking about the time of the last GP consultation.

Clearly the accuracy of the data depends on respondents' recall, for example events may be forgotten and the timing of events may be misreported. Nevertheless the information provided by these questions is valuable as it provides a picture of the variations in the uptake of these services and the characteristics of the population who use them. A further caveat must be added to these data in that they do not provide any information as to why a consultation took place. Consequently a range of disparate clinical reasons (for example an emergency medical consultation, an antenatal visit, a routine health check, pre-holiday vaccinations etc) will all be treated equally when the data are analysed. Respondents were also asked how far (in terms of travel time) they lived from this GP, and it was therefore possible to see if consultation rates were affected by the proximity to this service.



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# 3

## **Social and socio-economic indicators: distribution in society and inter-relationships**

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### **SUMMARY**

- For many of the indications of deprivation and disadvantage men appeared better off than women.
- Increasing age was generally associated with an increase in prevalence of indicators of disadvantage and poverty, however some of these indicators such as social class and educational status may indicate shifts in the population norm over time.
- There was a greater proportion of Catholics in the younger age groups and a greater proportion of Protestants amongst the elderly. For a wide range of socio-economic indicators Catholics appeared more deprived than their Protestant peers. These differences were more marked at older ages.
- Household income (adjusted for the number and age of dependants) was closely associated with other indicators of disadvantage, especially car availability and tenure. The more affluent households tended to live in areas that were neither very rural nor very urban.
- Many of the indicators of socio-economic status showed that there were higher levels of disadvantage at both ends of the urban/rural spectrum. Area of residence also influenced the expression of disadvantage, for example, people in the poorest income band who lived in the most rural areas tended to own their own house and car, whereas in urban areas people in the equivalent income bands tended not to have a car and to rent their accommodation.
- There was general agreement between area and household indicators of disadvantage, however all areas contained a mixture of affluent and deprived people and targeting only deprived areas will therefore miss out significant numbers of deprived people who live in more affluent areas.
- Multiple deprivation was more common amongst the elderly and amongst women.

### **3.1 Introduction**

This section describes the demographic, social and socio-economic characteristics of the respondents. The variation in socio-economic standing by age and sex are also presented as well as the inter-relationship between the different measures of disadvantage and the association between area characteristics and individual circumstances.

The total number of respondents over the age of 16 eligible for interview was 5097, however the actual number of responses was 4688, (the short fall was due to refusals or non contacts). The age distribution of all respondents over 16 are presented in Table 3.1

### **3.2 Inter-relationships between selected variables**

#### *Gender, Social and Socio-Economic Factors*

Table 3.2 shows the distribution of social and socio-economic factors by age and sex. These data have been re-weighted so as to more closely reflect the general population in Northern Ireland. There was a slight excess of men below the age of 65 and a greater proportion of women in older age groups. Men were more likely than women to be single in each age group, with the exception of the over 75s where a higher proportion of women were single. Conversely women under 65 were more likely to be separated or divorced but at older ages the prevalence was higher in men. Men have generally higher mortality rates than women and, combined with the tendency for women to marry men older than themselves, it was therefore not surprising to find that there was a greater proportion of widows than widowers, a difference that increased with age. Women were also more likely to live in single person households, though this was really only marked at the oldest age group.

The proportion of men in the manual social classes remained at approximately 65% throughout the age spectrum and was consistently greater than the equivalent proportion of women. However, older women were more likely than younger women to be in a manual social class so that the difference between the sexes reduced as age increased. The relationship between age and social class is complex and probably represents a combination of cohort effects (the tendency for people to rise in social standing as they get older through promotion, qualification or marriage) and period effects (such as the increasing tendency for women to stay in employment). In addition the decline in

heavy industry in the UK over the last 30 years has also resulted in a large shift from lower to middle social class categories.

The majority of respondents had attained some level of educational qualification, had access to a car and owned their own homes. Relationships between these indicators and age were evident. 76.5% of those in the younger age bands had an educational qualification while almost 70% of those in the older age bands did not. Car availability was also more common in the lower age groups, with only 45.5% of the over 75s having access to a car. The greatest proportion of respondents in owner occupied homes were in the 45-64 age group. There was an increase in the proportion of older people renting their homes. Household income was also related to age. The greatest proportion of those in the youngest age group fell into the middle income category, while the majority of 45-64 year olds were in the middle to high income categories. Increasing age was associated with reduced wealth so that the majority of over 75 year olds were in the lowest income category.

For many of the indicators of disadvantage men appeared to be better off than women. For example, women were more likely to rent rather than own their own accommodation, this was especially evident among younger age groups. A greater proportion of women did not have access to a car especially in the 16-44 and the 65+ age groups. Older women were less likely to have an academic qualification though current school leavers appear to be reversing this trend.

Women were also more likely to have lower incomes than men. There were greater proportions of men than women in the highest earning categories especially among younger age groups. However, after retirement the distribution of income across the sexes became more equal. Similarly, a higher proportion of younger men than women were living in affluent areas according to Carstairs Deprivation Index, though at the middle to older age groups this trend was not so apparent. It is difficult to discern any pattern between urban/rural character of this area of residence and the demographics of the respondents though it could be argued that there was a slightly greater proportion of women in urban areas and at the youngest ages, a slightly greater proportion of men resided in the most rural areas.

### *Denomination and socio-economic conditions.*

Table 3.3 shows the differences in social and socio-economic measures between the two communities. The Catholic population had a younger age structure compared to the Protestant community with 10% more of its population in the 16-44 year age band and 10% fewer in the over 65 age groups. There was little discernable difference between the two denominations in terms of those separated or divorced, though widowhood was more common amongst Catholics. The proportions of each community living alone were also quite similar.

The Catholic population was generally more deprived than their Protestant peers. The proportion classified as being in manual classes increased with age in both communities however at all ages, the proportion of Catholics so classified was greater than for Protestants, the difference being greatest at the oldest ages. The proportion of Catholics in rented accommodation or in the lowest income bands was greater than that of Protestants, the largest differences arising at the youngest age groups. Catholics were also more likely to have no academic qualifications though the differences at younger ages were not large. A greater proportion of Catholics did not have access to a car. There was a slightly greater proportion of Protestants in the most urban areas with twice as many Catholics residing in the most rural areas. Catholics were between three and four times as likely to be living in the most deprived areas of Northern Ireland.

### *Household income and other indicators of disadvantage*

The relationship between household income (adjusted for the number and type of dependants) and other indicators of disadvantage are shown in table 3.4. There was a clear relationship between increasing household poverty and the proportion of those classified in the manual social class and those without academic qualifications. The steepest gradients (strongest relationships) were seen in the proportions without access to a car or renting their accommodation, which adds further justification to the inclusion of these measures in various indicators of deprivation at an area level. Poorer households were more likely to comprise single households and people who were widowed, separated or divorced. For example, the proportion of those in the bottom three income bands who were either living alone or widowed, separated or divorced was two to three times that of the top two income bands. There was a clear relationship between household income and place of residence. About one in four of those with

incomes in the lowest two income bands lived in the most deprived areas compared to approximately one in ten of those in the most wealthy income group. The lower the household income the greater the likelihood of living in either a most urban or most rural area. More affluent households tended to live in areas that were less obviously “town or country”.

#### *Social class and disadvantage*

Table 3.5 demonstrates that social class showed the same general relationship with other indicators of disadvantage, as did income. As expected being a member of a lower social class was associated with an increased prevalence of disadvantage. However, there were subtle differences in the relationship between social class and income. There was a steeper gradient (stronger association) between tenure and car availability across income bands than across social class groupings while the reverse was true for presence of academic qualifications. This seems intuitively correct as the ability to buy a house or a car is obviously linked to income while one’s social (occupational) class may be determined to a large extent by the level of academic attainment. The relationship between lone person household and social class was much less clear than it was with income. There was a greater proportion of those in the lower social class living in areas classified as deprived and also in more urban areas. However, unlike the income bandings there was little association between social class and the inclination to rural dwelling. This may truly be the case or it might also have arisen because of how those in the agricultural industry are classified within the social class system.

#### *Urban/rural character of Area of residence and indicators of disadvantaged*

The electoral wards in Northern Ireland were divided into five groups (from most urban to most rural) so that approximately one fifth of the N. Ireland population (at the time of the Census) fell into each. Table 3.6 shows how the socio-economic characteristics of these areas varied. The proportion of those who were separated, or divorced was slightly higher in the most urban areas, and there was an association between increasing urbanisation and an increasing proportion of single person households. Overall the religious breakdown in urban areas reflected that of the general Northern Ireland population but more rural areas had a greater proportion of Catholics.

Most of the individual or household socio-economic indicators suggested that there were higher levels of disadvantage at both ends of the urban/rural spectrum, with residents in the “average” areas being better off. This relationship was most clearly seen when looking at the indicators for low income, manual class and no academic qualifications. However, the indicators of renting or without access to a car were more clearly associated with urban dwelling and a greater proportion of urban areas were defined as being deprived (according to the Carstairs Index). The latter is not too surprising when it is recalled that two of the four variables used to classify areas as deprived or affluent were social class and car availability.

Tables 3.7 and 3.8 examine the relationship between rural dwelling and tenure and car availability having first stratified by household income. These tables show that irrespective of area of residence low income families were more likely to rent rather than own their own accommodation and were less likely to have access to a car. However, within income bands there was a clear association between rural residence and household ownership and car availability i.e. in urban areas those on the lowest incomes tended to rent and not to have access to a car, while in rural areas the equivalent families were more likely to own their own homes and to have a car. These findings may be related to the availability of rented accommodation in urban areas and the necessity of having a car in rural areas to overcome problems of accessibility.

#### *Areas and household measures of disadvantage*

Table 3.9 (a) describes the social and socio-economic characteristics of individual respondents grouped according to the degree of affluence or deprivation of their area of residence. Deprived areas were associated with higher proportions of separated, widowed or divorced people and with higher proportions of single person household. The most affluent areas were predominantly Protestant (85.4%) while in deprived areas there was a predominance of Catholics (66.6%). There was the expected association between the area affluence/deprivation classification and the socio-economic characteristics of the residents of those areas even for indicators such as no qualifications and low income which were not used to classify the areas. A greater proportion of the most deprived electoral wards were in urban areas though the more affluent wards were not in the most rural areas. (see table 3.9(b)).

Table 3.9(c) looks similar to the previous table but addresses a different research and policy question. Where are the various types of people to be found? This is of particular relevance when area deprivation scores are used to target resources. In this table each of the separate rows add to 100%. Thus it can be seen that each area deprivation category contained about 20% of the total population. As expected disadvantaged households were more commonly found in more deprived areas though the extent to which this occurs varied with the measure of disadvantage. For example, the deprived and most deprived areas contained 63.2% of people who rent but only 39.8% of lone person households. However, even the most affluent areas contained significant proportions of households that were disadvantaged. Targeting only deprived areas will therefore miss a large number of people who are equally disadvantaged but who do not live in those areas, for example, more than half of the lowest income households resided in areas other than those classified as deprived or as most deprived.

#### *Multiple deprivation*

Most of the investigation and discussion surrounding socio-economic factors has so far considered each measure of disadvantage in isolation. However, many people experience different forms of disadvantage simultaneously and, as will be shown in later chapters, each additional measure of disadvantage further increases the likelihood of ill health. Here the extent and distribution of multiple disadvantage by age and sex is illustrated in table 3.10. Four measures of disadvantage have been used. These were being in a manual social class, renting accommodation, no car availability and no academic qualifications. For each respondent a simple count of the number of these factors present was made giving a range from 0 to 4.

28.7% of respondents had no disadvantage (as measured by these four indicators). 46.2% of the population were experiencing multiple disadvantage i.e. the presence of two or more indicators of disadvantage and 8.2% had all four indicators. Multiple disadvantage was associated with old age, 67.1% of those aged over 65 had multiple disadvantage compared to 37.8% of those aged 16-44. 18.9% of over 65 year old and 4.9% of 16-44 year old had all four indicators. A greater proportion of women than men were multiply disadvantaged and the gender differences increased with increasing age, for example, one in five women and one in seven men over the age 65 were multiply disadvantaged.

**Table 3.1 Survey respondents by age and sex**

		16-24	25-34	35-44	45-54	55-64	65-74	75+	Base
Men	%	17.1	18.1	18.0	17.1	12.6	10.6	6.6	2105
Women	%	16.0	18.9	18.0	15.5	11.1	11.7	8.8	2583
All Adults	%	16.5	18.5	18.0	16.2	11.8	11.2	7.8	4688

**Table 3.2 Distribution of social and socio-economic factors by age and sex \***

		Men			Women		
		16-44	45-64	65+	16-44	45-64	65+
Total population	%	53.2	28.9	17.9	52.8	26.2	20.9
Separated/divorced	%	3.0	6.4	4.5	9.0	8.0	1.8
Widowed	%	0.0	3.3	19.2	0.5	11.5	48.0
Lone person	%	5.6	10.7	27.7	4.2	12.1	44.1
SC manual	%	60.5	60.4	62.8	40.4	49.2	55.2
No qualification	%	24.1	45.5	59.1	23.1	53.3	77.4
Renting	%	26.9	17.3	32.0	34.0	21.9	32.8
No car	%	15.2	14.5	32.5	32.9	20.2	49.4
Poorest income category	%	30.6	28.1	46.5	35.6	31.6	46.6
Most deprived area	%	17.2	16.7	18.9	19.5	17.5	18.5
Most urban area	%	18.7	15.8	19.5	20.3	18.4	21.8
Most rural area	%	20.8	20.8	18.4	18.2	20.0	19.2

\* Numbers relate to the percentage in each age band with a particular social or socio-economic characteristic

**Table 3.3** Distribution of social and socio-economic factors by age and denomination\*

		Catholic			Protestant		
		16-44	45-64	65+	16-44	45-64	65+
Total population	%	58.6	27.5	13.9	49.5	27.5	23.2
Separated/divorced	%	6.7	7.2	3.6	6.0	7.3	2.9
Widowed	%	0.3	9.0	39.8	0.3	6.7	35.0
Lone person	%	4.7	11.8	37.5	4.9	11.4	37.5
SC manual	%	51.8	58.7	69.8	47.8	52.2	54.5
No qualification	%	25.4	55.4	76.2	22.4	46.3	67.5
Renting	%	36.3	23.1	36.7	26.9	17.6	31.1
No car	%	23.7	17.5	47.0	15.5	17.5	40.8
Poorest income category	%	20.6	14.9	11.2	10.5	5.8	3.5
Most deprived area	%	30.4	28.5	39.6	9.7	10.0	10.8
Most urban area	%	18.6	16.0	19.1	20.3	17.7	21.5
Most rural area	%	26.2	29.3	31.9	14.5	14.8	13.9

**Table 3.4** Distribution of social and socio-economic factors by household income\*

		Wealthiest	Wealthy	Average	Poor	Poorest
Separated/divorced	%	2.8	2.7	5.2	9.0	12.8
Widowed	%	4.0	4.9	14.6	14.4	4.7
Lone person	%	8.4	6.3	18.4	20.9	7.9
RC	%	32.0	34.4	35.3	41.8	59.5
SC manual	%	26.9	43.5	62.0	71.2	65.5
No qualification	%	13.4	27.8	49.3	59.4	49.8
Renting	%	5.0	8.5	36.0	45.7	58.1
No car	%	1.6	8.1	28.7	41.5	41.2
Most deprived area	%	7.6	15.5	19.5	23.4	28.0
Most urban area	%	13.8	16.0	21.7	22.8	26.6
Most rural area	%	12.9	17.9	21.1	22.8	22.7

\* Numbers relate to the percentage in each age band with a particular social or socio-economic characteristic

**Table 3.5 Distribution of social and socio-economic factors by social class \***

		SC I	SC II	SC III <sub>nm</sub>	SC III <sub>m</sub>	SC IV	SC V
Separated/divorced	%	2.0	5.6	4.3	6.0	8.2	7.5
Widowed	%	6.6	7.4	7.9	8.4	10.9	12.6
Lone person	%	17.2	13.0	10.4	14.8	13.8	16.2
RC		30.3	37.3	34.7	38.8	41.8	40.6
No qualification	%	4.6	22.2	19.2	46.1	56.3	74.8
Renting	%	14.6	8.0	19.7	28.9	41.7	47.5
No car	%	7.9	7.0	16.6	21.3	34.8	42.5
Poorest income category	%	7.7	15.5	25.0	38.6	47.7	46.9
In most deprived area	%	6.7	8.0	13.0	20.6	24.3	31.7
In most rural area	%	13.9	19.6	14.8	23.4	19.0	15.9
In most urban area	%	15.9	11.6	20.7	18.2	20.4	25.7

**Table 3.6 Distribution of social and socio-economic factors by area of residence \***

		Most urban	Urban	Average	Rural	Most rural
Separated/divorced	%	8.3	6.6	6.8	4.0	3.9
Widowed	%	10.7	7.8	9.0	8.8	10.3
Lone person	%	17.4	13.3	12.4	10.3	11.9
RC	%	36.7	36.3	25.2	42.3	55.3
SC manual	%	55.6	48.8	48.0	53.4	58.6
No qualification	%	42.7	36.3	36.1	38.2	45.8
Renting	%	40.9	29.3	23.4	20.8	27.2
No car	%	38.5	26.0	19.8	15.1	17.1
Poorest income category	%	42.9	31.2	27.4	32.5	41.3
Most deprived area	%	33.0	17.7	15.0	13.5	12.1

\* Numbers relate to the percentage in each age band with a particular social or socio-economic characteristic

**Table 3.7** Proportion of households who are renting by income band and area of residence

Income Category		Area of Residence					
		Most Urban	Urban	Average	Rural	Most Rural	All NI
		%	%	%	%	%	%
Lowest	Tenure renting	62.3	53.3	49.2	42.2	40.8	49.9
Middle	renting	32.6	23.4	23.2	14.8	19.6	22.6
Highest	renting	3.8	7.7	2.2	5.3	6.5	4.9

**Table 3.8** Proportion of households without a car by income band and area of residence

Income Category		Area of Residence					
		Most Urban	Urban	Average	Rural	Most Rural	All NI
		%	%	%	%	%	%
Lowest	Car available No	59.9	49.5	42.6	31.1	23.2	41.4
Middle	No	29.3	22.5	18.0	10.7	13.0	18.6
Highest	No	1.5	0.0	2.6	1.0	2.4	1.5

**Table 3.9(a) Distribution of social and socio-economic factors by Carstairs category of deprivation \***

		<b>Most affluent</b>	<b>Affluent</b>	<b>Average</b>	<b>Deprived</b>	<b>Most deprived</b>
Separated/divorced	%	4.0	4.0	5.8	6.8	9.3
Widowed	%	7.9	8.7	9.0	9.0	12.2
Lone person	%	11.3	12.7	13.1	11.6	16.6
RC	%	14.5	26.7	39.5	53.7	66.6
SC manual	%	33.3	46.9	56.2	61.9	70.3
No qualification	%	27.3	34.6	41.0	45.0	53.6
Renting	%	12.9	21.8	22.4	37.6	50.2
No car	%	10.5	16.7	21.6	28.2	42.0
Poorest income category	%	17.6	30.0	36.9	45.4	48.6
Most urban area	%	12.8	15.9	12.1	23.0	35.0
Most rural area	%	2.6	15.1	31.9	36.9	13.1

**Table 3.9(b) Distribution of population across income bands by the urban/rural character of area of residence**

	<b>Most Urban</b>	<b>Urban</b>	<b>Average</b>	<b>Rural</b>	<b>Most Rural</b>	<b>Total</b>
Lowest	42.9	31.2	27.4	32.5	41.3	34.9
Middle	41.9	43.7	43.6	44.1	44.2	43.5
Highest	15.2	25.1	29.1	23.3	14.5	21.6

\* Numbers relate to the percentage in each age band with a particular social or socio-economic characteristic

**Table 3.9(c) Distribution of social and socio-economic factors by Carstairs deprivation \***

		<b>Most affluent</b>	<b>Affluent</b>	<b>Average</b>	<b>Deprived</b>	<b>Most deprived</b>
% tot pop	%	21.6	20.8	20.8	18.5	18.1
Separated/divorced	%	14.9	14.2	20.7	21.5	28.7
Widowed	%	18.4	19.5	20.2	17.9	23.9
Lone person	%	18.8	20.4	21.1	16.6	23.2
RC	%	7.9	14.3	21.1	25.5	31.1
SC manual	%	14.1	18.7	22.2	21.0	24.0
No qualification	%	14.9	18.1	21.4	21.0	24.5
Renting	%	10.0	16.2	16.7	24.8	32.4
No car	%	9.8	15.1	19.5	22.6	33.0
Poorest income category	%	11.0	17.9	21.8	24.3	25.0
Most rural area	%	2.8	16.0	34.1	34.9	12.1
Most urban area	%	14.5	17.2	13.1	22.1	33.0

**Table 3.10 Distribution of multiple disadvantage by age and sex<sup>+</sup>**

	<b>Men</b>				<b>Women</b>			
	16-44	45-64	65+	Total	16-44	45-64	65+	Total
	%	%	%	%	%	%	%	%
4 indicators of disadvantage present	3.8	5.1	14.9	6.1	5.9	8.4	21.6	9.9
3 indicators of disadvantage present	13.5	10.4	13.9	12.7	12.6	14.3	20.7	14.8
2 indicators of disadvantage present	19.5	29.6	33.3	24.9	20.1	25.9	28.3	13.3
1 indicator of disadvantage present	36.3	28.0	18.7	30.8	23.4	19.6	15.3	20.7
no disadvantage	26.9	27.0	19.2	25.5	37.9	31.8	14.0	31.3

+Includes social class, tenure, car availability, qualification

\* Numbers relate to the percentage in each age band with a particular social or socio-economic characteristic



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# 4

## Self Perception of Health

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### SUMMARY

- 25.4% of men and 28.5% of women said they had a limiting long standing illness. This was twice as high as recorded in the census and was probably related to the different contexts in which the questions were asked.
- 51% of adults perceived their health over the previous year as good, 32% said it was fairly good and 17% not good. Men were more likely to report their health as good and women were more likely to report their health as not good.
- 13.4% of adults reported some type of disability (ranging from difficulty in walking 200 yards to difficulty in getting in and out of bed). The prevalence of disability was greater for women at all ages.
- Those who were widowed, separated or divorced tended to report worse health than those who were married while those who were single had the best health.
- A greater proportion of Catholics had a limiting long standing illness, or disability and reported their health as poor. The differences in health status between the two communities were most pronounced at the older ages.
- There was a clear relationship between socio-economic standing and health status with greater levels of ill health in those most disadvantaged. The relationship between health and disadvantage varied by age, by gender and according to the measure of ill health.
- The regression analysis highlighted the age related decline in health and confirmed the association between disadvantage (and especially multiple disadvantage) and ill health. It suggested that the relatively poorer health of Catholics was probably associated with their generally lower socio-economic status, though Catholic women were still more likely to have a disability than their Protestant peers even after differences in socio-economic standing had been adjusted for.

## 4.1 Introduction

The Northern Ireland health survey included questions on respondents own perception of their general health, longstanding illness and disability. The data presented are based on self assessments and therefore responses to these questions may be affected by respondents' attitudes to ill health and health expectations.

### *Long Standing Illness*

Respondents were asked whether they had any 'long standing illness, disability or infirmity, longstanding meaning anything that had troubled them or was likely to affect them over a period of time'. Over one third (38.3%, n=1792) of adults reported having a long standing illness, (40% of women and 36.1% of men). The proportion reporting an illness or disability increased from 15.9% among those aged 16-24, to 31.2% at age 35-44 and then increased to reach 70.2% among those over the age of 75. There was little difference in the age specific rates between the sexes except at the oldest ages where women reported worse health.

**Table 4.1**

### *Limiting Long Standing Illness*

Those who said they had a long standing illness or disability were asked in a follow up question whether this illness or disability limited their activities in any way. Seventy one per cent of those adults with a long standing illness reported that this did limit their activity in some way. Thus more than one quarter of all respondents (27.1%) reported having a limiting long standing illness (LLSI), comprising 25.4% of all men and 28.5% of all women.

Together these two questions however approximate to the limiting long standing illness question in the 1991 Census. The prevalence of LLSI recorded in this survey was twice as high as recorded in the 1991 Census (men 13.2%, women 14.1% for those in private households). This does not mean that the population has become sicker, rather it was probably the context in which the questions were asked that has affected how people responded. The census was a multipurpose questionnaire covering a wider range of topics only one of which was health related, whereas this survey asked respondents to focus on their health and in doing so may have heightened awareness of health problems that might have been ignored in the context of replying to the census.

As expected the prevalence of limiting long standing illness increased with age. At the oldest age groups approximately half (56.5%) of those with an illness or disability said that their activities were limited in some way. In contrast the majority (91.2%) of 16-24 years olds with a longstanding illness or disability said their activities were not limited. The age specific prevalence rates of LLSI was fairly similar between the sexes, though was slightly higher for women at the youngest and oldest age groups. **Table 4.2**

#### *Perception of General Health*

This question was identical to the one to be included in the 2001 census, the question asked ‘*over the last twelve months would you say your health has on the whole been...?*’ respondents were asked to rate their health on a three point scale (good, fairly good and not good). Fifty one per cent of adults perceived their health as good, 32% fairly good and 17% not good. Men were more likely to report their health as ‘good’ and women were more likely to report their health as ‘not good’. **Table 4.3**

The proportion reporting good health declined with age for both men and women. The proportion reporting poor health was 4.9% among those in age group 16-24, but rose sharply to 18.4% among 45-54 year olds and 34.7% among the oldest age group. At all ages women reported poorer health than men, with the exception of the 55-64 age group where the reverse was true. **Table 4.4**

For some of the additional analysis of this measure in this report, the three responses have been collapsed from three into two categories (labelled ‘good’ and ‘not good’). The categories ‘fairly good’ and ‘not good’ were combined together because, despite its name, the prevalence of ‘fairly good’ tended to rise with increasing age in much the same manner as ‘not good’.

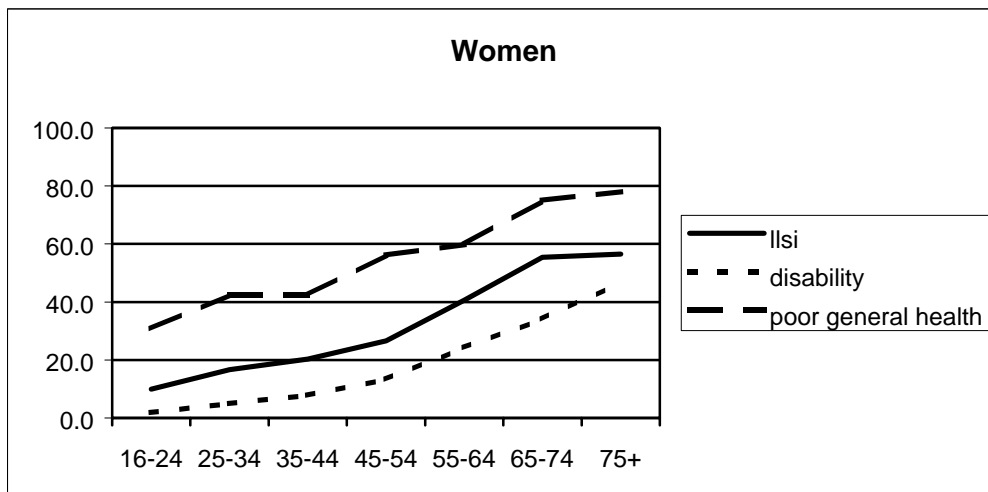
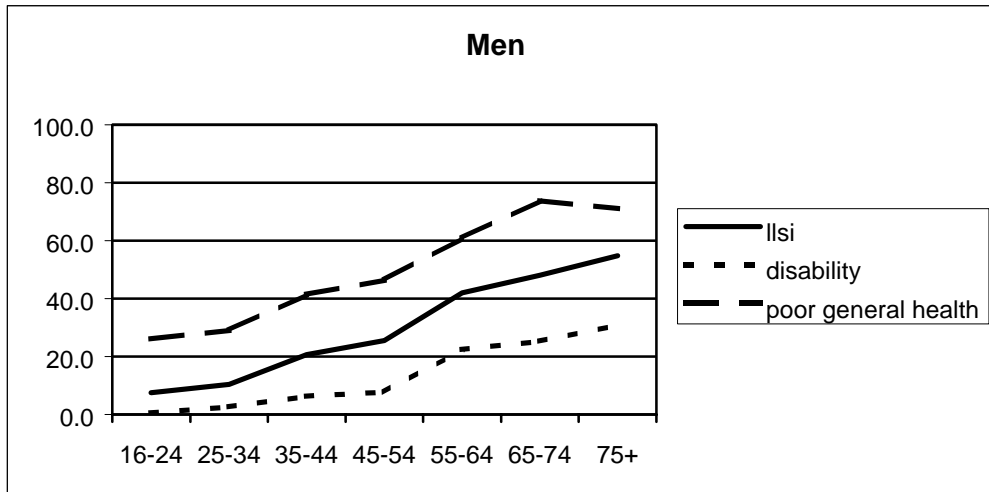
#### *Disability*

Respondents were also asked about disabilities. The information was collected using a sequence of questions for determining levels of disability. For example, respondents were asked whether or not they could walk 200 yards on their own, whether they could get in and out of bed on their own or bend down and pick up a shoe from the floor when standing. 13.4% of all adults reported that they had some type of disability, this comprised 15.6% of all women and 10.7% of all men.

For both men and women the proportion reporting a disability increased with increasing age. Higher proportions of women than men reported a disability at all ages.

**Table 4.5**

**4.2 Comparison of health measures**



Figures 1 and 2 show how the three health measures varied by age and sex. Respondents more commonly reported having poor general health than a LLSI or a disability, though all three showed quite a similar increase in prevalence with age.

### **4.3 Social and Economic Factors**

#### *Marital Status*

Across most age groups, adults who were separated, widowed or divorced reported the highest levels of LLSI. This was especially true for ages 16-44 where there was an almost three-fold difference between this group and those who were single and a two-fold difference for those who were married. In the 16-44 age group, it was single adults of both sexes who reported the best health. This was also true for women in the 45-64 age band, but single men in this age group had the worst health while married/cohabiting men had the best. At 65 years and over the difference between the groups diminished. Single men reported the best health at this age, for women it was those who are married or cohabiting.

The relationship between marital status and general health status mirrored that of LLSI. Generally, those who were separated, widowed or divorced reported poorer general health over the previous 12 months. At the youngest age and for both sexes, single adults had the best health. At 45-64, single women reported the best health but it was the married or cohabiting men at this age that fared best. At the oldest age group both single men and women reported the best health however this may have been as a result of smaller numbers. At this age married or cohabiting men and separated, widowed or divorced women were more likely to perceive that their health was not good.

Respondents who were separated, widowed or divorced were also more likely to report a disability. At the youngest age group for both men and women those who were single were least likely to report a disability. Married or cohabiting men aged 45-64 had approximately half the prevalence of disability than either single or separated, widowed or divorced men. At this age single women fared better. At the oldest age group, for both men and women, those who were single were least likely to report a disability while those who were separated, widowed or divorced were most likely.

#### **Tables 4.6 to 4.8**

#### *Denomination*

A higher proportion of Catholics, of both sexes, reported a LLSI at all ages. The difference in LLSI between the two denominations increased with increasing age and at

the oldest age group the difference in LLSI between denominations was greatest for men.

Catholic adults were also more likely than Protestants to report that their general health was not good. For both men and women there was little difference in the perception of general health between the denominations for the younger and middle age groups. The difference in perception of poor health was greatest between denominations at the oldest age group, especially in women. Similarly, Catholics were more likely to report that they had a disability than their Protestants counterparts, the differences being more marked amongst women. This difference was most apparent for both sexes amongst the oldest age group.

The increasing differences in health status with increasing age between the two denominations could have arisen in a number of ways. One possibility is that there is less difference between the two communities now than in previous years. A second possibility is that the effects of accumulated exposure to poorer socio-economic status results in an increased difference between the two groups with increasing age. It is also possible that a differential rate of take-up of placement in communal establishment between the two communities could have contributed to these differences. If, for example, older Protestants with poorer health were more likely to be admitted to some form of communal establishment they would therefore have been excluded from participating in the survey (which included only residents in private households) and an apparent difference between the two communities could have emerged. Whether some or all of these mechanisms are operating cannot be assessed from the current dataset.

#### **Tables 4.9 to 4.11**

#### *Social Class*

Adults in the manual social classes tended to have poorer levels of health than those in the non-manual classes, whether this was measured by general health or the presence of a limiting longstanding illness or a disability. The difference in health status between the classes was greatest for the prevalence of disability and, for all the measures of health, was most clearly evident amongst men aged 45-64. The relationship between class and ill-health was attenuated for older ages for men though not for women.

#### **Tables 4.12 to 4.14**

### *Qualifications*

At all ages and for both sexes those who had no formal educational qualification reported poorer levels of health than those who had some formal educational qualifications. This difference was much more apparent in the young to middle age groups (for example there was more than a two-fold difference in the prevalence of longstanding illness and disability between those with and without a qualification). At all ages, the association between lack of educational attainment and poorer health was more pronounced for women than for men. There are perhaps two reasons for this attenuation with increasing age. Firstly, as age increases, the likelihood of poor health also increases (irrespective of social status). Secondly, today and in the recent past, absence of qualification is a precursor of poor economic chances and material disadvantage and therefore poorer health. This was not necessarily so many years ago when it was more common to leave school at a young age, and without a qualification. It should also be remembered that the presence of poor health may itself be a significant impediment to educational advancement. It is not possible from this survey to ascertain which is the predominant factor i.e. that poor health leads to low academic attainment or that low academic attainment is subsequently associated with poorer health.

### **Tables 4.15 to 4.17**

### *Tenure*

At all ages and for both sexes, adults living in rented accommodation reported higher levels of LLSI. The lowest prevalence of LLSI for both sexes was at age 16-44 and the difference in LLSI between those renting and in owner occupied homes was almost two-fold. The difference in LLSI according to tenure was greatest for men aged between 45-64 (two-fold), while the difference for women at this age was smaller. At 65+ the difference between the groups diminishes, though women renting accommodation reported higher levels of LLSI.

