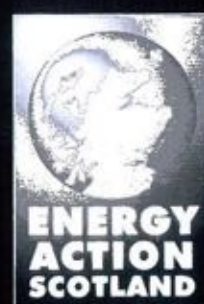


Fuel Poverty and Health in Paisley



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Fuel Poverty and Health in Paisley

**A comparative study of housing conditions, affordable
warmth and health status in west central Scotland**

- Full Report -

**Researched and written by Chris Revie
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Acknowledgements

Energy Action Scotland would like to thank the following people
for their comments on drafts of this report:
Bill Sheldrick, Daniel Prince and the trustees of the Eaga Charitable Trust.

Energy Action Scotland is grateful to the Eaga Charitable Trust
for funding this research.

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Summary of Phase 1

Visiting the doctor

- Most of the symptoms presented by those visiting the two surgeries may be caused by living in a damp or inadequately heated home.
- More than one quarter (27%) of respondents from Ferguslie Park had visited their doctor 10 or more times, while only one-fifth (19%) of those attending the Glasgow Road surgery had visited as frequently.

Fuel use and heating

- Three-quarters of respondents (74%) used gas as their primary fuel; 23% used electricity.
- Almost one third of Ferguslie Park patients (30%) were using electricity, compared to only one in five of those from Glasgow Road (19%).
- The majority (82%) of respondents had some form of gas or electric central heating.
- 13% of all respondents did not have any central heating.

Problems in the home

- More than half (54%) of respondents had one or more of the four problems (draughts, dampness, condensation and mould) in the home.

Income and fuel expenditure

- Two-thirds (67%) of the respondents earned less than half the average weekly net income in Scotland.
- Just under half the sample (49%) spent between £300 and £600 per year on fuel, which is below the average for Scotland (£732.68 according to the 1996/97 Family Expenditure Survey).
- More than one in four (28%) of those in the lowest income group spent between £600 and £900 a year, which is between 12 and 17% of their income. In comparison, according to the Family Expenditure Survey, the average family spent 4.3% of their gross income on fuel.

Income and ownership of central heating

- People in the two lowest income groups were less likely to have central heating than those with an income above £150 per week: 16% of respondents earning less £100 per week and 16% of those earning between £100 and 150 per week did not have any form of central heating.

Income and visits to the doctor

- Around one quarter of respondents in the two lowest income groups said they had visited their doctor on 10 or more occasions in the previous year. For those in the two top income brackets, less than one in five did so.

House conditions and visits to the doctor

- Two-thirds of the respondents (67%) who had not been to see their GP in the previous 12 months did not have any of the four house condition problems (draughts, damp, condensation and mould).
- 40% of respondents who reported all four problems in the home went to see their doctor 10 or more times in the last year.
- Nearly three-quarters (72%) of those with full central heating and who said they used it had either not visited their doctor in the last year or had only been between one and three times.
- Three times as many people without central heating had been to their doctor 10 or more times (27%), compared with those using central heating (9%).
- 95% of those without central heating had been to the doctor on one or more occasions.
- An analysis of the number of visits to the doctor and ownership of central heating in the lowest income group shows a clear difference between the number of visits and the presence of central heating. Just over half (52%) of those without central heating had visited the surgery on at least seven occasions compared with one third of those with central heating.

Summary of Phase 2

Economic circumstances

- Only one quarter of the sample (28%) were in employment.
- At least four out of five households (82%) had an income below the average net weekly income in Scotland (£305.61); incomes were higher among Glasgow Road patients than Ferguslie Park households.
- Four out of five households were in receipt of one or more benefits under which they could be entitled to a grant from the Home Energy Efficiency Scheme.

Accommodation

- More than three-quarter of respondents (77%) lived in public-sector housing.

Fuel use and heating

- More than one third of the sample (39%) did not have central heating.
- Six in ten households (61%) used gas central heating in their homes. Almost one in five (19%) had electric storage heaters.
- Almost one-third of respondents (32%) heated less than 50% of their home.
- Four out of ten households were unable to use their heating as much as they would have liked. Six out of ten (60%) found it expensive to heat their home. Three-quarters of Ferguslie Park respondents stated that this was the case.

Paying for fuel

- Over half the sample paid for their electricity through payment methods associated with fuel debt. Four in ten households (42%) paid for their electricity with a prepayment meter; another one in ten (9%) were on Fuel Direct. By comparison, only 22% of ScottishPower customers pay using a prepayment meter, while less than 1% pay by Fuel Direct.
- One third of the sample paid for their gas using either a prepayment meter (24%), or through Fuel Direct (8%). In comparison, only 7% of UK gas customers have a prepayment meter.
- Over one third of the sample (38%) reportedly paid £900 or more a year on fuel, based on participants' estimates.

Problems in the home

- More than half of respondents (57%) reported one or more damp-related problem in the home. Three-quarters of Ferguslie Park patients (74%) reported dampness, compared with only four in ten respondents (40%) attending Glasgow Road.
- More than three-quarters of the sample (77%) reported some other kind of problem with their home, and just under half (49%) reported both dampness and other kinds of problems.

House conditions and health

- Almost half of respondents who had damp-related problems in the home felt that their health or the health of a member of the family was affected. Households which said that their health was affected reported more damp-related problems, on average, than those who said their health was not affected.

Lifestyle

- Almost three-quarters of households in the survey included someone who smoked. Smoking was more widespread among Ferguslie Park households (87%) than among those who attended the Glasgow Road surgery (60%).
- Only half (50%) of households reported that they ate fresh fruit or vegetables every day.

Health

- Over one quarter of respondents (26%) rated themselves as having poor or very poor health, as did 29% of partners and 32% of other adults who lived in the household. Children's reported health was better, with one in ten (11%) rated as having poor or very poor health.
- More than one quarter of households (26%) included someone with asthma, while 39% had someone with some other long-term illness.
- Of respondents of working age who had not classified themselves as sick/disabled, more than one quarter (27%) had been off work for more than two weeks due to illness in the previous 12 months.
- One quarter of the children in the survey were reported as having been off school for more than two weeks in the last 12 months.

Use of health services

- More than six in ten household occupants had visited their doctor on 10 or more occasions over the previous 12 months.

- Half of the households questioned had had a doctor called out to the home, one quarter (24%) on more than one occasion in the previous year.
- Four in ten households included someone who attended some form of outpatient clinic on a regular basis.
- Over one third of households (37%) included someone who had been admitted to hospital in the previous 12 months.

Summary of energy audits

- The average National Home Energy Rating (NHER) score was 5.1, higher than the Scottish average of 4.1, 13% scored 2 or less, 68% scored between 3 and 6, and 19% scored 7 or more.
- Almost one third of Ferguslie Park homes (31%) scored 7 or more on the NHER scale, compared with only 8% of Glasgow Road homes.
- Average predicted annual expenditure on fuel was £642.65. In 69% of cases households were predicted to be spending less than was required to heat the home to the standard heating regime - 8 hours a day during the week, 16 hours a day at weekends to a temperature of 21 degrees centigrade in the living room and 18 degrees centigrade in the rest of the dwelling.

Summary of analysis and discussion

Fuel poverty and housing conditions

- 52% of the sample would be unable to heat their home to the standard heating regime for less than 10% of their income. Based on participants' reported expenditure, 50% of the sample were not heating their home for less than 10% of their income.
- Income has a strong effect on whether a household can be said to have affordable warmth - defined as not more than 10% of income spent on fuel. Over three-quarters (76%) of those households with an income of between £51 and £100 a week were predicted to be spending more than 10% of their income on fuel. By comparison, no one with a weekly income of £200 or more was spending more than 9% of their income on fuel. Households in the lower income bands were also more likely to report that they found it expensive to heat their home.
- Due to confounding variables, the data has not produced any significant correlations between socio-economic circumstances, the energy efficiency of a property or the condition of the home, except for a statistically significant correlation between the number of damp-related problems reported and the size of the household, and that retired respondents were more likely to report damp-related problems than other groups. The investment made in the housing stock in Ferguslie Park in recent years is reflected in the fact that households which had moved home in the last five years were living in homes that had higher energy efficiency scores than those who had lived in their home for five years or more. Respondents who had lived in their home for ten or more years lived in the least energy-efficient properties (NHER 4.5).
- The NHER scores of properties in the survey is positively correlated with reported expenditure by participants. This could be due to homes with higher NHER scores having gas central heating, a majority of which heat all of their home. The highest reported average expenditure on fuel is found in households which use electric storage heaters. This suggested that the correlation between reported expenditure and NHER scores could be even stronger if households with storage heaters were excluded. However, this was not found to be the case.
- Another reason for the higher expenditure reported by households living in more energy-efficient properties may be the extent of fuel debt. Comparing the average NHER scores of homes using payment methods associated with fuel debt - prepayment meters and Fuel Direct - it was found that NHER scores were higher than for households who paid either quarterly or through direct debit. This was the case for both gas and electricity consumers.

- Participants' reported expenditure on fuel is not significantly correlated with the number of damp-related problems present in the home. However, respondents who said their home felt cold, or felt that their home was cold *and* said their homes had damp-related problems, reported higher levels of expenditure on fuel: 25% more in a cold home and 38% in a cold, damp home.

Energy efficiency and housing conditions

- The relative energy efficiency of a property was linked to the presence of dampness and whether the participants reported that their home felt cold, had windows that did not fit properly (and therefore were at risk of draughts), or that the home was in a poor state of repair. There was a statistically significant negative correlation ($r = -0.37$) between the NHER score and the number of damp-related problems reported by participants, indicating fewer problems being present as NHER scores rise.

- The average NHER score of a home that was reported to be cold was 4.5 compared with 5.2 for a non-cold home. For homes that were cold and had dampness the difference was even greater when compared with homes where these problems were absent: 4.1 against 5.7. In homes which the participants said had badly-fitting windows, the average NHER was 4.3 compared with 5.3 in homes where the problem was not reported. In homes reported to be in a poor state of repair, the NHER was 4.6, compared with 5.1 where this was not the case.

Health and socio-economic conditions

- The number of symptoms which members of the household reported as having experienced in the last 12 months was used as an indicator of the relative health of the household. Unsurprisingly, the number of symptoms reported by a household was strongly correlated with the size of the household. Yet when the average number of symptoms reported by household members was analysed, the opposite relationship occurred, in that individuals in larger households suffered fewer symptoms than an individual living in a smaller household or who was living alone. However, because of the way the data was collected, the number of symptoms experienced by children may be under-reported. This means that there could be no real difference in the number of symptoms experienced per capita.
- The income level of the household appears to have a significant impact on the relative health of households in the survey. There is a statistically significant negative correlation between the average number of symptoms experienced by a family member and the household income band.
- However, the correlation coefficient for the number of symptoms and the percentage of income spent on fuel is not significant, suggesting that affordable warmth is not a significant factor in the overall health of respondents.

Health and housing conditions

- There is a link between the presence of dampness and the overall level of health of participating households. The number of damp-related problems was positively correlated with the number of symptoms reported by households. When a correlation is made on a per capita basis the correlation drops to a statistically insignificant level. However, it is still opposite to that found between the average number of symptoms per family member and household size. In other words, the presence of dampness reduces the overall level of health experienced by someone living in a large household more than it influences the health of someone living in a smaller household.

- The presence of dampness in the home is linked to respondents reporting more cases of cold/flu duplication, aches and pains, nausea and vomiting and mental health symptoms - feeling anxious/worried or low/depressed.

- Children in damp homes appear to be more prone to respiratory conditions. There was almost four times the reported rate of breathlessness and more than double the reported rate of asthma cases among children in homes with dampness, than in homes without dampness.

- Respondents and children living in homes that were cold or draughty (i.e. the windows did not fit properly) were much less likely to report respiratory problems, such as asthma or breathing difficulties, although the reported rate of a persistent cough was higher.

- Members of a household living in a damp home who visit their doctor are only slightly more likely to do so more frequently than those living in damp-free homes. Seven out of ten (68%) households with damp had visited their doctor on more than 10 occasions in the previous 12 months, compared with six out of ten (58%) damp-free households.

- Members of every household which had reported that their home was cold had visited their GP on at least four occasions in the previous year, compared with 85% of household members which did not report a cold home.

- The head GP at the Ferguslie Park surgery did not feel that the practice had become less busy since substantial investment had been made in the housing stock of the area. However, he felt that the still high level of deprivation and the way that the surgery operated meant that patients frequently came to the doctor, often for minor complaints. By contrast, the head GP of the Glasgow Road surgery felt strongly that the improvements in housing in Paisley had reduced the workload of his practice, particularly the number of house calls made by GPs, although he acknowledged that this was partly due to doctors encouraging patients to attend the surgery rather than asking for a home visit.

Socio-economic factors and use of health services

- Household size is not linked to the frequency of visits made to the doctor. Two-person households went far more frequently than other sizes of family, with 82% seeing a GP on 10 or more occasions.

- Three-quarters of households which included adults who smoked had visited the doctor at least seven times in the preceding 12 months, compared with only two-thirds of households where no one smoked.

Lifestyle and health

- Households which do not eat fresh fruit or vegetables more than once a week are considerably more likely to visit their GP: 92% of these household members had visited their doctor 10 or more times. This compared with only 60% of those who reported eating fresh fruit and vegetables every day.

Time off school

- Children who spent more than one week off school in the previous year due to illness lived in households which reported twice as many damp-related problems on average (2.9) as children who had been absent for one week or less (1.4).

Differences between the two surgery groups

- The percentage of Ferguslie Park households which could be classified as not having affordable warmth (69%) was more than four times greater than those households attending the Glasgow Road surgery.

- The reported incidence of dampness was also higher among Ferguslie Park households (74%) than Glasgow Road households (40%). There was no significant difference in the incidence of cold, badly-fitting windows, or homes in a poor state of repair.

- Ferguslie Park respondents tended to give themselves or their families a poorer health rating than those attending Glasgow Road, yet Glasgow Road patients reported more symptoms.

The cost to the health services of living in a damp home

- Using cost data supplied by Argyll and Clyde health board, the cost of treating households has been calculated using phase 1 respondents. A participant in the phase 1 survey living in a home which they reported as having condensation, damp and mould was estimated to cost GP services an additional £263.25 a year (excluding home visits).

Main Report

1. Introduction

In December 1997, Energy Action Scotland (EAS) received a grant from the Eaga Charitable Trust to conduct a survey into fuel poverty, health and housing in the West of Scotland. Respondents were drawn from patients attending two surgeries, Glasgow Road and Ferguslie Park in Paisley, between January and April 1998.