Respondents living in rented accommodation were also more likely than those living in owner occupied homes to perceive their general health as not good. The difference between tenures was much more apparent at the middle age group. Whilst both sexes followed this pattern there was a greater difference between tenure types for men at the young to middle age groups than for women.

Respondents living in rented accommodation were also more likely to report a disability than those living in owner occupied accommodation. However for disability the pattern was somewhat different on two counts. Firstly, the difference in prevalence of ill health according to tenure were more pronounced for disability than for other measures of ill health. Secondly the effect at younger ages was more pronounced for women.

**Tables 4.18 to 4.20**

### *Car Availability*

Across all age groups, respondents without access to a car reported poorer levels of health than those who had access to a car. There was relatively little difference in health status according to car availability at the youngest ages, maximum difference at age 45-64 and again less difference at oldest age group. The association between health status and car availability was arguably more pronounced for women.

While it is tempting to infer that poorer health status arises as a consequence of a lower socio-economic status, which is reflected by car availability, it is also possible that the relationship between ill-health and car availability works the other way around. For example, if the respondent had to stop driving due to ill-health or if, due to poor health, they had been unable to gain sufficient wealth to be able to afford a car. In a cross sectional survey such as this it is not possible to unravel which is the antecedent.

**Tables 4.21 to 4.23**

### *Household Income*

There was a clear and graded association between levels of household income and an individual respondent's health. Generally the gradients in health status across the income categories are greater than for the other indicators of disadvantage. The largest gradients in health status across the income categories were in the younger age groups and especially in the 45-64 age group. The relationship between poverty, poor health, though still very much evident, was less pronounced at older ages. At most ages the association between wealth and health was more clearly seen amongst men. This may be because men tend to be the principal breadwinner of the family; if they have an illness that limits their ability to work this may have had a significant impact on the earning capacity of the family. It is also possible that being in poverty has a greater

impact on the health of men. The association between health and wealth was most pronounced for those reporting the presence of a disability. There was no evidence of a threshold above which a further increase in wealth was not associated with better health.

**Tables 4.24 to 4.26**

#### *Urban/Rural Areas*

It is difficult to discern any general pattern in level of self reported LLSI according to the urban-rural characteristics of the area of residence. However, it could be argued that perhaps respondents residing in the most urban and urban areas had slightly higher levels of LLSI and that those residing in average areas appeared to have lowest levels.

Generally respondents residing in the most urban areas were more likely to report that their general health was not good. Respondents in the average to rural areas fared best, although again it is difficult to discern any general pattern.

Similar to other measures, the pattern between the prevalence of disability and area was not clear cut, particularly for men. Women living in the most urban areas were more likely to report a disability while it appears those residing in the average areas were least likely.

**Table 4.27 to 4.29**

#### *Deprivation at Area Level*

At all ages and for both sexes, respondents who were categorised as deprived, according to Carstairs deprivation index, were more likely to report having poorer health. The largest gradients between the most affluent and most deprived areas were in the prevalence of disability; the smallest gradients were in the levels of self-report poor health. The relationship between area of residence and poor health was most evident again in the 45-64 age group, and though still evident, it was reduced at the oldest ages. The patterns for men and women were very similar and therefore only the combined percentages are shown. There was no evidence of a threshold effect i.e. even moving from an average to an affluent or from an affluent to a more affluent area was still associated with better health.

**Table 4.30 to 4.32**

#### **4.4 Logistic Regression**

##### *Limiting long standing illness*

In the previous part of this chapter it has been demonstrated that the prevalence of LLSI varies with demographic, social and socio-economic factors. However, from Chapter 3 we know that many of these factors are interrelated, and therefore one might ask which of these are the most important or are most closely associated with LLSI? This can be addressed more formally through logistic regression techniques. Logistic regression allows the examination of those population characteristics thought to be related to LLSI. Its output predicts the odds of an occurrence (in this case having an LLSI). Here odds refer to the ratio of the probability that an event will occur, to the probability that it will not. For each population characteristic (such as the 65+ age group) the odds ratio represents the odds of having a LLSI compared to that of a reference group (such as the 16-44 age group).

The main social and economic factors were included in a logistic regression for LLSI, for men and women separately (see Table 4.33(a)) to see which social and economic factors affected the odds of having a LLSI.

Age was evidently a strong determinant of the likelihood of having a LLSI, the age related gradient being similar for both men and women; for example those over the age of 65 were almost four times as likely to have an LLSI as those aged less than 45 years.

Marital status was also significantly associated with LLSI for both sexes; those who were single had a reduced chance of being affected (compared to those who were married). Living in a single person household was associated with an increased likelihood of having an LLSI if the respondent was male but not if they were female.

Other factors associated with LLSI status related to socio-economic status such that those who had no academic qualification, rented rather than owned their accommodation or who had a lower household income were more likely to have poorer health. Overall the baseline odds were greater for women but the effects of some socio-economic variables (especially household income) were more pronounced for men.

Logistic regression has the additional advantage in that it allows for the additive effects of significant variables to be taken into account. From the factors given, the odds of having a LLSI can be calculated by multiplying the baseline odds by the appropriate weights for the additional risk factors. For example: the odds of having an LLSI for a male who is aged 16-44 (and owns his accommodation, has some qualification and falls into the highest wealth category) is 0.058 and this equates to 5% of this group of men. If this man had been older, say 65 or over then his chances of having an LLSI would be increased ( $0.058 \times 3.75 = 0.218$ ) which translates to 17.9% of that population. If in addition he had rented rather than owned his accommodation the likelihood of LLSI is further increased ( $0.058 \times 3.75 \times 1.27 = 0.276$ ) which represents 21.6% of that population.

The logistic regression analysis suggests which, of the many, aspects of material disadvantage were most associated with ill-health and also demonstrates the multiplicative effects of multiple deprivation on ill-health. For example, if the presence of one facet of material or social deprivation augured poorer health, then the prospect of poor health became more likely as the burden of disadvantage increased. The table below illustrates for women how the odds of having a LLSI were increased with increasing disadvantage.

**The effects of multiple deprivation on the likelihood of having an LLSI;**

baseline represents a women aged <45 years, without any of these indicators of disadvantage

	Odds	% respective populations
Baseline	0.094	8.6
Renting	0.130	11.5
Renting, no qualification	0.217	17.8
Renting, no qualification, lowest wealth category	0.455	31.3

When the analysis was rerun in stages (see Table 4.33(b)), starting with demographic variables, then adding socio economic variables and finally area variables this allowed us to understand a little more about the interplay of the factors associated with LLSI. For example, when only demographic factors were included in the model, religious

affiliation was significantly associated with LLSI as suggested in Tables 4.9 to 4.11. However when socio-economic factors were also added in the later models the respondents religion was no longer associated with LLSI for either men or women. From this we can infer that the higher prevalence of LLSI amongst Catholics was a consequence of their lower average socio-economic status, rather than anything inherently associated with denomination per se. The addition of socio-economic factors attenuated the age-gradient in LLSI. This was probably due to the interrelationship between age and some of the indicators of deprivation. It was also apparent that area characteristics (such as Health and Social Services Board of residence, living in a deprived ward or in a more urban area) did not add any additional explanation to the models. This means that it was the individual personal circumstances rather than the aspect of area in which the respondent lived that were the most important determinants of this type of physical health.

### *General Health*

The main social and economic factors were also included in a logistic regression for poor general health for men and women (see Table 4.34(a)).

The major determinant for poor general health for both men and women was once again age. In addition, a range of economic factors were also significantly associated with poor general health. While age and car availability were significant for both sexes, social class and income were also significantly associated with poorer general health in men, while for women marital status and qualifications were also important. Area factors were associated with general health perceptions for women, so that women in the most affluent areas, as judged by the Carstairs index, were least likely to have an LLSI though there was no evidence of a graded relationship. Overall the baseline odds were higher for women, but the effects of socio-economic factors and age were more apparent for men.

The analysis was run in stages (see Table 4.34(b)), in the same manner as the logistic regression model for LLSI, by starting with demographic factors then adding socio-economic factors and finally area factors. A similar pattern emerges, firstly denomination becomes non-significant with the addition of socio-economic variables and secondly (for men) area factors did not add any additional explanation to the model.

### *Disability*

Finally the social and economic factors were included in a logistic regression for reporting a disability, for men and women separately (see Table 4.35(a)).

Once again age was shown to be a strong determinant of the likelihood of reporting a disability and again the gradient was steeper for men than for women. Compared to married people, those who were single were less likely to report the presence of disability while those who were widowed, separated or divorced were more likely to do so. All things being equal, a woman was more likely to have a disability if she was a Catholic, a relationship that was attenuated though persisted with the addition of indicators of social disadvantage. Being without academic qualifications increased the likelihood of disability for both sexes. For men there was a steep gradient between household income and poor health so that those in the lowest income group had over eight-times the odds of having a disability compared to those in the most affluent group. Household income was also important for women with those in the most affluent group having the best health, though there was not the same evidence of a graded relationship. There was some evidence that there was a higher proportion of people with a disability in more urban areas though the relationship was only statistically significant for women.

The analysis was again rerun in stages (see Table 4.35(b)) starting with demographic, then socio-economic and finally areas factors. The addition of the socio-economic factors again reduced the age-related gradients and changed the magnitude of the effects for widowed/separated/divorced, and, as mentioned previously, reduced the associations with denomination to non-significance in men (though not in women).

#### **4.5 Common Conditions and Recent Illness**

Finally we looked at the occurrence of recent illness in the two weeks preceding the survey and the prevalence of some common diseases/illnesses. These diseases had been included in the survey as they were thought to be of public importance either because they were common or potentially life threatening. Some of the diseases such as heart murmur and diabetes were not included in the analysis as they had a relatively low prevalence (circa 3%). It should also be noted that these diseases/illnesses have not been confirmed by reference to physical tests or clinical notes but are based on patient recall

of having been so diagnosed by their GP. While this is thought to be reasonably reliable, especially for the more serious conditions, they are inevitably subject to patient recall and may be less reliable in milder cases or where the diagnosis is subject to GP interpretation. They are also dependent on the patient having presented to the GP for investigation and diagnosis and as Chapter 7 shows there are many social factors operating at this level.

Table 4.36 shows the estimated prevalence of the additional measures of ill health in the over 16 population who are resident in their own households. The true prevalence of many of these conditions in the Northern Ireland population is undoubtedly higher than recorded by this survey as many of those not included in the survey (because they were living in communal establishments such as nursing or residential homes or in hospital) are often sicker than the rest of society. It should also be noted that these percentages are not additive, for example if 9% have asthma and 9% have cardiovascular disease that does not equate to 18% of the population affected as many people will suffer from multiple pathologies (e.g. raised BP and cardiovascular disease) and others will be disease free. Just under 10% of the respondents had been told by their GP that they had suffered from asthma or from cardiovascular disease and about 20% had had elevated blood pressure at some time in their life. Almost 40% of respondents had consulted their GP for back pain or for recurrent pains in their joints and almost half of those with back pain had attended their GP within the last year for severe back pain. These data underscore the differences in the prevalence of diseases that cause ill health in society compared to those that eventually kill us.

Most of the illnesses here were more common in females. For example females were about 15% more likely to have been sick in the last two weeks and about 20% more likely to have back or joint problems. It is generally acknowledged that while men have higher mortality rates, women tend to have higher levels of morbidity (general ill health), though how much of the latter difference is due to perceptual differences is an area of ongoing research<sup>1</sup>. Many rheumatic diseases such as rheumatoid arthritis are more common in women than in men but are not nearly common enough in society to

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<sup>1</sup> McDonough P, Walters V. Gender and health: reassessing patterns and explanations. *Social Science & Medicine* 2001; Vol 52 Pages 547-559

account for the prevalence of joint pain reported here. Recurrent back problems are an area that has not received sufficient research attention but is recognised to be a cause of much morbidity with a large impact economic impact in developed countries.<sup>2</sup> The greater prevalence of raised blood pressure in women is probably due to different detection rates as women are more likely to present to their GP and have their blood pressures checked on a regular basis. [Readers should refer to the Health & Lifestyle report for a description of the actual blood pressures recorded on these respondents]

Increasing age brings more ill health and a greater burden of chronic disease, though the relationship varies with the disease. Most notable was the almost 5-fold increase in elevated blood pressure and the almost 60-fold increase in cardiovascular disease prevalence for those over 65 compared to those aged less than 45. Asthma did not show an age related gradient.

Similarly socio-economic disadvantage (here represented by income groups) was generally associated with an increasing prevalence of ill-health, though the gradients were usually less than the age related changes. Again the recorded prevalence of some of these illness will have been affected by the propensity to consult a GP which as Chapter 7 shows may also have a social gradient.

#### Conclusion:

To conclude, age was *the* major determinant of health status, whether measured by LLSI, general health or disability; women generally reported poorer health than men, though it was the latter that showed the greatest age-related decline. Being of lower socio-economic status was associated with poorer health and, where graded social indicators were available, showed a step-wise relationship such that at all stages those on the 'higher rung' were generally in better health than those below. Income was the most important socio-economic correlate to men's health while women's health was related to a wider range of socio-economic measures including tenure, academic qualifications and social class. Catholics had, on average, poorer health though this was a consequence of their generally lower socio-economic status. Marital status was also

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<sup>2</sup> Effective Health Care: Acute and chronic low back pain November 2000 Vol. 6 No. 5.  
NHS Centre for Reviews and Dissemination University of York

important (and separate to other socio-economic indicators) with a tendency for single people to have the best health and separated/divorced and widowed people to have the worst. Area characteristics (affluent/deprived or urban/rural) were also related to health status, though only for women.

**Table 4.1 Prevalence of long standing illness or disability, by age and sex**

	16-24	25-34	35-44	45-54	55-64	65-74	75+
	%	%	%	%	%	%	%
Men	16.4	16.8	30.2	39.8	56.2	60.3	67.6
Women	15.4	25.3	32.1	38.2	57.1	71.5	71.7
All Adults	15.9	21.6	31.2	39.0	56.7	66.7	70.2

**Table 4.2 Prevalence of limiting long standing illness or disability, by age and sex**

	16-24	25-34	35-44	45-54	55-64	65-74	75+
	%	%	%	%	%	%	%
Men	7.5	10.4	20.7	25.5	42.0	48.0	54.8
Women	10.0	16.6	20.3	26.6	40.6	55.4	56.5
All Adults	8.8	13.9	20.5	26.1	41.3	52.2	55.9

**Table 4.3 Levels of self reported general health by sex**

	Good	Fairly Good	Not Good
	%	%	%
Men	54.6	31.2	14.3
Women	48.4	32.0	19.6

**Table 4.4 Self reported general health by age and sex**

	16-24	25-34	35-44	45-54	55-64	65-74	75+
	%	%	%	%	%	%	%
<b>Men</b>							
Good	73.9	70.9	58.5	53.6	39.1	26.2	28.8
Fairly Good	23.3	24.5	31.8	30.1	32.6	46.7	41.8
Not Good	2.8	4.5	9.7	16.3	28.3	27.1	29.5
<b>Women</b>							
Good	71.4	63.4	58.0	48.4	39.6	25.5	24.5
Fairly Good	23.8	27.4	29.6	33.2	32.5	43.6	40.7
Not Good	4.9	9.2	12.4	18.4	27.9	30.9	34.7
<b>All Adults</b>							
Good	71.4	63.4	58.0	48.4	39.6	25.5	24.5
Fairly Good	23.8	27.4	29.6	33.2	32.5	43.6	40.7
Not Good	4.9	9.2	12.4	18.4	27.9	30.9	34.7

**Table 4.5 Presence of Disability by age and sex**

	16-24	25-34	35-44	45-54	55-64	65-74	75+
	%	%	%	%	%	%	%
Men	0.6	2.7	6.3	7.7	22.5	25.3	30.8
Women	1.9	4.9	7.9	13.3	24.3	34.1	46.8
Total	1.3	3.9	7.1	10.7	23.4	30.3	40.7

**Table 4.6 Proportion of respondents reporting a limiting long standing illness by age, sex and marital status**

	Age		
	16-44	45-64	65+
	%	%	%
<b>Men</b>			
Single	10.8	52.0	40.5
Married/cohabiting	13.7	29.1	51.2
Sep/div/wid	33.3	44.8	53.3
Total	13.0	32.5	50.7
<b>Women</b>			
Single	11.2	28.6	57.5
Married/Cohabiting	17.0	30.5	47.7
sep/div/wid	27.9	40.5	61.5
Total	15.8	32.3	55.9
<b>All Adults</b>			
Single	11.0	41.3	51.8
Married/Cohabiting	15.5	29.8	49.7
sep/div/wid	28.8	42.1	59.6
Total	14.5	32.5	53.8

**Table 4.7 Proportion of respondents reporting their general health as not good by age, sex and marital status**

	Age		
	16-44	45-64	65+
	%	%	%
<b>Men</b>			
Single	29.3	64.0	77.8
Married/cohabiting	34.2	50.4	72.3
Sep/div/wid	48.5	62.1	71.4
Total	32.4	52.6	72.6
<b>Women</b>			
Single	33.8	52.4	65.8
Married/Cohabiting	40.1	56.3	72.2
Sep/div/wid	52.3	65.2	82.2
Total	38.8	57.8	76.3
<b>All Adults</b>			
Single	31.7	58.1	70.0
Married/Cohabiting	37.4	53.3	72.2
Sep/div/wid	51.5	64.2	79.7
Total	36.0	55.3	74.9

**Table 4.8 Proportion of respondents reporting a disability by age, sex and marital status**

	Age		
	16-44	45-64	65+
	%	%	%
<b>Men</b>			
Single	2.6	20.0	25.0
Married/cohabiting	3.2	12.7	26.1
Sep/div/wid	12.1	20.3	32.6
Total	3.2	14.0	27.5
<b>Women</b>			
Single	2.4	11.9	31.1
Married/Cohabiting	6.0	15.0	35.4
Sep/div/wid	10.0	30.5	45.6
Total	5.0	17.8	39.9
<b>All Adults</b>			
Single	2.5	16.3	28.4
Married/Cohabiting	4.7	13.9	30.0
Sep/div/wid	10.5	27.4	42.5
Total	4.2	16.0	34.8

**Table 4.9 Proportion of respondents reporting a limiting long standing illness by age, sex and denomination,**

	Age		
	16-44	45-64	65+
	%	%	%
<b>Men</b>			
Catholic	13.9	35.2	60.9
Protestant	12.2	31.1	47.1
Total	12.9	32.7	50.5
<b>Women</b>			
Catholic	16.6	35.5	60.6
Protestant	15.3	30.3	53.8
Total	15.9	32.3	55.8
<b>All Adults</b>			
Catholic	15.3	35.3	60.6
Protestant	13.8	30.7	51.1
Total	14.5	32.5	53.7

**Table 4.10 Proportion of respondents reporting their general health as not good by age, sex and denomination**

	Age		
	16-44	45-64	65+
	%	%	%
<b>Men</b>			
Catholic	35.8	52.5	78.0
Protestant	29.9	52.8	71.3
Total	32.3	52.7	73.0
<b>Women</b>			
Catholic	38.6	59.3	85.0
Protestant	38.7	56.9	72.6
Total	38.7	57.9	76.3
<b>All Adults</b>			
Catholic	37.4	56.2	82.5
Protestant	34.6	55.0	72.0
Total	35.8	55.5	74.9

**Table 4.11 Proportion of respondents reporting a disability by age, sex and denomination**

	Age		
	16-44	45-64	65+
	%	%	%
<b>Men</b>			
Catholic	3.7	16.1	33.7
Protestant	2.9	13.1	25.2
Total	3.2	14.3	27.3
<b>Women</b>			
Catholic	6.3	22.8	47.5
Protestant	3.8	14.8	36.4
Total	4.9	17.9	39.7
<b>All Adults</b>			
Catholic	5.2	19.6	42.2
Protestant	3.5	14.0	31.7
Total	4.2	16.2	34.6

**Table 4.12 Proportion of respondents reporting a limiting long standing illness by age, sex and social class**

	Age		
	16-44	45-64	65+
	%	%	%
<b>Men</b>			
SC non-manual	8.8	20.9	47.8
SC manual	14.0	40.3	52.8
Total	11.9	32.6	50.9
<b>Women</b>			
SC non-manual	13.2	25.5	48.1
SC manual	19.4	38.2	60.5
Total	15.7	31.8	55.0
<b>All Adults</b>			
SC non-manual	11.7	23.5	48.1
SC manual	16.4	39.3	56.8
Total	14.0	32.2	53.2

**Table 4.13 Proportion of respondents reporting their general health as not good by age, sex and social class**

	Age		
	16-44	45-64	65+
	%	%	%
<b>Men</b>			
SC non-manual	25.9	39.6	64.5
SC manual	37.3	61.2	76.8
Total	32.8	52.6	72.2
<b>Women</b>			
SC non-manual	37.1	49.8	65.6
SC manual	43.5	64.1	84.7
Total	39.7	56.9	76.1
<b>All Adults</b>			
SC non-manual	33.2	45.5	65.1
SC manual	40.1	62.5	81.0
Total	36.6	54.8	74.4

**Table 4.14 Proportion of respondents reporting a disability by age, sex and social class**

	Age		
	16-44	45-64	65+
	%	%	%
<b>Men</b>			
SC non-manual	2.3	6.8	25.5
SC manual	3.0	18.5	28.3
Total	2.7	13.9	27.3
<b>Women</b>			
SC non-manual	2.9	9.6	28.3
SC manual	7.2	24.3	47.1
Total	4.6	16.9	38.7
<b>All Adults</b>			
SC non-manual	2.6	8.4	27.4
SC manual	5.0	21.3	38.3
Total	3.8	15.5	33.8

**Table 4.15 Proportion of respondents reporting a limiting long standing illness by age, sex and academic qualification**

	Age		
	16-44	45-64	65+
	%	%	%
<b>Men</b>			
Any	10.2	26.4	46.1
None	21.6	40.0	53.8
Total	12.9	32.6	50.7
<b>Women</b>			
Any	12.6	21.5	47.5
None	26.6	41.9	58.1
Total	15.8	32.4	55.7
<b>All Adults</b>			
Any	11.5	24.0	46.9
None	24.3	41.0	56.7
Total	14.5	32.4	53.7

**Table 4.16 Proportion of respondents reporting their general health as not good by age, sex and academic qualification**

	Age		
	16-44	45-64	65+
	%	%	%
<b>Men</b>			
Any	29.8	45.8	67.5
None	41.0	60.5	76.0
Total	32.5	52.5	72.5
<b>Women</b>			
any	35.0	44.3	62.6
None	51.6	69.7	80.1
Total	38.8	57.8	76.2
<b>All Adults</b>			
Any	32.7	45.0	65.5
None	46.7	65.7	78.8
Total	36.0	55.3	74.8

**Table 4.17 Proportion of respondents reporting a disability by age, sex and academic qualification**

	Age		
	16-44	45-64	65+
	%	%	%
<b>Men</b>			
Any	2.2	12.2	24.1
None	6.0	22.9	34.2
Total	3.2	14.0	27.3
<b>Women</b>			
Any	3.7	13.6	36.0
None	7.5	33.1	47.8
Total	5.0	17.8	39.9
<b>All Adults</b>			
Any	3.0	12.9	31.1
None	6.9	28.9	42.3
Total	4.2	16.0	34.8

**Table 4.18 Proportion of respondents reporting a limiting long standing illness by age, sex and tenure**

	Age		
	16-44	45-64	65+
	%	%	%
<b>Men</b>			
Owner occupied	10.2	27.5	46.9
Renting	20.4	56.7	59.2
Total	12.9	32.5	50.8
<b>Women</b>			
Owner occupied	12.6	28.1	50.7
Renting	22.0	47.7	67.2
Total	15.8	32.4	56.1
<b>All Adults</b>			
Owner occupied	11.4	27.8	49.0
Renting	21.4	51.4	63.8
Total	14.5	32.4	53.8

**Table 4.19 Proportion of respondents reporting their general health as not good by age, sex and tenure**

	Age		
	16-44	45-64	65+
	%	%	%
<b>Men</b>			
Owner occupied	28.3	47.8	69.0
Renting	43.7	75.2	80.2
Total	32.4	52.6	72.6
<b>Women</b>			
Owner occupied	35.9	53.0	71.3
Renting	44.5	74.5	86.5
Total	38.8	57.7	76.3
<b>All Adults</b>			
Owner occupied	32.3	50.5	70.4
Renting	44.2	74.7	83.9
Total	36.0	55.3	74.8

**Table 4.20 Proportion of respondents reporting a disability by age, sex and tenure**

	Age		
	16-44	45-64	65+
	%	%	%
<b>Men</b>			
Owner occupied	2.0	10.3	20.1
Renting	7.1	18.5	32.3
Total	3.2	14.0	27.3
<b>Women</b>			
Owner occupied	2.9	7.0	28.7
Renting	11.7	27.4	42.8
Total	5.0	17.9	39.6
<b>All Adults</b>			
Owner occupied	2.5	8.7	23.9
Renting	9.6	23.4	39.2
Total	4.2	16.0	34.6

**Table 4.21 Proportion of respondents reporting a limiting long standing illness by age, sex and car availability**

	Age		
	16-44	45-64	65+
	%	%	%
<b>Men</b>			
One or more	12.7	28.5	46.2
None	14.1	56.8	59.8
Total	12.9	32.6	50.7
<b>Women</b>			
One or more	14.2	27.3	49.3
None	21.4	52.2	62.7
Total	15.8	32.3	55.9
<b>All Adults</b>			
One or more	13.5	27.9	47.8
None	18.9	53.8	61.8
Total	14.5	32.4	53.8

**Table 4.22 Proportion of respondents reporting their general health as not good by age, sex and car availability**

	Age		
	16-44	45-64	65+
	%	%	%
<b>Men</b>			
One or more	30.3	49.1	67.5
None	43.9	72.7	83.6
Total	32.4	52.6	72.7
<b>Women</b>			
One or more	37.6	51.9	66.1
None	43.1	80.9	86.9
Total	38.8	57.8	76.3
<b>All Adults</b>			
One or more	34.2	50.6	66.8
None	43.5	77.3	85.9
Total	36.0	55.3	74.9

**Table 4.23 Proportion of respondents reporting a disability by age, sex and car availability**

	Age		
	16-44	45-64	65+
	%	%	%
<b>Men</b>			
One or more	3.4	12.0	25.0
None	2.4	26.1	32.5
Total	3.2	14.0	27.5
<b>Women</b>			
One or more	4.6	13.1	31.6
None	6.7	37.2	48.1
Total	5.0	17.9	39.8
<b>All Adults</b>			
One or more	4.0	12.5	28.5
None	5.1	32.6	43.2
Total	4.2	16.0	34.8

**Table 4.24 Proportion of respondents reporting a limiting long standing illness by age, sex and household income category**

	Age		
	16-44	45-64	65+
	%	%	%
<b>Men</b>			
More wealthy	8.3	9.0	28.6
Average	10.7	28.9	53.4
More poor	20.5	59.6	52.5
Total	13.0	32.2	51.5
<b>Women</b>			
More wealthy	8.6	17.7	33.3
Average	13.5	31.2	61.5
More poor	23.7	42.7	54.3
Total	16.0	31.7	56.5
<b>All Adults</b>			
More wealthy	8.3	13.2	31.4
Average	12.2	30.1	58.3
More poor	22.4	50.3	53.6
Total	14.6	31.9	54.4

**Table 4.25 Proportion of respondents reporting their general health as not good by age, sex and household income category**

	Age		
	16-44	45-64	65+
	%	%	%
<b>Men</b>			
More wealthy	22.8	30.3	47.6
Average	33.0	54.1	74.4
More poor	42.2	70.8	79.1
Total	33.0	52.4	74.9
<b>Women</b>			
More wealthy	35.4	39.7	50.0
Average	36.4	59.6	77.8
More poor	43.8	67.0	80.3
Total	38.8	57.4	77.3
<b>All Adults</b>			
More wealthy	29.1	34.9	50.0
Average	34.9	57.0	76.4
More poor	43.2	68.9	79.9
Total	36.2	55.0	76.4

**Table 4.26 Proportion of respondents reporting a disability by age, sex and household income category**

	Age		
	16-44	45-64	65+
	%	%	%
<b>Men</b>			
More wealthy	0.7	1.9	9.1
Average	2.0	12.1	31.9
More poor	6.9	26.1	28.5
Total	3.1	13.3	28.8
<b>Women</b>			
More wealthy	1.0	2.7	20.0
Average	4.7	18.6	43.3
More poor	8.1	27.0	40.0
Total	5.1	17.5	40.4
<b>All Adults</b>			
More wealthy	0.8	2.3	15.4
Average	3.5	15.5	38.7
More poor	7.7	26.7	35.3
Total	4.2	15.5	35.7

**Table 4.27 Proportion of respondents reporting a limiting long standing illness by age, sex and urban/rural nature of area of residence**

	Age		
	16-44	45-64	65+
	%	%	%
<b>Men</b>			
Most urban	11.4	36.5	54.8
Urban	16.8	30.1	54.3
Average	7.9	27.6	46.2
Rural	11.8	34.1	53.4
Most rural	17.2	35.2	46.4
Total	13.0	32.5	50.8
<b>Women</b>			
Most urban	16.2	33.6	58.5
Urban	17.6	40.5	57.3
Average	17.3	25.2	53.3
Rural	13.9	31.0	50.6
Most rural	14.1	33.1	58.7
Total	15.8	32.4	55.8
<b>All Adults</b>			
Most urban	14.1	34.5	57.1
Urban	17.3	35.7	56.0
Average	12.9	26.3	50.5
Rural	13.0	32.5	51.7
Most rural	15.6	34.1	53.8
Total	14.5	32.4	53.8

**Table 4.28 Proportion of respondents reporting their general health as not good by age, sex and urban/rural nature of area of residence**

	Age		
	16-44 %	45-64 %	65+ %
<b>Men</b>			
Most urban	37.3	53.1	78.4
Urban	27.4	58.9	69.5
Average	29.4	47.0	75.3
Rural	33.2	53.6	58.6
Most rural	34.3	51.6	78.3
Total	32.3	52.6	72.6
<b>Women</b>			
Most urban	38.8	64.2	86.4
Urban	37.1	61.9	76.4
Average	42.3	49.0	65.5
Rural	34.8	54.2	70.8
Most rural	41.8	61.0	81.7
Total	38.8	57.7	76.3
<b>All Adults</b>			
Most urban	38.3	59.4	83.7
Urban	33.0	60.5	73.4
Average	36.3	48.1	69.8
Rural	34.1	53.9	66.0
Most rural	38.1	56.3	80.3
Total	35.9	55.3	74.8

**Table 4.29 Proportion of respondents reporting a disability by age, sex and urban/rural nature of area of residence**

	Age		
	16-44	45-64	65+
	%	%	%
<b>Men</b>			
Most urban	4.3	12.6	30.1
Urban	2.4	10.6	30.5
Average	1.3	13.4	31.2
Rural	3.0	17.4	15.3
Most rural	5.2	15.1	26.1
Total	3.2	14.0	27.4
<b>Women</b>			
Most urban	6.8	20.8	43.2
Urban	6.1	26.2	36.4
Average	4.2	8.6	39.5
Rural	4.6	16.2	39.3
Most rural	2.8	19.9	39.4
Total	5.0	17.9	39.6
<b>All Adults</b>			
Most urban	5.7	17.6	38.2
Urban	4.3	18.9	33.9
Average	3.1	10.9	35.8
Rural	3.9	16.7	29.7
Most rural	4.0	17.2	33.9
Total	4.2	16.1	34.6

**Table 4.30 Proportion of respondents reporting a limiting long standing illness by age, sex and area deprivation category**

	Age		
	16-44	45-64	65+
	%	%	%
<b>Men</b>			
More affluent	11.5	24.7	47.8
Average	12.8	39.1	50.7
More deprived	14.7	37.1	55.3
Total	12.9	32.6	50.8
<b>Women</b>			
More affluent	12.2	27.6	50.4
Average	14.6	31.0	55.0
More deprived	20.1	39.1	62.4
Total	15.8	32.4	55.7
<b>All Adults</b>			
More affluent	11.9	26.1	49.4
Average	13.8	34.6	53.3
More deprived	17.8	38.1	59.7
Total	14.5	32.3	53.8

**Table 4.31 Proportion of respondents reporting their general health as not good by age, sex and area deprivation category**

	Age		
	16-44	45-64	65+
	%	%	%
<b>Men</b>			
More affluent	28.1	43.6	68.5
Average	39.4	53.6	75.3
More deprived	34.4	62.0	77.4
Total	32.5	52.6	72.8
<b>Women</b>			
More affluent	36.4	50.4	72.4
Average	42.0	56.3	73.9
More deprived	39.6	67.6	82.2
Total	38.8	57.8	76.3
<b>All Adults</b>			
More affluent	32.4	47.2	70.7
Average	40.8	54.7	74.1
More deprived	37.4	65.0	80.3
Total	35.9	55.3	74.8

**Table 4.32 Proportion of respondents reporting a disability by age, sex and area deprivation category**

	Age		
	16-44	45-64	65+
	%	%	%
<b>Men</b>			
More affluent	2.6	9.1	25.3
Average	3.4	19.9	27.4
More deprived	3.9	15.5	30.1
Total	3.2	14.0	27.3
<b>Women</b>			
More affluent	1.8	12.4	37.9
Average	5.3	15.2	33.3
More deprived	8.0	25.9	44.9
Total	5.0	17.8	39.5
<b>All Adults</b>			
More affluent	2.2	11.0	32.4
Average	4.5	17.5	31.4
More deprived	6.3	21.0	39.1
Total	4.2	16.1	34.5

**Table 4.33(a) Final logistic regression model for having a LLSI for men and women**

	Men		Women	
	Odds ratio (95% Confidence Intervals)	P-value	Odds ratio (95% Confidence Intervals)	P-value
Demographic & Social Factors			Demographic & Social Factors	
<i>Age (p&lt;0.001)</i>			<i>Age (p&lt;0.001)</i>	
16-44	1.00		16-44	1.00
45-64	2.86 (2.15 – 3.81)	0.00	45-64	1.84 (1.42 – 2.38) 0.00
65+	3.75 (2.67 – 5.27)	0.00	65+	3.61 (2.67 – 4.87) 0.00
<i>Marital Status (p=0.001)</i>			<i>Marital Status (p&lt;0.001)</i>	
Married/Cohabiting	1.00		Married/Cohabiting	1.00 0.00
Single	0.59 (0.42 – 0.83)	0.00	Single	0.67 (0.50 – 0.89) 0.01
Sep/Wid/Div	0.73 (0.44 – 1.21)	0.22	Sep/Wid/Div	1.23 (0.92 – 1.64) 0.16
<i>Denomination (p=0.93)</i>			<i>Denomination (p=0.36)</i>	
Protestant	1.00		Protestant	1.00
Catholic	1.01 (0.79 – 1.28)		Catholic	1.10 (0.90 – 1.34)
<i>Lone Person</i>	2.63 (1.65 – 4.18)	0.00	<i>Lone Person</i>	1.30 (0.93 – 1.83) 0.12
<b>Socio-economic Factors</b>			<b>Socio-economic Factors</b>	
<i>Tenure - renting</i>	1.27 (0.96 – 1.68)	0.09	<i>Tenure - renting</i>	1.38 (1.09 – 1.74) 0.01
<i>No Qualification</i>	1.37 (1.08 – 1.74)	0.01	<i>No Qualification</i>	1.67 (1.34 – 2.10) 0.00
<i>Household Income(p&lt;0.001)</i>			<i>Household Income (p&lt;0.001)</i>	
Wealthier	1.00		Wealthier	1.00
Wealthy	1.41 (0.92 – 2.15)	0.11	Wealthy	1.39 (0.95 – 2.02) 0.09
Average	3.38 (2.26 – 5.05)	0.00	Average	1.99 (1.39 – 2.86) 0.00
Poor	4.20 (2.80 – 6.30)	0.00	Poor	2.02 (1.40 – 2.92) 0.00
Poorer	4.67 (2.93 – 7.46)	0.00	Poorer	2.10 (1.38 – 3.20) 0.00
Baseline odds	0.058		0.094	

**Table 4.33(b) Logistic regression models for having a LLSI for men and women\***

	Men		Women	
	Model 1	Model 2	Model 1	Model 2
<b>Demographic &amp; Social Factors</b>				
<i>Age</i>				
16-44	<b>1.00</b>	<b>1.00</b>	<b>1.00</b>	<b>1.00</b>
45-64	<b>3.00</b>	<b>2.86</b>	<b>2.09</b>	<b>1.84</b>
65+	<b>5.48</b>	<b>3.75</b>	<b>4.77</b>	<b>3.61</b>
<i>Marital Status</i>				
Married/Cohabiting	1.00	<b>1.00</b>	<b>1.00</b>	<b>1.00</b>
Single	<b>0.71</b>	<b>0.59</b>	<b>0.69</b>	<b>0.67</b>
Sep/Wid/Div	0.84	0.73	<b>1.48</b>	1.23
<i>Denomination</i>				
Protestant	<b>1.00</b>	1.00	<b>1.00</b>	1.00
Catholic	<b>1.37</b>	1.01	<b>1.21</b>	1.10
<i>Lone Person</i>	<b>2.52</b>	<b>2.63</b>	1.34	1.30
<b>Socio-economic Factors</b>				
<i>Tenure - renting</i>		1.27		<b>1.38</b>
<i>No Qualification</i>		<b>1.37</b>		<b>1.67</b>
<i>Household Income</i>				
Wealthier		<b>1.00</b>		1.39
Wealthy		1.41		<b>1.99</b>
Average		<b>3.38</b>		<b>2.02</b>
Poor		<b>4.20</b>		<b>2.10</b>
Poorer		<b>4.67</b>		
Baseline odds	0.140	0.058	0.189	0.094

\* Numbers in bold represent odds which are significant at p<0.05

**Table 4.34(a) Final logistic regression model for having poor general health for men and women**

	Men		Women		
	Odds ratio (95% Confidence Intervals)	P-value	Odds ratio (95% Confidence Intervals)	P-value	
Demographic & Social Factors			Demographic & Social Factors		
<i>Age (p&lt;0.001)</i>			<i>Age (p&lt;0.001)</i>		
16-44	1.00		16-44	1.00	
45-64	2.04 (1.60 – 2.59)	0.00	45-64	1.48 (1.18 – 1.86)	0.00
65+	3.91 (2.81 – 5.46)	0.00	65+	2.80 (2.05 – 3.83)	0.00
<i>Marital Status (p&lt;0.001)</i>			<i>Marital Status (p&lt;0.001)</i>		
Married/Cohabiting	1.00		Married/Cohabiting	1.00	
Single	0.63 (0.48 – 0.83)	0.00	Single	0.67 (0.52 – 0.86)	0.00
Sep/Wid/Div	0.59 (0.37 – 0.96)	0.03	Sep/Wid/Div	1.14 (0.84 – 1.54)	0.40
<i>Denomination (p=0.85)</i>			<i>Denomination (p=0.56)</i>		
Protestant	1.00		Protestant	1.00	
Catholic	1.02 (0.82 – 1.28)		Catholic	0.94 (0.77 – 1.15)	
<i>Lone Person</i>	2.22 (1.43 – 3.44)	0.00	<i>Lone Person</i>	1.30 (0.90 – 1.88)	0.16
<b>Socio-economic Factors</b>			<b>Socio-economic Factors</b>		
<i>No Car Availability</i>	1.43 (1.05 – 1.94)	0.02	<i>No Car Availability</i>	1.45 (1.11 – 1.88)	0.01
<b>Social Class – manual</b>	1.27 (1.01 – 1.60)	0.04	<b>Social Class - manual</b>	1.15 (0.93 – 1.42)	0.19
<b>No Qualification</b>	1.19 (0.95 – 1.50)	0.12	<b>No Qualification</b>	1.87 (1.49 – 2.37)	0.00
<i>Household Income (p&lt;0.001)</i>			<i>Household Income (p=0.94)</i>		
Wealthier	1.00		Wealthier	1.00	
Wealthy	1.58 (1.17 – 2.15)	0.00	Wealthy	1.08 (0.81 – 1.44)	0.60
Average	2.19 (1.58 – 3.04)	0.00	Average	1.11 (0.82 – 1.49)	0.51
Poor	2.67 (1.90 – 3.74)	0.00	Poor	1.15 (0.84 – 1.57)	0.38
Poorer	2.81 (1.88 – 4.19)	0.00	Poorer	1.09 (0.75 – 1.57)	0.65
<b>Area Characteristics</b>			<b>Area Characteristics</b>		
<i>Deprivation Category (p=0.31)</i>			<i>Deprivation Category (p=0.03)</i>		
Most Affluent	1.00		Most Affluent	1.00	
Affluent	1.13 (0.82 – 1.58)	0.45	Affluent	1.42 (1.05 – 1.92)	0.02
Average	1.37 (0.98 – 1.92)	0.06	Average	1.24 (0.91 – 1.69)	0.17
Deprived	1.38 (0.97 – 1.96)	0.08	Deprived	1.35 (0.97 – 1.86)	0.07
Most Deprived	1.20 (0.82 – 1.75)	0.35	Most Deprived	1.70 (1.21 – 2.39)	0.00
Baseline odds	0.120		0.379		

**Table 4.34 (b) Logistic regression models for having poor general health for men and women\***

	Men			Women		
	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3
<b>Demographic &amp; Social Factors</b>						
<i>Age</i>						
16-44	<b>1.00</b>	<b>1.00</b>	<b>1.00</b>	<b>1.00</b>	<b>1.00</b>	<b>1.00</b>
45-64	<b>2.15</b>	<b>2.06</b>	<b>2.04</b>	<b>1.79</b>	<b>1.46</b>	<b>1.48</b>
65+	<b>4.94</b>	<b>3.85</b>	<b>3.92</b>	<b>3.68</b>	<b>2.68</b>	<b>2.80</b>
<i>Marital Status</i>						
Married/Cohabiting	<b>1.00</b>	<b>1.00</b>	<b>1.00</b>	<b>1.00</b>	<b>1.00</b>	<b>1.00</b>
Single	<b>0.69</b>	<b>0.64</b>	<b>0.63</b>	<b>0.67</b>	<b>0.68</b>	<b>0.67</b>
Sep/Wid/Div	0.67	<b>0.60</b>	<b>0.59</b>	<b>1.41</b>	1.16	1.14
<i>Denomination</i>						
Protestant	<b>1.00</b>	1.00	1.00	1.00	1.00	1.00
Catholic	<b>1.29</b>	1.07	1.02	1.14	1.04	0.94
<i>Lone Person</i>	<b>2.45</b>	<b>2.20</b>	<b>2.22</b>	<b>1.42</b>	1.28	1.30
<b>Socio-economic Factors</b>						
<i>No Car Availability</i>		<b>1.44</b>	<b>1.43</b>		<b>1.49</b>	<b>1.45</b>
<i>Social Class – manual</i>		<b>1.30</b>	<b>1.27</b>		1.18	1.15
<i>No Qualification</i>		1.21	1.19		<b>1.91</b>	<b>1.88</b>
<i>Household Income</i>						
Wealthier		<b>1.00</b>	<b>1.00</b>		1.00	1.00
Wealthy		<b>1.61</b>	<b>1.58</b>		1.28	1.07
Average		<b>2.27</b>	<b>2.19</b>		1.12	1.11
Poor		<b>2.76</b>	<b>2.67</b>		1.18	1.15
Poorer		<b>2.94</b>	<b>2.81</b>		1.23	1.09
<b>Area Characteristics</b>						
<i>Deprivation Category</i>						
Most Affluent			1.00			<b>1.00</b>
Affluent			1.13			<b>1.42</b>
Average			1.37			1.24
Deprived			1.38			1.35
Most Deprived			1.20			<b>1.70</b>
Baseline odds	0.460	0.222	0.120	0.656	0.456	0.379

\* Numbers in bold represent odds which are significant at p<0.05

**Table 4.35(a) Final logistic regression model for having a disability for men and women**

	Men		Women		
	Odds ratio (95% Confidence Intervals)	P-value	Odds ratio (95% Confidence Intervals)	P-value	
<b>Demographic &amp; Social Factors</b>			<b>Demographic &amp; Social Factors</b>		
<i>Age (p&lt;0.001)</i>			<i>Age (p&lt;0.001)</i>		
16-44	1.00		16-44	1.00	
45-64	4.41 (2.73 – 7.15)	0.00	45-64	2.81 (1.93 – 4.11)	0.00
65+	8.00 (4.80 – 13.31)	0.00	65+	6.12 (4.13 – 9.06)	0.00
<i>Marital Status (p=0.02)</i>			<i>Marital Status (p&lt;0.001)</i>		
Married/Cohabiting	1.00		Married/Cohabiting	1.00	
Single	0.57 (0.34 – 0.97)	0.04	Single	0.56 (0.35 – 0.90)	0.02
Sep/Wid/Div	1.42 (0.91 – 2.21)	0.12	Sep/Wid/Div	1.79 (1.31 – 2.44)	0.00
<i>Denomination (p=0.45)</i>			<i>Denomination (p&lt;0.001)</i>		
Protestant	1.00		Protestant	1.00	
Catholic	1.41 (0.81 – 1.60)		Catholic	1.65 (1.24 – 2.20)	
<b>Socio-economic Factors</b>			<b>Socio-economic Factors</b>		
<i>Social Class - manual</i>	0.90 (0.62 – 1.32)	0.59	<i>Social Class - manual</i>	1.51 (1.09 – 2.09)	0.01
<b>No Qualification</b>	1.56 (1.09 – 2.23)	0.02	<b>No Qualification</b>	2.07 (1.45 – 2.96)	0.00
<i>Household Income (p&lt;0.001)</i>			<i>Household Income (p&lt;0.001)</i>		
Wealthier	1.00		Wealthier	1.00	
Wealthy	1.81 (0.79 – 4.14)	0.16	Wealthy	2.16 (1.10 – 4.24)	0.03
Average	6.75 (3.20 – 14.23)	0.00	Average	4.09 (2.17 – 7.71)	0.00
Poor	6.34 (2.97 – 13.54)	0.00	Poor	3.34 (1.76 – 6.34)	0.00
Poorer	8.15 (3.59 – 48.46)	0.00	Poorer	2.31 (1.11 – 4.81)	0.03
<b>Area Characteristics</b>			<b>Area Characteristics</b>		
<i>Urban/Rural Category (p=0.70)</i>			<i>Urban/Rural Category (p=0.02)</i>		
Most Urban	1.00		Most Urban	1.00	
Urban	1.14 (0.65 – 2.01)	0.65	Urban	1.10 (0.71 – 1.69)	0.67
Average	1.03 (0.61 – 1.76)	0.90	Average	0.73 (0.48 – 1.13)	0.16
Rural	0.85 (0.50 – 1.46)	0.57	Rural	0.79 (0.52 – 1.21)	0.28
Most Rural	0.82 (0.48 – 1.38)	0.45	Most Rural	0.54 (0.35 – 0.84)	0.01
Baseline odds	0.008			0.012	

**Table 4.35 (b) Logistic regression models for having a disability for men and women\***

	Men			Women		
	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3
<b>Demographic &amp; Social Factors</b>						
<i>Age</i>						
16-44	<b>1.00</b>	<b>1.00</b>	<b>1.00</b>	<b>1.00</b>	<b>1.00</b>	<b>1.00</b>
45-64	<b>4.66</b>	<b>4.42</b>	<b>4.41</b>	<b>3.58</b>	<b>2.71</b>	<b>2.81</b>
65+	<b>10.96</b>	<b>8.20</b>	<b>8.00</b>	<b>9.81</b>	<b>6.03</b>	<b>6.12</b>
<i>Marital Status</i>						
Married/Cohabiting	<b>1.00</b>	<b>1.00</b>	<b>1.00</b>	<b>1.00</b>	<b>1.00</b>	<b>1.00</b>
Single	0.82	<b>0.57</b>	<b>0.57</b>	<b>0.70</b>	<b>0.57</b>	<b>0.56</b>
Sep/Wid/Div	<b>1.64</b>	1.43	1.42	<b>1.92</b>	<b>1.81</b>	<b>1.79</b>
<i>Denomination</i>						
Protestant	<b>1.00</b>	1.00	1.00	<b>1.00</b>	<b>1.00</b>	<b>1.00</b>
Catholic	<b>1.43</b>	1.11	1.41	<b>1.66</b>	<b>1.54</b>	<b>1.65</b>
<b>Socio-economic Factors</b>						
<i>Social Class – manual</i>		0.90	0.90		<b>1.45</b>	<b>1.51</b>
<i>No Qualification</i>		1.50	<b>1.56</b>		<b>2.17</b>	<b>2.07</b>
<i>Household Income</i>						
Wealthier		<b>1.00</b>	<b>1.00</b>		<b>1.00</b>	<b>1.00</b>
Wealthy		1.79	1.81		<b>2.07</b>	<b>2.16</b>
Average		<b>6.70</b>	<b>6.75</b>		<b>4.04</b>	<b>4.09</b>
Poor		<b>6.33</b>	<b>6.34</b>		<b>3.25</b>	<b>3.34</b>
Poorer		<b>7.97</b>	<b>8.15</b>		<b>2.28</b>	<b>2.31</b>
<b>Area Characteristics</b>						
<i>Urban/Rural Category</i>						
Most Urban			1.00			<b>1.00</b>
Urban			1.14			1.10
Average			1.03			0.73
Rural			0.85			0.79
Most Rural			0.82			<b>0.54</b>
Baseline odds	0.030	0.008	0.008	0.043	0.010	0.012

\* Numbers in bold represent odds which are significant at p<0.05

**Table 4.36 Common conditions and recent illness in the over 16 population; the estimated prevalence and the age and socio-economic gradient based on logistic regression analysis<sup>+</sup>**

	% pop 16+ affected	Male to female ratio	Age gradient			Poverty gradient		
			16-44	45-64	65+	Richest	Average IIIrd	Poorest
Ill in the last 2 weeks	16.0	0.85*	1.00	1.99	2.71***	1.00	1.94	2.35***
Ever told you had high BP	20.9	0.54**	1.00	2.98	4.70***	1.00	1.43	1.29ns
Ever told you had asthma	9.1	0.85ns	1.00	0.81	1.00ns	1.00	1.50	1.65**
Ever told you had cardiovascular disease	9.3	1.50ns	1.00	16.02	57.27***	1.00	2.27	1.83*
Ever consulted GP for back pain	38.2	0.77**	1.00	1.86	1.37***	1.00	1.09	1.21ns
If yes, severe back pain in the last year	48.2	0.75**	1.00	1.13	1.34**	1.00	1.67	2.01***
Recurrent joint pain	41.2	0.80**	1.00	2.63	3.76***	1.00	1.46	1.37**

+ Note: Figures under the age and poverty gradient columns represent the odds of having the condition/illness relative to a baseline group such as those aged 16-44 and the richest group.

\* p<0.05  
 \*\* p<0.01  
 \*\*\* p<0.001

Note: Cardiovascular disease = angina and/or heart attack and/or stroke

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# 5

## General Health Questionnaire

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### SUMMARY

- The GHQ12 is a good measure of psychological well being in the population and was asked of half of the respondents to the Northern Ireland Health and Social Wellbeing Survey. 27.6% respondents had a GHQ12 score of 3 or more and 21.3% had a score of 4 or more. Women were more likely than men to have poor psychological health. Unlike the self-reported measures of health there was no general decline in psychological wellbeing with age.
- The prevalence of psychological morbidity was higher in Northern Ireland than in either England or Scotland.
- Those who were widowed, separated or divorced generally had the worst mental health though the relationship between marital status and mental health varied by age and sex, for example, in middle age marriage was associated with best mental health for men but amongst women it was those who were single who fared better.
- Catholics tended to have higher GHQ-12 scores (worst mental health) than Protestants, the differences between the two communities being most marked at younger ages.
- Those who were living alone or who suffered a perceived lack of social support tended to have worse mental health.
- Being of lower socio-economic status was also associated with poorer mental health and these differences were generally most pronounced in the middle age range.
- GHQ caseness was closely associated with other measures of self reported ill health especially general health, while it was thought that much of the variation in mental health in Northern Ireland was secondary to variations in physical health the possibility of overlap in the questions was also considered.

## 5.1 Introduction

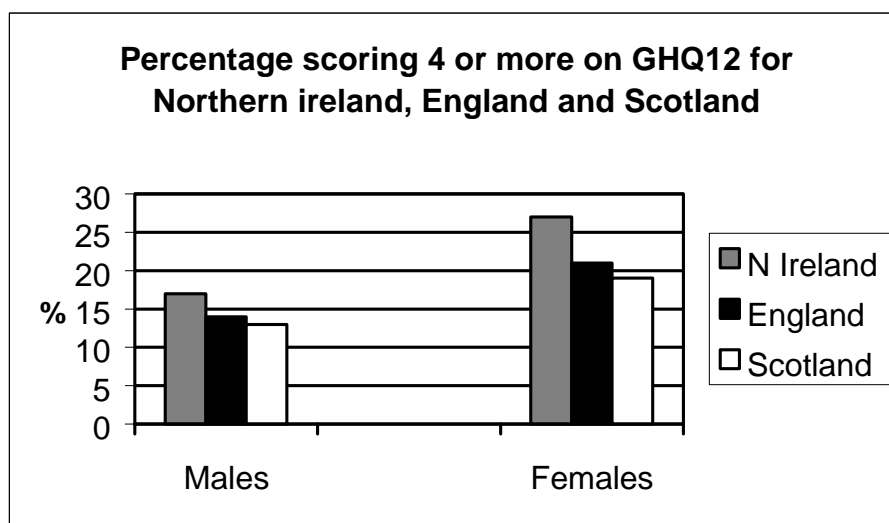
A total of 2093 respondents completed the GHQ12 questions in the survey. 27.6% (578) of the respondents had a GHQ12 score of 3 or more and 21.3% (445) had a score of 4 or more. Women were more likely than men to have an elevated GHQ12 score. The difference between men and women was greatest for those aged 16-24, at this age the percentage of women with a GHQ12 score of 3 or more was more than twice that of men.

**Table 5.1**

For men both the youngest (16-24) and the oldest age groups (75+) were the least likely to have high GHQ12 scores. In the middle age groups the prevalence was highest amongst women with the exception of the 55-64 age group in which the prevalence was higher for men. The prevalence of psychiatric morbidity in women, though highest in those aged 25-34, was fairly constant between the ages of 16 to 55.

## 5.2 Comparing Northern Ireland with England and Scotland

To compare GHQ12 results with data from Health Survey for England (1995) and Health Survey for Scotland (1995), it was necessary to use a cut off score of four or more and restrict the age range to 16-64 years. In Northern Ireland the proportion of men scoring 4 or more was 17%, compared to 13% in Scotland and 14% in England. The equivalent figures for women were 27% in Northern Ireland, 19% in Scotland and 21% in England, as shown in the figure below



A comparison of high GHQ12 scores by age and sex revealed a number of further differences between the countries. In Northern Ireland the prevalence of psychological morbidity amongst men (as defined by a GHQ12 score of 4 or more) rises more steeply with age (between 16 and 64) than in either England or Scotland. In Northern Ireland the prevalence for women rises with increasing age while in England there was little association between age and the prevalence of high GHQ12 scores. In Scotland the prevalence was highest in the middle age groups. **Table 5.2**

### **5.3 GHQ scores and social and economic factors**

In the following section the association between psychiatric morbidity and social and economic factors are described.

#### *Marital Status*

Those who were widowed, separated or divorced generally had the worst mental health. For those under the age of 64, marriage was generally associated with better mental health, though the direction and extent of the relationship varied between the sexes. Marital status was a very significant factor for the mental health of younger men, for example, there was more than a two-fold difference in the prevalence of psychiatric morbidity between those who were married and those who were separated, widowed or divorced. There was little difference between married and single men, or between married or single women. The effects of widowhood or of being separated or divorced on mental health were more modest for women at this age. Married or cohabiting men aged 45-64, had approximately half the prevalence of psychological morbidity than either single or separated, widowed or divorced men had. For women of this age, being single was associated with better mental health. At the older age group, smaller numbers obscured the relationship for single men and women. However for men, again being married was better for mental health than being separated, widowed or divorced, while for women the reverse was true. **Table 5.3**

#### *Denomination*

At most ages, Catholic adults were more likely to have a high GHQ score i.e. poorer mental health. The difference was more marked for younger adults. The prevalence of significant psychiatric morbidity at different ages and sexes varied by denomination. For Catholic men the prevalence was constant up to the age of 64 and fell a little at the

older ages. Protestant men had a low prevalence at both the younger and older ages but a high prevalence between the ages of 45-64. For women the pattern was almost reversed, with Catholic women showing an increase in prevalence between 45-64, while Protestant women showed improving mental health with increasing age. The difference between the denominations was greatest for men aged 16-44 and women aged 45-64. There was little difference in mental health between denominations for both sexes at the oldest age group (65+).

**Table 5.4**

*Social isolation – lone person households*

Adults who were living alone were more likely to have a high GHQ score of 3 than those who were not living alone. This was most evident at the younger ages. There was a moderate difference at the youngest age group for both men and women. The difference in psychiatric morbidity between those living alone and those who were not was particularly marked for men between the ages of 45-64 but not so marked for women. At the oldest age group there was relatively little difference in GHQ score by social isolation for both men and women.

**Table 5.5**

*Perceived social support*

The social support scale was derived by assigning a score from a scale where one denoted lack of support to three - no lack of support for each of seven questions. A maximum score of 21 indicated no lack of social support, a score of 18 to 20 signified some lack of support, while a score under 18 indicated a severe lack of social support. Respondents with a severe lack of social support were more likely to have a GHQ score of 3 or more than those with some or no lack of social support. For those aged 16-44 there was a marked difference between categories for women, though for men the differences were small. There was a large difference at age 45-64 for both men and women and the difference decreased for both sexes at the oldest age group.

**Table 5.6**

*Social Class*

In general there was a higher prevalence of psychiatric morbidity among those in the manual social classes (IIIM to V) than those in non-manual social classes (I to IINM), though at the youngest age group there was little difference in mental health between the social classes. This was true for both men and women. The largest difference was

at ages 45-64, though only for women. By age 65+ the difference between the social classes for both sexes was once again attenuated.

**Table 5.7**

### *Qualification*

At all ages and for both sexes, those who have some formal educational qualifications had better mental health than those who had no such qualifications. The difference between these two categories was more pronounced at the youngest age group. For men there was a modest difference between those with and without a qualification in relation to their mental health. While those with no qualification reported a higher prevalence of psychiatric morbidity in the youngest and oldest age groups, the differences were small and there was no difference at age 45-64. There was, however, a marked difference for women across the three age bands, which was much more apparent at the youngest age group.

**Table 5.8**

### *Tenure*

Respondents living in rented accommodation were more likely to have a high GHQ score than those in owner occupied homes. Overall, there were moderate differences between the categories at age 16-44 and relatively little difference for those over the age of 65. The greatest difference was at age 45-64. For men, the difference in mental health between renting and living in owner occupied housing appeared to be greatest at 16-44, while for women those in the youngest and oldest age groups showed relatively little difference in mental health between types of tenures; however, there appeared to be a substantial difference in levels of psychiatric morbidity at age 45-64 between those renting and those in owner occupied housing.

**Table 5.9**

### *Car Availability*

Adults without access to a car recorded higher levels of psychiatric morbidity than those who had access to a car. There was a moderate difference at the youngest age, a large difference at 45-64 and again relatively little difference over the age of 65. The difference in psychiatric morbidity between those with and without access to a car between the ages of 45-64 was particularly marked for men.

**Table 5.10**

### *Household Income*

In general, respondents in higher income categories were less likely to have a GHQ score of 3 or more. For those aged 16-44 there was an almost two-fold difference between categories for men, though for women the differences were not as marked. At age 45-64 for men again the difference was almost two-fold and there was a three-fold difference between income categories for women. Smaller numbers obscured the relationship between the lowest and highest categories among the oldest age group.

**Table 5.11**

### *Urban/Rural Areas*

In general, respondents in the most urban areas were more likely to have a high GHQ12 score than those in rural and most rural areas. However, it was difficult to discern any overall trend in the prevalence of psychiatric morbidity from most urban to most rural areas, though in those aged less than 65, there was a lower prevalence in the urban areas compared to the most urban areas which may perhaps reflect the more affluent suburbs.

**Table 5.12**

### *Deprivation at area level*

Generally respondents living within the most deprived category were more likely to have a GHQ12 score over 3. There was a moderate difference at the youngest age group, a greater difference at age 45-64 and once again the difference weakened among the oldest age group. The greatest difference was for women at age 45-64 where those in the most deprived group were twice as likely to have a high GHQ12 score than those in the most affluent group. At the oldest age group smaller numbers obscured the pattern. Interestingly, at the youngest and oldest ages mental health appears to be better in the 'average' than in the 'affluent' areas.

**Table 5.13**

## **5.4 Relationship with self reported health measures**

The Health Survey included a number of questions about respondents' perception of their own health, for example their general health, limiting long standing illness and disability. This section looks at the relationship between these measures of self reported health and the respondents GHQ12 scores.

### *GHQ12 and limiting long standing illness*

Large differences were evident when comparing those respondents who reported having a limiting long-standing illness and those who had not. Among the former 41.6% of men and 50.3% of women had a GHQ score of over 3, while the equivalent figures for the latter were 14.7% of men and 24.5% of women (see Table 5.14).

### *GHQ12 and self reported general health*

Table 5.14 shows a clear and linear relationship between quality of self-reported general health and prevalence of high GHQ12 scores. Among those who said that their health was 'good', 12.8% of men and 19.6% of women had a high GHQ12 score. By contrast, among those who rated their general health as 'not good', 56.8% of men and 63.9% of women had a high GHQ12 score.

### *GHQ12 and disability*

There was also a clear relationship between the presence of any disability and GHQ12 score. Respondents who reported having a disability were more likely than those who did not to have a GHQ12 score of over 3. For men, the figures were 61.3% and 16.7% respectively and for women they were 57.7% and 27.1% (see Table 5.14).

## **5.5 Logistic regression**

The main social and economic factors were included in a logistic regression for GHQ12, for men and women separately (see Table 5.15(a)). Logistic regression allowed us to examine which social and economic factors affected the odds of having a high score on the GHQ12.

When all other factors (principally health factors) were controlled for, the odds of having significant psychiatric morbidity fell with increasing age, in both men and women. For men only age and health factors were associated with poor mental health, for women the likelihood of psychiatric morbidity increased if perceived social support was felt to be lacking.

The major determinant of mental health of the population at all ages was the presence or absence of physical ill health or (for men) exposure to health stresses in the last year.

(Health stresses included the deterioration of an existing medical condition, serious health problem of a family member or friend or the death of a family member or friend).

There is a potential problem with including health factors in the regression models. While it is reasonable to include measures of purely physical health, it would be wrong to include another measure of mental health as this would simply produce a tautological statement and swamp the influence of other social or economic variables. A difficulty arises as we were not sure if some of these measures related solely to the physical aspects of health. However we interpreted the three health measures as primarily representing physical health for the following reasons:

1. The disability questions very evidently related to aspects of physical health and the spectrum of disability ranged from an inability to walk 200 yards without stopping or discomfort to the inability to get out of bed or a chair without difficulty.
2. Limiting long-standing illness is known to be a poor indication of mental or emotional health<sup>1</sup> being much more closely aligned with physical aspects of health.
3. The proposed census question likewise, has been shown to be more associated with the physical aspects of health.

When the analysis was rerun without including the census' general health question, the effects of the other indicators of physical health were strengthened and LLSI question was now an insignificant predictor of mental health for men as were health stresses in the last year for women. This adds further support to the contention that the general health question was reflecting the physical aspects of health.

Rerunning the analysis in stages (see Table 5.15(b)), starting with demographic and social factors, then adding the measures of socio-economic status before finally adding indicators of physical health, enabled us to understand a little more of the interplay of these factors. Initially only marital status was significantly associated with GHQ caseness for men. The improvement in mental health with increasing age and social support was evident in women. Although there was a tendency for Catholics to have

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<sup>1</sup> Cohen, J., Forbes, J. and Garroway, M. (1995). Interpreting self reported limiting long term illness. British Medical Journal. 311, 722-724

poorer mental health this did not reach conventional levels of statistical significance. For both men and women, those who were widowed, separated or divorced had between one and a half and twice the risk of having significant psychiatric morbidity. The additions of socio-economic factors modified this picture somewhat. For men age was now associated with mental health, (though there was no evidence of a trend) and there was some indication that the likelihood of poorer mental health increased as household income fell. Women without academic qualifications had an increased risk of poor mental health, and the inclusion of socio-economic factors reduced the relationship between marital status and mental health. Neither tenure, social class nor car availability were associated with mental health in either men or women.

The further addition of physical health factors reduced to non-significance many of the remaining associations between social and economic factors and mental health. Again the inference is that physical health is a major determinant of mental health and that many of the associations between social and socio-economic status and poor mental health are mediated through their associations with poorer physical health. For women, social support remained important throughout and its relationship to mental health status was unaffected by social or economic factors. It is possible that, in women, good social support increases personal resilience and, other things being equal, reduces the risks of poor mental health.

Neither area deprivation factors, Board of residence or the urban/rural nature of where the respondent lived were significantly associated with mental health status.

#### Conclusion:

Much of the poorer mental health, as measured by the GHQ12, in Northern Ireland was associated with poorer physical health. There was evidence of an inherent tendency towards better mental health with advancing age, though with the age-related decline in physical function, the overall effect was to keep the prevalence of significant psychological morbidity fairly constant across the age bands. Most of the socio-economic effects on mental health in Northern Ireland appeared to be mediated through the association between socio-economic standing and physical ill-health. Good levels of social support mitigated against the likelihood of poor mental health in women.