Detailed home surveys were carried out between March and July 1998, followed by energy audits conducted between June and October 1998. In total, 95 households (comprising 267 people) took part in the home questionnaires, 47 attended the Ferguslie Park surgery and 48 went to the Glasgow Road surgery which drew patients from all over Paisley (Ferguslie Park was one of four Partnership areas designated under the New Life for Urban Scotland initiatives in the late 1980s). From this sample, 72 households, drawn equally from the two surgeries, had an energy audit on their home.

This report discusses the results of the initial surgery questionnaire, the home survey, together with the results of energy audits carried out on the properties of those who took part in the survey.

1.1 Purpose of study

The research has set out to examine whether there is a link between energy-inefficient housing, fuel poverty and the use of health services, and if possible to provide some estimate of the additional cost to the NHS of treating patients who live in poor quality housing.

2. Methodology

In phase 1, two surgeries in Paisley, at Glasgow Road and Ferguslie Park, agreed to let researchers from EAS hand out a short two-page questionnaire to patients visiting the surgeries. The questionnaires were handed out during six one-week periods between February and April 1998, following spells of cold weather. Questions were asked covering four subjects: health and visits to the doctor, house conditions, the presence of particular problems related to lack of warmth and income and fuel expenditure. Patients had no prior knowledge of the questionnaire before visiting the surgery and the majority of questionnaires were filled in while waiting to see a doctor, although respondents were given the option of completing the forms at home and then returning them to EAS. There were 444 questionnaires completed, of which 259 (58%) were from the Glasgow

Road surgery and 185 (42 %) were from patients attending Ferguslie Park. The results are described in Chapter 3.

Respondents were asked to provide their name and address if they wished to take part in a further, more detailed questionnaire at home. They were informed that anyone agreeing to take part would have a free energy audit of their home carried out. In total, 444 questionnaires were completed, of which some 183 respondents agreed to take part in the survey. From these, 135 households were identified as candidates for interview in phase 2 because a member had stated that they had been to see their doctor about one or more conditions which previous research had shown as being linked to living in a home which was either damp or inadequately warm.

Where possible, interview times were arranged in advance, although the interviewer also made a number of 'on spec' visits. In total, 95 phase 2 questionnaires were completed (chapters 4 to 13). Participating households which the interviewer thought might be eligible for a grant under the Home Energy Efficiency Scheme (HEES) were given a leaflet on how to apply. In addition, participants who reported difficulties or problems with heating their home were also given the phone number of the Energy Advice Unit at Renfrewshire Council.

The 95 participants were then contacted again to arrange for a visit from an energy auditor. From these participants the team of energy auditors were able to make contact with and visit 72 households. The results from the energy audits (chapter 14) were provided for participants, together with a list of appropriate measures which could be taken to improve the energy efficiency of their home.

The results from the questionnaires and the energy audits were then analysed to examine any links between the relative energy efficiency of the property, the economic status of the households and the use of medical services (chapters 16 to 26). Where possible, the data sets were correlated on Microsoft's Excel package, using the following equation:

$$r_{x,y} = \frac{\text{COV}(X,Y)}{\sigma_x \sigma_y}$$

where $r = 1$ is a positive correlation, $r = -1$ is a negative correlation, and $r = 0$ means that due to confounding variables the data has not produced any significant correlations. Unless otherwise stated, correlations are calculated using 72 pairs of data. A significance level of 1% is used (i.e. there is a one in a 100 chance that the result is random). This means any coefficient greater than + or - 0.302 is significant.

Interviews were then carried out with doctors in the participating surgeries, as well as with council officials who worked with the public on energy advice and housing issues. Their perceptions were then compared with the results of the analysis (chapter 27).

Lastly, using the data from the questionnaires and health cost data provided by Argyll and Clyde Health Board, an estimate of the relative cost to the NHS of treating the participants was calculated (chapter 28).

2.1 Scottish House Condition Survey

The 1996 Scottish House Condition Survey (SHCS) provides a picture of the state of the homes throughout Scotland, and is used in this report as a benchmark against which to compare the housing data in this study, where applicable. Other data on Renfrewshire and Ferguslie Park as a particular area was provided by the local council.

Phase 1 Results

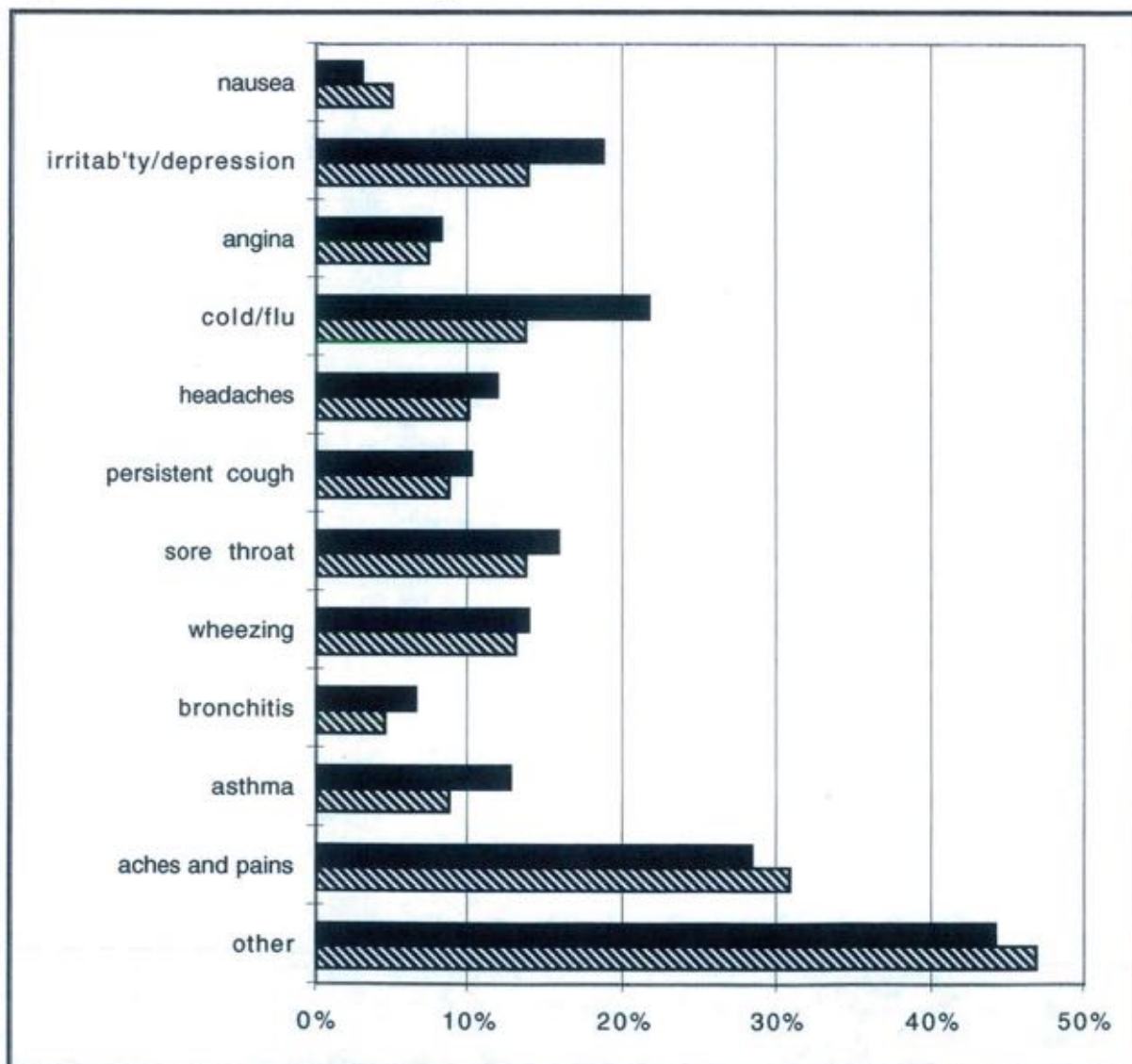
3. Phase 1 results

3.1 Health and visits to the doctor

3.1.1 Reason for visiting the doctor

Respondents were asked why they had come to see the doctor on the day of their visit and the reasons for prior visits (Figure 3.1, current visits shown in black and previous visits shown in shaded). A list of specific symptoms and complaints was provided, based upon existing literature about illnesses and conditions connected to cold or damp housing (although the respondents were not informed of this).

Figure 3.1: Reason for visiting the doctor

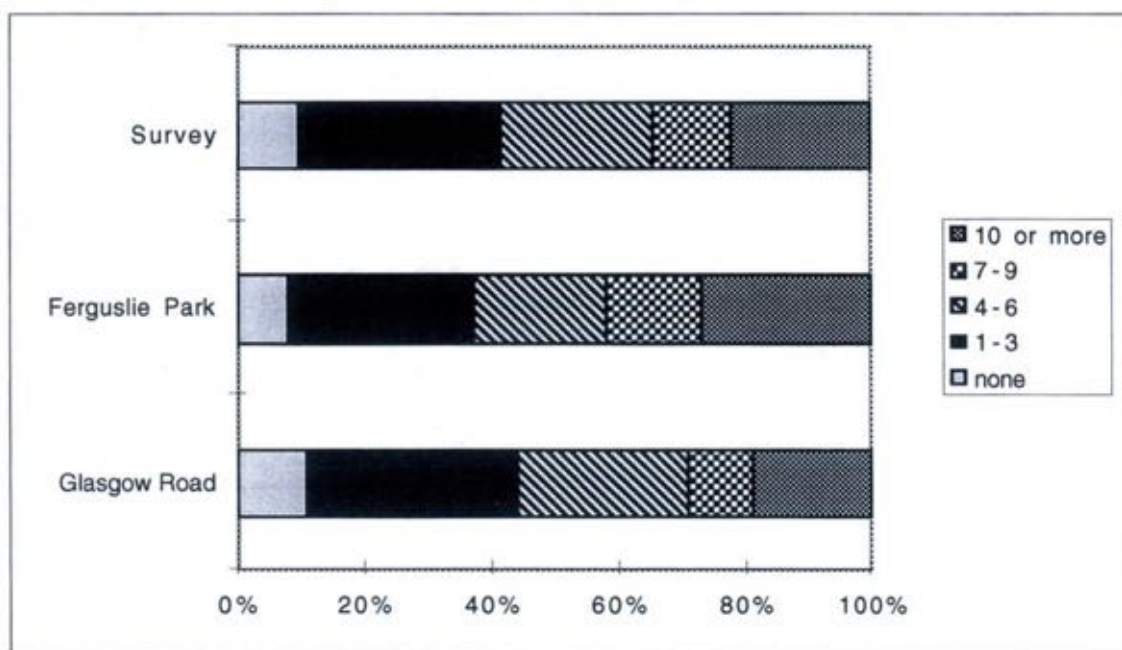


The percentages in this figure refer to the number of patients who reported a given symptom: in many cases patients visited the surgery with more than one complaint. The most common of the specified symptoms were aches and pains, irritability/depression, colds and flu. In total, 777 symptoms were reported by patients visiting the surgery on the day the questionnaire was completed, of which 569 (73%) were symptoms which could be linked to cold temperatures or damp-related problems in the home.

3.1.2 Number of previous visits to the doctor

Aside from their present visit, respondents were asked how many times they had been to see a doctor in the last 12 months (Figure 3.2). On average, patients had been to see their doctor 6.12 times in the last year. In comparison, figures for the year ending March 1998 show on average people made only 3.08 visits to the doctor.¹

Figure 3.2: Number of previous visits to a doctor



People attending the Ferguslie Park surgery made more visits to their doctor than those from Glasgow Road. One in six (15%) had visited their doctor 7-9 times in the last 12 months and one quarter (27%) had been 10 or more times. For Glasgow Road, the corresponding figures were 10% and 19% (one fifth) respectively. People attending the Glasgow Road surgery were more likely to have visited their doctor only once or not at all in the last year. This was the case for almost one in five (17%) patients from Glasgow Road, compared with one in eight (13%) respondents from Ferguslie.

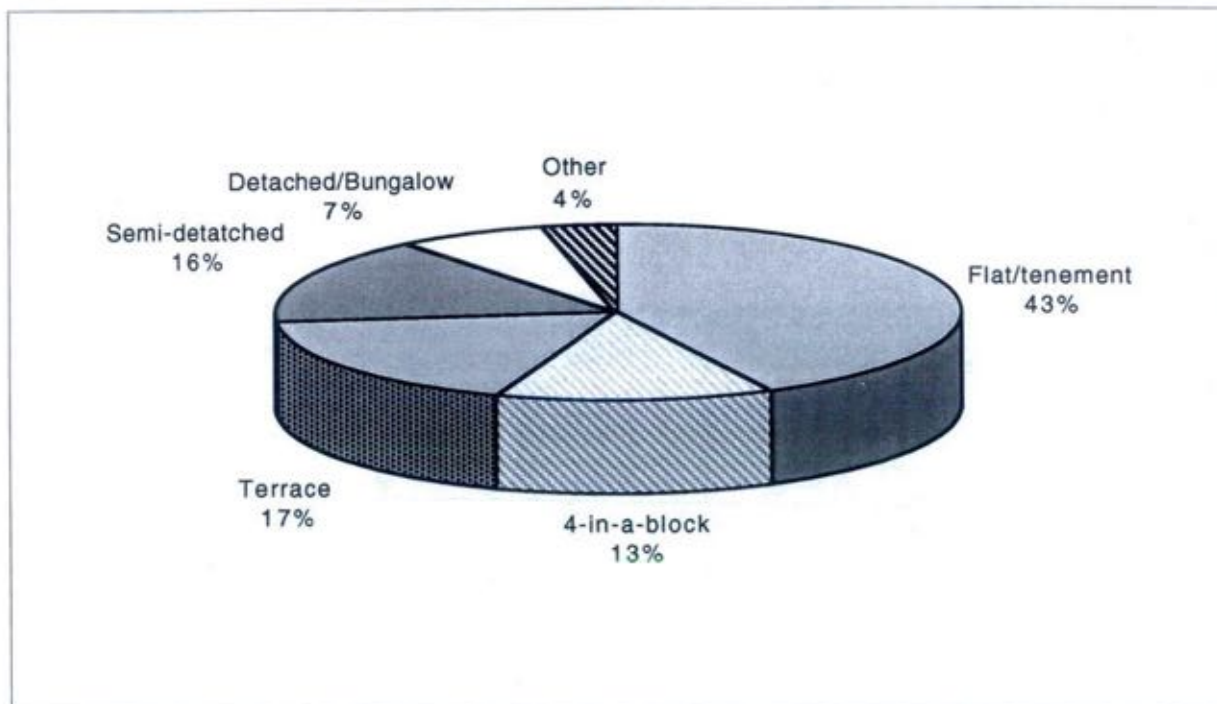
¹Source: Scottish Health Statistics 1998, online database.

3.2 Questions about the house

3.2.1 Housing type

Flats were the most common type of dwelling. People attending the Glasgow Road surgery were more likely to live in a terraced (21%) or semi-detached house (18%) than those who went to the Ferguslie Park surgery (12% and 14% respectively). The second most common type of dwelling, after flats, for those attending the Ferguslie Park surgery was a four-in-a-block (16%), whereas only 11% of Glasgow Road respondents lived in this type of home.

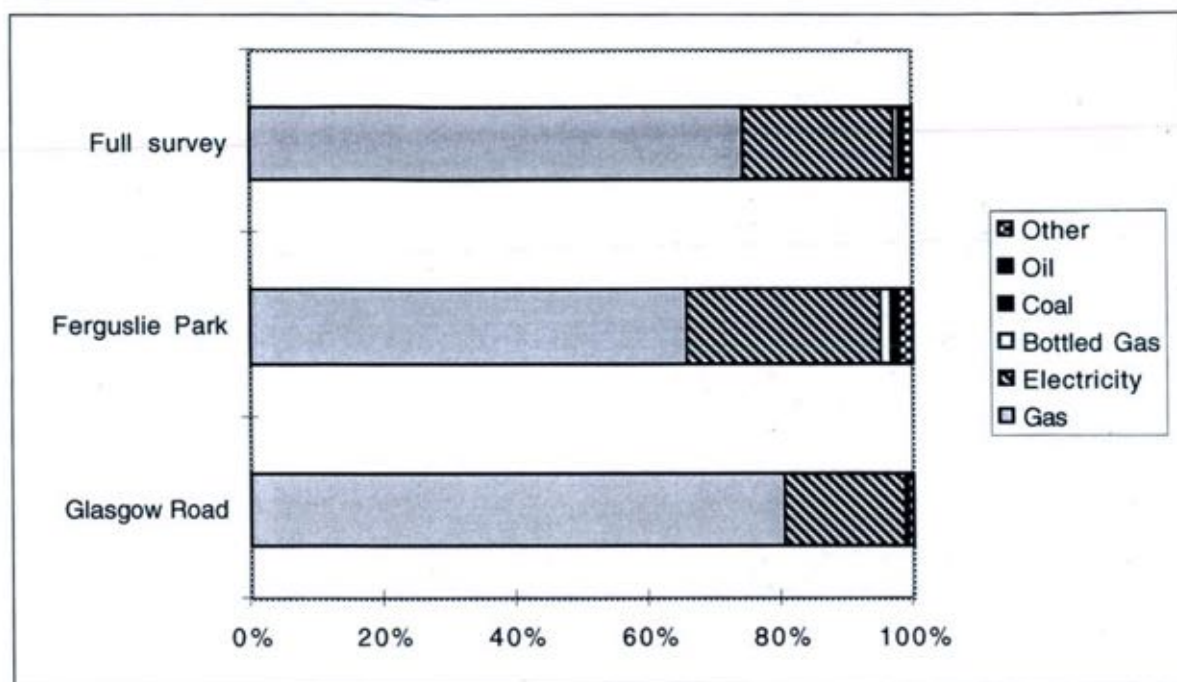
Figure 3.3: Preliminary survey housing type



3.2.2 Fuel use

Gas was the most common fuel used for heating, with three-quarters (74%) of respondents saying it was their primary fuel. Most of the others (23%) used electricity and the remaining 2% used either coal/solid fuel, bottled gas or oil.

Figure 3.4: Primary fuel type



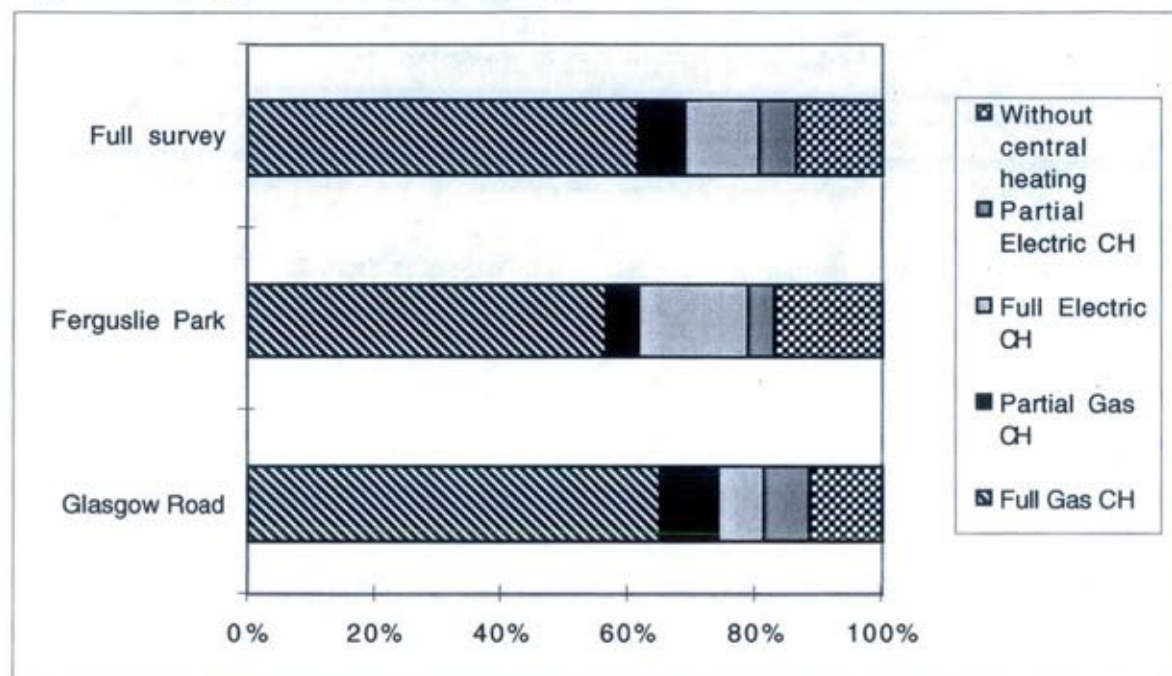
However, there were significant differences between those attending the two surgeries, with almost one third of those from Ferguslie Park using electricity (30%) compared to only one in five respondents from Glasgow Road (19%).

3.2.3 Central heating

Most of the respondents in the survey (82%) said they had either gas or electric central heating, with 13% saying they did not have central heating. (The remaining 5% either said they had some other form of central heating, or did not provide an answer.) There was a difference between the two surgeries: fewer people said that they did not have central heating at Glasgow Road (11%) than at Ferguslie Park surgery (16%).

(Note that the percentages in Figure 3.5 do not add up to 100% because it excludes the 5% who did not provide an answer, or who said that they had some other form of central heating.)

Figure 3.5: Types of central heating



Gas was the most common form of central heating (full and partial), accounting for 66 % of respondents, compared with 17% using electric heating (full and partial).

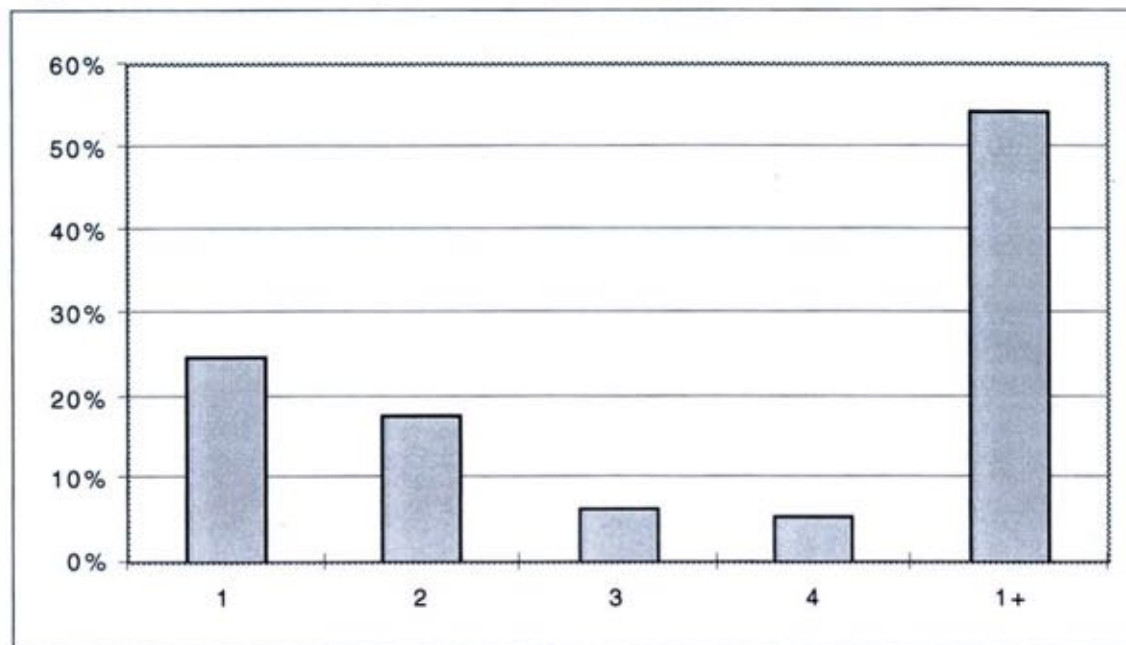
3.2.4 Use of central heating

A small number of respondents (less than 3%) with any kind of central heating said they did not use it. Amongst those with full electric central heating and who attended the Ferguslie Park surgery, the figure was as high as 10% and for those attending Glasgow Road and using partial electric central heating, the figure was 11%. However, these percentages actually represent small numbers of respondents (3 and 2 respectively) and cannot therefore be regarded as statistically significant.

3.3 Problems in the house

In total, 54% of respondents said they had one or more of the four problems (draughts, dampness, condensation and mould) in the home.

Figure 3.6: Number of problems reported by respondents



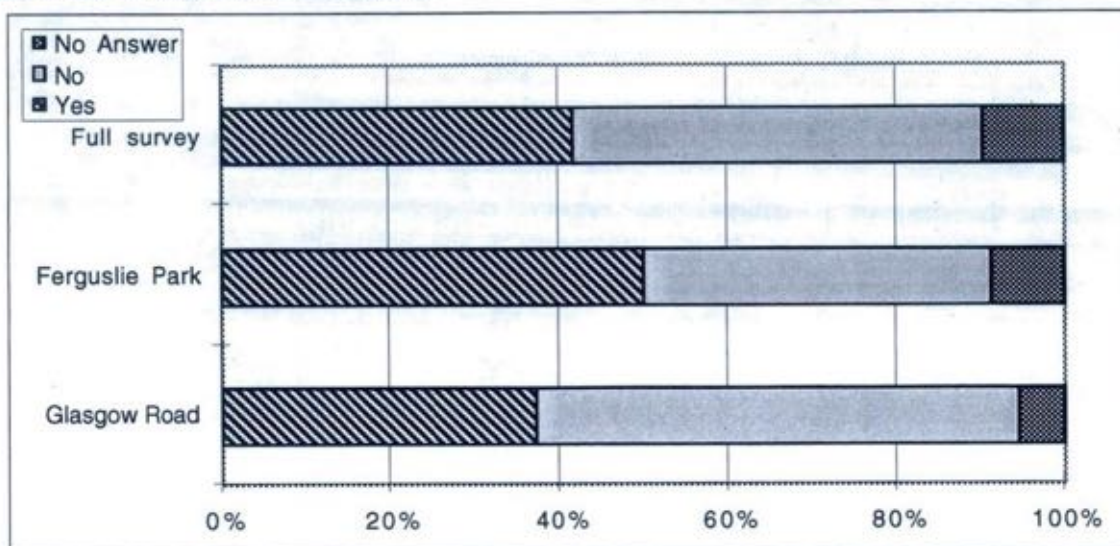
Of those with problems almost half (46%) had only one problem, exactly one third had two of the problems, one in ten (10%) had three of the problems, and those with all four of the problems accounted for 11%.

(Note that the individual analysis of the four problems below are not mutually exclusive. i.e. people reporting draughts in their home may also have dampness, condensation, mould or a combination of these).

3.3.1 Draughts in the home

Out of the four different problems, draughts were the most commonly reported, with 42% of respondents saying their home was draughty (Figure 3.7: Reported draughts). The problem was more common among those attending Ferguslie Park, where almost half (49%) reported a draughty home compared with a third (37%) of Glasgow Road patients.

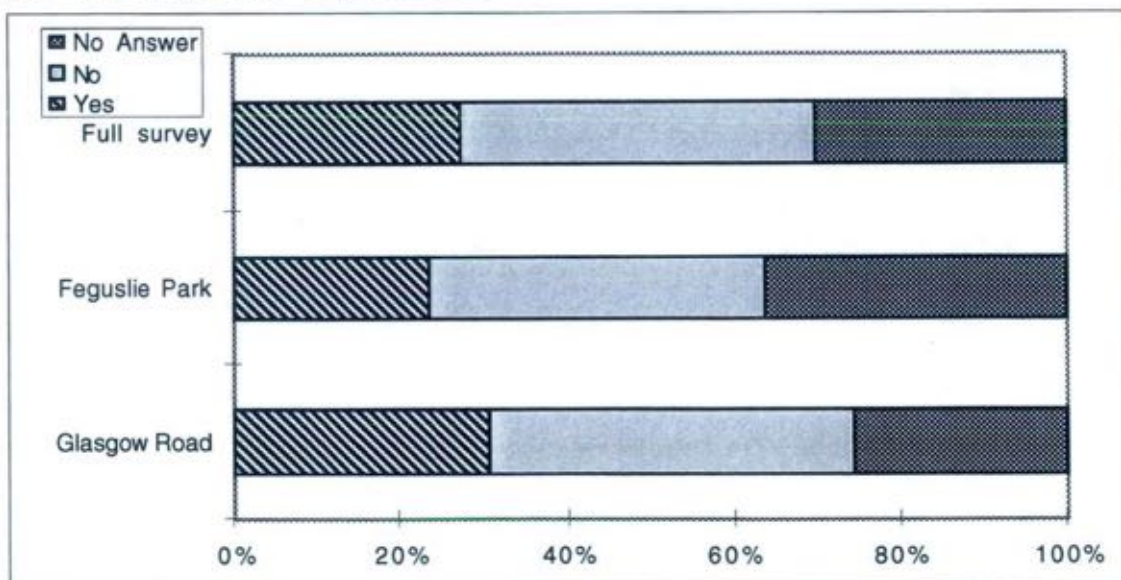
Figure 3.7: Reported draughts



3.3.2 Condensation

Condensation was the next most commonly reported problem, with a quarter of respondents (27%) stating that their homes had condensation (Figure 3.8: Reported condensation). In contrast to other problems, condensation was more prevalent among Glasgow Road patients (31%) than Ferguslie Park patients (23%).