**Table 5.1 GHQ12 scores of 3 or more by age and sex**

	Age						
	16-24	25-34	35-44	45-54	55-64	65-74	75+
	%	%	%	%	%	%	%
Men	14.4	25.7	24.6	26.7	35.0	23.7	11.9
Women	32.8	36.1	34.5	31.8	35.9	22.4	27.2
Total	25.1	32.3	30.3	29.6	35.6	23.0	21.2

**Table 5.2 Comparison of GHQ12 score of 4 or more for Northern Ireland, England and Scotland by age and sex**

GHQ12 score of 4 or more	Age						Total
	16-24	25-34	35-44	45-54	55-64		
	%	%	%	%	%	%	%
<b>Men</b>							
NI	8.9	15.1	17.5	18.5	26.5		16.9
England	12.0	12.0	16.0	17.0	14.0		14.0
Scotland	9.0	11.0	12.0	17.0	17.0		13.0
<b>Women</b>							
NI	25.5	26.5	23.9	30.0	33.3		27.4
England	21.0	21.0	21.0	21.0	19.0		20.0
Scotland	16.0	23.0	19.0	22.0	16.0		19.0

**Table 5.3 Proportion of respondents with a GHQ12 score of 3 or more by age, sex and marital status**

	Age		
	16-44	45-64	65+
	%	%	%
<b>Men</b>			
Single	19.3	57.9	7.7
Married/cohabiting	21.2	25.6	19.7
Sep/div/wid	53.3	45.7	23.7
Total	21.5	30.8	19.7
<b>Women</b>			
Single	33.3	23.8	13.3
Married/Cohabiting	32.8	30.7	29.5
Sep/div/wid	47.8	47.0	23.5
Total	34.5	33.5	24.6
<b>All Adults</b>			
Single	27.5	40.0	11.6
Married/Cohabiting	28.0	28.4	24.0
Sep/div/wid	48.8	46.5	22.9
Total	29.3	32.3	22.3

**Table 5.4 Proportion of respondents with a GHQ12 score of 3 or more by age, sex and denomination**

	Age		
	16-44	45-64	65+
	%	%	%
<b>Men</b>			
Catholic	27.7	26.2	22.5
Protestant	16.9	35.0	19.1
Total	21.3	31.3	19.9
<b>Women</b>			
Catholic	35.9	40.6	24.7
Protestant	33.8	29.1	24.0
Total	34.8	33.7	24.2
<b>All Adults</b>			
Catholic	32.7	34.2	24.6
Protestant	26.6	31.5	21.5
Total	29.3	32.6	22.4

**Table 5.5 Proportion of respondents with a GHQ12 score of 3 or more by age, sex and social isolation**

	Age		
	16-44	45-64	65+
	%	%	%
<b>Men</b>			
Not living alone	20.5	27.2	19.5
Living Alone	37.0	50.0	19.0
Total	21.5	30.4	19.4
<b>Women</b>			
Not living alone	31.4	32.9	24.4
Living Alone	44.0	40.5	23.9
Total	34.5	33.8	24.2
<b>All Adults</b>			
Not living alone	28.7	30.5	22.1
Living Alone	41.5	44.2	22.5
Total	29.3	32.3	22.5

**Table 5.6 Proportion of respondents with a GHQ12 score of 3 or more by age, sex and social support**

	Age		
	16-44	45-64	65+
	%	%	%
<b>Men</b>			
No lack of social support	23.1	24.1	16.5
Some lack of social support	18.0	29.2	20.5
Severe lack of social support	24.2	45.5	28.6
Total	21.5	30.6	19.4
<b>Women</b>			
No lack of social support	30.9	30.0	21.7
Some lack of social support	31.5	31.8	28.0
Severe lack of social support	53.5	53.7	30.4
Total	34.5	33.4	23.8
<b>All Adults</b>			
No lack of social support	28.0	28.0	19.7
Some lack of social support	25.9	30.5	24.5
Severe lack of social support	39.6	49.0	29.4
Total	29.3	32.2	22.0

**Table 5.7 Proportion of respondents with a GHQ12 score of 3 or more by age, sex and social class**

	Age		
	16-44	45-64	65+
	%	%	%
<b>Men</b>			
SC non-manual	21.0	28.9	18.8
SC manual	21.8	29.7	20.3
Total	21.5	29.4	19.9
<b>Women</b>			
SC non-manual	32.8	28.3	21.2
SC manual	35.9	37.1	29.8
Total	34.2	33.0	25.8
<b>All Adults</b>			
SC non-manual	29.3	28.8	20.4
SC manual	29.1	33.7	24.9
Total	29.2	31.7	23.2

**Table 5.8 Proportion of respondents with a GHQ12 score of 3 or more by age, sex and academic qualification**

	Age		
	16-44	45-64	65+
	%	%	%
<b>Men</b>			
Any	20.2	30.1	16.4
None	25.7	31.0	22.0
Total	21.5	30.6	19.7
<b>Women</b>			
Any	29.8	28.8	16.7
None	50.3	37.8	26.7
Total	34.6	33.8	24.2
<b>All Adults</b>			
Any	25.9	29.4	16.5
None	40.2	35.2	25.0
Total	29.3	32.4	22.3

**Table 5.9 Proportion of respondents with a GHQ12 score of 3 or more by age, sex and tenure**

	Age		
	16-44	45-64	65+
	%	%	%
<b>Men</b>			
Owner occupied	18.1	28.6	16.8
Renting	31.1	38.8	25.5
Total	21.6	30.6	19.5
<b>Women</b>			
Owner occupied	32.3	28.3	25.2
Renting	38.8	50.6	23.2
Total	34.6	33.6	24.5
<b>All Adults</b>			
Owner occupied	26.1	28.4	21.3
Renting	36.0	46.1	24.3
Total	29.2	32.3	22.3

**Table 5.10 Proportion of respondents with a GHQ12 score of 3 or more by age, sex and car availability**

	Age		
	16-44	45-64	65+
	%	%	%
<b>Men</b>			
One or more	19.6	27.5	20.8
None	31.1	50.0	16.7
Total	21.5	30.6	19.5
<b>Women</b>			
One or more	33.0	31.0	21.8
None	39.2	44.6	26.7
Total	34.5	33.6	24.2
<b>All Adults</b>			
One or more	27.3	29.3	21.3
None	36.6	46.5	23.5
Total	29.3	32.2	22.2

**Table 5.11 Proportion of respondents with a GHQ12 score of 3 or more by age, sex and household income category**

	Age		
	16-44	45-64	65+
	%	%	%
<b>Men</b>			
More wealthy	14.9	24.2	20.0
Average	24.2	25.0	20.5
More poor	25.2	40.5	20.0
Total	21.9	30.0	20.3
<b>Women</b>			
More wealthy	28.8	14.3	7.1
Average	32.5	33.8	32.3
More poor	40.9	41.7	18.9
Total	34.6	32.5	24.0
<b>All Adults</b>			
More wealthy	22.2	19.0	8.7
Average	29.1	30.3	27.6
More poor	35.2	41.2	19.4
Total	29.4	31.3	22.4

**Table 5.12 Proportion of respondents with a GHQ12 score of 3 or more by age, sex and urban/rural nature of area of residence**

	Age		
	16-44	45-64	65+
	%	%	%
<b>Men</b>			
Most urban	31.1	37.8	7.7
Urban	22.8	27.1	23.3
Average	12.8	42.0	21.6
Rural	15.6	18.6	24.0
Most rural	22.2	29.4	22.6
Total	21.4	30.4	19.4
<b>Women</b>			
Most urban	39.4	38.5	19.0
Urban	35.9	30.0	31.5
Average	40.7	37.5	15.0
Rural	26.7	29.7	29.4
Most rural	31.1	31.0	21.7
Total	34.7	33.4	23.2
<b>All Adults</b>			
Most urban	35.8	38.2	14.7
Urban	30.6	28.7	28.6
Average	30.7	39.8	18.2
Rural	22.4	24.4	27.1
Most rural	27.4	30.3	22.1
Total	29.3	32.3	21.8

**Table 5.13 Proportion of respondents with a GHQ12 score of 3 or more by age, sex and area deprivation category**

	Age		
	16-44	45-64	65+
	%	%	%
<b>Men</b>			
More affluent	19.7	27.1	21.5
Average	14.6	33.3	23.1
More deprived	26.9	31.6	14.0
Total	21.6	30.6	19.4
<b>Women</b>			
More affluent	33.1	24.0	26.5
Average	27.1	33.8	13.5
More deprived	40.2	43.1	27.1
Total	34.6	33.7	23.8
<b>All Adults</b>			
More affluent	27.4	25.1	24.0
Average	22.6	33.6	17.6
More deprived	34.9	38.2	21.7
Total	29.3	32.3	21.8

**Table 5.14 Relationship of psychosocial wellbeing to self-reported health measures, by sex**

GHQ12 Score	LLSI		General health			Disability	
	No	Yes	Good	Fairly Good	Not Good	No	Yes
<b>Men</b>							
less than 3	85.3	58.4	87.2	79.1	43.2	83.3	38.7
3 or more	14.7	41.6	12.8	20.9	56.8	16.7	61.3
Base	678	165	452	278	132	756	106
<b>Women</b>							
less than 3	75.5	49.7	80.4	69.1	36.1	72.9	42.3
3 or more	24.5	50.3	19.6	30.9	63.9	27.1	57.7
Base	898	332	612	388	230	1055	175

**Table 5.15(a) Final logistic regression model for having a high GHQ score (3 or more) for men and women**

	Men		Women		
	Odds ratio (95% Confidence Intervals)	P-value	Odds ratio (95% Confidence Intervals)	P-value	
<b>Demographic &amp; Social Factors</b>			<b>Demographic &amp; Social Factors</b>		
<i>Age (p&lt;0.001)</i>			<i>Age (p&lt;0.001)</i>		
16-44	1.00		16-44	1.00	
45-64	0.71 (0.43 - 1.16)	0.18	45-64	0.58 (0.40 - 0.84)	0.00
65+	0.24 (0.12 - 0.48)	0.00	65+	0.18 (0.11 - 0.30)	0.00
<i>Denomination (p=0.35)</i>			<i>Denomination (p=0.65)</i>		
Protestant	1.00		Protestant	1.00	
Catholic	1.20 (0.82 - 1.76)		Catholic	1.07 (0.80 - 1.42)	
<i>Marital Status (p=0.13)</i>			<i>Marital Status (p=0.50)</i>		
Married/Cohabiting	1.00		Married/Cohabiting	1.00	
Single	1.01 (0.63 - 1.63)	0.96	Single	1.13 (0.79 - 1.61)	0.50
Sep/Wid/Div	1.95 (1.02 - 3.71)	0.04	Sep/Wid/Div	1.25 (0.84 - 1.87)	0.27
<i>Social Support (p=0.71)</i>			<i>Social Support (p&lt;0.001)</i>		
Severe lack of support	1.00		Severe lack of support	1.00	
Some lack of support	0.80 (0.48 - 1.35)	0.41	Some lack of support	0.44 (0.29 - 0.68)	0.00
No lack of support	0.87 (0.53 - 1.41)	0.56	No lack of support	0.42 (0.29 - 0.63)	0.00
<b>Socio-economic Factors</b>			<b>No Qualification</b>	1.31 (0.92 - 1.85)	0.13
<b>No Qualification</b>	0.93 (0.61 - 1.41)	0.72			
<i>Household Income (p=0.38)</i>			<i>Household Income (p=0.45)</i>		
Wealthier	1.00		Wealthier	1.00	
Wealthy	1.03 (0.58 - 1.84)	0.92	Wealthy	1.32 (0.84 - 2.08)	0.23
Average	1.11 (0.61 - 2.02)	0.73	Average	0.99 (0.62 - 1.58)	0.95
Poor	1.26 (0.70 - 2.27)	0.45	Poor	0.88 (0.55 - 1.42)	0.60
Poorer	0.60 (0.27 - 1.31)	0.20	Poorer	1.04 (0.61 - 1.78)	0.90
<b>Health Factors</b>					
<i>LLSI</i>	1.40 (0.79 - 2.46)	0.25	<i>LLSI</i>	1.54 (1.02 - 2.33)	0.04
<i>Any Health Stress</i>	1.71 (1.04 - 2.81)	0.04	<i>Any Health Stress</i>	1.34 (0.91 - 1.97)	0.14
<i>Disability</i>	4.09 (2.11 - 7.94)	0.00	<i>Disability</i>	2.04 (1.23 - 3.40)	0.01
<i>General Health (p&lt;0.00)</i>			<i>General Health (p&lt;0.00)</i>		
Good	1.00		Good	1.00	
Fairly good	1.61 (1.04 - 2.52)	0.03	Fairly good	1.76 (1.26 - 2.46)	0.00
Not good	4.00 (2.06 - 7.76)	0.00	Not good	5.76 (3.59 - 9.22)	0.00
Baseline odds	0.166		Baseline odds	0.482	

**Table 5.15(b) Logistic regression models for having a high GHQ score (3 or more) for men and women\***

	Men				Women			
	Model 1	Model 2	Model 3	Model 4	Model 1	Model 2	Model 3	Model 4
<b>Demographic &amp; Social Factors</b>								
<i>Age</i>								
16-44	1.00	<b>1.00</b>	<b>1.00</b>	<b>1.00</b>	<b>1.00</b>	<b>1.00</b>	<b>1.00</b>	<b>1.00</b>
45-64	1.41	1.32	0.83	0.71	0.99	0.77	<b>0.63</b>	<b>0.58</b>
65+	0.91	0.69	<b>0.29</b>	<b>0.24</b>	<b>0.58</b>	<b>0.45</b>	<b>0.20</b>	<b>0.18</b>
<i>Denomination</i>								
Protestant	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Catholic	1.21	1.19	1.25	1.20	1.23	1.12	1.06	1.07
<i>Marital Status</i>								
Married/Cohabiting	<b>1.00</b>	<b>1.00</b>	1.00	1.00	<b>1.00</b>	1.00	1.00	1.00
Single	0.85	0.88	1.02	1.01	0.87	0.91	1.02	1.13
Sep/Wid/Div	<b>2.12</b>	<b>2.18</b>	1.85	<b>1.95</b>	<b>1.54</b>	<b>1.44</b>	1.34	1.25
<i>Social Support</i>								
Severe lack of support	1.00	1.00	1.00	1.00	<b>1.00</b>	<b>1.00</b>	<b>1.00</b>	<b>1.00</b>
Some lack of support	0.71	0.77	0.81	0.80	<b>0.45</b>	<b>0.46</b>	<b>0.41</b>	<b>0.44</b>
No lack of support	<b>0.65</b>	0.71	0.83	0.87	<b>0.40</b>	<b>0.42</b>	<b>0.39</b>	<b>0.42</b>
<b>Socio-economic Factors</b>								
<i>No Qualification</i>								
		1.09	0.93	0.93		<b>1.67</b>	<b>1.40</b>	1.31
<i>Household Income</i>								
Wealthier		<b>1.00</b>	1.00	1.00		1.00	1.00	1.00
Wealthy		1.29	1.16	1.03		1.41	1.37	1.32
Average		<b>1.84</b>	1.23	1.11		1.29	1.01	0.99
Poor		<b>2.23</b>	1.46	1.26		1.12	0.90	0.88
Poorer		1.27	0.72	0.60		1.32	1.05	1.04
<b>Health Factors</b>								
<i>LLSI</i>								
			<b>2.21</b>	1.40			<b>2.70</b>	<b>1.54</b>
<i>Any Health Stress</i>								
			<b>2.10</b>	<b>1.71</b>			<b>1.73</b>	1.34
<i>Disability</i>								
			<b>4.87</b>	<b>4.09</b>			<b>2.70</b>	<b>2.04</b>
<i>General Health</i>								
Good				<b>1.00</b>				<b>1.00</b>
Fairly good				<b>1.61</b>				<b>1.76</b>
Not good				<b>4.00</b>				<b>5.76</b>
Baseline odds	0.315	0.199	0.173	0.166	0.432	0.676	0.646	0.482

\* Numbers in bold represent odds which are significant at p<0.05

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# 6

## Short Form 36

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### SUMMARY

- Those respondents who did not complete the GHQ12 questions were invited to complete the SF-36 questionnaire. The SF-36 assesses eight different dimensions of health though these are sometimes combined into two summary physical and mental components.
- Women tended to have lower mean scores (worse health) than men across all dimensions of the SF-36 except for general health where the scores for men and women were about the same.
- Most of the dimensions showed a decline with age, the largest decline being in the physical health dimensions notably physical function and role limitation (physical). Role limitation (emotional) and mental health were not clearly related to age.
- Despite our younger population Northern Ireland had lower mean scores across all eight dimensions compared to an equivalent population in England. For many of these dimensions the differences were greatest at the oldest age groups.
- Differences in mean scores across the dimensions between the two main denominations were not marked, though generally Catholics fared worse than their Protestant peers and the differences were more evident across those dimensions associated with mental health.
- Being of a lower socio-economic standing was associated with poorer health across all eight dimensions though the largest differences were seen in those dimensions associated with physical aspects of health. Differences in mean scores were generally greater for women than for men.
- There was a clear relationship between SF-36 scores and other measures of self-reported health (general health and disability). The association was strongest for those aspects of the SF-36 reflecting the physical aspects of health and weakest for the mental/emotional dimensions.
- Those people who perceived a severe lack of social support were, other things being equal, approximately twice as likely to have a low SF-36 score especially on those dimensions which were closely associated with the mental health component.
- Other things being equal those in rural areas tended to have better health and increasing urbanisation was associated with poorer health except for the most urban areas, which were not significantly different from the most rural areas.

## **6.1 Introduction**

2138 of the survey respondents completed the SF-36. 57.1% were women and 42.9% were men. Table 6.1 shows the mean scores for each of the eight SF-36 dimensions by age of respondents. Mean scores on the physical health dimensions, (see page 17 chapter 2 for division of physical and mental health components) Energy and Vitality and Social Functioning dimensions declined with age but Role Limitation (emotional) and Mental Health did not. The overall mean scores of the eight dimensions for men and women are shown in Table 6.2. Women tended to have lower mean scores than men on all dimensions except General Health, where mean scores for men and women were about the same.

## **6.2 Comparing Northern Ireland with England**

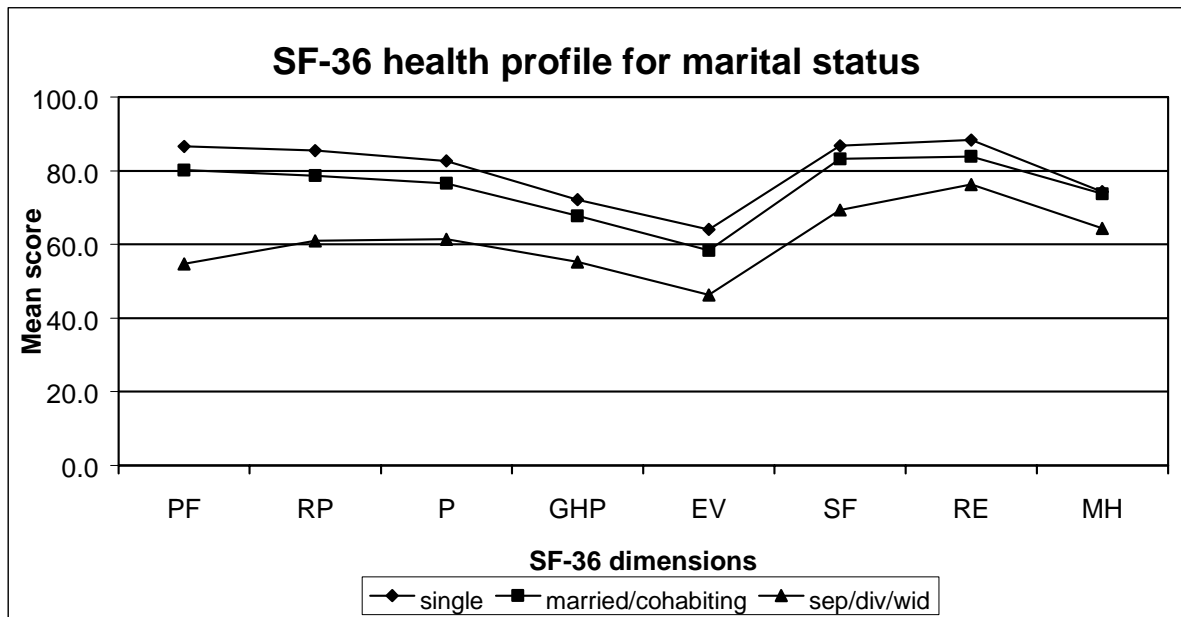
A comparison of the Northern Ireland Health and Well Being Survey with data from the 1996 Health Survey for England shows that even though it has a slightly younger population, Northern Ireland has a lower mean score (worse health) on all dimensions of the SF-36. The greatest difference in mean scores was noted for the Energy and Vitality dimension. The overall differences between Northern Ireland and England conceal some specific differences by age. For many of the dimensions of the SF-36 the difference in mean scores between Northern Ireland and England increased with increasing age. The exceptions were the Role Limitation (emotional) dimension, which showed a gradual decline with age in England and a U-shaped relationship in Northern Ireland and the Mental Health dimension which, in Northern Ireland, also gradually declined with age however in England levels of Mental Health were well maintained across the age range.

### **Table 6.3 (a) & (b)**

## **6.3 SF-36 and social and economic factors**

In the following section the association between dimensions of the SF-36 and social and economic factors are described.

*Marital Status*



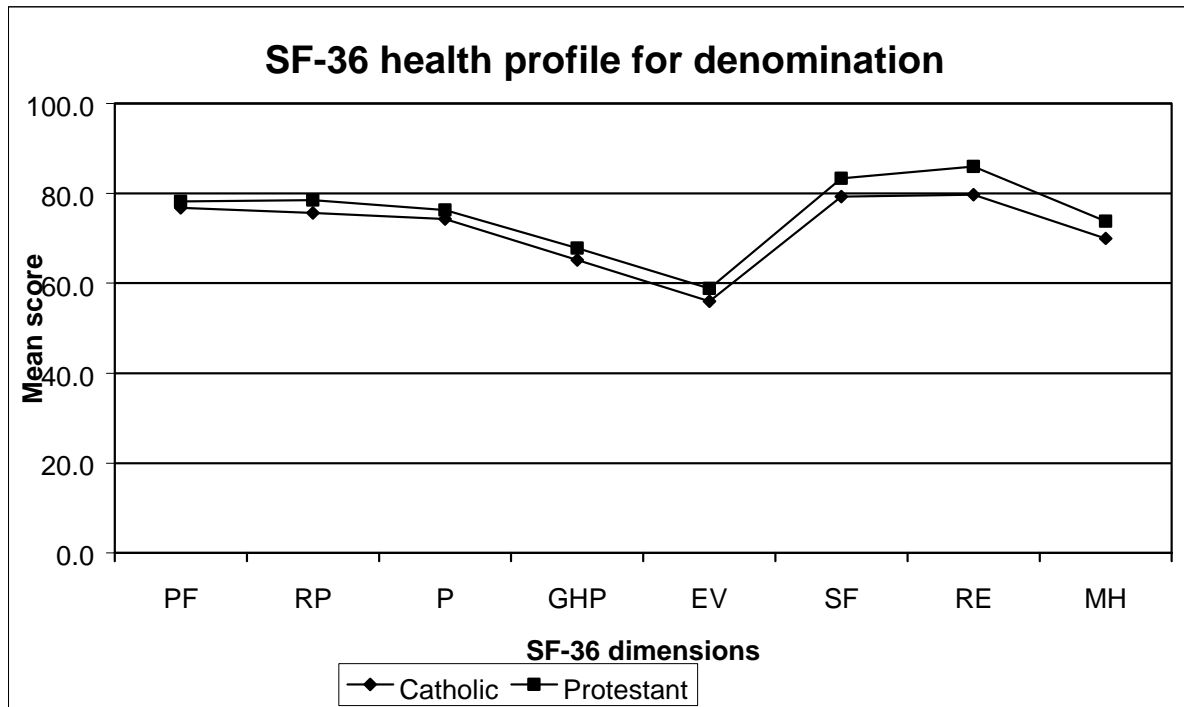
**Key to Abbreviations**

<b>PF</b>	Physical Functioning	<b>RP</b>	Role Limitation physical
<b>P</b>	Bodily Pain	<b>GHP</b>	General Health
<b>EV</b>	Energy and Vitality	<b>SF</b>	Social Functioning
<b>RF</b>	Role Limitation – emotional	<b>MH</b>	Mental Health

Mean scores on all dimensions of the SF-36 tended to be lowest for those respondents who were separated, widowed or divorced and highest for those respondents who were single. The greatest differential found in mean scores, according to marital status, was for Physical Functioning (the mean score varied from 86.6 for single respondents to 54.8 for separated, widowed or divorced respondents). The difference in mean scores between marital status was greatest for women particularly on physical dimensions.

**Table 6.4**

*Denomination*

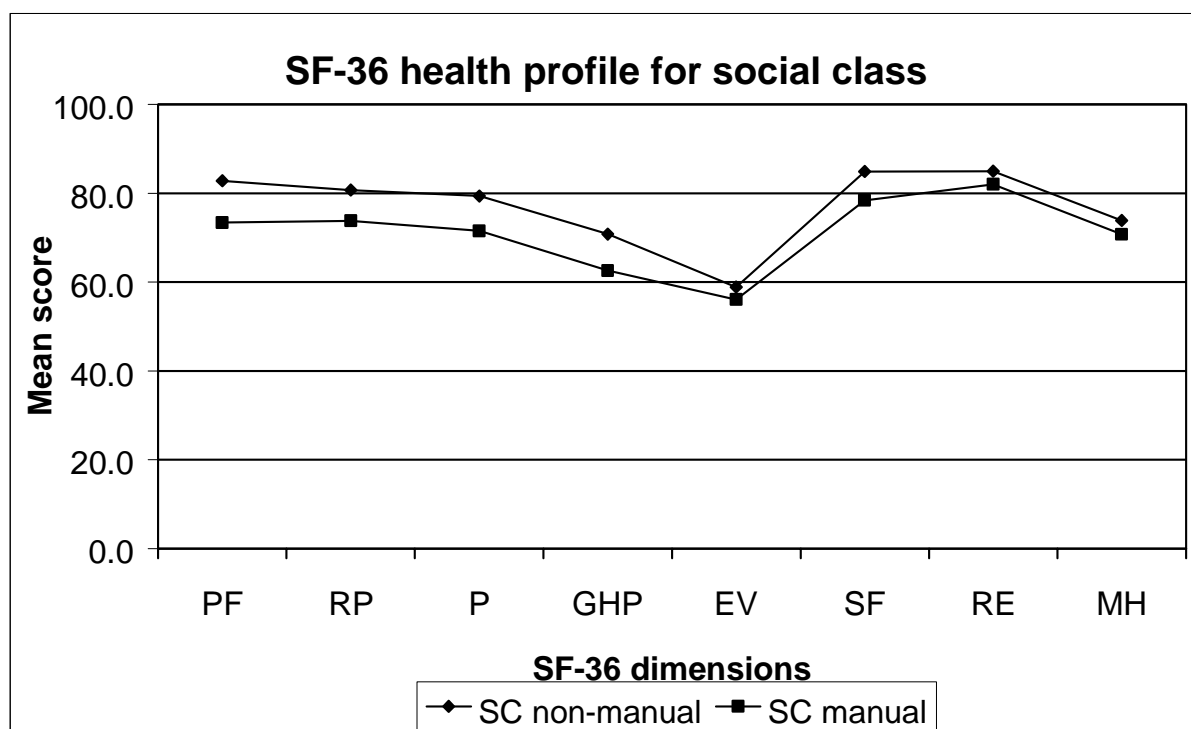


**Key to Abbreviations**

<b>PF</b>	Physical Functioning	<b>RP</b>	Role Limitation – physical
<b>P</b>	Bodily Pain	<b>GHP</b>	General Health
<b>EV</b>	Energy and Vitality	<b>SF</b>	Social Functioning
<b>RE</b>	Role Limitation – emotional	<b>MH</b>	Mental Health

On all dimensions of the SF-36 mean scores were marginally higher for Protestants. The greatest differential in mean scores according to denomination was for Role Limitations (emotional) (varied from 86.0 for Protestants to 79.7 for Catholics) followed by the Social Functioning and Mental Health dimensions. Differences between denominations on the Physical dimensions of the SF-36 were very small. There were no marked gender differences between the denominations.

**Table 6.5**



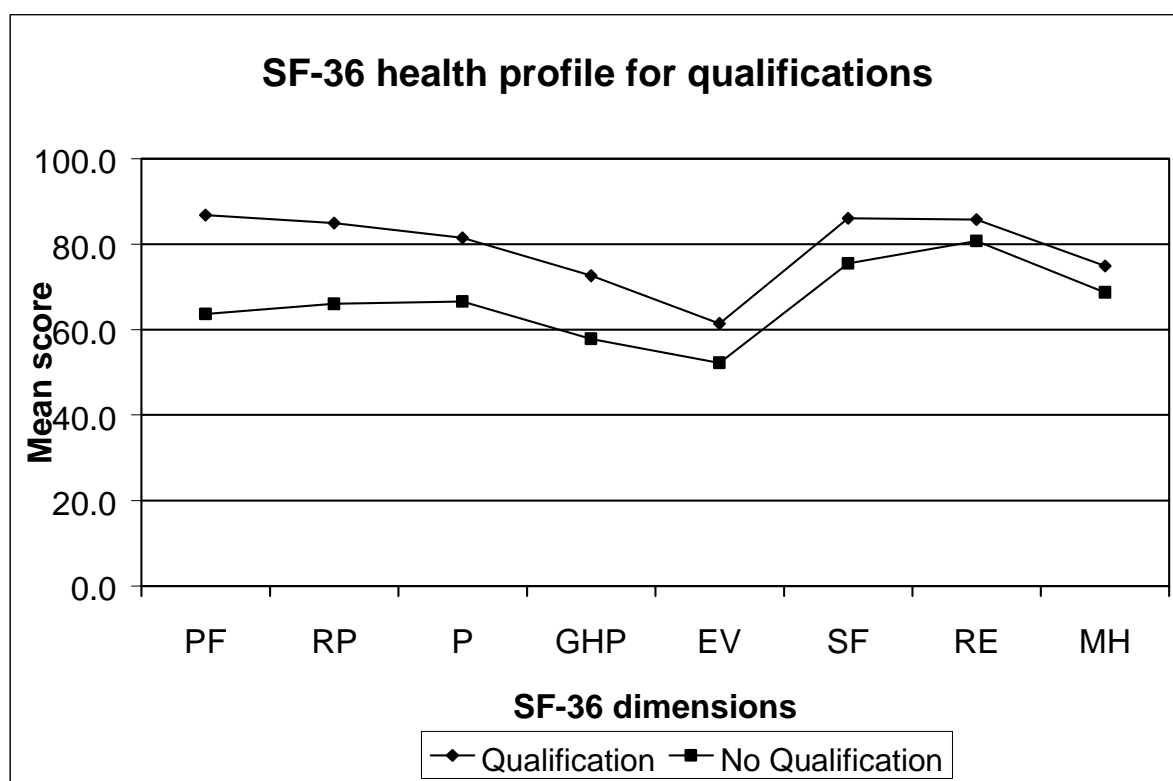
**Key to Abbreviations**

<b>PF</b>	Physical Functioning	<b>RP</b>	Role Limitation – physical
<b>P</b>	Bodily Pain	<b>GHP</b>	General Health
<b>EV</b>	Energy and Vitality	<b>SF</b>	Social Functioning
<b>RF</b>	Role Limitation – emotional	<b>MH</b>	Mental Health

Mean scores for the eight dimensions of the SF-36 were higher for respondents in non-manual social classes, the greatest differences being for the physical dimensions. Between the sexes, differences in mean scores for most dimensions were greatest among women, the exception being Role Limitation (emotional). For example, the mean score for Physical Functioning varied for men from 83.8 in non-manual social class to 79.3 in manual social classes whereas among women mean score varied from 82.2 in non-manual social classes to 67.4 in manual social classes.

**Table 6.6**

*Qualification*

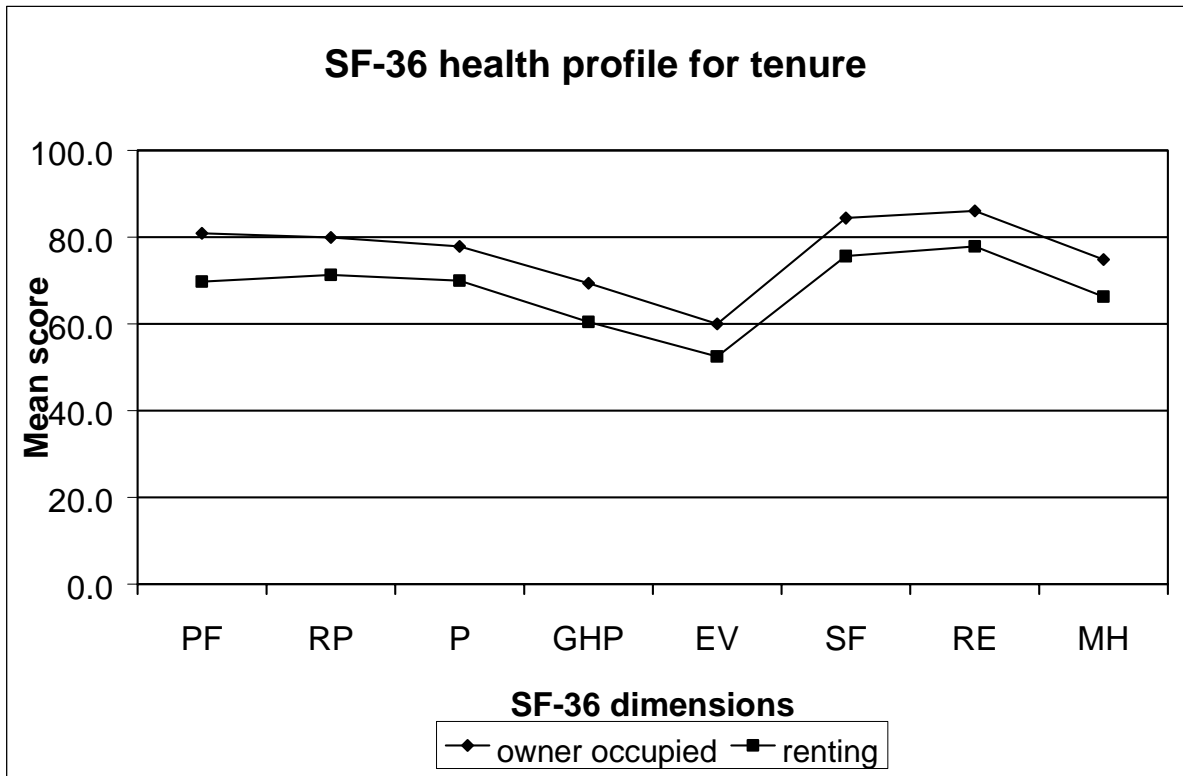


**Key to Abbreviations**

<b>PF</b>	Physical Functioning	<b>RP</b>	Role Limitation – physical
<b>P</b>	Bodily Pain	<b>GHP</b>	General Health
<b>EV</b>	Energy and Vitality	<b>SF</b>	Social Functioning
<b>RF</b>	Role Limitation – emotional	<b>MH</b>	Mental Health

Respondents with an academic qualification had higher mean score than those who had no formal qualification for all dimensions of the SF-36. Again, differences in mean score according to qualification were greater for the Physical dimensions. The differences between mean scores were again generally greater for women, particularly for Physical Functioning and Role Limitation (physical) dimensions.