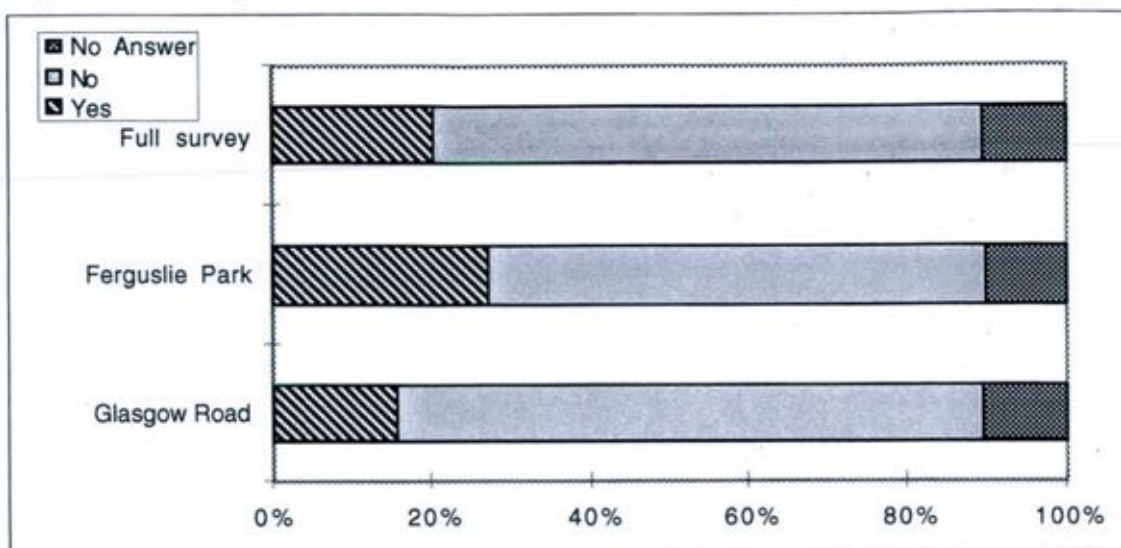
Figure 3.8: Reported condensation



3.3.3 Dampness

Although fewer respondents stated that their homes suffered from dampness, the figure was still significant with one in five (20%) reporting the condition (Figure 3.9: Reported dampness). The incidence of dampness was almost twice as high in the Ferguslie Park surgery as in returns (27%), from patients at Glasgow Road (15%).

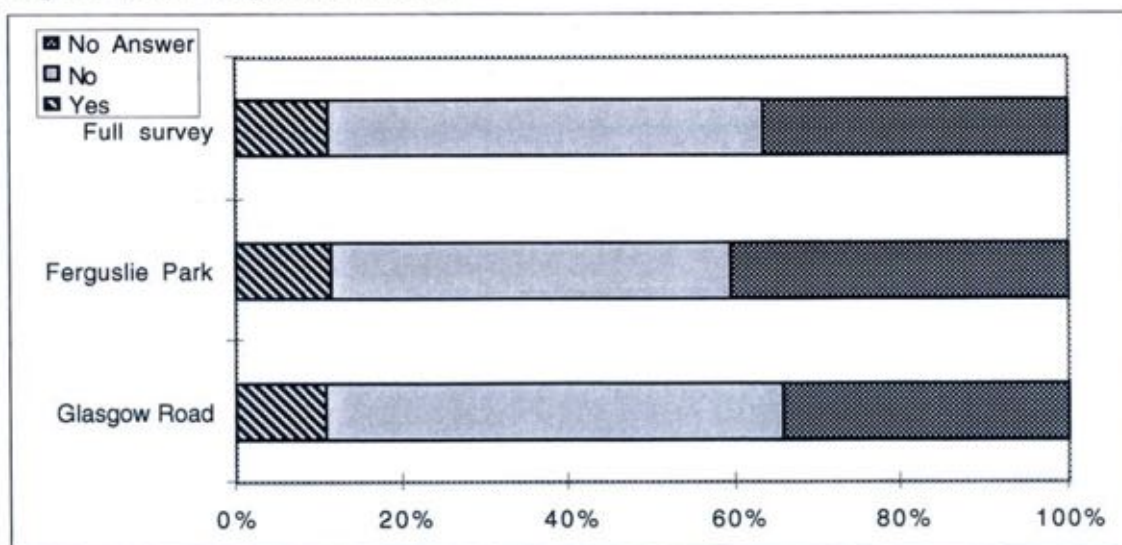
Figure 3.9: Reported dampness



3.3.4 Mould

This was the least common problem and its occurrence was the same at both surgeries (11%) (Figure 3.10: Reported mould).

Figure 3.10: Reported mould

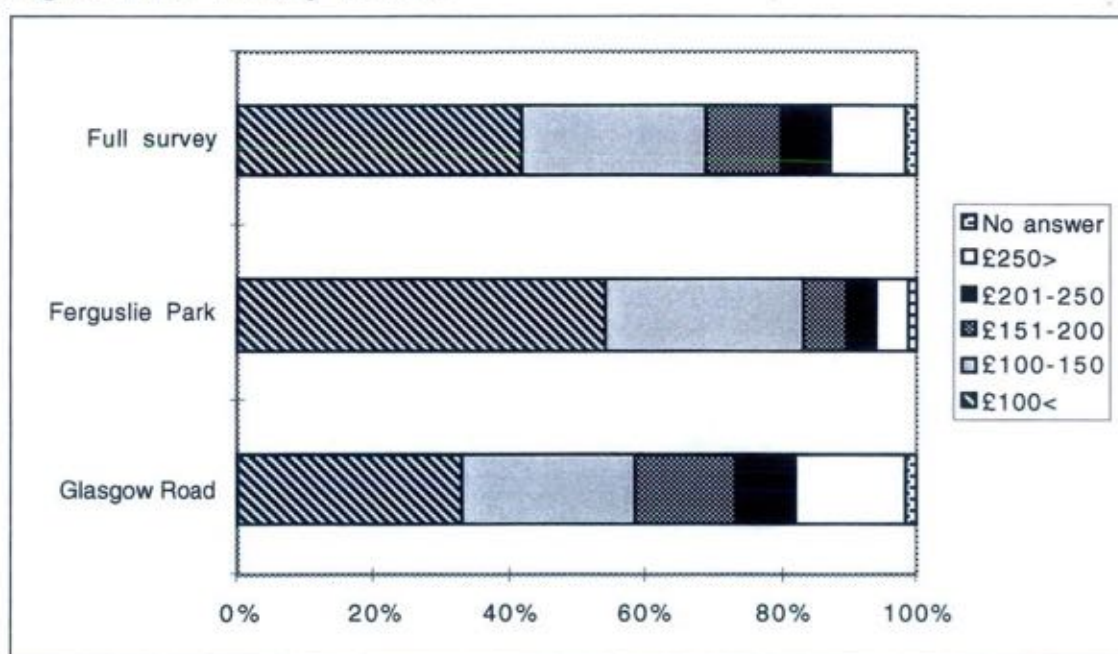


3.4 Income and fuel expenditure

3.4.1 Weekly income

Incomes in the survey were low: 42% of respondents said they had a weekly income of less than £100 (Figure 3.11: Weekly income). A further 27% earned between £100 and £150 per week. Only 18% earned more than £200 per week. By comparison, according to 1996/97 UK Family Expenditure Survey, the average weekly net income in Scotland was £305.61.

Figure 3.11: Weekly income



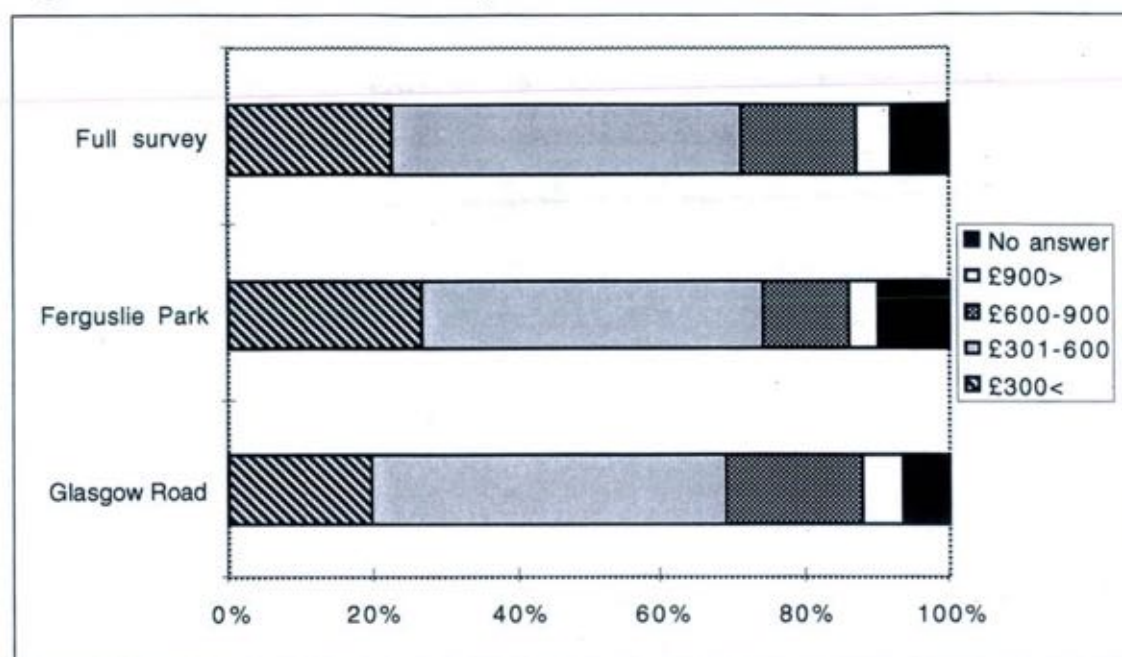
There was a significant difference between the two surgeries. More than half of respondents attending Ferguslie Park earned less than £100 per week compared with one third for Glasgow Road (33%). A quarter of patients from Glasgow Road (25 %) had an income of between £100 and £150, while less than a third (29%) of Ferguslie Park patients earned this amount.

Glasgow Road surgery patients (16%) were four times as likely to have a weekly income of over £250 than Ferguslie Park patients (4 %).

3.4.2 Fuel expenditure

Nearly half of the respondents (49%) estimated that they spent between £300 and £600 a year on fuel (Figure 3.12). A fifth (20%) of those at Glasgow Road surgery spent less than £300, while over a quarter (27%) of respondents from Ferguslie Park surgery spent this amount. In comparison, the 1996/97 UK Family Expenditure Survey shows that average weekly household expenditure on fuel in Scotland was £14.09 (£732.68 per year).

Figure 3.12: Estimated fuel expenditure



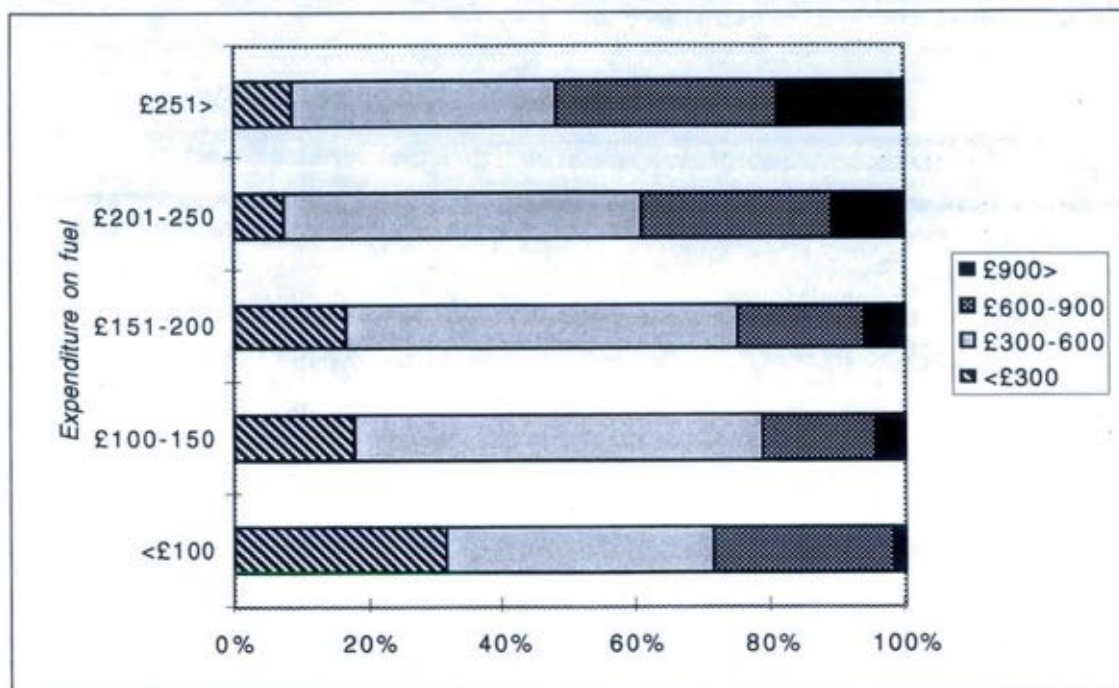
3.5 Income and heating

3.5.1 Fuel expenditure in comparison with income

Figure 3.13 compares reported weekly income with reported expenditure on fuel. The majority of respondents across all income groups spent between £300 and £900 a year on fuel. The percentage spending more than this rises in line with income, so that only three respondents (1.5%) with a weekly income of less than £100 spent more than £900 in a year, while almost one in five of those with weekly incomes in excess of £251 spent this amount on fuel.

More than one in four (28%) of those in the lowest income group spent between £600 and £900 a year, which is between 12% and 17% of their income. In comparison, according to the Family Expenditure Survey, the average family spent 4.3% of their gross income on fuel, and even those in the lowest income category (less than £85 per week gross) spent 9.9% of their income on fuel.

Figure 3.13: Annual fuel expenditure arranged by income group

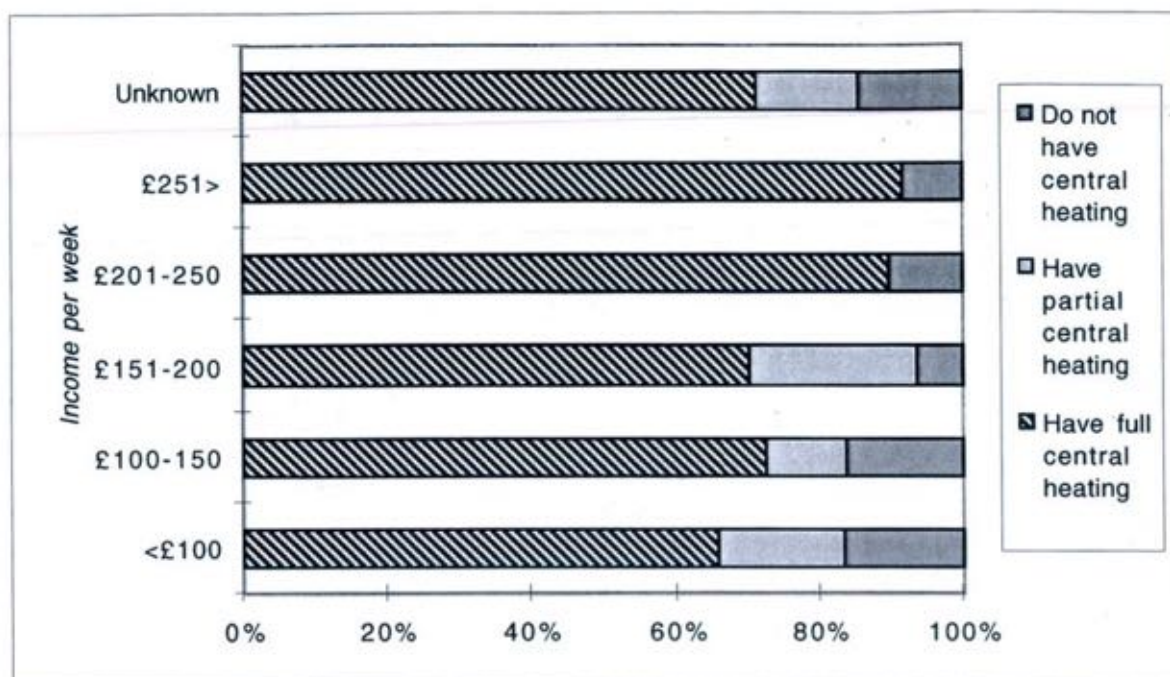


3.5.2 Income and ownership of central heating

Figure 3.14 shows the percentages of each income group which have full or partial central heating (gas or electric) or do not have it at all. People in the two lowest income groups are less likely to have central heating than those with an income above £150 per week: 16% of respondents had an income of less than £100 per week and 16% of those with an income of between £100 and £150 per week do not have any form of central heating. Curiously, the next income group least likely to own central heating are those with an income of between £201 and £250 per week, where 10% of respondents said this was the case. However, there were only 30 respondents in this income group, so it could be a numerical anomaly.

In the two highest income groups (£201-£250 and £251+), respondents had either full central heating or none at all. Partial central heating was most commonly owned among those with an income of between £151 and £200 per week (23% of respondents).

Figure 3.14: Ownership of central heating



3.6 Factors affecting the frequency of surgery visits

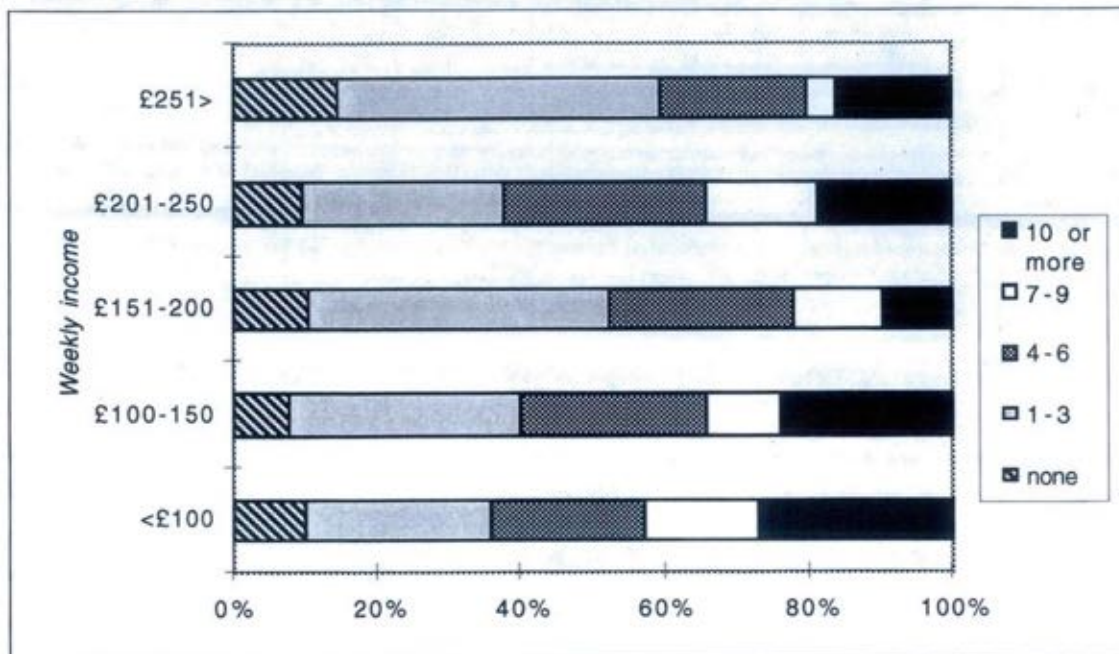
3.6.1 The relationship between income and the number of visits to the surgery

The lower the income the greater the likelihood that a higher number of visits were made to the doctor in the last 12 months (Figure 3.15). Of those respondents in the two lowest weekly income groups (less than £100 or between £100 and £150), around one quarter (27% and 24% respectively) said that they had visited their doctor on 10 or more occasions in the previous year. For those in the top two income brackets (£201-250 and £251>), less than one in five did so (19% and 16% respectively).

However, the relationship between income and visits to the surgery is not a strictly linear one. The results for the middle income groups (people earning between £151 and £200 per week) show that only 10% (i.e. less than in the higher income groups) had visited their doctor 10 or more times previously in the last year.

In addition, over four in ten of people in the middle income group (42%) had only been to their doctor between 1 and 3 times over the year - almost as many as in the highest income category (45%). The figure for the lowest income group was 26%. These figures suggest that other factors aside from income influence frequency of visits to the doctor.

Figure 3.15: Number of previous surgery visits and income



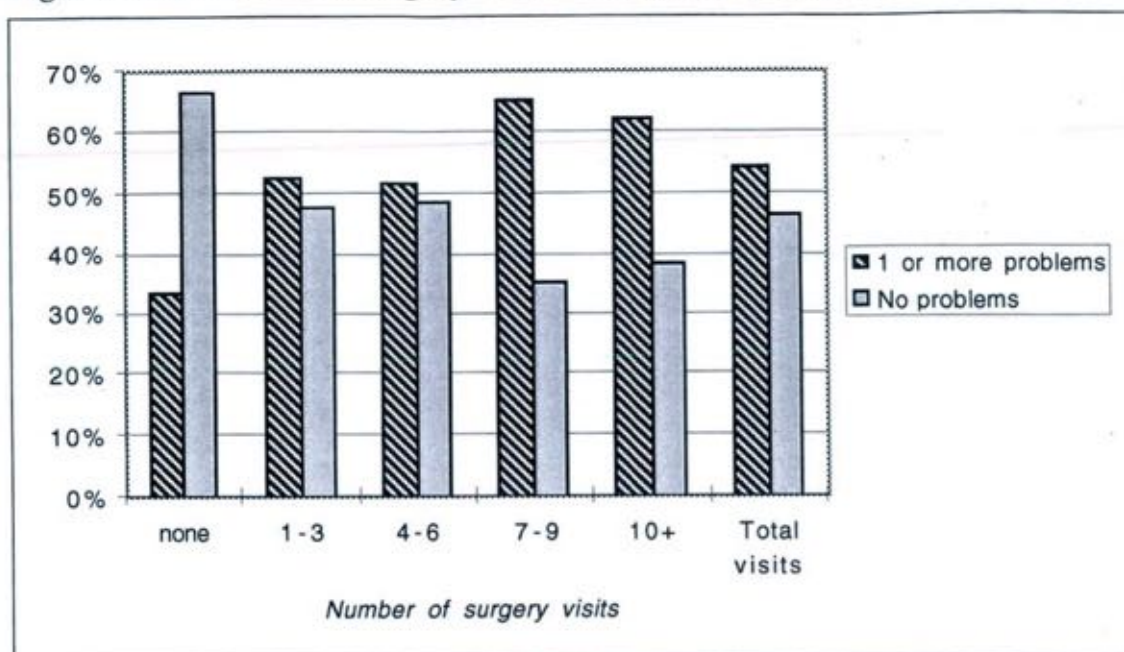
3.7 House conditions and frequency of visits to the doctor.

The question that we wish to ask in particular is: can we determine a relationship between the conditions present in the home and the number of visits made to the doctor?

3.7.1 Number of problems and visits to the surgery

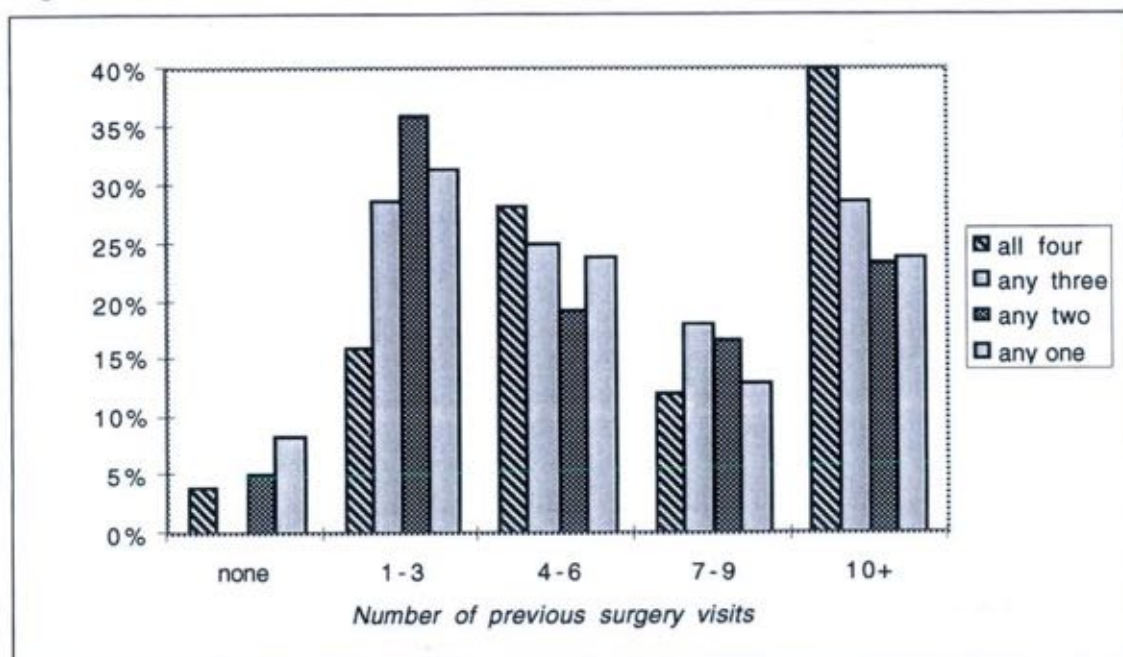
As stated earlier, more than half of those visiting the surgery on the day they were questioned had at least one of the four house-condition problems. Additionally, there appears to be some relationship between the presence of these problems and whether the respondent had visited the surgery in the last year (Figure 3.16). Two-thirds of respondents (67%) who had *not* been in the previous 12 months, also did *not* have any of the four problems. Moreover, in *all* the cases where a previous surgery visit had been made, those with one or more problems present in the home outnumbered those where such problems were not reported. This gap is significantly larger where respondents reported that more than one surgery visit had been made.

Figure 3.16: Previous surgery visits and house problems



Looking at the relationship in more detail (Figure 3.17: Number of house problems and surgery visits), the results show that 40% of respondents who reported all four problems in the home went to see their doctor 10 or more times in the last year. However, this was also the case for a quarter of those with only one problem (24%), or two problems (23%), while nearly a third (29%) of those with any three problems had been to the surgery 10 or more times.

Figure 3.17: Number of house problems and surgery visits



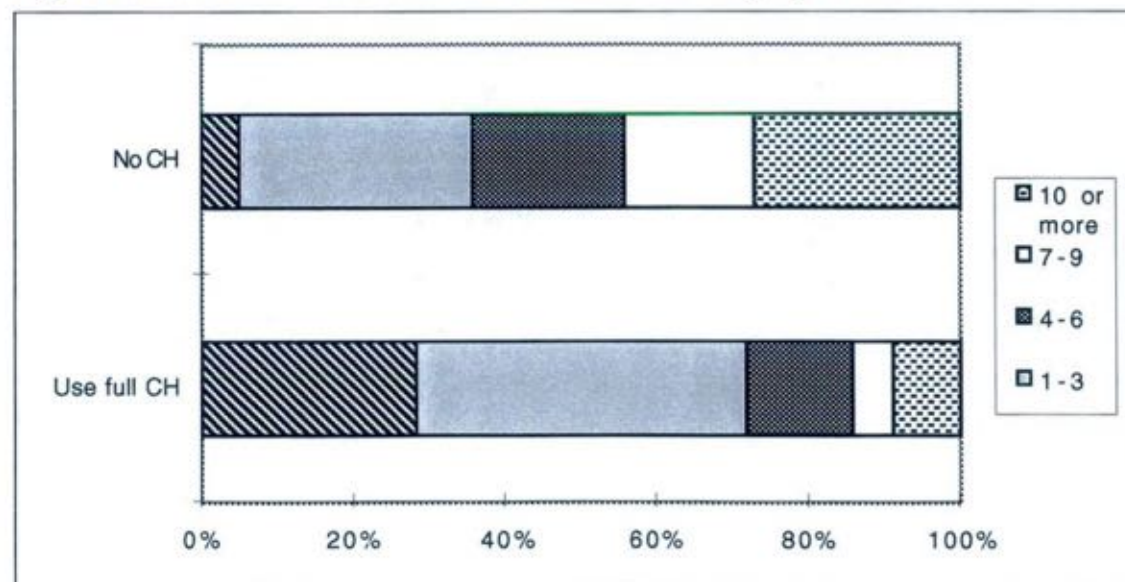
At first glance, an examination of the number of previous visits made to the surgery compared with specific problems or combinations of problems provides some interesting results. For example, one third (30%) of those with draughts and condensation (a total of 37 respondents) had been 10 or more times. However, in most cases the number of respondents with a specific problem or combination of problems is too small to make any firm statements about a link between these conditions and visits to the doctor.