**Table 6.7**



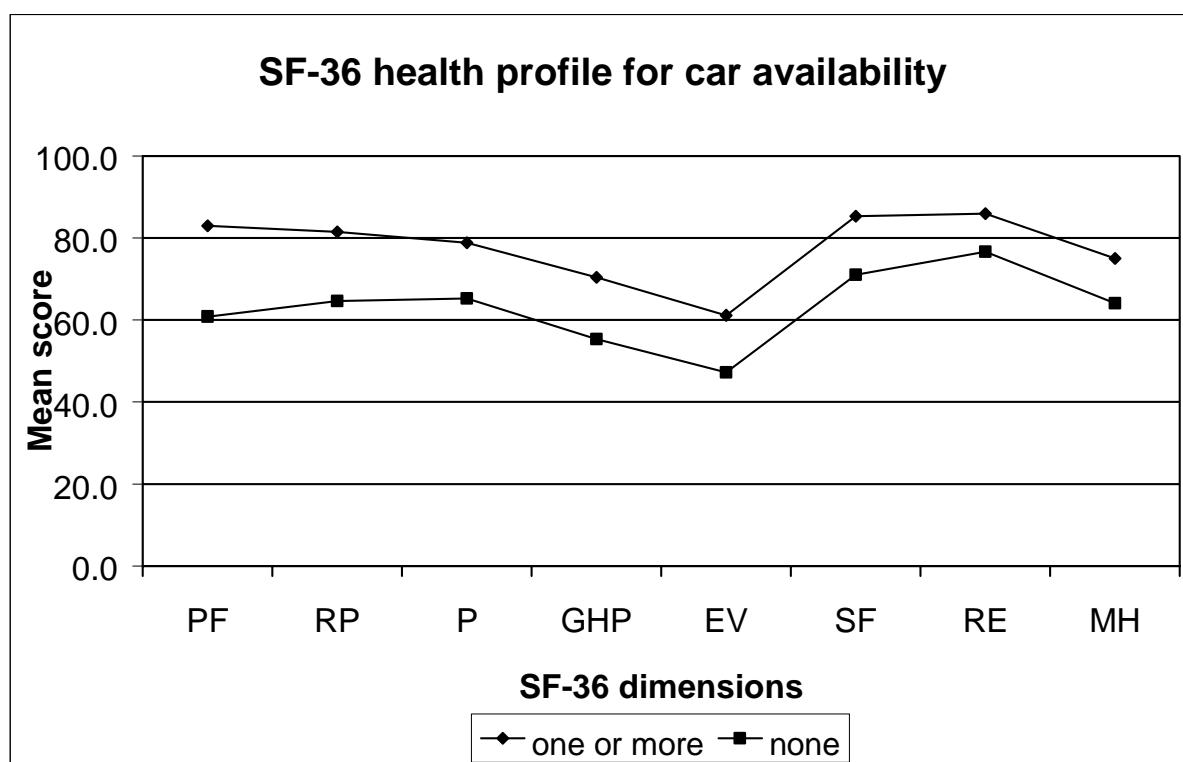
**Key to Abbreviations**

<b>PF</b>	Physical Functioning	<b>RP</b>	Role Limitation – physical
<b>P</b>	Bodily Pain	<b>GHP</b>	General Health
<b>EV</b>	Energy and Vitality	<b>SF</b>	Social Functioning
<b>RF</b>	Role Limitation – emotional	<b>MH</b>	Mental Health

Across all dimensions of the SF-36 it was more likely for respondents in rented accommodation to have a lower mean score (i.e. poorer health). The greatest differential again was for Physical Functioning (mean scored varied from 80.9 for those in owner occupied accommodation to 69.8 for those renting). Once more there was a greater differential, according to tenure, for women, particularly for the Energy and Vitality and Mental Health dimensions.

**Table 6.8**

Car Availability



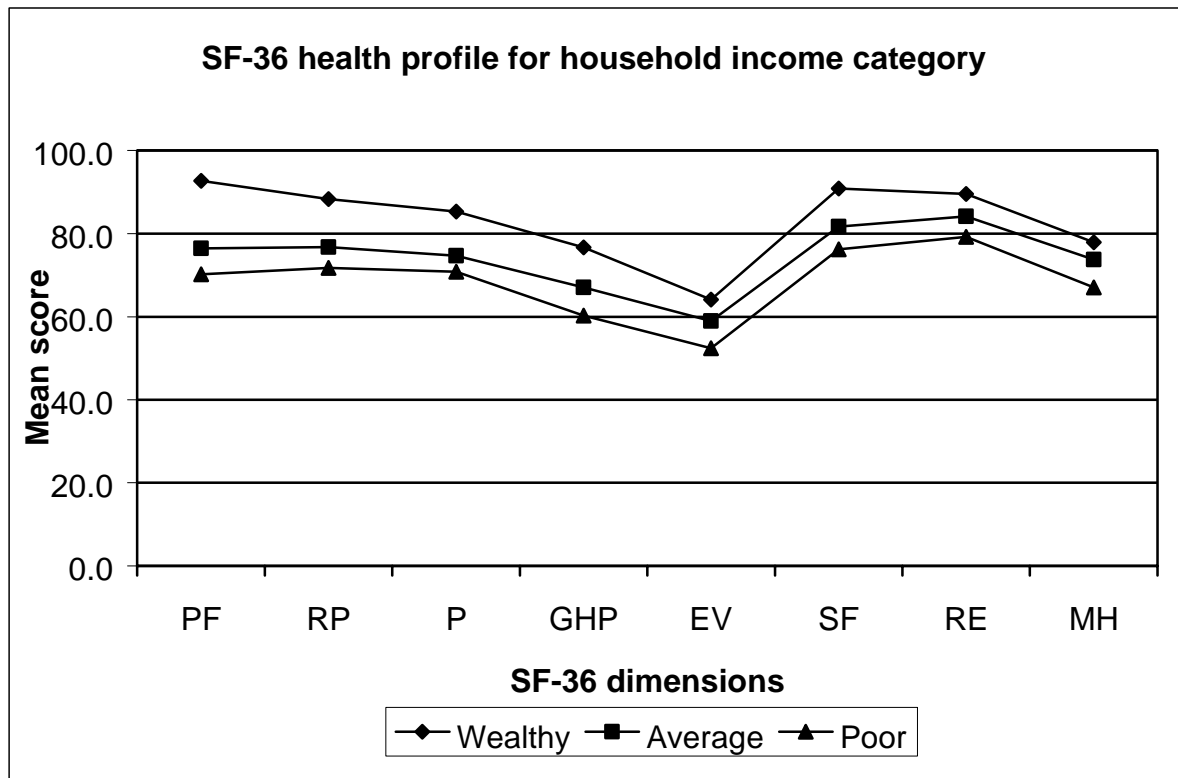
Key to Abbreviations

<b>PF</b>	Physical Functioning	<b>RP</b>	Role Limitation – physical
<b>P</b>	Bodily Pain	<b>GHP</b>	General Health
<b>EV</b>	Energy and Vitality	<b>SF</b>	Social Functioning
<b>RF</b>	Role Limitation – emotional	<b>MH</b>	Mental Health

Mean scores on all dimensions of the SF-36 tended to be lowest for those respondents who had no car available to them. The difference in mean score between having and not having a car was greatest for the Physical dimensions of the SF-36, (for example mean score varied for Physical Functioning from 92.7 among those who had access to a car to 70.2 among those who did not). Again differences between those who have and have not access to a car was greater among women but not substantially so.

**Table 6.9**

Household Income



**Key to Abbreviations**

<b>PF</b>	Physical Functioning	<b>RP</b>	Role Limitation-physical
<b>P</b>	Bodily Pain	<b>GHP</b>	General Health
<b>EV</b>	Energy and Vitality	<b>SF</b>	Social Functioning
<b>RE</b>	Role Limitation – emotional	<b>MH</b>	Mental Health

Mean scores on all dimensions of the SF-36 tended to be lowest for those respondents who were in the poorest income category and highest for those respondents who were in the wealthiest category. The greatest differential found in mean scores, according to income category, was for Physical Functioning (the mean score varied from 92.7 for respondents in the wealthiest category to 70.2 for those in the poorest category). The difference in mean scores between household income category was greatest for women for the Physical Functioning, Energy and Vitality, Role Limitations (emotional) and Mental Health dimensions and for men on the Role Limitations (physical) dimensions.

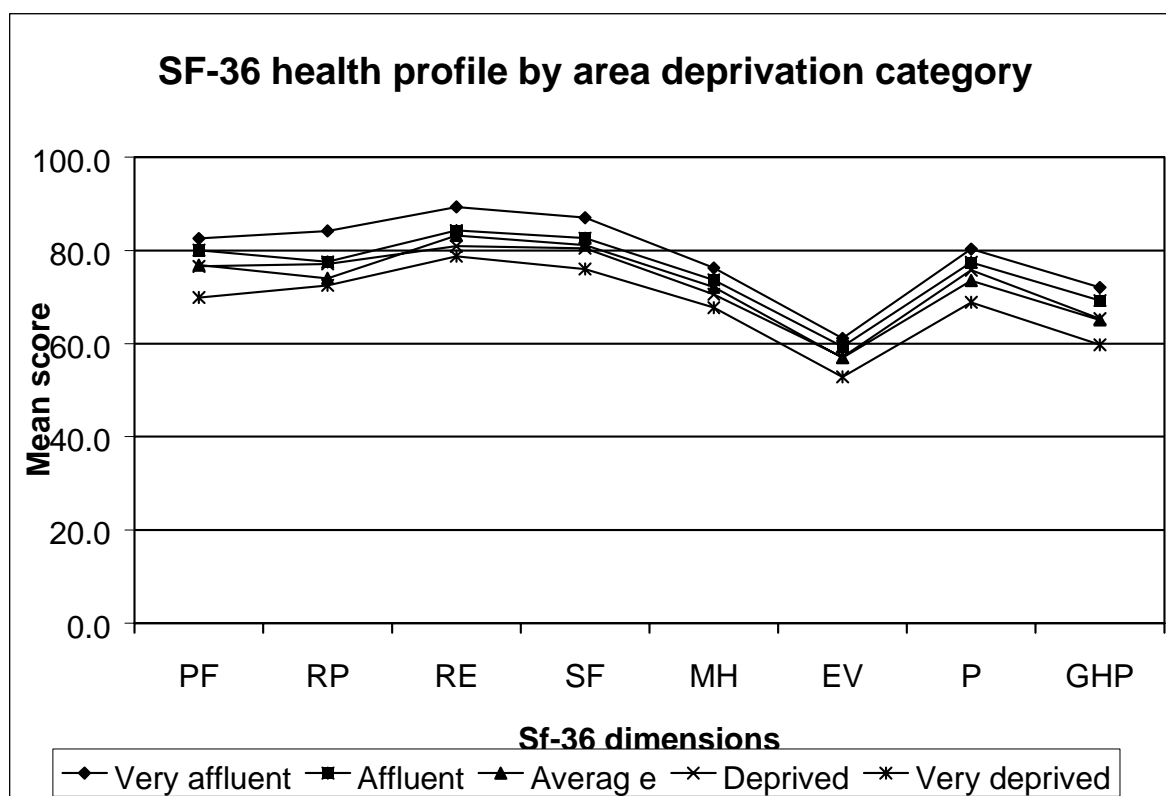
**Table 6.10**

*Urban/Rural Areas*

Mean scores on all dimensions of the SF36 were lower for respondents residing in urban areas rather than in rural areas. Differences in mean scores of different areas were not large. In general male respondents in the ‘most urban’ areas had better health (higher mean scores) than those in the ‘urban’ areas however for women the opposite was true.

**Table 6.11**

*Deprivation at area level*



**Key to Abbreviations**

- |                                       |                                    |
|---------------------------------------|------------------------------------|
| <b>PF</b> Physical Functioning        | <b>RP</b> Role Limitation-physical |
| <b>RE</b> Role Limitation – emotional | <b>SF</b> Social Functioning       |
| <b>MH</b> Mental Health               | <b>EV</b> Energy and Vitality      |
| <b>P</b> Bodily Pain                  | <b>GHP</b> General Health          |

In general, mean scores for SF-36 dimensions were lower for those respondents who were living in deprived areas (as defined by Carstairs Deprivation Index). Unlike other household indicators of deprivation there was little difference in mean scores between the affluent and deprived areas across the dimensions. Between the sexes, once again the difference in mean

scores on most dimensions was greater for women with the exception of the Bodily Pain dimension.

**Table 6.12**

#### **6.4 Relationship with self reported health measures**

This section looks at the relationship between the eight dimensions of the SF-36 and respondents perception of their own health i.e. general health, limiting long standing illness and disability.

##### *SF36 and limiting long standing illness*

Mean score on the SF-36 dimensions for those with and without a limiting long standing illness are shown in Table 6.13. Respondents with a limiting long standing illness had substantially lower mean scores on all dimensions of the SF-36 than respondents who did not have a limiting long standing illness.

There was a stronger association between the physical dimensions of the SF-36 and limiting long standing illness. Role Limitations (physical) had the strongest relationship with limiting long standing illness, with a mean score of 91.8 among those who did not report a limiting long standing illness and a mean score of 38.1 among those who did. This is not too surprising considering the wording of the LLSI question (see page 9 chapter 2). The weakest relationship was with the mental health dimension of the SF-36 (mean score of 77.8 among those with no LLSI and 60.6 among those reporting a LLSI).

##### *SF-36 and self reported general health*

For all dimensions of the SF-36 there was a gradient according to the levels of self reported general health (see Table 6.13). As with limiting long standing illness the extent to which the dimensions were related to general health varied, again being more closely associated with the physical dimensions of the SF-36, in particular, Physical Functioning and Role Limitations (physical). For example, mean score for Physical Functioning varied from 93.6 for respondents rating their general health as 'good' to 35.4 for those rating their general health as 'not good'. There was also a relationship between self reported general health and the mental/emotional dimensions of the SF-36 although it was weaker. The weakest relationship for self reported general health was the mental health dimension, the mean score for this dimension ranged from 80.4 for those reporting their general health as 'good' to 53.5 for those who reported their general health as 'not good'.

### *SF-36 and disability*

Mean scores for all the SF-36 dimensions were lower for those who reported having a disability. Again there was greater correspondence with the physical dimensions, particularly Physical Functioning and Role Limitation (physical). As observed for other self reported health measures Role Limitation (emotional) and Mental Health dimensions had the weakest relationship with disability.

## **6.5 Logistic regression**

Many of the dimensions of the SF36 showed a very skewed distribution, which can make some forms of analysis, such as linear regression, difficult. Therefore each of the eight dimensions was divided into two (higher and lower scoring) categories using the median value as a cut-off. This is not to suggest that this cut-off represents a natural division between good and bad health. Slightly different models may have arisen if a different cut-off point had been chosen though it is expected that the general shape of the relationship between demographic, social and socio-economic indicators and health would remain.

The main social, socio-economic and area factors were included in a logistic regression for each of the eight dimensions of the SF36 separately. This analysis was carried out in stages, starting with demographic then adding socio economic and finally area factors thus allowing us to build a picture of the interplay of factors associated with each dimension of the SF36 (see Tables 6.14 to 6.21). Final logistic regression models for each of the dimensions including confidence intervals are shown in Tables 6.22 to 6.29.

The first step in the modelling process showed that most dimensions of health in the SF36 exhibited an age related decline in function. This was most pronounced for those dimensions associated with the physical component such as Physical Functioning and Role Limitation (physical) where, for example, men aged over 65 were respectively 13.5 and 5.1 times as likely (as someone aged 16–44) to have a low SF36 score. Those dimensions associated with the mental component generally showed smaller age related changes and in the case of the Mental Health dimension the SF36 scores did not change significantly with age.

Marital status was associated with the more physical dimensions of health in women. The general pattern was of single women reporting better health and separated, widowed and

divorced women reporting worse health than those who were married. Marital status was only associated with the Physical Functioning and the Pain dimensions of health in men once age and other social factors had been considered.

When only denomination and social factors were considered it was apparent that Catholics generally reported worse health than their Protestant peers. However compared to the effects of age and other social factors the effects of religious affiliation were not so marked, with Catholics generally having between 40 and 60% excess risk of having a low SF36 score.

Those lacking social support were approximately twice as likely to suffer poor health especially on those dimensions of the SF36 more closely associated with the mental health component. This was true for both men and women, though the lack of social support was also associated with lower SF36 scores on the Pain, and for women only, the General Health dimensions.

The second set of models retained the demographic and social factors and introduced a range of indicators of socio-economic status. Lower socio-economic status was generally associated with poorer physical and mental health for both men and women. Household income was the pre-eminent indicator of disadvantage for men, while for women a wider range of socio-economic indicators was related to ill health. For men being in a manual social class was associated with better scores on both the Mental Health and Energy and Vitality dimensions. The introduction of socio-economic status variables attenuated the age-related gradient in health status and reduced to non-significance the relationship between health and religious affiliation. The association between lone person household and poorer health was also weakened. The relationship between social support and ill health however was largely unaffected by socio-economic status.

The urban/rural nature of the respondents area of residents was also important for seven of eight dimensions of men's health (the exception being Pain) and for those aspects of health associated with the mental component in women. All other things being equal those in the most rural areas had the best health and increasing urbanisation was associated with poorer health except for the most urban areas, which were generally not significantly different from the most rural areas. For the General Health dimension in women, living in deprived areas was also associated with poorer health. The addition of area deprivation indicators did not

affect the association between individual or household indicators of socio-economic standing and health suggesting that both area and individual factors were important. Women in the Northern and Western Boards reported better levels of general health than their peers in the Eastern Board. See tables 6.30 and 6.31 for summary of final logistic regression models.

#### Conclusion:

It is difficult to adequately précis the analysis of the SF36 due to the wealth of data produced as a consequence of its multidimensional perspective on health. In general the relationships between demographic, social and socio-economic factors echoed those in Chapter 4 (self-reported health) and Chapter 5 (GHQ12). Health in Northern Ireland, as measured by the SF36, is worse than in the rest of the UK. An age-related decline in health is evident for the physical though not for the mental aspects of health. Single women tended to have the best health and those who were widowed/separated/divorced the worst. Denomination differences in health were once again shown to be secondary to differences in material disadvantage. Poorer health in men was especially associated with income levels while women's health was again associated with a wider array of socio-economic factors. Low levels of social support was an independent predictor of poor health especially mental health and area characteristics were also independently associated with health status for both men and women.

**Table 6.1 SF-36 mean scores by age**

Age group	PF	RP	P	GHP	EV	SF	RE	MH
16-44	90.4	87.4	83.5	74.1	62.6	87.1	85.8	73.5
45-64	74.4	71.2	71.0	62.3	55.5	79.6	78.9	71.1
65+	49.6	60.3	61.6	54.0	48.5	71.6	85.1	71.3
Total	77.7	77.5	75.6	66.8	57.8	81.9	83.7	72.4

**Table 6.2 SF-36 mean scores by sex**

SF-36 dimensions	Men	Women
PF	81.5	74.8
RP	84.7	79.8
P	86.2	81.9
GHP	67.9	66.0
EV	80.6	75.2
SF	62.7	54.1
RE	76.5	69.3
MH	79.7	72.5

**Table 6.3(a) Comparison of SF-36 mean scores for Northern Ireland and England by sex**

SF-36 dimensions	Men		Women		All	
	NI	England	NI	England	NI	England
PF	82	84	74	78	78	84
RP	80	84	74	78	77	82
P	80	79	73	75	76	79
GHP	68	70	66	69	67	70
EV	63	66	54	60	58	66
SF	85	86	80	84	82	86
RE	86	86	82	82	84	86
MH	77	78	70	73	73	78

**Table 6.3(b) Comparison of SF-36 mean scores for Northern Ireland and England by age**

	PF	RP	P	GHP	EV	SF	RE	MH
<b>NI</b>								
16-24	92.1	91.3	85.1	76.3	64.6	89.0	90.0	72.3
25-34	88.8	83.9	79.8	74.3	57.4	83.1	80.6	70.2
35-44	86.7	83.0	80.0	71.0	55.2	82.9	80.4	68.3
45-54	77.6	72.7	72.0	65.0	54.2	80.1	77.1	69.2
55-64	61.9	63.3	61.4	57.4	48.1	75.4	77.4	68.2
65-74	50.5	56.7	55.8	53.4	49.1	71.5	84.4	68.9
75+	37.3	57.7	57.7	51.1	41.9	67.6	85.2	66.7
<b>England</b>								
16-24	92	92	82	74	69	89	90	77
25-34	94	91	84	74	68	90	90	78
35-44	91	89	82	73	66	88	89	77
45-54	87	84	78	69	66	87	86	77
55-64	76	75	74	64	64	84	84	78
65-74	70	68	75	62	64	83	81	78
75+	58	57	73	61	58	79	77	79

**Table 6.4 SF36 mean score, by marital status and sex**

	PF	RP	P	GHP	EV	SF	RE	MH
<b>Men</b>								
Single	88.4	86.1	84.2	72.9	68.7	88.3	90.1	78.7
Married/cohabiting	81.6	79.7	79.2	67.0	61.8	84.6	85.8	76.6
Sep/div/wid	60.0	70.3	70.7	58.9	52.0	74.5	78.2	69.7
<b>Women</b>								
Single	85.1	84.9	81.3	71.6	60.1	85.4	86.8	70.5
Married/cohabiting	78.9	77.7	74.3	68.3	55.4	82.0	82.2	71.3
Sep/div/wid	53.1	58.0	58.4	54.1	44.5	67.7	75.7	62.7
<b>All</b>								
Single	86.6	85.5	82.7	72.2	64.1	86.8	88.3	74.3
Married/cohabiting	80.2	78.6	76.5	67.7	58.3	83.2	83.9	73.8
Sep/div/wid	54.8	60.9	61.4	55.2	46.3	69.4	76.3	64.4

**Table 6.5 SF36 mean score, by denomination and sex**

	PF	RP	P	GHP	EV	SF	RE	MH
<b>Men</b>								
Catholic	81.9	79.3	78.3	66.3	61.9	82.4	82.2	75.2
Protestant	81.1	81.1	80.5	68.7	63.1	85.9	88.3	77.3
<b>Women</b>								
Catholic	73.2	73.0	71.5	64.5	51.9	77.2	78.0	66.4
Protestant	75.9	76.5	73.0	67.0	55.6	81.3	84.2	71.1
<b>All</b>								
Catholic	76.8	75.6	74.3	65.2	56.0	79.3	79.7	70.0
Protestant	78.2	78.5	76.3	67.8	58.9	83.3	86.0	73.8

**Table 6.6 SF36 mean score, by social class and sex**

	PF	RP	P	GHP	EV	SF	RE	MH
<b>Men</b>								
SC non-manual	83.8	82.6	82.1	70.6	62.5	87.0	88.9	77.1
SC manual	79.3	78.5	77.7	65.1	62.0	82.4	83.6	75.9
<b>Women</b>								
SC non-manual	82.2	79.5	77.7	71.0	56.8	83.7	82.6	71.9
SC manual	67.4	69.0	65.2	60.0	50.0	74.4	80.4	65.5
<b>All</b>								
SC non-manual	82.8	80.7	79.4	70.8	58.9	84.9	85.0	73.9
SC manual	73.4	73.8	71.5	62.6	56.0	78.4	82.0	70.7

**Table 6.7 SF36 mean score, by academic qualifications and sex**

	PF	RP	P	GHP	EV	SF	RE	MH
<b>Men</b>								
Any Qualification	86.7	85.5	83.4	71.5	64.7	87.1	88.5	77.5
No Qualification	71.4	71.1	72.6	60.9	59.0	80.0	81.9	74.8
<b>Women</b>								
Any Qualification	86.8	84.4	79.7	73.6	58.7	85.1	83.3	72.6
No Qualification	58.9	62.9	62.9	56.0	48.1	72.7	80.1	65.0
<b>All</b>								
Any Qualification	86.8	84.9	81.5	72.6	61.4	86.0	85.7	74.8
No Qualification	63.6	66.0	66.6	57.8	52.2	75.4	80.7	68.7

**Table 6.8 SF36 mean score, by tenure and sex**

	PF	RP	P	GHP	EV	SF	RE	MH
<b>Men</b>								
Owner occupied	84.1	82.1	88.3	86.5	64.1	86.5	88.3	78
Renting	78.4	78.2	84.3	82.8	56.7	82.8	84.3	72.3
<b>Women</b>								
Owner occupied	74.1	76.1	80.3	79.6	58.8	79.6	80.3	72.4
Renting	67.0	68.3	76.3	73.0	48.4	73.0	76.3	62.4
<b>All</b>								
Owner occupied	80.9	80.0	86.1	84.4	60.0	84.4	86.1	74.9
Renting	69.8	71.3	77.9	75.6	52.5	75.6	77.9	66.3

**Table 6.9 SF36 mean score, by car availability and sex**

	PF	RP	P	GHP	EV	SF	RE	MH
<b>Men</b>								
One or more	84.3	82.5	81.1	70.3	64.8	87.0	88.3	78.1
None	69.4	72.2	73.9	57.3	53.9	74.9	77.3	69.9
<b>Women</b>								
One or more	81.8	80.6	76.9	70.4	58.0	83.8	84.0	72.4
None	56.3	60.7	60.7	54.3	43.7	68.9	76.3	61.0
<b>All</b>								
One or more	83.0	81.5	78.8	70.4	61.1	85.3	85.9	75.0
None	60.8	64.6	65.2	55.3	47.2	71.0	76.6	64.0

**Table 6.10 SF36 mean score, by household income category and sex**

	PF	RP	P	GHP	EV	SF	RE	MH
<b>Men</b>								
More wealthy	94.0	90.3	88.0	76.5	67.2	92.3	92.3	79.3
Average	79.9	80.9	78.8	68.6	63.3	85.5	86.7	77.9
More poor	73.9	72.3	75.0	60.5	58.5	78.1	81.0	72.8
<b>Women</b>								
More wealthy	91.3	86.3	82.6	76.9	61.0	89.4	86.7	76.4
Average	73.8	73.6	71.6	65.9	55.7	78.8	82.2	70.6
More poor	68.0	71.4	68.3	60.2	48.7	75.1	78.1	63.5
<b>All</b>								
More wealthy	92.7	88.3	85.3	76.7	64.1	90.9	89.5	77.9
Average	76.4	76.7	74.7	67.0	59.0	81.7	84.2	73.7
More poor	70.2	71.8	70.8	60.3	52.4	76.2	79.2	67.1

**Table 6.11 SF36 mean score, by urban/rural nature of area of residence and sex**

	PF	RP	P	GHP	EV	SF	RE	MH
<b>Men</b>								
Most Urban	82.9	87.3	80.9	68.5	64.5	87.1	89.4	77.1
Urban	79.4	75.7	76.7	64.5	58.3	79.1	78.8	73
Average	81.7	80.4	81.7	67.9	62.1	85.3	90.5	76.6
Rural	80.4	78.6	78.1	69.5	62.6	85.1	83.8	77.1
Most Rural	83.4	82.3	81.1	68.9	66.6	87.2	88.3	79.2
<b>Women</b>								
Most Urban	72.6	75.3	70.7	62.9	50.6	75.6	79.6	65.8
Urban	74.3	74.7	70.0	65.7	53.2	79.0	79.3	66.1
Average	75.1	76.1	72.7	67.5	55.6	82.3	83.5	71.6
Rural	77.7	75.8	74.8	68.8	55.6	82.5	82.8	71.2
Most Rural	74.4	73.6	74.5	64.9	55.6	79.1	84.3	71.9
<b>All</b>								
Most Urban	76.5	79.9	74.6	65.1	55.9	80.0	83.3	70.1
Urban	76.4	75.1	72.8	65.2	55.3	79.1	79.1	69
Average	78.2	78.1	76.9	67.7	58.6	83.7	86.8	73.9
Rural	78.8	77.0	76.2	69.1	58.6	83.6	83.3	73.7
Most Rural	78.4	77.5	77.4	66.7	60.5	82.7	86.1	75.1

**Table 6.12 SF36 mean score, by area deprivation category and sex**

	PF	RP	P	GHP	EV	SF	RE	MH
<b>Men</b>								
More affluent	83.5	83.7	89.0	86.4	77.5	63.3	82.6	70.4
Average	78.0	75.3	86.3	84.2	75.9	60.5	75.4	65.3
More deprived	80.5	78.9	81.7	82.3	75.5	63.2	78.0	65.3
<b>Women</b>								
More affluent	79.5	78.6	85.0	83.6	72.8	57.7	75.7	70.9
Average	76.0	73.1	80.9	79.0	69.4	54.4	72.2	64.9
More deprived	68.8	72.3	78.7	75.7	65.2	49.8	68.9	60.9
<b>All</b>								
More affluent	81.3	81.0	78.9	70.7	60.3	84.9	86.9	75.0
Average	76.9	74.0	73.5	65.1	56.9	81.2	83.2	72.1
More deprived	73.3	74.8	72.4	62.6	55.0	78.3	79.9	69.2

**Table 6.13 Relationship of SF-36 to self-reported health measures**

Mean SF-36	LLSI		Self reported health			Disability	
	No	Yes	Good	Fairly Good	Not Good	No	Yes
PF	91.8	40.7	93.6	74.2	35.4	87.6	16.5
RP	91.8	38.1	95.0	72.9	29.2	86.2	19.7
P	86.3	48.4	89.3	71.8	42.2	82.3	35.8
GHP	77.4	40.4	81.5	63.0	31.3	73.1	30.5
EV	66.5	36.9	70.0	54.6	29.4	63.3	27.1
SF	91.3	58.2	93.7	80.8	49.0	88.0	45.8
RE	90.9	65.4	93.6	82.0	57.5	87.3	62.5
MH	77.8	60.6	80.4	71.4	53.5	75.8	55.7

**Table 6.14** Logistic regression models for Physical Functioning dimension for men and women\*

	Men			Women		
	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3
<i>Demographic &amp; Social Factors</i>						
<i>Age</i>						
16-44	<b>1.00</b>	<b>1.00</b>	<b>1.00</b>	<b>1.00</b>	<b>1.00</b>	<b>1.00</b>
45-64	<b>2.79</b>	<b>2.85</b>	<b>2.98</b>	<b>2.72</b>	<b>2.75</b>	<b>2.74</b>
65+	<b>13.51</b>	<b>11.16</b>	<b>11.76</b>	<b>15.71</b>	<b>13.80</b>	<b>13.70</b>
<i>Marital Status</i>						
Married/Cohabiting	1.00	<b>1.00</b>	<b>1.00</b>	<b>1.00</b>	<b>1.00</b>	<b>1.00</b>
Single	<b>0.61</b>	<b>0.55</b>	<b>0.56</b>	0.84	<b>0.68</b>	<b>0.68</b>
Sep/Wid/Div	0.74	0.79	0.80	<b>2.04</b>	1.40	1.38
<i>Lone Person</i>	<b>2.81</b>	<b>2.93</b>	<b>2.78</b>	1.11	1.29	1.31
<i>Denomination</i>						
Protestant	1.00	1.00	1.00	1.00	1.00	1.00
Catholic	1.14	0.90	0.95	1.17	1.04	1.04
<b>Socio-economic Factors</b>						
<i>Household Income</i>						
Wealthier		<b>1.00</b>	<b>1.00</b>		<b>1.00</b>	<b>1.00</b>
Wealthy		1.40	1.38		<b>1.49</b>	1.52
Average		<b>2.96</b>	<b>3.05</b>		<b>2.86</b>	<b>2.90</b>
Poor		<b>2.84</b>	<b>2.93</b>		<b>3.82</b>	<b>3.87</b>
Poorer		<b>4.17</b>	<b>4.59</b>		<b>3.08</b>	<b>3.13</b>

**Area Characteristics**

*Urban/Rural Category*

Most Urban			<b>1.00</b>				1.00
Urban			1.55				1.03
Average			1.52				1.13
Rural			<b>2.16</b>				0.93
Most Rural			1.10				1.10

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Baseline Odds	0.301	0.176	0.117	0.390	0.204	0.195
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\* Numbers in bold represent odds which are significant at  $p < 0.05$

**Table 6.15** Logistic regression models for Role Limitations (Physical) dimension for men and women\*

	Men			Women		
	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3
<i>Demographic &amp; Social Factors</i>						
<i>Age</i>						
16-44	<b>1.00</b>	<b>1.00</b>	<b>1.00</b>	<b>1.00</b>	<b>1.00</b>	<b>1.00</b>
45-64	<b>2.68</b>	<b>2.57</b>	<b>2.63</b>	<b>2.09</b>	<b>1.73</b>	<b>1.73</b>
65+	<b>5.10</b>	<b>3.83</b>	<b>3.99</b>	<b>3.05</b>	<b>2.28</b>	<b>2.28</b>
<i>Marital Status</i>						
Married/Cohabiting	1.00	1.00	1.00	<b>1.00</b>	<b>1.00</b>	<b>1.00</b>
Single	0.84	0.76	0.79	<b>0.69</b>	<b>0.67</b>	<b>0.67</b>
Sep/Wid/Div	0.55	0.54	0.53	1.43	1.26	1.25
<i>Lone Person</i>	1.77	1.71	1.64	<b>1.63</b>	<b>1.64</b>	<b>1.65</b>
<i>Denomination</i>						
Protestant	<b>1.00</b>	1.00	1.00	<b>1.00</b>	<b>1.00</b>	<b>1.00</b>
Catholic	<b>1.47</b>	1.21	1.25	<b>1.46</b>	<b>1.42</b>	<b>1.43</b>
<b>Socio-economic Factors</b>						
<i>No Qualification</i>		1.06	1.11		<b>1.75</b>	<b>1.75</b>
<i>Household Income</i>						
Wealthier		<b>1.00</b>	<b>1.00</b>		1.00	1.00
Wealthy		1.13	1.10		1.02	1.03
Average		<b>2.35</b>	<b>2.42</b>		1.41	1.41
Poor		<b>2.67</b>	<b>2.67</b>		1.50	1.50
Poorer		<b>3.21</b>	<b>3.61</b>		1.22	1.22

**Area Characteristics**

*Urban/Rural Category*

Most Urban			<b>1.00</b>			1.00
Urban			1.24			0.92
Average			1.39			1.03
Rural			<b>1.97</b>			0.99
Most Rural			0.60			1.07

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Baseline Odds	0.169	0.110	0.085	0.236	0.171	0.172
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\* Numbers in bold represent odds which are significant at  $p < 0.05$

**Table 6.16** Logistic regression models for Role Limitations (Emotional) dimension for men and women\*

	Men			Women		
	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3
<i>Demographic &amp; Social Factors</i>						
<i>Age</i>						
16-44	<b>1.00</b>	<b>1.00</b>	<b>1.00</b>	<b>1.00</b>	<b>1.00</b>	<b>1.00</b>
45-64	<b>2.12</b>	<b>2.12</b>	<b>2.16</b>	<b>1.42</b>	<b>1.46</b>	<b>1.50</b>
65+	<b>1.69</b>	1.48	1.51	0.95	0.90	0.90
<i>Denomination</i>						
Protestant	<b>1.00</b>	1.00	1.00	<b>1.00</b>	1.00	<b>1.00</b>
Catholic	<b>1.48</b>	1.21	1.25	<b>1.40</b>	1.31	<b>1.38</b>
<i>Perceived social support</i>						
No lack	<b>1.00</b>	<b>1.00</b>	<b>1.00</b>	<b>1.00</b>	<b>1.00</b>	<b>1.00</b>
Some lack	0.97	0.98	0.97	<b>1.46</b>	<b>1.49</b>	<b>1.53</b>
Severe lack	<b>2.50</b>	<b>2.28</b>	<b>2.13</b>	<b>2.21</b>	<b>2.08</b>	<b>2.16</b>
<b>Socio-economic Factors</b>						
<i>Tenure – renting</i>		1.16	1.18		<b>1.54</b>	<b>1.45</b>
<i>Household Income</i>						
Wealthier		<b>1.00</b>	<b>1.00</b>		<b>1.00</b>	<b>1.00</b>
Wealthy		1.51	1.44		1.28	1.31
Average		<b>2.07</b>	<b>2.07</b>		1.58	<b>1.61</b>
Poor		<b>2.49</b>	<b>2.46</b>		<b>2.02</b>	<b>2.12</b>

Poorer		<b>3.40</b>	<b>3.61</b>		1.24	1.27
<b>Area Characteristics</b>						
<i>Urban/Rural Category</i>						
Most Urban			<b>1.00</b>			1.00
Urban			1.65			1.34
Average			1.03			1.42
Rural			<b>2.25</b>			<b>1.68</b>
Most Rural			0.91			<b>1.81</b>
<hr/>						
Baseline odds	0.114	0.066	0.050	0.197	0.123	0.084

\* Numbers in bold represent odds which are significant at  $p < 0.05$

**Table 6.17** Logistic regression models for Social Functioning dimension for men and women\*

	Men			Women		
	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3
<i>Demographic &amp; Social Factors</i>						
<i>Age</i>						
16-44	<b>1.00</b>	<b>1.00</b>	<b>1.00</b>	<b>1.00</b>	<b>1.00</b>	1.00
45-64	1.35	1.29	1.33	1.19	1.14	1.17
65+	<b>2.70</b>	<b>2.16</b>	<b>2.22</b>	<b>1.81</b>	<b>1.50</b>	<b>1.57</b>
<i>Lone Person</i>	1.29	1.21	1.18	<b>1.47</b>	1.37	1.33
<i>Denomination</i>						
Protestant	<b>1.00</b>	1.00	<b>1.00</b>	<b>1.00</b>	1.00	1.00
Catholic	<b>1.56</b>	1.33	<b>1.43</b>	<b>1.35</b>	1.21	1.24
<i>Perceived social support</i>						
No lack	<b>1.00</b>	<b>1.00</b>	<b>1.00</b>	<b>1.00</b>	<b>1.00</b>	<b>1.00</b>
Some lack	1.19	1.18	1.19	<b>1.35</b>	<b>1.33</b>	<b>1.37</b>
Severe lack	<b>2.03</b>	<b>1.89</b>	<b>1.81</b>	<b>2.25</b>	<b>2.08</b>	<b>2.14</b>
<b>Socio-economic Factors</b>						
<i>Household Income</i>						
Wealthier		<b>1.00</b>	<b>1.00</b>		<b>1.00</b>	<b>1.00</b>
Wealthy		1.03	1.00		1.24	1.26
Average		<b>2.04</b>	<b>2.12</b>		<b>2.16</b>	<b>2.08</b>
Poor		<b>2.13</b>	<b>2.18</b>		<b>2.68</b>	<b>2.65</b>
Poorer		<b>2.03</b>	<b>2.28</b>		<b>2.48</b>	<b>2.35</b>
<b>Area Characteristics</b>						
<i>Urban/Rural Category</i>						
Most Urban			<b>1.00</b>			<b>1.00</b>
Urban			1.27			0.77
Average			1.43			0.97
Rural			<b>2.79</b>			1.18
Most Rural			0.95			<b>1.63</b>
Baseline odds	0.366	0.280	0.196	0.673	0.424	0.403

\* Numbers in bold represent odds which are significant at p<0.05

**Table 6.18** Logistic regression models for Mental Health dimension for men and women\*

	Men			Women		
	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3
<i>Demographic &amp; Social Factors</i>						
<i>Age</i>						
16-44	1.00	1.00	<b>1.00</b>	1.00	1.00	1.00
45-64	1.34	1.38	<b>1.41</b>	0.90	0.88	0.91
65+	1.11	0.84	0.83	0.93	0.78	0.80
<i>Lone Person</i>	1.33	1.10	1.09	<b>1.65</b>	1.50	1.51
<i>Denomination</i>						
Protestant	1.00	1.00	1.00	<b>1.00</b>	1.00	1.00
Catholic	1.26	1.17	1.25	<b>1.37</b>	1.23	1.28
<i>Perceived social support</i>						
No lack	<b>1.00</b>	<b>1.00</b>	<b>1.00</b>	<b>1.00</b>	<b>1.00</b>	<b>1.00</b>
Some lack	1.15	1.16	1.15	<b>1.50</b>	<b>1.51</b>	<b>1.58</b>
Severe lack	<b>2.28</b>	<b>2.16</b>	<b>2.12</b>	<b>2.67</b>	<b>2.41</b>	<b>2.54</b>
<b>Socio-economic Factors</b>						
<i>Household Income</i>						
Wealthier		<b>1.00</b>	<b>1.00</b>		<b>1.00</b>	<b>1.00</b>
Wealthy		0.77	0.76		1.01	1.02
Average		<b>1.66</b>	<b>1.72</b>		1.42	1.38
Poor		<b>1.77</b>	<b>1.84</b>		<b>2.30</b>	<b>2.36</b>
Poorer		1.65	<b>1.78</b>		<b>1.77</b>	<b>1.73</b>
<i>No Car Availability</i>		<b>1.76</b>	<b>1.59</b>		1.39	1.24
<i>Social Class - manual</i>		<b>0.59</b>	<b>0.60</b>		1.12	1.18
<b>Area Characteristics</b>						

*Urban/Rural Category*

Most Urban			<b>1.00</b>			<b>1.00</b>
Urban			1.12			1.25
Average			1.46			1.26
Rural			<b>2.07</b>			<b>1.94</b>
Most Rural			1.18			<b>2.36</b>

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Baseline odds	0.450	0.501	0.371	0.880	0.627	0.422
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\* Numbers in bold represent odds which are significant at  $p < 0.05$

**Table 6.19** Logistic regression models for Energy and Vitality dimension for men and women\*

	Men			Women		
	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3
<i>Demographic &amp; Social Factors</i>						
<i>Age</i>						
16-44	<b>1.00</b>	<b>1.00</b>	<b>1.00</b>	<b>1.00</b>	<b>1.00</b>	<b>1.00</b>
45-64	<b>1.55</b>	<b>1.55</b>	<b>1.58</b>	1.28	1.19	1.23
65+	<b>2.93</b>	<b>2.68</b>	<b>2.70</b>	<b>2.00</b>	<b>1.82</b>	<b>1.86</b>
<i>Lone Person</i>	<b>1.61</b>	1.37	1.36	<b>1.92</b>	1.43	1.44
<i>Denomination</i>						
Protestant	<b>1.00</b>	1.00	<b>1.00</b>	<b>1.00</b>	<b>1.00</b>	<b>1.00</b>
Catholic	<b>1.40</b>	1.27	<b>1.36</b>	<b>1.50</b>	<b>1.33</b>	<b>1.40</b>
<i>Perceived social support</i>						
No lack	<b>1.00</b>	<b>1.00</b>	<b>1.00</b>	<b>1.00</b>	<b>1.00</b>	<b>1.00</b>
Some lack	1.08	1.16	1.15	1.15	1.09	1.12
Severe lack	<b>1.89</b>	<b>1.77</b>	<b>1.69</b>	<b>2.46</b>	<b>2.32</b>	<b>2.45</b>
<b>Socio-economic Factors</b>						
<i>Household Income</i>						
Wealthiest		<b>1.00</b>	<b>1.00</b>		<b>1.00</b>	<b>1.00</b>
Wealthy		0.82	0.80		0.80	0.83
Average		1.40	1.48		1.25	1.22
Poor		1.56	1.62		<b>1.63</b>	<b>1.65</b>
Poorest		<b>1.78</b>	<b>1.99</b>		1.47	1.42
<i>No Car Availability</i>		<b>1.43</b>	1.32		<b>1.62</b>	<b>1.49</b>
<i>Social Class – manual</i>		<b>0.70</b>	<b>0.72</b>		1.05	1.10
<b>Area Characteristics</b>						

*Urban/Rural Category*

Most Urban	<b>1.00</b>					<b>1.00</b>
Urban	<b>1.54</b>					1.12
Average	<b>1.75</b>					1.27
Rural	<b>2.33</b>					1.36
Most Rural	1.08					<b>2.30</b>

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Baseline odds	0.343	0.364	0.235	0.722	0.616	0.457
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\* Numbers in bold represent odds which are significant at  $p < 0.05$

**Table 6.20** Logistic regression models for Bodily Pain dimension for men and women\*

	Men			Women		
	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3
<i>Demographic &amp; Social Factors</i>			No area effects			No area effects
<i>Age</i>						
16-44	<b>1.00</b>	<b>1.00</b>		<b>1.00</b>	<b>1.00</b>	
45-64	<b>1.87</b>	<b>1.91</b>		<b>1.86</b>	<b>1.64</b>	
65+	<b>3.36</b>	<b>2.90</b>		<b>3.48</b>	<b>3.05</b>	
<i>Lone Person</i>	<b>2.15</b>	<b>2.32</b>		1.30	1.30	
<i>Denomination</i>						
Protestant	<b>1.00</b>	1.00		1.00	1.00	
Catholic	<b>1.48</b>	1.34		1.21	1.14	
<i>Perceived social support</i>						
No lack	1.00	1.00		<b>1.00</b>	<b>1.00</b>	
Some lack	1.13	1.14		<b>1.17</b>	1.18	
Severe lack	<b>1.50</b>	<b>1.51</b>		<b>2.15</b>	<b>1.97</b>	
<i>Marital Status</i>						
Married/Cohabiting	1.00	1.00		<b>1.00</b>	<b>1.00</b>	
Single	<b>0.66</b>	<b>0.61</b>		<b>0.69</b>	0.73	
Sep/Wid/Div	0.59	0.59		1.57	<b>1.60</b>	
<b>Socio-economic Factors</b>						
<i>Household Income</i>						
Wealthier		<b>1.00</b>			1.00	
Wealthy		1.48			0.96	
Average		<b>2.18</b>			1.36	
Poor		<b>2.33</b>			<b>1.66</b>	
Poorer		<b>2.62</b>			1.30	
<i>Social Class – manual</i>		0.87			<b>1.46</b>	
Baseline odds	0.364	0.248		0.511	0.386	

\* Numbers in bold represent odds which are significant at p<0.05

**Table 6.21** Logistic regression models for General Health dimension for men and women\*

	Men			Women		
	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3
<b>Demographic &amp; Social Factors</b>						
<i>Age</i>						
16-44	<b>1.00</b>	<b>1.00</b>	<b>1.00</b>	<b>1.00</b>	<b>1.00</b>	<b>1.00</b>
45-64	<b>2.21</b>	<b>2.01</b>	<b>2.03</b>	<b>2.10</b>	<b>1.90</b>	<b>1.91</b>
65+	<b>4.18</b>	<b>2.80</b>	<b>2.74</b>	<b>3.70</b>	<b>2.72</b>	<b>2.85</b>
<i>Denomination</i>						
Protestant	<b>1.00</b>	1.00	<b>1.00</b>	<b>1.00</b>	1.00	1.00
Catholic	<b>1.55</b>	1.28	<b>1.43</b>	<b>1.36</b>	1.27	1.09
<i>Perceived social support</i>						
No lack	1.00	1.00	1.00	<b>1.00</b>	<b>1.00</b>	<b>1.00</b>
Some lack	1.03	1.15	1.15	1.15	1.17	1.16
Severe lack	<b>1.49</b>	1.33	1.30	<b>2.33</b>	<b>2.12</b>	<b>2.08</b>
<i>Marital Status</i>						
Married/Cohabiting	1.00	1.00	1.00	<b>1.00</b>	<b>1.00</b>	<b>1.00</b>
Single	0.93	0.83	0.81	0.82	0.75	0.73
Sep/Wid/Div	0.66	0.62	<b>0.57</b>	<b>1.60</b>	1.28	1.22
<b>Socio-economic Factors</b>						
<i>Household Income</i>						
Wealthier		<b>1.00</b>	<b>1.00</b>		<b>1.00</b>	<b>1.00</b>
Wealthy		0.88	0.89		1.17	1.15
Average		<b>1.72</b>	<b>1.79</b>		<b>2.02</b>	<b>1.87</b>
Poor		<b>2.12</b>	<b>2.16</b>		<b>2.52</b>	<b>2.39</b>
Poorer		<b>2.17</b>	<b>2.21</b>		1.57	1.38
<i>No Qualification</i>		<b>1.43</b>	<b>1.55</b>		<b>1.69</b>	<b>1.67</b>
<b>Area Characteristics</b>						
<i>Deprivation Category</i>						
Most Affluent			1.00			<b>1.00</b>
Affluent			1.01			1.14
Average			1.53			1.44
Deprived			1.30			1.43
Most Deprived			0.96			<b>2.16</b>
<i>Urban/Rural Category</i>						
Most Urban			<b>1.00</b>			1.00
Urban			1.07			0.90
Average			<b>1.80</b>			0.81
Rural			<b>1.77</b>			0.74
Most Rural			1.06			0.91
<i>Board</i>						
EHSSB			1.00			<b>1.00</b>
NHSSB			1.00			<b>0.60</b>
SHSSB			0.82			0.74
WHSSB			0.79			<b>0.59</b>

Baseline odds	0.383	0.289	0.202	0.401	0.237	0.310
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\* Numbers in bold represent odds which are significant at p<0.05

**Table 6.22 Final logistic regression model for Physical Functioning dimension for men and women**

	Men			Women		
	Odds ratio (95% Confidence Intervals)	P-value		Odds ratio (95% Confidence Intervals)	P-value	
<i>Demographic &amp; Social Factors</i>			<i>Demographic &amp; Social Factors</i>			
<i>Age (p&lt;0.001)</i>			<i>Age (p&lt;0.001)</i>			
16-44	1.00		16-44	1.00		
45-64	2.98 (2.08 - 4.28)	0.00	45-64	2.74 (2.00 - 3.76)	0.00	
65+	11.76 (6.81 - 20.31)	0.00	65+	13.70 (8.23 - 22.83)	0.00	
<i>Marital Status (p=0.05)</i>			<i>Marital Status (p=0.01)</i>			
Married/Cohabiting	1.00		Married/Cohabiting	1.00		
Single	0.56 (0.36 - 0.89)	0.01	Single	0.68 (0.47 - 0.99)	0.04	
Sep/Wid/Div	0.80 (0.37 - 1.71)	0.56	Sep/Wid/Div	1.38 (0.89 - 2.14)	0.15	
<i>Lone Person</i>	2.78 (1.47 - 5.25)	0.00	<i>Lone Person</i>	1.31 (0.75 - 2.29)	0.34	
<i>Denomination (p=0.76)</i>			<i>Denomination (p=0.77)</i>			
Protestant	1.00		Protestant	1.00		
Catholic	0.95 (0.68 - 1.33)		Catholic	1.04 (0.79 - 1.38)		
<b>Socio-economic Factors</b>			<b>Socio-economic Factors</b>			
<i>Household Income (p&lt;0.001)</i>			<i>Household Income (p&lt;0.001)</i>			
Wealthier	1.00		Wealthier	1.00		
Wealthy	1.38 (0.86 - 2.22)	0.18	Wealthy	1.52 (0.97 - 2.37)	0.07	
Average	3.05 (1.87 - 4.97)	0.00	Average	2.90 (1.88 - 4.47)	0.00	
Poor	2.93 (1.77 - 4.85)	0.00	Poor	3.87 (2.50 - 5.98)	0.00	
Poorer	4.59 (2.54 - 8.31)	0.00	Poorer	3.13 (1.89 - 5.19)	0.00	

**Area Characteristics***Urban/Rural Category (p=0.04)*

Most Urban	1.00		
Urban	1.55	(0.98 – 2.46)	0.06
Average	1.52	(0.94 – 2.45)	0.09
Rural	2.16	(1.30 – 3.61)	0.00
Most Rural	1.10	(0.63 – 1.94)	0.73

**Area Characteristics***Urban/Rural Category (P=0.93)*

Most Urban	1.00		
Urban	1.03	(0.70 – 1.52)	0.89
Average	1.13	(0.74 – 1.70)	0.58
Rural	0.93	(0.60 – 1.43)	0.74
Most Rural	1.10	(0.70 – 1.71)	0.68

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Baseline odds	0.117		
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Baseline odds	0.195		
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**Table 6.23 Final logistic regression model for Role Limitations (Physical) dimension for men and women**

	Men		Women	
	Odds ratio (95% Confidence Intervals)	P-value	Odds ratio (95% Confidence Intervals)	P-value
<i>Demographic &amp; Social Factors</i>				
<i>Age (p&lt;0.001)</i>				
16-44	1.00		1.00	
45-64	2.63 (1.77 – 3.93)	0.00	1.73 (1.25 – 2.42)	0.00
65+	3.99 (2.42 – 6.59)	0.00	2.28 (1.52 – 3.44)	0.00
<i>Marital Status (p=0.23)</i>				
Married/Cohabiting	1.00		1.00	
Single	0.79 (0.49 – 1.27)	0.33	0.67 (0.45 – 0.99)	0.04
Sep/Wid/Div	0.53 (0.25 – 1.11)	0.09	1.25 (0.83 – 1.88)	0.28
<i>Lone Person</i>				
	1.64 (0.86 – 3.10)	0.13	1.65 (1.04 – 2.61)	0.03
<i>Denomination (p=0.20)</i>				
Protestant	1.00		1.00	
Catholic	1.25 (0.89 – 1.77)		1.43 (1.09 – 1.88)	
<b>Socio-economic Factors</b>				
<i>No Qualification</i>				
	1.11 (0.77 – 1.60)	0.58	1.75 (1.29 – 2.37)	0.00
<i>Household Income(p&lt;0.001)</i>				
Wealthier	1.00		1.00	
Wealthy	1.10 (0.65 – 1.88)	0.71	1.03 (0.65 – 1.64)	0.09
Average	2.42 (1.44 – 4.05)	0.00	1.41 (0.90 – 2.20)	0.13
Poor	2.67 (1.57 – 4.54)	0.00	1.50 (0.96 – 2.36)	0.08
Poorer	3.61 (1.92 – 6.80)	0.00	1.22 (0.72 – 2.09)	0.46

**Area Characteristics***Urban/Rural Category (p<0.001)*

Most Urban	1.00		
Urban	1.24	(0.78 – 1.99)	0.37
Average	1.39	(0.86 – 2.24)	0.18
Rural	1.97	(1.18 – 3.29)	0.01
Most Rural	0.60	(0.32 – 1.12)	0.11

**Area Characteristics***Urban/Rural Category (p=0.96)*

Most Urban	1.00		
Urban	0.92	(0.62 – 1.34)	0.65
Average	1.03	(0.69 – 1.54)	0.87
Rural	0.99	(0.65 – 1.52)	0.98
Most Rural	1.07	(0.69 – 1.65)	0.76

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Baseline odds 0.085

0.172

**Table 6.24 Final logistic regression model for Role Limitations (Emotional) dimension for men and women**

	Men		Women	
	Odds ratio (95% Confidence Intervals)	P-value	Odds ratio (95% Confidence Intervals)	P-value
<i>Demographic &amp; Social Factors</i>				
<i>Age (p&lt;0.001)</i>				
16-44	1.00		16-44	1.00
45-64	2.16 (1.43 – 3.25)	0.00	45-64	1.50 (1.08 – 2.08) 0.01
65+	1.51 (0.90 – 2.56)	0.12	65+	0.90 (0.61 – 1.32) 0.58
<i>Denomination (p=0.25)</i>				
Protestant	1.00		Protestant	1.00
Catholic	1.25 (0.86 – 1.82)		Catholic	1.38 (1.03 – 1.83)
<i>Perceived social support (p=0.00)</i>				
No lack	1.00		No lack	1.00
Some lack	0.97 (0.63 – 1.50)	0.89	Some lack	1.53 (1.11 – 2.11) 0.01
Severe lack	2.13 (1.35 – 3.37)	0.00	Severe lack	2.16 (1.44 – 3.23) 0.00
<b>Socio-economic Factors</b>				
<b>Tenure - renting</b>	1.18 (0.76 – 1.82)	0.46	<b>Tenure - renting</b>	1.45 (1.05 – 2.00) 0.02
<i>Household Income (p=0.01)</i>				
Wealthier	1.00		Wealthier	1.00
Wealthy	1.44 (0.79 – 2.64)	0.24	Wealthy	1.31 (0.79 – 2.16) 0.29
Average	2.07 (1.13 – 3.78)	0.02	Average	1.61 (0.99 – 2.60) 0.05
Poor	2.46 (1.33 – 4.55)	0.00	Poor	2.12 (1.31 – 3.42) 0.00
Poorer	3.61 (1.77 – 7.38)	0.00	Poorer	1.27 (0.72 – 2.26) 0.41

**Area Characteristics***Urban/Rural Category (p=0.01)*

Most Urban	1.00		
Urban	1.65	(0.98 – 2.76)	0.06
Average	1.03	(0.58 – 1.82)	0.93
Rural	2.25	(1.29 – 3.90)	0.00
Most Rural	0.91	(0.46 – 1.82)	0.80

**Area Characteristics***Urban/Rural Category (p=0.09)*

Most Urban	1.00		
Urban	1.34	(0.88 – 2.04)	0.17
Average	1.42	(0.91 – 2.20)	0.12
Rural	1.68	(1.07 – 2.63)	0.02
Most Rural	1.81	(1.14 – 2.85)	0.01

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Baseline odds                      0.050

0.084

**Table 6.25 Final logistic regression model for Social Functioning dimension for men and women**

	Men		Women	
	Odds ratio (95% Confidence Intervals)	P-value	Odds ratio (95% Confidence Intervals)	P-value
<i>Demographic &amp; Social Factors</i>				
<i>Age (p&lt;0.001)</i>				
16-44	1.00		1.00	
45-64	1.33 (0.96 – 1.85)	0.09	1.17 (0.88 – 1.57)	0.28
65+	2.22 (1.44 – 3.42)	0.00	1.57 (1.08 – 2.27)	0.02
<i>Lone Person</i>				
	1.18 (0.75 – 1.84)	0.48	1.33 (0.90 – 1.98)	0.16
<i>Denomination (p=0.02)</i>				
Protestant	1.00		1.00	
Catholic	1.43 (1.06 – 1.94)		1.24 (0.96 – 1.59)	
<i>Perceived social support (p=0.01)</i>				
No lack	1.00		1.00	
Some lack	1.19 (0.86 – 1.65)	0.31	1.37 (1.03 – 1.81)	0.03
Severe lack	1.81 (1.21 – 2.70)	0.00	2.14 (1.44 – 3.19)	0.00
<b>Socio-economic Factors</b>				
<i>Household Income (p&lt;0.001)</i>				
Wealthier	1.00		1.00	
Wealthy	1.00 (0.65 – 1.54)	0.99	1.26 (0.85 – 1.88)	0.24
Average	2.12 (1.37 – 3.27)	0.00	2.08 (1.42 – 3.04)	0.00
Poor	2.18 (1.39 – 3.42)	0.00	2.65 (1.81 – 3.87)	0.00
Poorer	2.28 (1.34 – 3.90)	0.00	2.35 (1.49 – 3.71)	0.00

**Area Characteristics***Urban/Rural Category (p<0.001)*

Most Urban	1.00		
Urban	1.27 (0.84 – 1.93)	0.25	
Average	1.43 (0.94 – 2.19)	0.09	
Rural	2.79 (1.76 – 4.43)	0.00	
Most Rural	0.95 (0.57 – 1.58)	0.83	

**Area Characteristics***Urban/Rural Category (p=0.01)*

Most Urban	1.00		
Urban	0.77 (0.54 – 1.09)	0.14	
Average	0.97 (0.67 – 1.40)	0.87	
Rural	1.18 (0.80 – 1.73)	0.41	
Most Rural	1.63 (1.09 – 2.44)	0.02	

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Baseline odds	0.196		
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Baseline odds	0.403		
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**Table 6.26 Final logistic regression model for Mental Health dimension for men and women**

	Men			Women		
	Odds ratio (95% Confidence Intervals)		P-value	Odds ratio (95% Confidence Intervals)		P-value
<i>Demographic &amp; Social Factors</i>			<i>Demographic &amp; Social Factors</i>			
<i>Age (p=0.04)</i>			<i>Age (p=0.54)</i>			
16-44	1.00			1.00		
45-64	1.41 (1.01 – 1.96)		0.04	0.91 (0.67 – 1.23)		0.55
65+	0.83 (0.53 – 1.30)		0.42	0.80 (0.53 – 1.20)		0.28
<i>Lone Person</i>	1.09 (0.69 – 1.74)		0.70	<i>Lone Person</i>	1.51 (0.95 – 2.40)	0.08
<i>Denomination (p=0.17)</i>			<i>Denomination (p=0.07)</i>			
Protestant	1.00			Protestant	1.00	
Catholic	1.25 (0.92 – 1.69)			Catholic	1.28 (0.98 – 1.68)	
<i>Perceived social support (p&lt;0.001)</i>			<i>Perceived social support (p&lt;0.001)</i>			
No lack	1.00			No lack	1.00	
Some lack	1.15 (0.83 – 1.60)		0.40	Some lack	1.58 (1.17 – 2.14)	0.00
Severe lack	2.12 (1.41 – 3.18)		0.00	Severe lack	2.54 (1.64 – 3.93)	0.00
<b>Socio-economic Factors</b>			<b>Socio-economic Factors</b>			
<i>Household Income (p&lt;0.001)</i>			<i>Household Income (p&lt;0.001)</i>			
Wealthier	1.00			Wealthier	1.00	
Wealthy	0.76 (0.49 – 1.18)		0.23	Wealthy	1.02 (0.68 – 1.52)	0.93
Average	1.72 (1.09 – 2.72)		0.02	Average	1.38 (0.92 – 2.07)	0.12
Poor	1.84 (1.13 – 2.98)		0.01	Poor	2.36 (1.54 – 3.62)	0.00
Poorer	1.78 (1.01 – 3.16)		0.05	Poorer	1.73 (1.03 – 2.89)	0.04
<i>No Car Availability</i>	1.59 (1.02 – 2.48)		0.04	<i>No Car Availability</i>	1.24 (0.86 – 1.81)	0.25
<i>Social Class – manual</i>	0.60 (0.44 – 0.83)		0.00	<i>Social Class - manual</i>	1.18 (0.90 – 1.56)	0.24

**Area Characteristics***Urban/Rural Category (p=0.03)*

Most Urban	1.00		
Urban	1.12	(0.73 – 1.72)	0.60
Average	1.46	(0.95 – 2.25)	0.08
Rural	2.07	(1.29 – 3.31)	0.00
Most Rural	1.18	(0.70 – 1.97)	0.53
Baseline odds	0.371		

**Area Characteristics***Urban/Rural Category (p<0.001)*

Most Urban	1.00		
Urban	1.25	(0.86 – 1.82)	0.23
Average	1.25	(0.84 – 1.85)	0.26
Rural	1.94	(1.28 – 2.94)	0.00
Most Rural	2.36	(1.52 – 3.65)	0.00
Baseline odds	0.422		

**Table 6.27 Final logistic regression model for Energy and Vitality dimension for men and women**

	Men		Women	
	Odds ratio (95% Confidence Intervals)	P-value	Odds ratio (95% Confidence Intervals)	P-value
<i>Demographic &amp; Social Factors</i>				
<i>Age (p&lt;0.001)</i>				
16-44	1.00		1.00	
45-64	1.58 (1.13 – 2.21)	0.01	1.23 (0.91 – 1.65)	0.19
65+	2.70 (1.73 – 4.22)	0.00	1.86 (1.23 – 2.83)	0.00
<i>Lone Person</i>				
	1.36 (0.85 – 2.17)	0.19	1.44 (0.89 – 2.31)	0.14
<i>Denomination (p=0.05)</i>				
Protestant	1.00		1.00	
Catholic	1.36 (1.00 – 1.86)		1.40 (1.07 – 1.82)	
<i>Perceived social support (p=0.04)</i>				
No lack	1.00		1.00	
Some lack	1.15 (0.82 – 1.60)	0.43	1.12 (0.83 – 1.51)	0.46
Severe lack	1.69 (1.12 – 2.54)	0.01	2.45 (1.58 – 3.80)	0.00
<b>Socio-economic Factors</b>				
<i>Household Income (p=0.01)</i>				
Wealthier	1.00		1.00	
Wealthy	0.80 (0.51 – 1.24)	0.31	0.83 (0.55 – 1.23)	0.35
Average	1.48 (0.93 – 2.35)	0.10	1.22 (0.81 – 1.83)	0.34
Poor	1.62 (0.99 – 2.64)	0.05	1.65 (1.08 – 2.52)	0.02
Poorer	1.99 (1.12 – 3.55)	0.02	1.42 (0.85 – 2.36)	0.18
<i>No Car Availability</i>				
	1.32 (0.85 – 2.07)	0.22	1.49 (1.03 – 2.16)	0.04
<i>Social Class – manual</i>				
	0.72 (0.52 – 1.00)	0.05	1.10 (0.83 – 1.45)	0.51

**Area Characteristics***Urban/Rural Category (p<0.001)*

Most Urban	1.00		
Urban	1.54	(1.00 – 2.37)	0.05
Average	1.75	(1.13 – 2.71)	0.01
Rural	2.33	(1.44 – 3.77)	0.00
Most Rural	1.08	(0.63 – 1.84)	0.78
Baseline odds	0.235		

**Area Characteristics***Urban/Rural Category (p=0.01)*

Most Urban	1.00		
Urban	1.12	(0.77 – 1.63)	0.57
Average	1.27	(0.86 – 1.89)	0.23
Rural	1.36	(0.90 – 2.05)	0.15
Most Rural	2.30	(1.47 – 3.58)	0.00
Baseline odds	0.457		

**Table 6.28** Final logistic regression model for Bodily Pain dimension for men and women

	Men		Women	
	Odds ratio (95% Confidence Intervals)	P-value	Odds ratio (95% Confidence Intervals)	P-value
<i>Demographic &amp; Social Factors</i>				
<i>Age (p&lt;0.001)</i>				
16-44	1.00		1.00	
45-64	1.91 (1.36 – 2.70)	0.00	1.64 (1.20 – 2.23)	0.00
65+	2.90 (1.82 – 4.62)	0.00	3.05 (2.00 – 4.67)	0.00
<i>Lone Person</i>				
	2.32 (1.29 – 4.17)	0.01	1.30 (0.78 – 2.15)	0.32
<i>Denomination (p=0.06)</i>				
Protestant	1.00		1.00	
Catholic	1.34 (0.98 – 1.82)		1.14 (0.87 – 1.49)	
<i>Perceived social support (p=0.14)</i>				
No lack	1.00		1.00	
Some lack	1.14 (0.82 – 1.60)	0.44	1.18 (0.87 – 1.60)	0.27
Severe lack	1.51 (1.00 – 2.27)	0.05	1.97 (1.30 – 2.98)	0.00
<i>Marital Status (p=0.06)</i>				
Married/Cohabiting	1.00		1.00	
Single	0.61 (0.40 – 0.94)	0.03	0.73 (0.51 – 1.04)	0.08
Sep/Wid/Div	0.59 (0.30 – 1.16)	0.12	1.60 (1.04 – 2.44)	0.03
<b>Socio-economic Factors</b>				
<i>Household Income (p&lt;0.001)</i>				
Wealthier	1.00		1.00	
Wealthy	1.48 (0.95 – 2.31)	0.08	0.96 (0.64 – 1.44)	0.84
Average	2.18 (1.36 – 3.49)	0.00	1.36 (0.90 – 2.05)	0.14
Poor	2.33 (1.43 – 3.80)	0.00	1.66 (1.09 – 2.53)	0.02
Poorer	2.62 (1.49 – 4.61)	0.00	1.30 (0.79 – 2.14)	0.31
<i>Social Class - manual</i>				
	0.87 (0.63 – 1.21)	0.41	1.46 (1.11 – 1.92)	0.01
<hr/>				
Baseline odds	0.248		0.386	