3.7.2 Visits and central heating

A comparison of the use of central heating with the number of previous visits to the doctor provides the most dramatic results (Figure 3.18). Nearly three-quarters (72%) of those with full central heating, who said they used it, had either not visited their doctor in the last year or had been only between one and three times. By contrast, more than nine out of ten (91%) respondents who did not have central heating had previously visited the doctor and one third (31%) had only been between one and three times.

At the other extreme, a greater proportion of people - three times as many - without central heating had been to their doctor 10 or more times (27%), compared with those using central heating (9%).

Figure 3.18: Previous visits and number of surgery visits

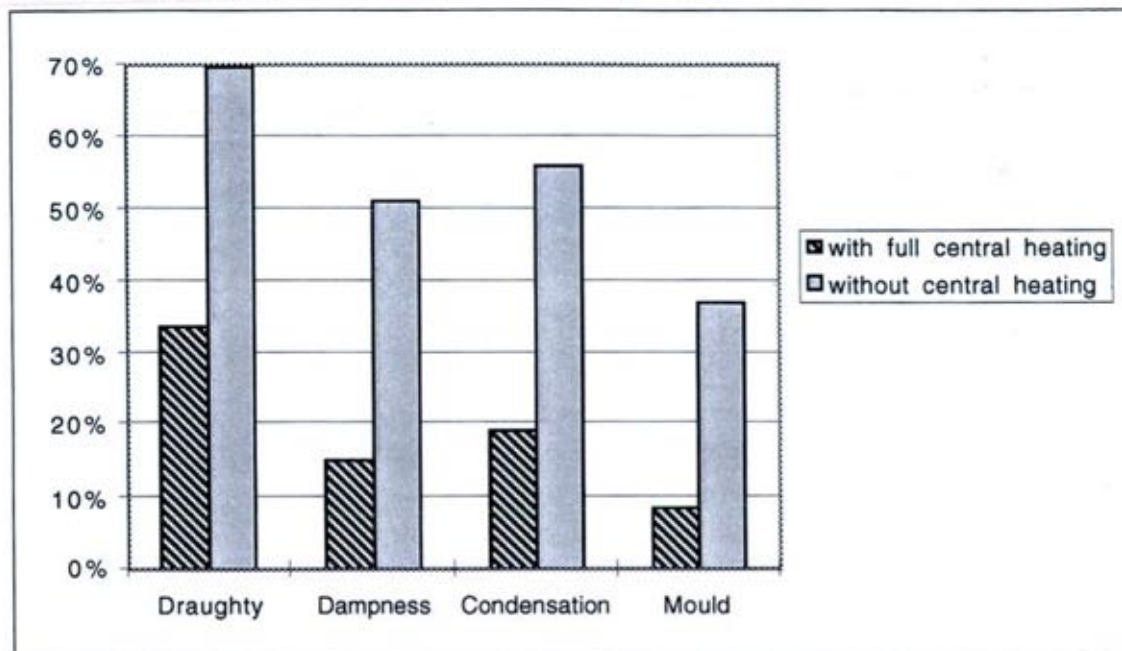


3.7.3 Central heating and house conditions

Why do people with central heating visit their doctor less frequently than those without central heating? One reason for this could be that people with central heating have lower reported rates of the four problems, that is draughts, dampness, condensation or mould (Figure 3.19). This

may be because their homes are warmer, or because people whose homes have central heating also live in homes which are generally in a better state of repair.

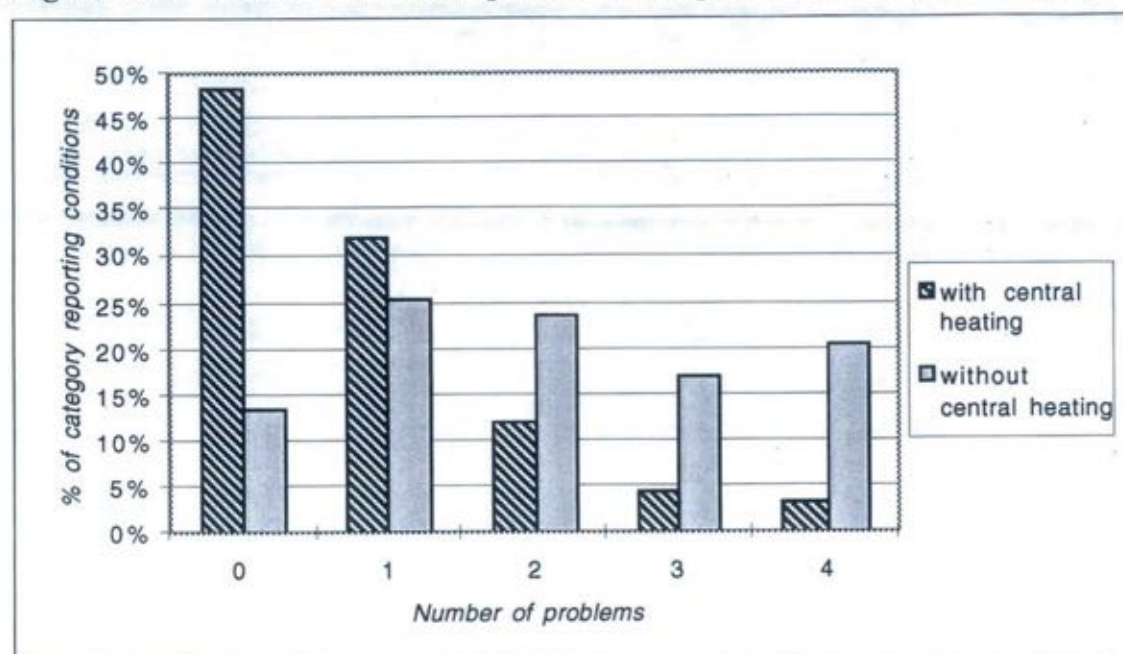
Figure 3.19: Central heating and house problems



When comparing the number of problems present in the home with the ownership of full central heating, the findings show a stark contrast. Almost half of respondents (48 %) with full central heating - who said they used it - had none of the four house problems, whereas this was the case for only one in seven (15 %) of respondents without central heating.

Only 3% of patients with full central heating experienced all four of the problems in their home, compared with a quarter (25%) of those without any kind of central heating (Figure 3.20). While the reported number of people without central heating is very small (59), the magnitude of the difference in the presence of problems between those with and those without central heating would still appear to be significant.

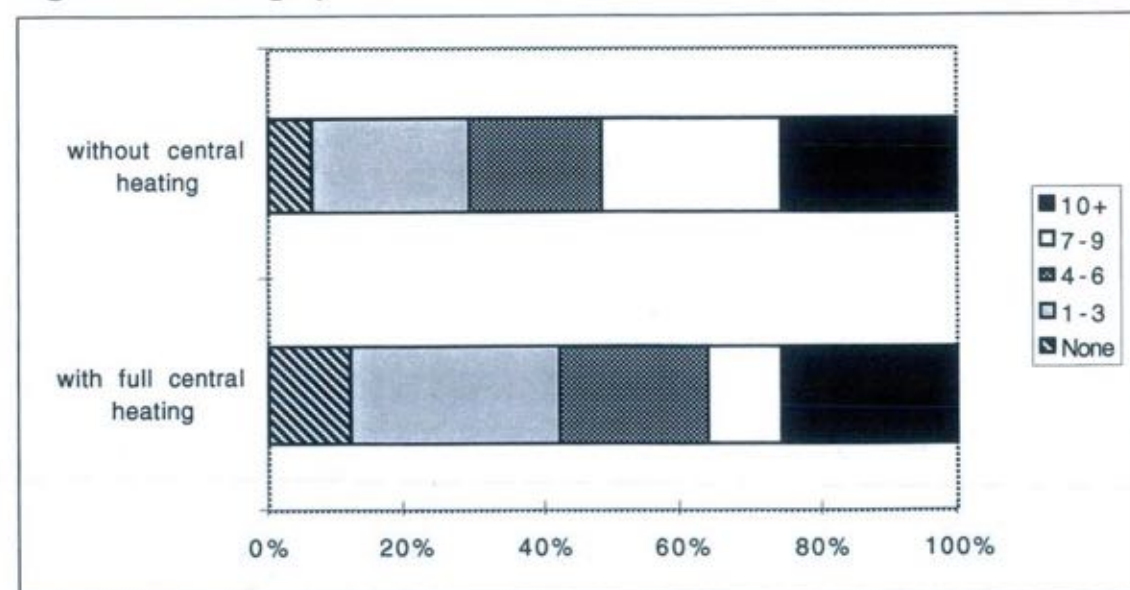
Figure 3.20: Number of house problems compared with central heating



3.7.4 Central heating, income and visits to the doctor

The question arises as to whether central heating has a beneficial effect on health, regardless of income. Figure 3.21 compares the number of visits to a doctor made by those in the lowest income group (<£100 per week) who either had full central heating, or who did not have central heating. Over half (52%) of those without central heating had visited the surgery on at least seven occasions compared with a third of those with central heating. The proportion of those with central heating who had not been to the doctor in the last year was double that of those without central heating (12% of those with central heating, compared to 6% of those without).

Figure 3.21: Surgery visits made by those with an income of <£100 per week



Phase 2 Results

4. Demographic details

4.1 Gender and age

Of the 95 people who took part in the survey, there were 34 male and 61 female respondents.

The average age was 43.9, with a standard deviation of 14.9 years. The youngest participant was 16 and the oldest was 77. The average age of respondents attending Glasgow Road was 46.9 and of those attending Ferguslie Park 40.9.

4.2 Household types

The household types of the participants were as follows:

Figure 4.1: Household type

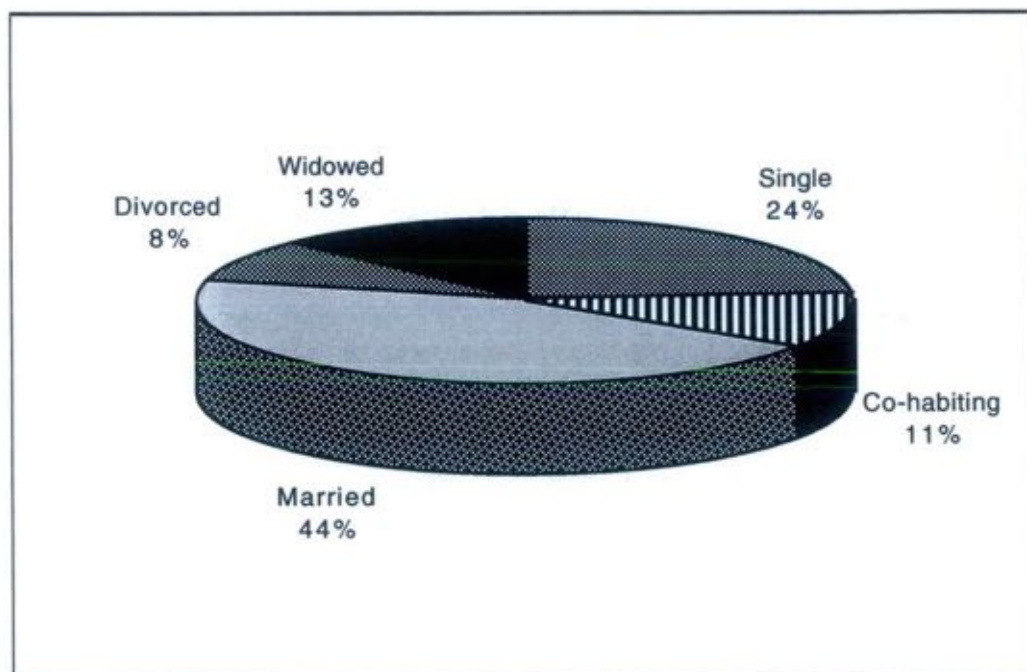
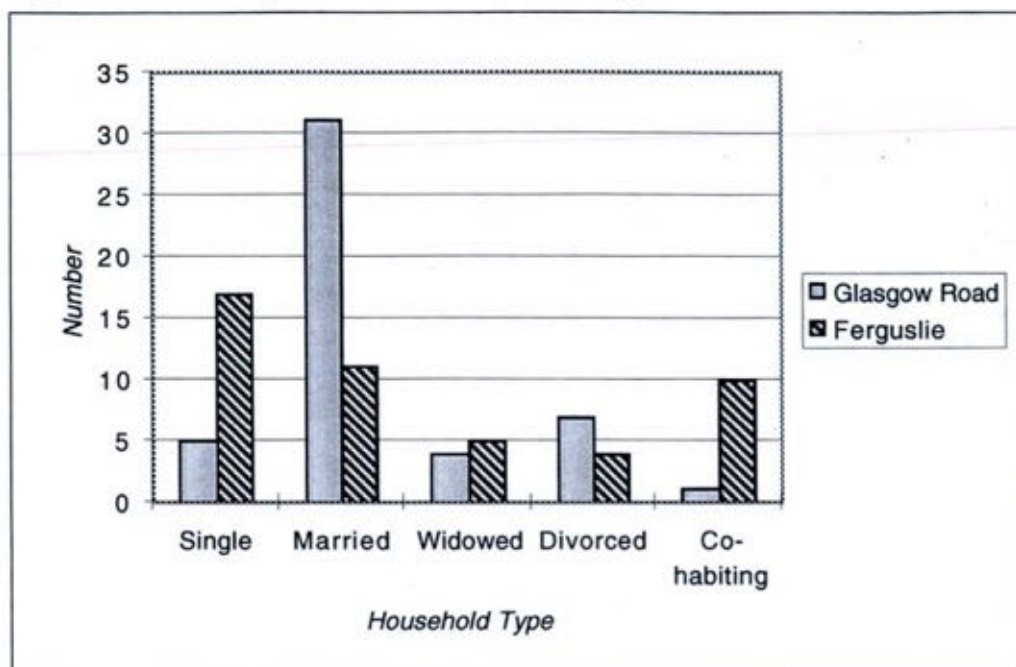


Figure 4.2 shows the difference between the two surgeries

Figure 4.2: Comparison of household types



4.3 Household size and children

The average household size was 2.8. Some 18 respondents (19%) lived alone, while the largest household comprised 6 people. In the SHCS the average household size was 2.4, while 27% lived alone. Household size in Ferguslie Park (average = 2.9) was slightly larger than for those households which went to the Glasgow Road surgery (2.8). This is due to the larger number of families with children who live in Ferguslie Park. There was a strong correlation between household size and the age of respondents ($r = -0.46$), indicating that older people tended to be part of smaller households.