**Table 6.29 Final logistic regression model for general health dimension for men and women**

	Men		Women	
	Odds ratio (95% Confidence Intervals)	P-value	Odds ratio (95% Confidence Intervals)	P-value
<b>Demographic &amp; Social Factors</b>				
<i>Age (p&lt;0.001)</i>				
16-44	1.00		1.00	
45-64	2.03 (1.43 – 2.89)	0.00	1.91 (1.40 – 2.62)	0.00
65+	2.74 (1.72 – 4.38)	0.00	2.85 (1.91 – 4.26)	0.00
<i>Denomination (p=0.04)</i>				
Protestant	1.00		1.00	
Catholic	1.43 (1.02 – 2.02)		1.09 (0.81 – 1.46)	
<i>Perceived social support (p=0.40)</i>				
No lack	1.00		1.00	
Some lack	1.15 (0.83 – 1.60)	0.40	1.16 (0.86 – 1.56)	0.34
Severe lack	1.30 (0.87 – 1.96)	0.20	2.08 (1.38 – 3.13)	0.00
<i>Marital Status (p=0.10)</i>				
Married/Cohabiting	1.00		1.00	
Single	0.81 (0.57 – 1.16)	0.24	0.73 (0.52 – 1.03)	0.07
Sep/Wid/Div	0.57 (0.32 – 1.00)	0.05	1.22 (0.85 – 1.74)	0.28
<b>Socio-economic Factors</b>				
<i>Household Income (p&lt;0.001)</i>				
Wealthier	1.00		1.00	
Wealthy	0.89 (0.57 – 1.37)	0.58	1.15 (0.75 – 1.78)	0.52
Average	1.79 (1.14 – 2.81)	0.01	1.87 (1.22 – 2.86)	0.00
Poor	2.16 (1.36 – 3.44)	0.00	2.39 (1.55 – 3.69)	0.00
Poorer	2.21 (1.26 – 3.89)	0.01	1.38 (0.83 – 2.29)	0.22
<i>No Qualification</i>	1.55 (1.11 – 2.16)	0.01	1.67 (1.25 – 2.24)	0.00
<b>Area Characteristics</b>				
<i>Deprivation Category (p=0.28)</i>				
Most Affluent	1.00		1.00	
Affluent	1.01 (0.63 – 1.60)	0.98	1.14 (0.73 – 1.78)	0.57
Average	1.53 (0.92 – 2.55)	0.10	1.44 (0.91 – 2.28)	0.12
Deprived	1.30 (0.75 – 2.27)	0.35	1.43 (0.88 – 2.33)	0.15
Most Deprived	0.96 (0.55 – 1.67)	0.88	2.16 (1.32 – 3.54)	0.00
<i>Urban/Rural Category (p=0.03)</i>				
Most Urban	1.00		1.00	
Urban	1.07 (0.68 – 1.68)	0.76	0.90 (0.61 – 1.32)	0.58
Average	1.80 (1.11 – 2.90)	0.02	0.81 (0.53 – 1.23)	0.32
Rural	1.77 (1.06 – 2.94)	0.03	0.74 (0.48 – 1.16)	0.19
Most Rural	1.06 (0.61 – 1.86)	0.83	0.91 (0.57 – 1.45)	0.70
<i>Board (p=0.65)</i>				
EHSSB	1.00		1.00	
NHSSB	1.00 (0.65 – 1.55)	0.99	0.60 (0.40 – 0.90)	0.01
<i>Board (p=0.04)</i>				
EHSSB	1.00		1.00	
NHSSB	1.00 (0.65 – 1.55)	0.99	0.60 (0.40 – 0.90)	0.01

SHSSB	0.82 (0.52 – 1.31)	0.42	SHSSB	0.74 (0.49 – 1.13)	0.16
WHSSB	0.79 (0.49 – 1.27)	0.33	WHSSB	0.59 (0.39 – 0.90)	0.01
Baseline odds	0.202			0.310	

**Table 6.30 Summary of final logistic regression models of each dimension of SF-36 \***

	Men							
	PF	RP	RE	SF	MH	EV	P	GHP
<b>Demographic &amp; Social Factors</b>								
Age								
16-44	<b>1.00</b>	<b>1.00</b>	<b>1.00</b>	<b>1.00</b>	<b>1.00</b>	<b>1.00</b>	<b>1.00</b>	<b>1.00</b>
45-64	<b>2.98</b>	<b>2.63</b>	<b>2.16</b>	1.33	<b>1.41</b>	<b>1.58</b>	<b>1.91</b>	<b>2.03</b>
65+	<b>11.76</b>	<b>3.99</b>	1.51	<b>2.22</b>	0.83	<b>2.70</b>	<b>2.90</b>	<b>2.74</b>
Marital Status								
Married/Cohabiting	<b>1.00</b>	1.00					1.00	1.00
Single	<b>0.56</b>	0.79					<b>0.61</b>	0.68
Sep/Wid/Div	0.80	0.53					0.59	<b>0.57</b>
Denomination								
	0.95	1.25	1.25	<b>1.43</b>	1.25	<b>1.36</b>	1.34	<b>1.43</b>
Lone Person								
	2.78	1.64		1.18	1.09	1.36	<b>2.32</b>	
Perceived Social Support								
No lack			<b>1.00</b>	<b>1.00</b>	<b>1.00</b>	<b>1.00</b>	1.00	1.00
Some lack			0.97	1.19	1.15	1.15	1.14	1.15
Severe lack			<b>2.13</b>	<b>1.81</b>	<b>2.12</b>	<b>1.69</b>	<b>1.51</b>	1.30
<b>Socio-economic Factors</b>								
Car Availability								
					<b>1.59</b>	1.32		
Social Class								
					<b>0.60</b>	<b>0.72</b>	0.87	
Tenure								
			1.18					
Qualification								
		1.11						<b>1.55</b>
Household Income Category								
Wealthiest	<b>1.00</b>	<b>1.00</b>	<b>1.00</b>	<b>1.00</b>	<b>1.00</b>	<b>1.00</b>	<b>1.00</b>	<b>1.00</b>
Wealthy	1.38	1.10	1.44	1.00	0.76	0.80	1.48	0.89
Average	<b>3.05</b>	<b>2.42</b>	<b>2.07</b>	<b>2.12</b>	<b>1.72</b>	1.48	<b>2.18</b>	<b>1.79</b>
Poor	<b>2.93</b>	<b>2.67</b>	<b>2.46</b>	<b>2.18</b>	<b>1.84</b>	1.62	<b>2.33</b>	<b>2.16</b>
Poorest	<b>4.59</b>	<b>3.61</b>	<b>3.61</b>	<b>2.28</b>	<b>1.78</b>	<b>1.99</b>	<b>2.62</b>	<b>2.21</b>
<b>Area</b>								
Rural Category								
Most Urban	<b>1.00</b>	<b>1.00</b>	<b>1.00</b>	<b>1.00</b>	<b>1.00</b>	<b>1.00</b>		<b>1.00</b>
Urban	1.55	1.24	1.65	1.27	1.12	<b>1.54</b>		1.07
Average	1.52	1.39	1.03	1.43	1.46	<b>1.75</b>		<b>1.80</b>
Rural	<b>2.16</b>	<b>1.97</b>	<b>2.25</b>	<b>2.79</b>	<b>2.07</b>	<b>2.33</b>		<b>1.77</b>
Most Rural	1.10	0.60	0.91	0.95	1.18	1.08		1.06
Carstairs Category								
Most Affluent								1.00
Affluent								1.01
Average								1.53
Deprived								1.30
Most Deprived								0.96
Board								
EHSSB								1.00
NHSSB								1.00
SHSSB								0.82
WHSSB								0.79
Baseline Odds	0.117	0.085	0.050	0.196	0.371	0.235	0.248	0.202

\* Numbers in bold represent odds which are significant at p<0.05

**Table 6.31 Summary of final logistic regression models of each dimension of SF-36 \***

	PF	RP	RE	Women			P	GHP
				SF	MH	EV		
<b>Demographic &amp; Social Factors</b>								
Age								
16-44	<b>1.00</b>	<b>1.00</b>	<b>1.00</b>	1.00	1.00	<b>1.00</b>	<b>1.00</b>	<b>1.00</b>
45-64	<b>2.74</b>	<b>1.73</b>	<b>1.50</b>	1.17	0.91	1.23	<b>1.64</b>	<b>1.91</b>
65+	<b>13.70</b>	<b>2.28</b>	0.90	<b>1.57</b>	0.80	<b>1.86</b>	<b>3.05</b>	<b>2.85</b>
Marital Status								
Married/Cohabiting	<b>1.00</b>	<b>1.00</b>					<b>1.00</b>	<b>1.00</b>
Single	<b>0.68</b>	<b>0.67</b>					0.73	0.73
Sep/Wid/Div	1.38	1.25					<b>1.60</b>	1.22
Denomination	1.04	<b>1.43</b>	<b>1.38</b>	1.24	1.28	<b>1.40</b>	1.14	1.09
Lone Person	1.31	<b>1.65</b>		1.33	1.51	1.44	1.30	
Perceived Social Support								
No lack			<b>1.00</b>	<b>1.00</b>	<b>1.00</b>	<b>1.00</b>	<b>1.00</b>	<b>1.00</b>
Some lack			<b>1.53</b>	<b>1.37</b>	<b>1.58</b>	1.12	1.18	1.16
Severe lack			<b>2.16</b>	<b>2.14</b>	<b>2.54</b>	<b>2.45</b>	<b>1.97</b>	<b>2.08</b>
<b>Socio-economic Factors</b>								
Car Availability					1.24	<b>1.49</b>		
Social Class					1.18	1.10	<b>1.46</b>	
Tenure			<b>1.45</b>					
Qualification		<b>1.75</b>						<b>1.67</b>
Household Income Category								
Wealthiest	<b>1.00</b>	1.00	<b>1.00</b>	<b>1.00</b>	<b>1.00</b>	<b>1.00</b>	1.00	<b>1.00</b>
Wealthy	1.51	1.03	1.31	1.26	1.02	0.83	0.96	1.15
Average	<b>2.90</b>	1.40	<b>1.61</b>	<b>2.08</b>	1.38	1.22	1.36	<b>1.87</b>
Poor	<b>3.87</b>	1.50	<b>2.12</b>	<b>2.65</b>	<b>2.36</b>	<b>1.65</b>	<b>1.66</b>	<b>2.39</b>
Poorest	<b>3.13</b>	1.22	1.27	<b>2.35</b>	<b>1.73</b>	1.42	1.30	1.38
<b>Area</b>								
Rural Category								
Most Urban	1.00	1.00	1.00	<b>1.00</b>	<b>1.00</b>	<b>1.00</b>		1.00
Urban	1.03	0.92	1.34	0.77	1.25	1.12		0.90
Average	1.13	1.03	1.42	0.97	1.26	1.27		0.81
Rural	0.93	0.99	<b>1.68</b>	1.18	<b>1.94</b>	1.36		0.74
Most Rural	1.10	1.07	<b>1.81</b>	<b>1.63</b>	<b>2.36</b>	<b>2.30</b>		0.91
Carstairs Category								
Most Affluent								<b>1.00</b>
Affluent								1.14
Average								1.44
Deprived								1.43
Most Deprived								<b>2.16</b>
Board								
EHSSB								<b>1.00</b>
NHSSB								<b>0.60</b>
SHSSB								0.74
WHSSB								<b>0.59</b>
Baseline Odds	0.195	0.172	0.084	0.403	0.422	0.457	0.386	0.310

\* Numbers in bold represent odds which are significant at p<0.05



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# 7

## Use of services

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### SUMMARY

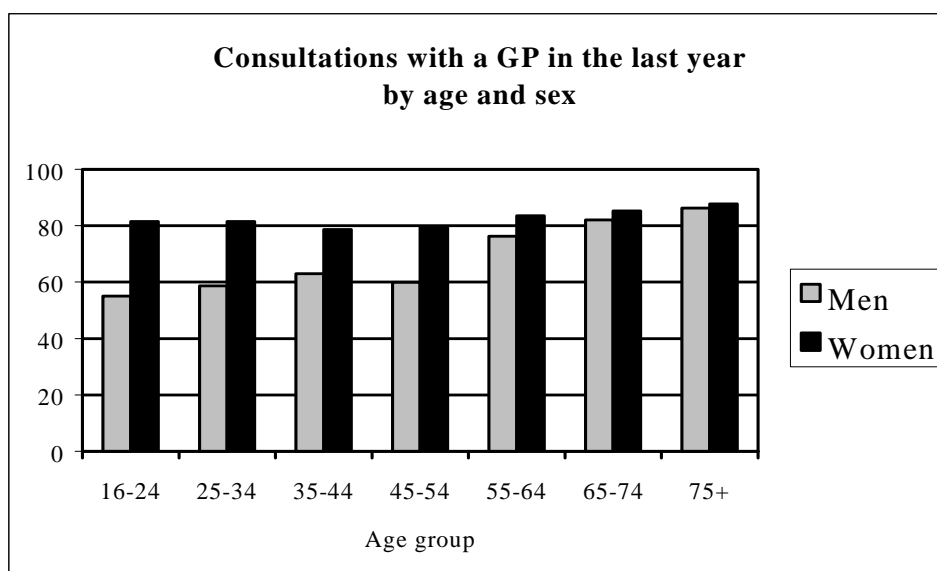
- 65.6% of men and 81.9% of women had consulted their GP in the previous year. Consultation rates for women were higher than those for men and were fairly constant throughout the age range. Consultation rates for men increased from the age of 55 approximating those of females at the oldest ages.
- 28.9% of men and 32.5% of women had attended a casualty department, been a day patient or visited an outpatient department in the previous year. Attendance rates at younger ages were higher for women especially in 25-34 age group and probably related to maternity or gynaecological conditions. Between middle and old age attendance rates increased gradually for both men and women.
- 9.5% of men and 13.7% of women had been an inpatient in the year preceding the survey. The relationship between inpatient use and age mirrored that of outpatient attendances with higher use by women at younger ages and increased use by both sexes at older ages.
- Generally those with lower socio-economic status had higher rates of GP consultation and outpatient and inpatient attendance than those who were materially better off, though the relationship varied by type of service use and the age and sex of respondent.
- The logistic regression model suggested that physical health status was the primary determinant of the use of health services and that the variations in use according to age and socio-economic status generally arose due to their association with poor health. However age may still, in part, influence service use. For example, higher use of GP services in older men (possibly due to health checks), greater attendance at outpatient or casualty in younger men, and more frequent inpatient use in younger women (probably related to maternity admissions).
- Socio-economic status also influenced GP consultation rates and outpatient use independently of health status and *lower* socio-economic status was associated with *lower* levels of uptake of services once health and other factors had been adjusted for. This may represent unmet need in the less well off or a higher level of a met demand in the better off. Use of GP services were also affected by levels of psychological wellbeing and, for men, GP use declined with increasing distance between home and practice surgery especially where travel times exceeded 30 minutes. Women who perceived a severe lack of social support, where, other things being equal, less likely to have attended as an outpatient or to have been an inpatient in the previous year.

## 7.1 Introduction

### *GP Consultation*

Respondents were asked ‘apart from any visit to a hospital, when was the last time you talked to a doctor on your own behalf, either face to face or on the telephone’. Almost three-quarters (74.6%) of all respondents had consulted a GP in the last year. This represented 65.6% of all men and 81.9% of all women.

For women, consultation rates remained at approximately the same level throughout the age range. Rates for men were lower from 16-54 and increased from 55 years onwards.

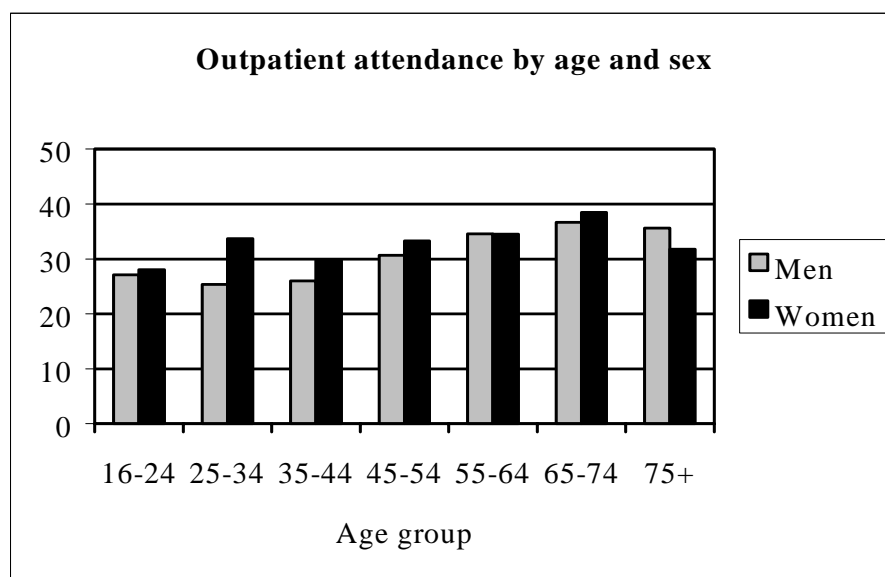


Out of the total number of respondents who consulted their GP in the last year 60.7% were women compared to 39.3% who were men. Higher consultation rates for women were evident at all ages, though the difference between the sexes was greatest for those aged under 55. This is a common finding and it is probable that much of the higher consultations in younger women are related to pregnancy and birth control, though perhaps greater access to GPs, a greater self awareness of health and readiness to consult amongst women also contributes.

**Table 7.1**

### *Outpatient attendance*

In this study an attendance at an A&E department, being a day patient or visiting an outpatient department, was classified as an outpatient visit and it was not possible to separate out these different types of service uptake. Almost one third (31.2%) of the survey respondents (29.8% of men and 32.5% of women) had attended hospital as an outpatient in the twelve months preceding the interviews.



Male outpatient attendance rates were relatively constant for those under 45 years of age, after which rates of attendance increased with increasing age. Outpatient attendance in women also showed an age-related increase, however attendance rates were higher for women than men especially in those under the age of 45. The greatest sex related difference in attendance rates was for those aged 25 to 34 years. The slight decrease in attendance rates amongst the over 75 population was surprising but may be due to the small number of over 75s surveyed.

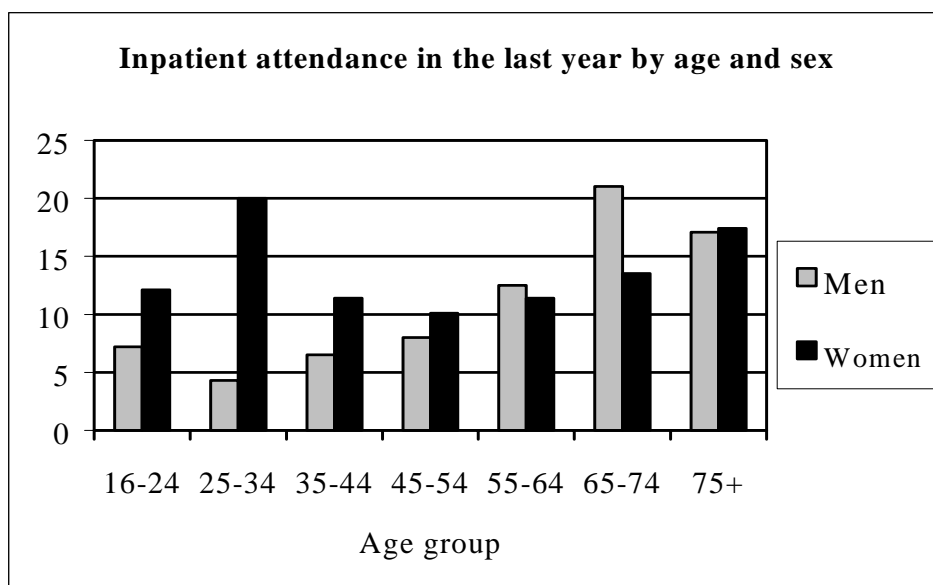
**Table 7.2**

### *Inpatient attendance*

An inpatient stay was described in the Northern Ireland Health & Wellbeing survey as a stay in hospital overnight or longer. Approximately 11% of all respondents had been an inpatient in the preceding 12 months (9.5% of men and 13.7% of women).

Amongst women, inpatient stays were highest in the 25-34 age group, and over the age of 55 these increased steadily with age. For men, rates generally increased with more

advancing years though a substantial increase was noted for the 65-74 age group. Interestingly the 65-74 'peak' for men was not reflected in higher attendance at outpatients.



Women had significantly higher rates of inpatient stays than men, especially in the 16-44 age group; thereafter the gender differences diminished so that at the oldest ages nearly equal proportions of men and women had been in hospital in the preceding year.

**Table 7.3**

## 7.2 Social and economic factors

### *Marital Status*

Generally those respondents who were separated, widowed or divorced were more likely to have attended their GP in the last year. Amongst those under 65, single adults were least likely to have attended their GP. Differences according to marital status were most evident at the youngest ages, there being little difference for those aged over 65. Interestingly most of the variations in attendance rates according to marital status were accounted for by differences amongst the men. Women overall had high rates of GP attendance which varied little by marital status. Conversely single men tended to see their GP least frequently while those who were separated, widowed or divorced attended their GP most frequently.

It was difficult to discern any overall pattern in the association between outpatient attendance and marital status. Among youngest age group (for both men and women) those who were separated, widowed or divorced were most likely to have attended outpatients. While at age 45-64 it was single men and women who were more likely to have attended outpatients. Among the oldest age group married men more commonly attended outpatients whereas attendance was greater among separated, widowed or divorced women.

It was also difficult to discern a relationship between marital status and inpatient attendance due to the smaller number of inpatient events. In general those who were separated, widowed or divorced were more likely to have been inpatients. Those married men who were aged less than 65 had the lowest frequency of inpatient stays, among women those who were married and aged 16-44 had the highest rates. At the oldest ages single men had the lowest rates; there was little difference in admission rates according to marital status for women.

**Table 7.4 to 7.6**

#### *Denomination*

Catholics were more likely to have consulted their GP in the last year although the differences between the two denominations were small. The difference was greatest for men at the youngest age group though there was no difference in GP consultation rates between the denominations for women at this age. At age 45-64 the difference increased for women and decreased for men, this pattern was maintained at the oldest age group for both sexes. For outpatient attendance, the differences between denominations were again minimal. Generally though for men, Catholics in the 16-44 and 45-64 age groups were slightly more likely to attend outpatients than their Protestant peers, while amongst the oldest age group it was Protestants who were more likely to attend. Catholics were slightly more likely to have been an inpatient in the last year, especially among younger respondents. The differences between religious groupings were larger among men than for women.

**Table 7.7 to 7.9**

#### *Social Class*

Generally adults in the manual social classes (III<sub>m</sub> to V) were more likely to have consulted their GP in the last year than those in the non-manual social classes (I to

IIIInm). The differences between social class groupings for men and women were small, but perhaps increased at older ages.

Those in manual social classes were more likely to have been to a casualty or outpatient department in the previous year, though again the differences were not marked. There was little difference in outpatient attendance rates by social class for women. For men differences between the social classes were more marked at younger ages (in contrast to findings for GP consultation and inpatient stays). The difference may be explained by the higher use of casualty services by young men, though this cannot be confirmed in the current dataset.

Similarly adults in manual social classes were also more likely to have been admitted as an inpatient compared to those in the non-manual social classes. At the youngest age group the difference between the social classes was minimal for both sexes. The difference in inpatient attendance was most clearly seen amongst women in the 45-64 age group where there was a two-fold difference between the non-manual and manual social classes; at the oldest age group the difference was attenuated. For men the difference though small was more obvious at the oldest age group.

**Table 7.10 to 7.12**

*Qualifications*

Generally those who had no formal educational qualification were more likely to have attended their GP in the last year than those who have some type of formal educational qualification. However, there was little difference between those respondents with and without a qualification at the youngest age group for women and no difference for men. Again greatest difference was evident for both sexes at the 45-64 age group. At age 65 years and over the difference in GP attendance between those with and without a qualification were reduced for both men and women.

A similar pattern was evident for both outpatient and inpatient attendance. Rates were very similar between social class at the youngest ages, most marked at 45-64 and attenuated at the oldest ages.

**Tables 7.13 to 7.15**

### *Tenure*

At all ages and for both sexes adults living in rented accommodation reported more GP attendance in the preceding year than those living in owner occupied accommodation. There were larger differences in GP consultation rates according to tenure than according to level of academic attainment or social class. The difference in GP consultation rates was greatest for men at the 45-64 age group while the difference was least for women at this age. The lowest difference between categories for GP attendance for both sexes was at the oldest age group.

Generally respondents living in rented accommodation were also more likely to have attended as outpatients than those living in owner occupied houses, the differences being marked at the younger ages. The pattern for inpatients was slightly different. For men there was little or no difference in inpatient attendance according to types of tenure at the 16-44 and 45-64 age groups, the difference was greatest at the oldest age group. For women the differences were fairly constant across the age spectrum.

**Tables 7.16 to 7.18**

### *Car Availability*

Across all age groups, respondents without access to a car were more likely to have attended their GP in the last year than those with access to a car. Differences generally diminished with increasing age. The greatest difference was for men at the 45-64 age group but at this age the difference between car availability and GP attendance for women was small.

The attendance pattern for outpatients was somewhat different. Outpatient attendance rates were relatively constant across age bands for those without access to a car but rose steadily with increasing age in those who had a car so that attendance rates among the oldest age group were higher for those with a car. For men the higher attendance rates amongst car owners started earlier in the 45-64 age group.

Respondents without access to a car were generally more likely to have been an inpatient in the previous year. The difference in admission rates increased at the older ages but was greatest for women among the youngest age group. **Tables 7.19 to 7.21**

### *Household Income*

GP attendance rates were also related to household income, such that those in the lower income categories were more likely to have attended their GP in the last year. The difference in attendance rates were generally more marked for men than for women and most evident in the 45-64 age group. At the oldest ages, the usual pattern of increasing poverty and increasing attendance was lost amongst women.

Rates of casualty and outpatient attendance did not vary across the bands of household income, indeed the usual gradient for both men and women was only evident at the middle ages. Those in the lowest income band also tended to have higher rates of inpatient attendance, though a clear gradient across income bands was only evident in the middle ages. **Tables 7.22 to 7.24**

### *Urban/Rural Areas*

It was difficult to discern any clear and consistent pattern in the use of health services according to the nature of where respondents lived. Only in the use of inpatient services was there evidence of a trend, which suggested a higher rate of use in the urban and most urban areas. Note, rather than a linear relationship there was a suggestion that the rates increased again for those in the most rural areas. **Table 7.25 to 7.27**

### *Deprivation at area level*

The rates for use of health services tended to be higher among respondents who lived in more deprived areas, though there was little evidence of a clear gradient across the affluent/deprived spectrum, except in the use of inpatient services. Differences between areas were most marked for those in the 45-64 age bands and slightly more so for men. Some anomalies were also evident, such as, higher use of outpatient services among women from more affluent areas **Tables 7.28 to 7.30**

## **7.3 Logistic Regression**

### *Use of General Practitioners Services*

Tables 7.31 (a) and 7.31 (b) show the results of the models generated in trying to understand more clearly the variation in GP consultation rates. It was considered, a priori, that age and health status would be the main determinants of whether someone

had visited their GP in the last year and so these models were generated first. Additional groups of variables were added in successive models to see if consultation rates were further modified by the respondents socio-economic status or other social attributes (e.g. marital status, degree of social support, denomination etc) or by area factors (such as area deprivation, urban/rural or Board of residence). The respondents estimated travel time from their home to the practice surgery was also included to see if proximity influenced the rates of consultation. Finally a measure of psychological wellbeing (a GHQ12 score of 3 or more) was included. This was only included in the final model and not with the other health measures as the GHQ 12 was only asked of half of the respondents and the smaller numbers in the analysis may have made the estimates of the effects of the other variables unreliable.

The first model was age only, and showed that women had a greater propensity than men to consult their GP but that there was a steeper age-related gradient in men than in women. Consultation rates increased markedly according to health status and especially for those who reported their general health as “not good”. The addition of health factors completely eliminated the association between age and GP consultation rates for women and attenuated the association for men. That older men were still more likely (than younger men) to visit their GP after differences in health had been controlled for may reflect the increased health checks and screening at older ages.

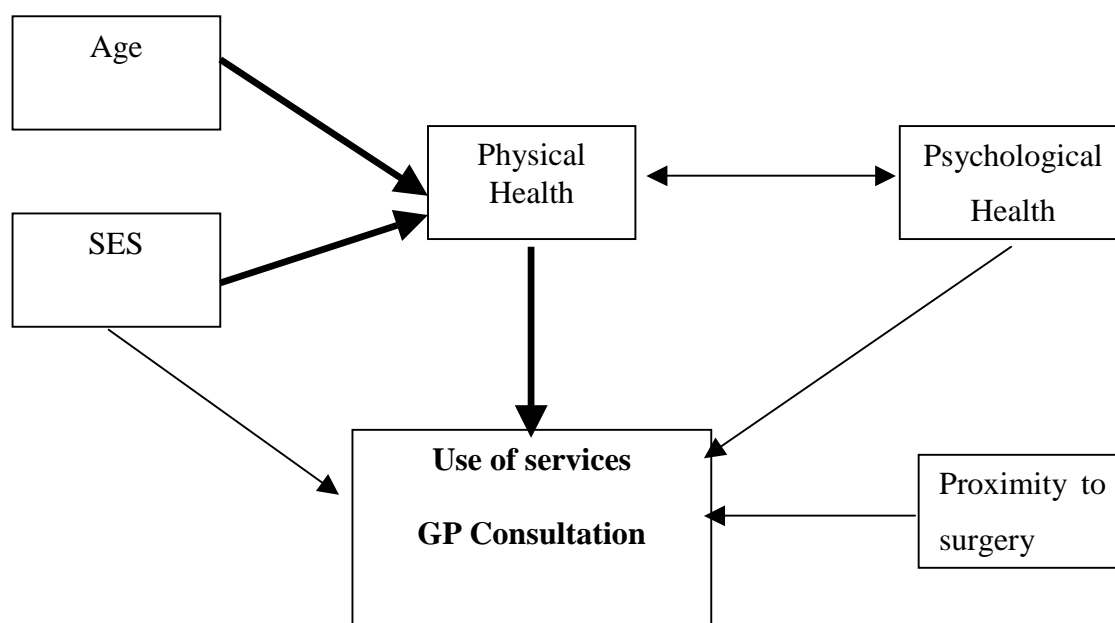
Once age and health factors had been controlled for there was little evidence that either social factors or socio-economic factors added to the models though men in manual social classes were, for a given age and level of health, less likely to attend their GP than those in the non manual classes. This may represent either unmet need in the former or relatively higher levels of met demand in the latter.

Neither the area deprivation factors, the urban/rural nature of the area nor the Health and Social Services Board of residence were significantly associated with GP consultation rates. However, the proximity to the practice surgery was directly associated with GP contact rates such that those who were more than thirty minutes away were only approximately one third as likely to have consulted their GP in the last year as similar patients living less than five minutes away. The relationship between

proximity and use was not influenced by car availability or the usual mode of transport (private vs. public) to the surgery.

The final model shows the effects of having significant psychological ill health on GP consultation rates. Other things being equal, patients with a GHQ12 score of 3 or more had an increased likelihood of having consulted their GP in the last year. The addition of this variable to the model reduced the association between consultation rates and other measures of ill health, notably general health perception. The relationship between social class and consultation rates was now non significant, though this may have been due to smaller numbers as the odds ratios were much the same.

**Figure 7.1 Diagrammatic representation of the main determinants of consultation rates**



The overall set of general relationships probably looks like Figure 7.1<sup>1</sup>. The age related gradient in GP use was primarily due to the decline in physical health as people get older though older men may have higher attendance rates for reasons that are not

<sup>1</sup> This model makes a number of assumptions about the sequence of events, for example that a poorer perception of health precedes a GP visit. It is however equally possible that a person may feel that their health is poor because of something their GP has told them. It is not possible to unravel which came first in a cross sectional study.

associated with ill health (such as for health checks). Physical health status was the major driver for GP use.

consultations; psychological and physical health was associated but psychological health status had an independent effect on GP use. Most of the relationship between socio-economic standing and GP usage was mediated through the association between socio-economic status and physical health, though all things being equal, men from manual social classes tended to consult less than those in non manual classes. GP consultation rates for men declined with increasing distance between home and surgery especially where the travel time exceeded thirty minutes.

#### *Outpatient Use Logistic Regression*

Tables 7.32(a) and 7.32(b) show the results of models generated in trying to understand the variation in the uptake of outpatient services. (Note, outpatient services include attendance at outpatient department, a visit to an A&E department, or having been a day patient but the term “outpatient services” will be used in the following section as shorthand).

Once again the overall rates of outpatient usage were higher for women than for men, though the age-related gradient was greater for men. All three measures of ill health were associated with increased outpatient attendance. However, once differences in health had been controlled for, both older men and women were seen to have lower outpatient attendance rates than those who were younger. The relatively higher attendance rates in younger men maybe due to greater use of A&E or day hospital services which, arguably, are only marginally associated with levels of chronic ill health or disability. The higher rates for younger women are probably associated with maternity and gynaecological conditions.

Other things being equal, patients of lower socio-economic standing tended to have lower levels of outpatient use, for example, a man in the poorest category was only half as likely to have been an outpatient in the preceding year as an equivalent man in the wealthiest category. For women, academic attainment was the important socio-economic predictor of outpatient use. As with GP attendance, this may reflect either unmet need amongst the least well-off or a higher level of met demand amongst the

more affluent. For example, perhaps those who are more educated, more articulate and better connected, demand and receive a higher level of service.

Neither marital status nor living alone were significantly associated with the use of outpatient services once other demographic, health and socio-economic factors had been considered. However those women who experienced a severe lack of social support were about 30% less likely to have attended an outpatient department or casualty in the previous year. Whilst the relationship between social support and outpatient use in men failed to reach the conventional levels of statistical significance, the overall pattern mirrored that of women which suggests it may be important for both sexes. The effect of social support did not significantly alter the magnitude of the relationship of the other variables suggesting that it was relatively independent of health and socio-economic factors.

Other things being equal, women from different Boards exhibited different rates of outpatient uptake. Compared to the Eastern Board, the Southern Board had lower uptake rates while the Northern and Southern Board had higher rates. Measures of psychological wellbeing did not significantly add to our understanding of outpatient attendance rates of either men or women.

#### *Inpatient Use*

Tables 7.33(a) and 7.33 (b) show the results of the models generated in trying to understand the variation in the uptake of in-patient services. As for the uptake of GP and outpatient services, the likelihood of a women having been an inpatient in the previous year was higher than that for men, though the age-related gradient was more pronounced for men. Much of the use of in-patient services was explained by health factors especially the general health perceptions question. The addition of health factors greatly reduced (though didn't eliminate) the age-gradient in men and revealed a significantly higher inpatient rate for younger women which was probably related to maternity-related admissions.

None of the five measures of socio-economic standing significantly added to the explanation of the variation of inpatient rates once age and health factors had been included in the model. When health was not included, being of lower socio-economic

standing was associated with higher inpatient admission rates. Therefore we can conclude that it is most likely that the higher rates amongst those who are least well-off was attributable to the social gradient in health status.

Other things being equal those women who reported a severe lack of social support had significantly lower rates of inpatient service use than those who did not. Admission rates were higher for Catholic men. Neither area characteristics nor measures of psychological wellbeing provided any further influence on inpatient admission rates.