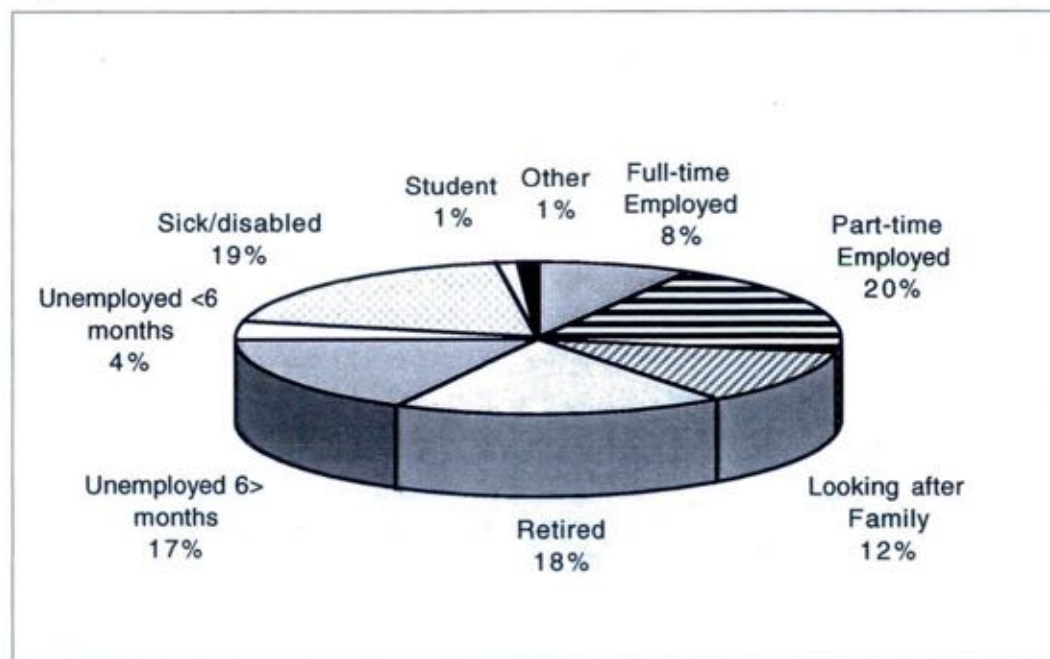
In total, the research found 53 households (56%) had children. This is a considerably higher percentage than is the case nationally, where only 32% of households have children. More families at Ferguslie Park (28) had children than at Glasgow Road (23).

5. Employment and Income

5.1 Economic status

Figure 5.1 shows the economic status of the participating households.

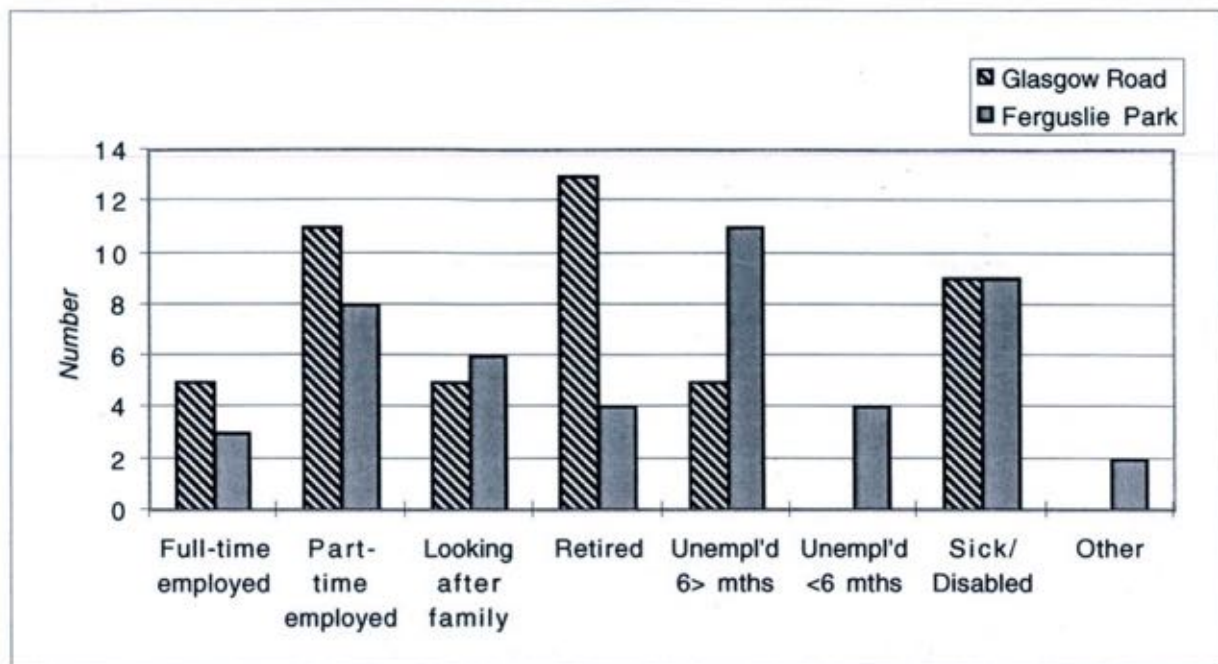
Figure 5.1: Economic status



Although respondents were not necessarily the head of the household, there is still a significant disparity between the households in the Paisley survey and those in the 1996 SHCS. The Paisley survey contained fewer households with members in full or part-time employment and had greater numbers of sick/disabled people than in the SHCS. In the latter, 48% of heads of household were in full-time employment and 4% in part-time employment, while those who stated that they were long-term sick/disabled or looking after the family made up 13%. However, both the sample (20%) and the SHCS (26%) have a similar proportion of retired households.

There is also a difference between the two surgeries, as shown in Figure 5.2. Most of the retired respondents attended the Glasgow Road surgery, while the majority of unemployed participants went to the Ferguslie Park surgery.

Figure 5.2: Comparative Economic Status



5.2 Entitlement to a HEES grant

Households were also asked if they were receiving any social security or means-tested benefits. Respondents were presented with a list of such benefits which may entitle a recipient to a grant under the Home Energy Efficiency Scheme (HEES), which provides grants for energy-efficiency improvements in the homes of people on a low income or in retirement.² The respondents were not informed that being in receipt of the benefits could entitle them to a grant until the end of the interview. A total of 76 households (80%) were in receipt of one or more benefits which entitled them to a HEES grant. By comparison, data from Renfrewshire Council shows that in October 1996, 79% of households in Ferguslie Park were in receipt of either Income Support, Housing Benefit or both.³

5.3 Household income

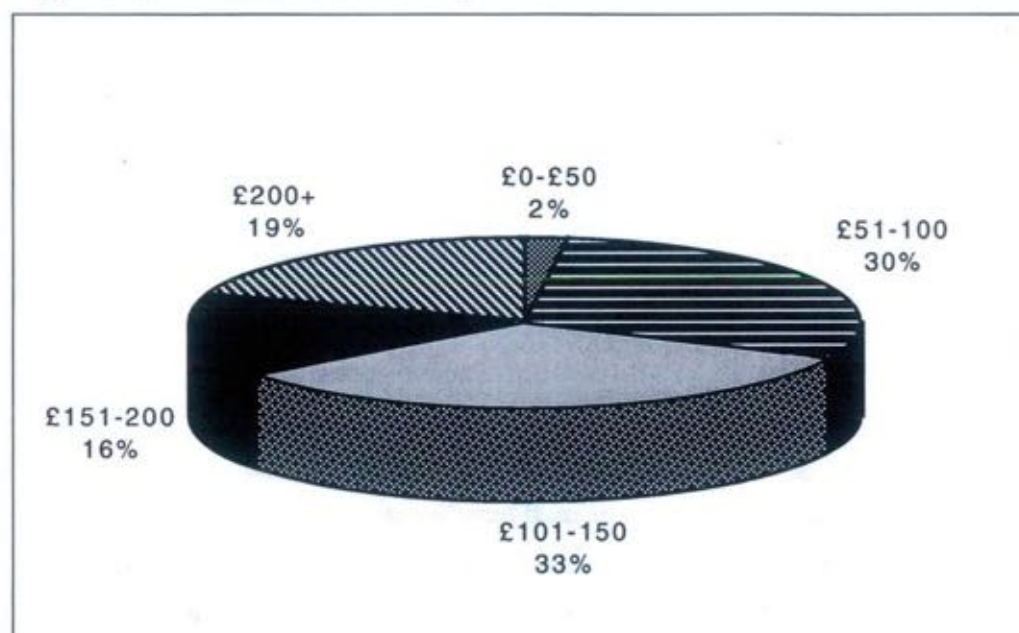
Participants were asked to estimate their household income, shown in Figure 5.3. There were a large number of low-income households in the sample, with 31% having a weekly income of £100 or less. The 1996/97 UK Family Expenditure Survey gives the average disposable household income in Scotland as £305.61 per week (gross £367.40). At least 72% of the

² Households are eligible for a grant under HEES of up to £315 if they are in receipt of the following benefits: attendance allowance; council tax benefit; disability living allowance; family credit; housing benefit; income support; industrial injuries disablement allowance; job seekers allowance; war disablement pension. Households where the occupants are aged 60 or over but not in receipt of any of the above benefits are eligible for a grant of up to £78.75.

³ Source: Housing Department, Renfrewshire Council.

Paisley sample had incomes which fell below this average (the same proportion as was found in the preliminary survey). Only 2% of respondents did not know what their weekly household income was. By comparison, data for Renfrewshire shows that 36% of households in the local authority area had an income of under £120 per week and this figure rose to 60% in council housing.⁴

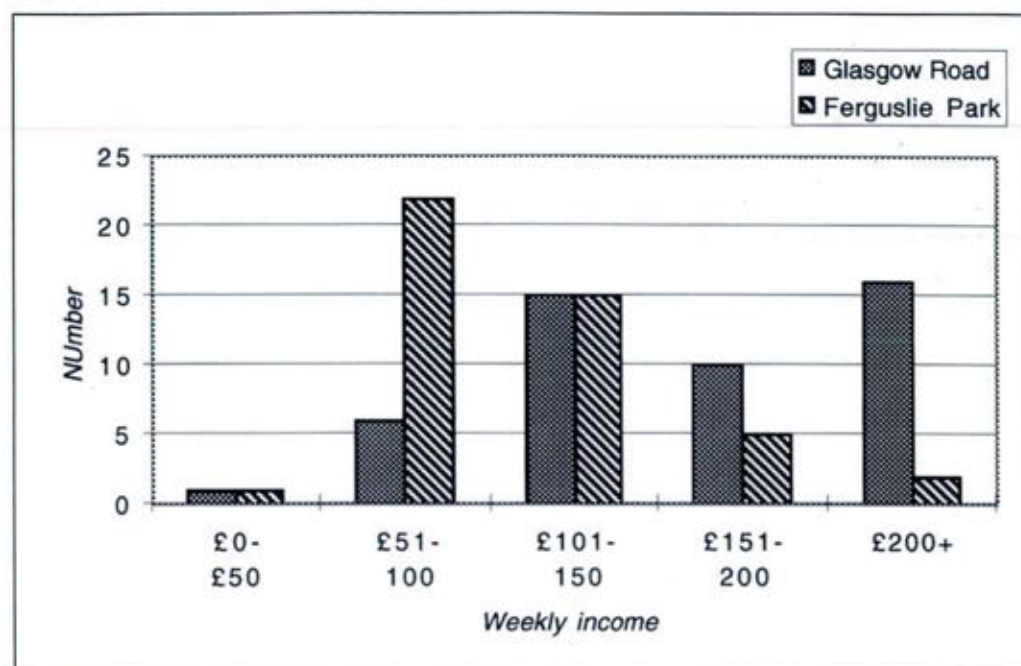
Figure 5.3: Household weekly income



Comparison of the two surgery groups (Figure 5.4) shows that incomes at Ferguslie Park are lower than those at Glasgow Road. The modal income group (i.e. the most commonly occurring) for Glasgow Road was £101-£150, while for Ferguslie Park it was £51-£100.

⁴ Source: Renfrewshire Council Home Energy Conservation Act first report, 1997.

Figure 5.4: Comparison of income categories



5.4 Income and household size

Table 5.1 compares the average number of persons in each house compared to household income. This shows the largest households are found in the highest income group and the smallest in the lowest income group.

Table 5.1: Income and household size

Income Group	£0-100	£101-150	£151-200	£200+
Household size	1.8	3.1	2.5	3.6

6. Accommodation Details

6.1 Type

Tenement or other kinds of flats were the most common type of home, with more than one third (37%) of respondents living in this kind of dwelling. Table 6.1 lists respondents living in the various dwellings, and shows very little difference between the two surgeries.

Table 6.1: Dwelling type

<i>Dwelling</i>	<i>All</i>	<i>Glasgow Road</i>	<i>Ferguslie Park</i>
Flat	29%	31%	28%
Top Flat	8%	8%	9%
4-in-a-block	25%	19%	32%
Terraced	16%	19%	13%
Semi-detached	16%	17%	15%
Detached	5%	6%	4%
All	100%	100%	100%

This is a different profile from that found across Scotland generally, or indeed more specifically in urban areas in Scotland.⁵ For example, only 27% of Scottish households live in either a tenement or other kind of flat, and only 11% live in a 4-in-a-block. In urban areas, the figures are only slightly different with 30% of households living in a tenement or other kind of flat, and 12% living in a 4-in-a-block.⁶

6.2 Tenure

The majority of homes were rented from public sector landlords, with 59 respondents (62%) renting from the council and a further 14 (15%) from a housing association (Table 6.2: Tenure). Only 21 respondents (22%) were either buying their home on a mortgage or had bought it outright. No one lived in a private-rented home. This is different from the tenure pattern of Renfrewshire, where in 1997, 57% of homes were owner-occupied and 31% of homes were rented from the council.⁷ However, Renfrewshire Council data for the Ferguslie Park estate shows that the survey accurately reflects the tenure of the housing stock. In July 1997, 67% of the properties were recorded as being council-owned, 19% were housing

⁵ Source: Scottish House Condition Survey.

⁶ All figures from 1996 Scottish House Condition Survey.

⁷ Source: Renfrewshire District Council Corporate Plan.

association properties, and 14% were owner-occupied (survey figures are 66%, 21% & 11% respectively).

Housing tenure in the survey is also markedly different from that found across Scotland as a whole, where only one third of households rent from the public sector, while 57% own their home, and only 4% of Scottish households rent from a housing association.

Comparison of the two surgery groups shows that while similar proportions live in rented council properties, respondents from Glasgow Road are more likely either to have a mortgage or to own their home outright, and that a higher proportion of Ferguslie Park patients live in a housing association property.

Table 6.2: Tenure

<i>Tenure</i>	<i>All</i>	<i>Glasgow Road</i>	<i>Ferguslie Park</i>
Council	62%	58%	66%
Housing Association	15%	8%	21%
Mortgage	16%	23%	9%
Own outright	6%	10%	2%
Other	1%	0%	2%
All	100%	100%	100%

6.3 Length of occupancy

Table 6.3 shows the length of time respondents had lived in the current home. More than one quarter had lived in their home for ten years or more, while just over one in ten had moved to their present home in the last twelve months. Over one in six Glasgow Road respondents had lived in their current home for 21 years or more, reflecting the greater number of older and retired people attending that surgery.