**Table 7.1 Proportion of respondents who consulted their GP in the previous year by age and sex**

	16-24	25-34	35-44	45-54	55-64	65-74	75+
	%	%	%	%	%	%	%
Men	55.0	58.6	63.0	59.9	76.2	82.1	86.2
Women	81.5	81.5	78.6	79.4	83.6	85.2	87.7
Total	69.4	71.5	71.4	70.5	80.1	83.9	87.1

**Table 7.2 Proportion of respondents who attended outpatients in the previous year age and sex\***

	16-24	25-34	35-44	45-54	55-64	65-74	75+
	%	%	%	%	%	%	%
Men	27.1	25.4	26.0	30.7	34.6	36.7	35.6
Women	28.1	33.7	29.7	33.3	34.5	38.5	31.8
Total	27.7	30.1	28.0	32.0	34.5	37.7	33.5

**Table 7.3 Proportion of respondents who had been an inpatient in the previous year by age and sex**

	16-24	25-34	35-44	45-54	55-64	65-74	75+
	%	%	%	%	%	%	%
Men	7.2	4.3	6.5	8.0	12.5	21.0	17.1
Women	12.1	20.0	11.4	10.1	11.4	13.5	17.4
Total	9.8	13.1	9.2	9.1	11.9	16.9	17.3

\* Includes day patients and attendance at an A&E department

**Table 7.4 Proportion of respondents who consulted their GP in the previous year by age, sex and marital status**

	Age		
	16-44	45-64	65+
	%	%	%
<b>Men</b>			
Single	53.9	62.0	83.3
Married/cohabiting	62.2	66.5	84.3
Sep/div/wid	75.8	72.9	81.1
Total	58.9	66.8	83.5
<b>Women</b>			
Single	80.3	81.0	87.5
Married/Cohabiting	79.8	81.0	82.8
Sep/div/wid	84.6	81.8	88.8
Total	80.5	81.1	86.4
<b>All Adults</b>			
Single	67.6	70.7	86.1
Married/Cohabiting	71.9	73.8	83.6
Sep/div/wid	82.8	79.5	86.9
Total	70.8	74.4	85.2

**Table 7.5 Proportion of respondents who attended outpatients in the by age, sex and marital status\***

	Age		
	16-44	45-64	65+
	%	%	%
<b>Men</b>			
Single	25.1	38.0	33.3
Married/cohabiting	26.2	32.0	39.4
Sep/div/wid	42.4	29.3	29.7
Total	26.2	32.2	36.4
<b>Women</b>			
Single	30.3	40.5	31.5
Married/Cohabiting	29.8	32.5	35.5
Sep/div/wid	36.2	36.4	36.7
Total	30.6	33.7	35.6
<b>All Adults</b>			
Single	27.8	38.7	32.1
Married/Cohabiting	28.2	32.2	37.7
Sep/div/wid	37.4	34.2	35.0
Total	28.6	33.0	36.0

\* Includes day patients and attendance at an A&E department

**Table 7.6 Proportion of respondents who had been an inpatient in the previous year by age, sex and marital status**

	Age		
	16-44	45-64	65+
	%	%	%
<b>Men</b>			
Single	7.0	14.0	8.3
Married/cohabiting	4.3	9.1	19.3
Sep/div/wid	18.2	12.1	24.4
Total	5.9	9.8	19.5
<b>Women</b>			
Single	11.4	2.3	17.8
Married/Cohabiting	17.2	10.3	13.6
Sep/div/wid	13.8	15.2	15.9
Total	14.6	10.7	15.3
<b>All Adults</b>			
Single	9.3	8.7	14.7
Married/Cohabiting	11.3	9.7	16.8
Sep/div/wid	14.7	14.2	18.1
Total	10.7	10.3	17.0

**Table 7.7 Proportion of respondents who consulted their GP in the previous year by age, sex and denomination**

	Age		
	16-44	45-64	65+
	%	%	%
<b>Men</b>			
Catholic	61.4	67.5	85.7
Protestant	57.4	66.1	83.2
Total	59.1	66.7	83.8
<b>Women</b>			
Catholic	79.9	84.4	89.4
Protestant	80.9	79.4	85.1
Total	80.5	81.3	86.4
<b>All Adults</b>			
Catholic	72.0	76.5	88.0
Protestant	70.0	73.3	84.3
Total	70.9	74.5	85.3

**Table 7.8 Proportion of respondents who attended outpatients in the last year by age, sex and denomination\***

	Age		
	16-44	45-64	65+
	%	%	%
<b>Men</b>			
Catholic	27.8	33.9	35.2
Protestant	25.3	31.9	36.2
Total	26.3	32.7	35.9
<b>Women</b>			
Catholic	28.9	35.0	32.5
Protestant	31.5	33.3	36.9
Total	30.3	33.9	35.6
<b>All Adults</b>			
Catholic	28.4	34.5	33.5
Protestant	28.7	32.6	36.7
Total	28.6	33.4	35.8

**Table 7.9 Proportion of respondents who had been an inpatient in the previous year by age, sex and denomination**

	Age		
	16-44	45-64	65+
	%	%	%
<b>Men</b>			
Catholic	7.6	12.7	23.1
Protestant	4.9	8.1	17.9
Total	6.0	9.9	19.2
<b>Women</b>			
Catholic	16.4	10.3	12.6
Protestant	13.2	10.9	16.4
Total	14.7	10.7	15.2
<b>All Adults</b>			
Catholic	12.5	11.6	16.7
Protestant	9.4	9.6	17.0
Total	10.7	10.4	16.9

\* Includes day patients and attendance at an A&E department

**Table 7.10 Proportion of respondents who consulted their GP in the previous year by age, sex and social class**

	Age		
	16-44	45-64	65+
	%	%	%
<b>Men</b>			
SC non-manual	60.6	65.2	81.8
SC manual	60.0	68.2	85.4
Total	60.3	67.0	84.1
<b>Women</b>			
SC non-manual	80.0	79.3	84.0
SC manual	81.8	83.1	88.4
Total	80.7	81.1	86.4
<b>All Adults</b>			
SC non-manual	73.2	73.4	83.1
SC manual	69.8	75.1	87.0
Total	71.5	74.3	85.4

**Table 7.11 Proportion of respondents who attended outpatients in the previous year by age, sex and social class\***

	Age		
	16-44	45-64	65+
	%	%	%
<b>Men</b>			
SC non-manual	20.9	28.9	39.9
SC manual	30.2	34.7	34.3
Total	26.5	32.4	36.4
<b>Women</b>			
SC non-manual	31.6	33.4	36.8
SC manual	29.5	33.5	33.3
Total	30.7	33.5	34.9
<b>All Adults</b>			
SC non-manual	27.8	31.6	38.0
SC manual	29.8	34.3	34.0
Total	28.8	33.1	35.7

\* Includes day patients and attendance at an A&E department

**Table 7.12 Proportion of respondents who had been an inpatient in the previous year by age, sex and social class**

	Age		
	16-44	45-64	65+
	%	%	%
<b>Men</b>			
SC non-manual	5.5	7.7	16.7
SC manual	6.2	11.5	21.5
Total	6.0	9.9	19.7
<b>Women</b>			
SC non-manual	13.7	6.8	12.7
SC manual	15.4	14.7	17.6
Total	14.4	10.7	15.4
<b>All Adults</b>			
SC non-manual	10.9	7.0	14.3
SC manual	10.3	13.0	19.4
Total	10.6	10.3	17.3

**Table 7.13 Proportion of respondents who consulted their GP in the previous year by age, sex and academic qualification**

	Age		
	16-44	45-64	65+
	%	%	%
<b>Men</b>			
Any	59.0	63.7	81.0
None	59.0	70.5	85.1
Total	59.0	66.8	83.4
<b>Women</b>			
Any	79.5	78.5	85.2
None	83.9	83.9	86.5
Total	80.5	81.4	86.2
<b>All Adults</b>			
Any	70.4	71.0	83.0
None	72.4	78.1	86.2
Total	70.9	74.5	85.2

**Table 7.14 Proportion of respondents who attended outpatients in the previous year by age, sex and academic qualification\***

	Age		
	16-44	45-64	65+
	%	%	%
<b>Men</b>			
Any	25.6	30.6	34.4
None	27.6	34.4	37.6
Total	26.1	32.3	36.3
<b>Women</b>			
Any	30.4	31.6	39.3
None	31.6	35.6	34.5
Total	30.7	33.7	35.6
<b>All Adults</b>			
Any	28.2	31.1	36.6
None	29.8	35.1	35.6
Total	28.6	33.1	35.9

**Table 7.15 Proportion of respondents who had been an inpatient in the previous year by age, sex and academic qualification**

	Age		
	16-44	45-64	65+
	%	%	%
<b>Men</b>			
Any	5.2	7.9	17.5
None	8.2	12.3	20.8
Total	5.9	9.9	19.5
<b>Women</b>			
Any	14.6	7.6	11.5
None	14.9	13.1	16.5
Total	14.6	10.5	15.4
<b>All Adults</b>			
Any	10.4	7.7	14.9
None	12.0	12.7	18.0
Total	10.8	10.2	17.0

\* Includes day patients and attendance at an A&E department

**Table 7.16 Proportion of respondents who consulted their GP in the previous year by age, sex and tenure**

	Age		
	16-44	45-64	65+
	%	%	%
<b>Men</b>			
Owner occupied	56.6	63.9	82.0
Renting	65.4	81.0	86.6
Total	58.9	66.8	83.4
<b>Women</b>			
Owner occupied	77.4	80.6	84.8
Renting	86.5	83.2	89.7
Total	80.5	81.1	86.4
<b>All Adults</b>			
Owner occupied	67.5	72.5	83.7
Renting	78.2	82.6	88.4
Total	70.8	74.5	85.2

**Table 7.17 Proportion of respondents who attended outpatients in the previous year by age, sex and tenure\***

	Age		
	16-44	45-64	65+
	%	%	%
<b>Men</b>			
Owner occupied	25.1	32.3	36.9
Renting	29.3	32.4	35.8
Total	26.2	32.3	36.5
<b>Women</b>			
Owner occupied	29.6	32.6	34.8
Renting	32.7	37.6	37.3
Total	30.7	33.7	35.6
<b>All Adults</b>			
Owner occupied	27.5	32.5	35.6
Renting	31.3	35.4	36.7
Total	28.6	33.1	36.0

\* Includes day patients and attendance at an A&E department

**Table 7.18 Proportion of respondents who had been an inpatient in the previous year by age, sex and tenure**

	Age		
	16-44	45-64	65+
	%	%	%
<b>Men</b>			
Owner occupied	5.3	9.8	16.1
Renting	7.7	9.6	26.7
Total	5.9	9.8	19.5
<b>Women</b>			
Owner occupied	13.6	9.4	14.0
Renting	16.8	14.8	18.1
Total	14.7	10.6	15.4
<b>All Adults</b>			
Owner occupied	9.6	9.6	14.9
Renting	13.2	12.6	21.5
Total	10.7	10.2	17.1

**Table 7.19 Proportion of respondents who consulted their GP in the previous year by age, sex and car availability**

	Age		
	16-44	45-64	65+
	%	%	%
<b>Men</b>			
One or more	58.6	65.5	82.9
None	60.9	75.0	84.4
Total	58.9	66.9	83.4
<b>Women</b>			
One or more	79.9	80.8	84.7
None	82.6	82.5	87.9
Total	80.5	81.1	86.3
<b>All Adults</b>			
One or more	69.9	73.3	84.0
None	74.8	79.9	86.8
Total	70.8	74.5	85.2

**Table 7.20 Proportion of respondents who attended outpatients in the previous year by age, sex and car availability\***

	Age		
	16-44	45-64	65+
	%	%	%
<b>Men</b>			
One or more	24.5	32.9	36.8
None	35.3	28.4	35.2
Total	26.2	32.2	36.3
<b>Women</b>			
One or more	30.0	33.0	37.0
None	32.8	36.5	34.1
Total	30.6	33.7	35.6
<b>All Adults</b>			
One or more	27.5	33.0	36.9
None	33.7	33.3	34.4
Total	28.6	33.0	35.8

**Table 7.21 Proportion of respondents who had been an inpatient in the previous year by age, sex and car availability**

	Age		
	16-44	45-64	65+
	%	%	%
<b>Men</b>			
One or more	5.6	9.1	17.0
None	8.2	14.8	24.6
Total	6.0	9.9	19.5
<b>Women</b>			
One or more	13.1	9.8	12.8
None	20.4	13.9	17.6
Total	14.7	10.6	15.2
<b>All Adults</b>			
One or more	9.5	9.4	14.8
None	15.8	14.2	20.1
Total	10.7	10.3	17.0

\* Includes day patients and attendance at an A&E department

**Table 7.22 Proportion of respondents who consulted their GP in the previous year by age, sex and household income category**

	Age		
	16-44	45-64	65+
	%	%	%
<b>Men</b>			
More wealthy	57.1	61.0	81.8
Average	58.5	63.7	83.1
More poor	62.4	77.5	84.1
Total	59.3	66.8	83.5
<b>Women</b>			
More wealthy	80.7	75.7	86.7
Average	79.5	82.0	90.5
More poor	81.7	83.9	82.6
Total	80.5	81.1	86.6
<b>All Adults</b>			
More wealthy	68.8	68.3	86.3
Average	70.0	73.2	87.2
More poor	73.7	80.9	83.5
Total	71.0	74.3	85.4

**Table 7.23 Proportion of respondents who attended outpatients in the previous year by age, sex and household income category\***

	Age		
	16-44	45-64	65+
	%	%	%
<b>Men</b>			
More wealthy	27.2	23.9	47.6
Average	25.7	33.1	33.8
More poor	27.2	37.3	36.1
Total	26.5	31.8	35.7
<b>Women</b>			
More wealthy	30.5	30.6	20.0
Average	30.7	33.7	42.3
More poor	31.7	39.0	32.2
Total	31.0	34.7	36.2
<b>All Adults</b>			
More wealthy	28.8	27.2	30.8
Average	28.5	33.3	38.8
More poor	29.9	38.1	33.8
Total	29.0	33.2	36.0

\* Includes day patients and attendance at an A&E department

**Table 7.24 Proportion of respondents who had been an inpatient in the previous year by age, sex and household income category**

	Age		
	16-44	45-64	65+
	%	%	%
<b>Men</b>			
More wealthy	6	3.9	18.2
Average	5.4	10.5	17.5
More poor	6.6	15.5	22.2
Total	5.9	10.1	19.7
<b>Women</b>			
More wealthy	15.9	6.8	3.2
Average	12.4	11.2	23.9
More poor	16.6	13.5	10.9
Total	14.7	10.9	16.6
<b>All Adults</b>			
More wealthy	10.9	5.3	7.7
Average	9.2	10.9	21.3
More poor	12.5	14.4	15.5
Total	10.7	10.5	17.7

**Table 7.25 Proportion of respondents who consulted their GP in the previous year by age, sex and urban/rural nature of area of residence**

	Age		
	16-44	45-64	65+
	%	%	%
<b>Men</b>			
Most urban	62.8	66.7	76.7
Urban	56.3	70.8	84.0
Average	54.8	65.4	88.0
Rural	58.6	63.0	83.1
Most rural	62.1	68.5	84.1
Total	58.9	66.7	83.4
<b>Women</b>			
Most urban	83.5	82.4	86.2
Urban	80.5	83.2	86.4
Average	81.2	79.5	83.1
Rural	77.2	78.2	86.5
Most rural	80.2	83.1	91.3
Total	80.4	81.1	86.6
<b>All Adults</b>			
Most urban	74.7	76.0	82.5
Urban	70.1	77.3	85.8
Average	68.9	72.9	84.9
Rural	69.0	70.7	85.1
Most rural	71.5	76.2	87.9
Total	70.8	74.4	85.2

**Table 7.26 Proportion of respondents who attended outpatients in the previous year by age, sex and urban/rural nature of area of residence\***

	Age		
	16-44	45-64	65+
	%	%	%
<b>Men</b>			
Most urban	29.2	34.4	34.6
Urban	30.1	37.2	39.3
Average	29.9	31.2	34.1
Rural	28.9	28.8	35.1
Most rural	24.9	34.6	35.8
Total	28.6	33.0	35.8
<b>Women</b>			
Most urban	30.2	33.6	31.6
Urban	31.3	36.8	34.5
Average	35.4	34.4	37.8
Rural	31.9	28.9	36.0
Most rural	24.1	35.6	37.5
Total	30.7	33.8	35.4
<b>All Adults</b>			
Most urban	29.2	34.4	34.6
Urban	30.1	37.2	39.3
Average	29.9	31.2	34.1
Rural	28.9	28.8	35.1
Most rural	24.9	34.6	35.8
Total	28.6	33.0	35.8

\* Includes day patients and attendance at an A&E department

**Table 7.27 Proportion of respondents who had been an inpatient in the previous year by age, sex and urban/rural nature of area of residence**

	Age		
	16-44	45-64	65+
	%	%	%
<b>Men</b>			
Most urban	8.1	13.5	15.1
Urban	6.3	8.8	28.4
Average	4.4	11.2	18.3
Rural	4.2	6.5	17.2
Most rural	6.9	11.2	15.9
Total	5.9	10.0	19.3
<b>Women</b>			
Most urban	15.8	11.2	22.2
Urban	16.9	16.8	11.8
Average	15.0	4.6	10.9
Rural	13.6	9.2	13.5
Most rural	12.0	12.5	15.5
Total	14.7	10.6	14.9
<b>All Adults</b>			
Most urban	12.5	12.2	19.9
Urban	12.4	13.0	18.8
Average	10.0	7.7	14.2
Rural	9.3	7.9	15.5
Most rural	9.6	11.5	16.2
Total	10.7	10.3	16.9

**Table 7.28 Proportion of respondents who consulted their GP in the previous year by age, sex and area deprivation category**

	Age		
	16-44	45-64	65+
	%	%	%
<b>Men</b>			
More affluent	57.5	62.1	80.3
Average	61.6	65.1	90.5
More deprived	59.1	73.7	84.4
Total	58.8	66.9	83.7
<b>Women</b>			
More affluent	77.9	78.0	85.3
Average	83.6	81.8	83.6
More deprived	81.4	84.5	89.2
Total	80.5	81.2	86.4
<b>All Adults</b>			
More affluent	68.2	70.7	83.2
Average	74.5	73.7	86.3
More deprived	71.9	79.4	87.1
Total	70.8	74.5	85.2

**Table 7.29 Proportion of respondents who attended outpatients in the previous year by age, sex and area deprivation category\***

	Age		
	16-44	45-64	65+
	%	%	%
<b>Men</b>			
More affluent	22.6	32.1	36.0
Average	33.0	28.2	39.7
More deprived	27.2	35.2	34.7
Total	26.2	32.2	36.3
<b>Women</b>			
More affluent	31.6	34.8	39.5
Average	29.9	32.9	29.1
More deprived	30.0	33.2	34.2
Total	30.6	33.8	35.4
<b>All Adults</b>			
More affluent	27.2	33.5	38.0
Average	31.3	30.5	33.3
More deprived	28.8	34.1	34.4
Total	28.6	33.0	35.8

**Table 7.30 Proportion of respondents who had been an inpatient in the previous year by age, sex and area deprivation category\***

	Age		
	16-44	45-64	65+
	%	%	%
<b>Men</b>			
More affluent	4.0	5.8	20.1
Average	7.9	12.0	13.5
More deprived	7.4	13.1	22.6
Total	5.9	9.9	19.6
<b>Women</b>			
More affluent	12.4	7.1	15.9
Average	12.8	13.3	11.8
More deprived	17.9	13.0	15.8
Total	14.6	10.6	15.0
<b>All Adults</b>			
More affluent	8.4	6.5	17.8
Average	10.8	12.7	12.0
More deprived	13.3	13.1	18.4
Total	10.7	10.3	16.8

\* Includes day patients and attendance at an A&E department

**Table 7.31(a) Final logistic regression model for GP attendance for men and women**

	Men		Women	
	Odds ratio (95% Confidence Intervals)	P-value	Odds ratio (95% Confidence Intervals)	P-value
<i>Demographic Factors</i>				
<i>Age (p=0.01)</i>			<i>Age (p=0.93)</i>	
16-44	1.00		16-44	1.00
45-64	0.91 (0.62 – 1.34)	0.64	45-64	0.94 (0.65 – 1.34) 0.72
65+	2.22 (1.30 – 3.78)	0.00	65+	0.95 (0.57 – 1.58) 0.84
<b>Health Factors</b>				
LLSI	1.53 (0.92 – 2.54)	0.10	LLSI	3.82 (1.99 – 7.33) 0.00
General Health (p<0.001)				
Good	1.00		Good	1.00
Fairly Good	3.06 (2.09 – 4.49)	0.00	Fairly Good	1.95 (1.34 – 2.84) 0.00
Not Good	14.87 (4.93 – 44.88)	0.00	Not Good	2.74 (1.29 – 5.86) 0.01
<b>Socio-economic Factors</b>				
<i>Social Class – manual</i>	0.83 (0.58 – 1.17)	0.28	<i>Social Class – manual</i>	0.89 (0.65 – 1.22) 0.48
<b>Area Characteristics</b>				
<i>GP Travel Time (p&lt;0.01)</i>				
Less than 5 minutes	1.00		<i>GP Travel Time (p=0.49)</i>	
5 – 9 minutes	0.67 (0.39 – 1.14)	0.14	Less than 5 minutes	1.00
10 – 14 minutes	0.42 (0.24 – 0.75)	0.00	5 – 9 minutes	0.60 (0.32 – 1.12) 0.11
15 – 29 minutes	0.52 (0.29 – 0.94)	0.03	10 – 14 minutes	0.71 (0.37 – 1.35) 0.29
More than 30 minutes	0.24 (0.09 – 0.60)	0.00	15 – 29 minutes	0.60 (0.31 – 1.15) 0.12
			More than 30 minutes	0.55 (0.22 – 1.38) 0.20
<b>Mental Health Factors</b>				
<i>GHQ 3Case</i>	2.34 (1.41 – 3.89)	0.00	<b>GHQ 3Case</b>	1.79 (1.18 – 2.71) 0.01
Baseline Odds	1.825			3.518

**Table 7.31(b) Logistic regression models for GP attendance for men and women\***

	Men					Women				
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 1	Model 2	Model 3	Model 4	Model 5
<i>Demographic Factors</i>										
<i>Age</i>										
16-44	<b>1.00</b>	<b>1.00</b>	<b>1.00</b>	<b>1.00</b>	<b>1.00</b>	<b>1.00</b>	1.00	1.00	1.00	1.00
45-64	<b>1.41</b>	0.91	0.86	0.83	0.91	1.10	0.80	0.80	0.81	0.94
65+	<b>3.55</b>	<b>1.69</b>	<b>1.62</b>	<b>1.65</b>	<b>2.22</b>	<b>1.67</b>	0.77	0.77	0.77	0.95
<b>Health Factors</b>										
LLSI		<b>2.31</b>	<b>2.22</b>	<b>2.17</b>	1.53		<b>2.43</b>	<b>2.73</b>	<b>2.82</b>	<b>3.82</b>
General Health										
Good		<b>1.00</b>	<b>1.00</b>	<b>1.00</b>	<b>1.00</b>		<b>1.00</b>	<b>1.00</b>	<b>1.00</b>	<b>1.00</b>
Fairly Good		<b>3.03</b>	<b>3.31</b>	<b>3.43</b>	<b>3.06</b>		<b>2.73</b>	<b>2.78</b>	<b>2.77</b>	<b>1.95</b>
Not Good		<b>20.9</b>	<b>21.5</b>	<b>23.4</b>	<b>14.87</b>		<b>7.50</b>	<b>6.26</b>	<b>6.48</b>	<b>2.74</b>
<b>Socio-economic Factors</b>										
<i>Social Class - manual</i>			<b>0.78</b>	<b>0.80</b>	0.83			0.96	0.94	0.89
<b>Area Characteristics</b>										
<i>GP Travel Time</i>										
Less than 5 minutes				<b>1.00</b>	<b>1.00</b>				1.00	1.00
5 – 9 minutes				0.90	0.67				0.78	0.60
10 – 14 minutes				0.71	<b>0.42</b>				0.92	0.71
15 – 29 minutes				0.85	<b>0.52</b>				0.82	0.60
More than 30 minutes				<b>0.32</b>	<b>0.24</b>				0.80	0.55
<b>Mental Health Factors</b>										
<i>GHQ 3Case</i>					<b>2.34</b>					<b>1.79</b>
Baseline Odds	1.411	0.370	1.010	1.348	1.825	3.889	2.514	2.565	3.068	3.518

\* Numbers in bold represent odds which are significant at p<0.05

**Table 7.32(a) Final logistic regression model for outpatient attendance for men and women**

	Men		Women		
	Final Model	P-value	Final Model	P-value	
<b>Demographic Factors</b>					
<i>Age (p=0.04)</i>			<i>Age (p=0.02)</i>		
16-44	1.00		16-44	1.00	
45-64	0.86 (0.66 – 1.13)	0.28	45-64	0.89 (0.70 – 1.12)	0.31
65+	0.63 (0.45 – 0.90)	0.01	65+	0.67 (0.50 – 0.89)	0.00
<b>Health Factors</b>					
<b>LLSI</b>	2.02 (1.47 – 2.76)	0.00	<b>LLSI</b>	1.47 (1.13 – 1.92)	0.00
<i>Any disability</i>	1.30 (0.87 – 1.94)	0.20	<i>Any disability</i>	1.41 (1.03 – 1.94)	0.03
<i>General Health (p&lt;0.001)</i>					
Good	1.00		Good	1.00	
Fairly Good	2.04 (1.58 – 2.63)	0.00	Fairly Good	1.97 (1.58 – 2.46)	0.00
Not Good	3.70 (2.48 – 5.53)	0.00	Not Good	3.87 (2.84 – 5.28)	0.00
<b>Socio-economic Factors</b>					
<b>No Qualification</b>	1.04 (0.81 – 1.33)	0.77	<b>No Qualification</b>	0.74 (0.59 – 0.93)	0.01
<i>Household Income (p=0.04)</i>					
Wealthier	1.00		<i>Household Income (p=0.80)</i>	1.00	
Wealthy	1.02 (0.74 – 1.41)	0.89	Wealthier	0.96 (0.71 – 1.29)	0.78
Average	0.82 (0.58 – 1.16)	0.25	Wealthy	0.99 (0.74 – 1.34)	0.95
Poor	0.74 (0.52 – 1.06)	0.10	Average	0.93 (0.68 – 1.26)	0.63
Poorer	0.55 (0.35 – 0.86)	0.01	Poor	0.82 (0.57 – 1.16)	0.26
<b>Social Factors</b>					
<i>Perceived social support (p=0.44)</i>					
No lack	1.00		<i>Perceived social support (p=0.07)</i>	1.00	
Some lack	1.04 (0.81 – 1.33)	0.76	No lack	0.96 (0.77 – 1.18)	0.68
Severe lack	0.85 (0.63 – 1.15)	0.29	Some lack	0.71 (0.53 – 0.95)	0.02
<b>Area Characteristics</b>					
<i>Board (p=0.91)</i>					
EHSSB	1.00		<i>Board (p=0.01)</i>	1.00	
NHSSB	0.91 (0.67 – 1.24)	0.55	EHSSB	1.14 (0.88 – 1.49)	0.31
SHSSB	0.95 (0.70 – 1.28)	0.72	NHSSB	1.18 (0.92 – 1.53)	0.19
WHSSB	0.90 (0.66 – 1.24)	0.53	SHSSB	0.77 (0.59 – 1.00)	0.05
Baseline Odds	0.315			0.341	

**Table 7.32(b) Logistic regression models for Outpatient attendance for men and women\***

		Men					Women				
		Model 1	Model 2	Model 3	Model 4	Model 5	Model 1	Model 2	Model 3	Model 4	Model 5
<i>Demographic Factors</i>											
	<i>Age</i>										
	16-44	<b>1.00</b>	1.00	1.00	<b>1.00</b>	<b>1.00</b>	1.00	<b>1.00</b>	1.00	<b>1.00</b>	<b>1.00</b>
	45-64	<b>1.33</b>	0.87	0.84	0.86	0.86	1.17	0.87	0.95	0.90	0.89
	65+	<b>1.50</b>	<b>0.72</b>	<b>0.69</b>	<b>0.64</b>	<b>0.63</b>	<b>1.27</b>	<b>0.66</b>	<b>0.74</b>	<b>0.69</b>	<b>0.67</b>
<b>Health Factors</b>											
	LLSI		<b>1.92</b>	<b>2.12</b>	<b>2.02</b>	<b>2.02</b>		<b>1.32</b>	<b>1.39</b>	<b>1.49</b>	<b>1.47</b>
	Any disability		1.30	1.24	1.30	1.30		<b>1.51</b>	<b>1.48</b>	<b>1.39</b>	<b>1.41</b>
	General Health										
	Good		<b>1.00</b>	<b>1.00</b>	<b>1.00</b>	<b>1.00</b>		<b>1.00</b>	<b>1.00</b>	<b>1.00</b>	<b>1.00</b>
	Fairly Good		<b>1.93</b>	<b>2.03</b>	<b>2.04</b>	<b>2.04</b>		<b>1.82</b>	<b>1.96</b>	<b>1.94</b>	<b>1.97</b>
	Not Good		<b>3.46</b>	<b>3.69</b>	<b>3.71</b>	<b>3.70</b>		<b>3.30</b>	<b>3.77</b>	<b>3.75</b>	<b>3.87</b>
<b>Socio-economic Factors</b>											
	<i>No Qualification</i>			0.99	1.03	1.04			<b>0.73</b>	<b>0.73</b>	<b>0.74</b>
	<i>Household Income</i>										
	Wealthier			<b>1.00</b>	<b>1.00</b>	<b>1.00</b>		1.00	1.00	1.00	
	Wealthy			0.89	1.02	1.02		0.95	0.96	0.96	
	Average			0.78	0.81	0.82		0.94	0.99	0.99	
	Poor			<b>0.66</b>	0.74	0.74		0.85	0.91	0.93	
	Poorer			<b>0.54</b>	<b>0.55</b>	<b>0.55</b>		0.77	0.79	0.82	
<b>Social Factors</b>											
	<i>Perceived social support</i>										
	No lack				1.00	1.00				1.00	1.00
	Some lack				1.04	1.04				0.95	0.96
	Severe lack				0.85	0.85				<b>0.71</b>	<b>0.71</b>
<b>Area Characteristics</b>											
	<i>Board</i>										
	EHSSB					1.00					<b>1.00</b>
	NHSSB					0.91					1.14
	SHSSB					0.95					1.18
	WHSSB					0.90					<b>0.77</b>
	Baseline Odds	0.351	0.237	0.289	0.297	0.315	0.431	0.287	0.330	0.351	0.341

\* Numbers in bold represent odds which are significant at p<0.05

**Table 7.33(a) Final logistic regression model for being an inpatient for men and women**

	Men		Women	
	Odds ratio (95% Confidence Intervals)	P-value	Odds ratio (95% Confidence Intervals)	P-value
<i>Demographic Factors</i>				
<i>Age (p&lt;0.01)</i>				
16-44	1.00		16-44	1.00
45-64	1.07 (0.70 – 1.64)	0.74	45-64	0.46 (0.34 – 0.64) 0.00
65+	1.94 (1.24 – 3.02)	0.00	65+	0.53 (0.38 – 0.75) 0.00
<i>Denomination (p=0.02)</i>				
Protestant	1.00		<b>Protestant</b>	<b>1.00</b>
Catholic	1.51 (1.07 – 2.12)		<b>Catholic</b>	1.06 (0.83 – 1.35)
<b>Health Factors</b>				
Any disability	1.56 (1.00 – 2.43)	0.05	Any disability	1.41 (0.99 – 2.00) 0.06
<i>General Health (p&lt;0.01)</i>				
Good	1.00		Good	1.00
Fairly Good	2.13 (1.37 – 3.02)	0.00	Fairly Good	1.44 (1.06 – 1.95) 0.02
Not Good	7.39 (4.52 – 12.08)	0.00	Not Good	4.57 (3.23 – 6.46) 0.00
<b>Social Factors</b>				
<i>Perceived social support (p=0.14)</i>				
No lack	1.00		No lack	1.00
Some lack	1.15 (0.79 – 1.67)	0.46	Some lack	0.92 (0.70 – 1.21) 0.54
Severe lack	0.68 (0.42 – 1.10)	0.12	Severe lack	0.57 (0.38 – 0.86) 0.01
<hr/>				
Baseline Odds	0.033			0.129

**Table 7.33(b) Logistic regression models for being an inpatient for men and women\***

	Men			Women		
	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3
<i>Demographic Factors</i>						
<i>Age</i>						
16-44	<b>1.00</b>	<b>1.00</b>	<b>1.00</b>	<b>1.00</b>	<b>1.00</b>	<b>1.00</b>
45-64	<b>1.78</b>	1.06	1.07	<b>0.70</b>	<b>0.50</b>	<b>0.46</b>
65+	<b>3.87</b>	<b>1.88</b>	<b>1.94</b>	1.05	<b>0.57</b>	<b>0.53</b>
<i>Denomination</i>						
Protestant			<b>1.00</b>			1.00
Catholic			<b>1.51</b>			1.06
<b>Health Factors</b>						
Any disability		1.45	<b>1.56</b>		<b>1.40</b>	1.41
<i>General Health</i>						
Good		<b>1.00</b>	<b>1.00</b>		<b>1.00</b>	<b>1.00</b>
Fairly Good		<b>2.15</b>	<b>2.13</b>		<b>1.41</b>	<b>1.44</b>
Not Good		<b>7.42</b>	<b>7.39</b>		<b>4.43</b>	<b>4.57</b>
<b>Social Factors</b>						
<i>Perceived social support</i>						
No lack			1.00			<b>1.00</b>
Some lack			1.15			0.92
Severe lack			0.68			<b>0.57</b>
Baseline Odds	0.061	0.037	0.033	0.170	0.117	0.129

\* Numbers in bold represent odds which are significant at p<0.05