Table 6.3: Length of occupancy

<i>Length of time</i>	<i>All</i>	<i>Glasgow Road</i>	<i>Ferguslie Park</i>
0-6 months	7%	8%	6%
7-12 months	5%	4%	6%
1-2 years	18%	13%	23%
3-4 years	19%	21%	17%
5-9 years	24%	25%	23%
10-15 years	13%	8%	17%
16-20 years	5%	6%	4%
21 years+	9%	15%	4%
All	100%	100%	100%

6.4 Size of dwelling

The average number of rooms (including living room, dining room, bedrooms, bathroom and kitchen) was five.

6.5 Ability to use rooms

Respondents were asked if they were able to use all the rooms in the property. Only two said this was not the case, either because they had not yet decorated a room, or they were unable to use one of the children's bedrooms due to dampness.

7. Heating

7.1 Type and use of heating system

Gas central heating was by far the most commonly used heating system (Table 7.1: Heating system). The proportion of homes with gas central heating is very similar to that found in the SHCS - where 57% had full or partial gas central heating - although the proportions of respondents using storage heaters, electric fires and gas fires in the sample is in each case around double that found in the 1996 SHCS. (Two Glasgow Road households were connected to a district heating scheme operating in the central part of Paisley. Their heating-related problems were different from other households in that they were not able to control their heating, found their homes too warm and frequently had to open their windows in order to keep cool). The figures for Ferguslie Park are similar to those found in a survey of over 200 Powercard users carried out in the area in 1993, when 55% of households had gas central heating and 16% had a gas fire. However, only 9% of respondents in that survey had electric storage heaters.⁸

Table 7.1: Heating system

<i>Heating system</i>	<i>All</i>	<i>Glasgow Road</i>	<i>Ferguslie Park</i>
Gas central heating	59%	65%	53%
Gas fire	12%	8%	15%
Storage heaters	19%	19%	19%
District heating	2%	4%	0%
Electric fire	7%	4%	11%
Coal/solid fuel	1%	0%	2%
All types	100%	100%	100%

However, a significant minority of respondents (43%) felt that they were not able to use their heating as much as they would have liked. This response was more likely among Ferguslie Park patients of whom 53% said this was the case, compared with Glasgow Road patients where just under one third (33%) agreed with this statement. The biggest single reason was cost. Of the 41 respondents unable to use their heating as much as they would like, 33 (80%) said this was because they could not afford to do so.

⁸ Source: Powercard Survey, Renfrew District Council Energy Advice Unit, 1993.

7.2 Proportion of the home heated

Participants were asked which rooms in the home they heated, and this was used to estimate what proportion of the home was heated. Almost one third (32%) of respondents heated 50% or less of their home, one fifth (21%) heated over half but not their whole home, and just under half (47%) heated all the rooms in the home. There is only a slight difference in this pattern between the two surgeries, with almost the same proportion of respondents in both groups heating less than 50% of their home (29% Glasgow Road, 32% Ferguslie Park). However, Glasgow Road patients were more likely to heat the whole of their home (52% of respondents) than Ferguslie Park patients (40%).

7.3 Do respondents find heating expensive?

When asked if they found their home expensive to heat, more than half the respondents (60%) agreed that this was the case. Just under half of those from Glasgow Road (44%) agreed that they found it expensive, while over three-quarters of respondents (77%) from Ferguslie Park (where incomes are generally lower) found heating expensive.

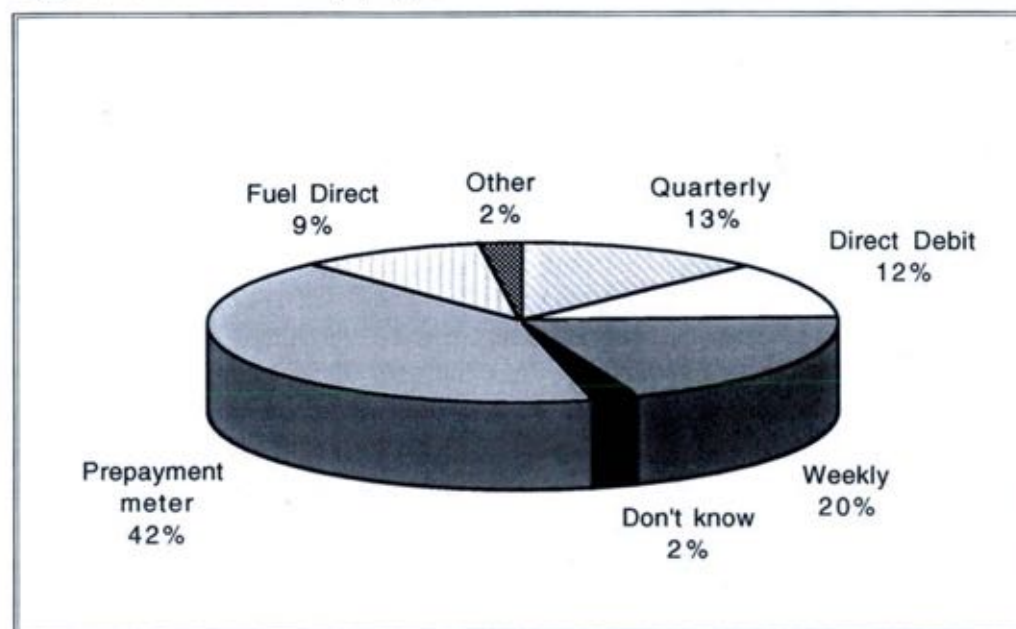
The sample can be divided into three groups: those who could afford to use their heating as much as they liked and did not find it expensive (26%); those who could afford to use their heating and found it expensive (24%); and those who could not use their heating as much as they liked because of the cost and found it expensive (34%). The remaining 16% did not know if their heating was expensive or had another reason for not being able to use their heating.

8. Reported fuel expenditure

8.1 Payment method

Figure 8.1 and Figure 8.2 show the payment methods used by participants when paying for their gas or electricity.

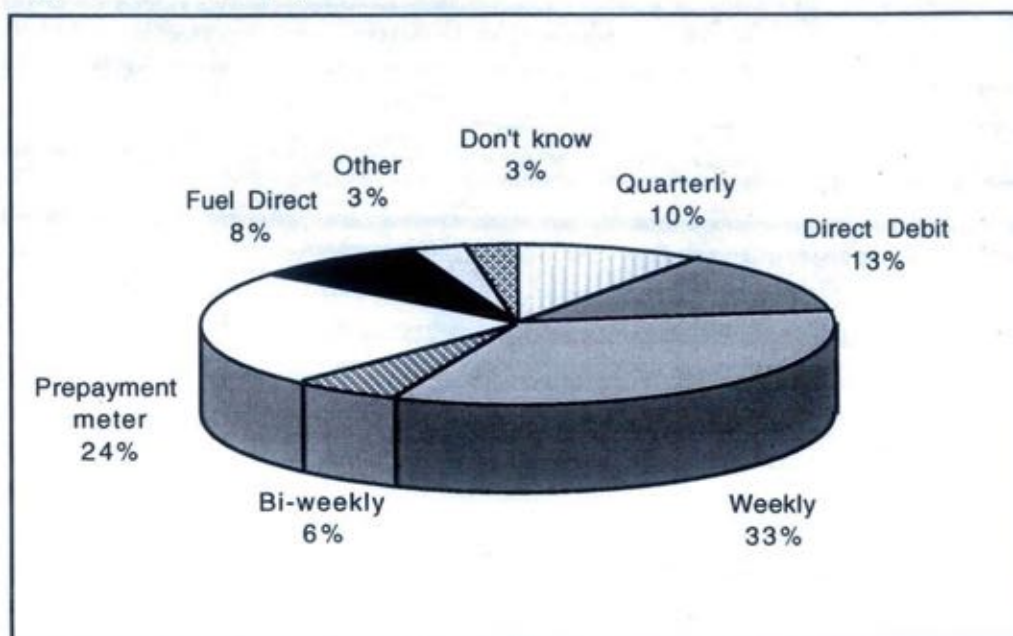
Figure 8.1: Electricity payment method



In both cases the proportion of customers using the various payment methods is significantly different from national figures. Figures from OFFER show that in Scotland, just over 22% of customers pay for their electricity using a prepayment meter (sample 42%), while less than 1% pay through Fuel Direct (sample 9%). Nationally, just over 5% of electricity consumers pay either weekly or bi-weekly (sample 20%).⁹

⁹ Source: OFFER, Public Electricity Suppliers' Customer Accounting Statistics, Quarter ending March 1998.

Figure 8.2: Gas payment method



While there are no separate figures available for Scotland, data from the Gas Consumer Council shows that only 7% of gas consumers in the UK use a prepayment meter,¹⁰ compared with 24% in the sample.

8.2 Difference between surgeries

Figure 8.3 and Figure 8.4 show the differences in payment methods used by the respondents attending the two surgeries. Glasgow Road respondents were more likely to pay either quarterly (electricity only) or by direct debit, than through Fuel Direct or with prepayment meters, although in both surgery groups a prepayment meter was the most common method of paying electricity.

¹⁰ Source: Gas Consumer Council, Debt and Disconnection Newsletter Issue 5: April-June 1998.

Figure 8.3: Comparison of electricity payment methods

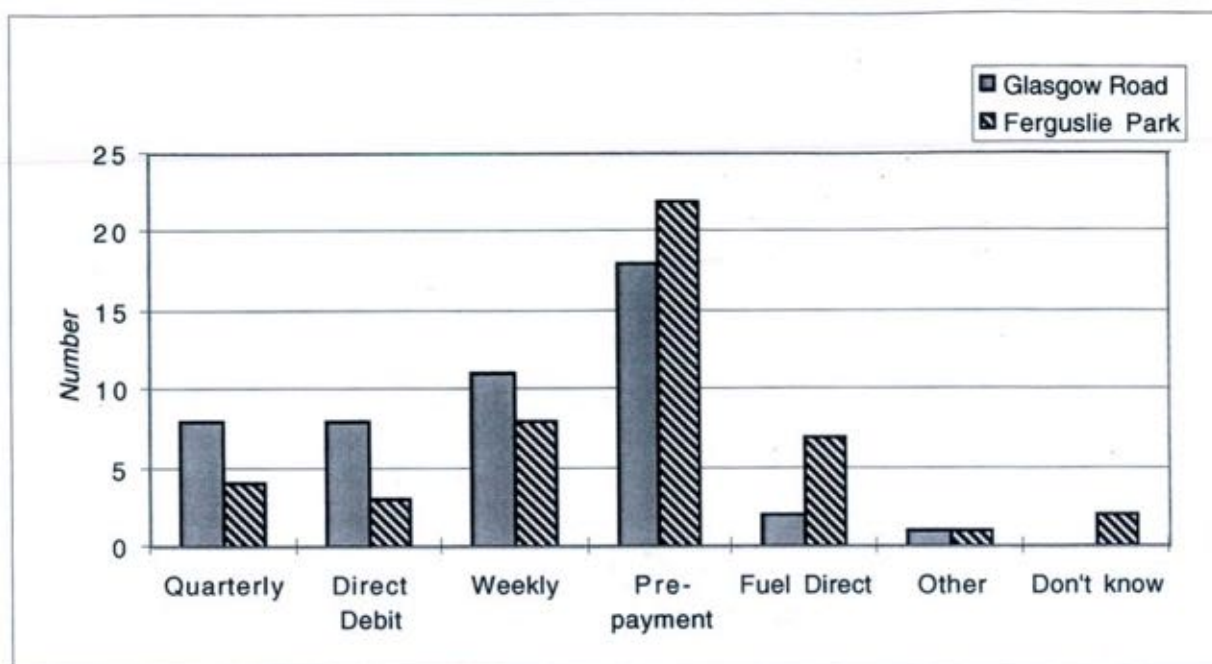
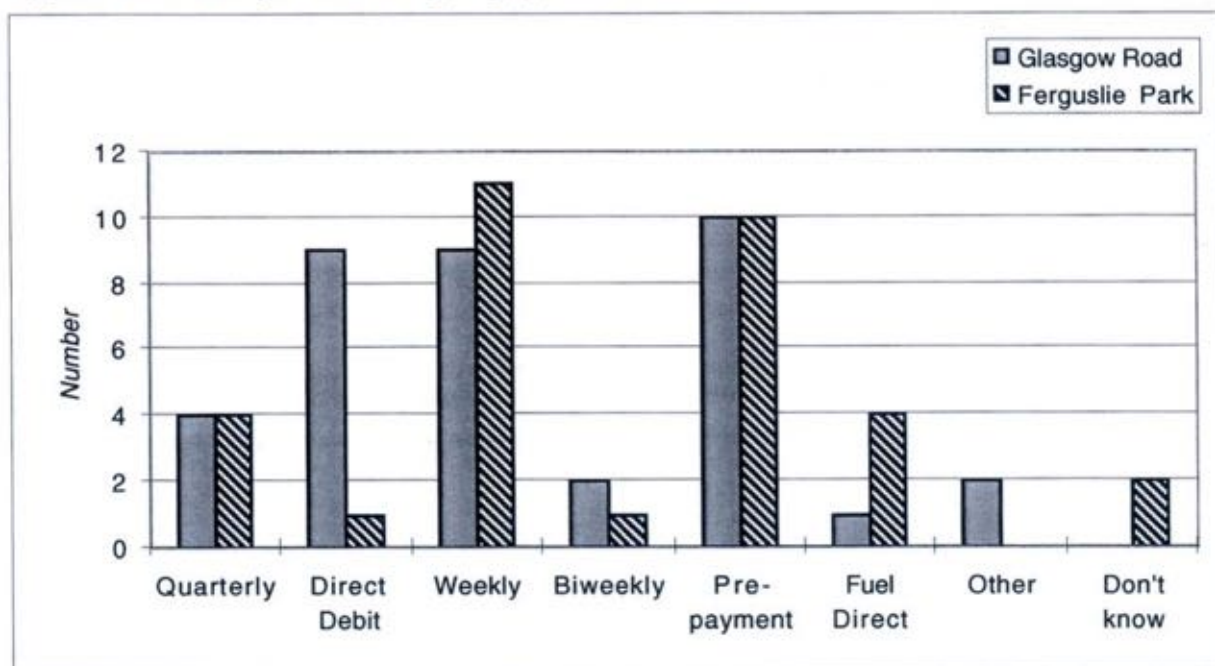


Figure 8.4: Comparison of gas payment methods



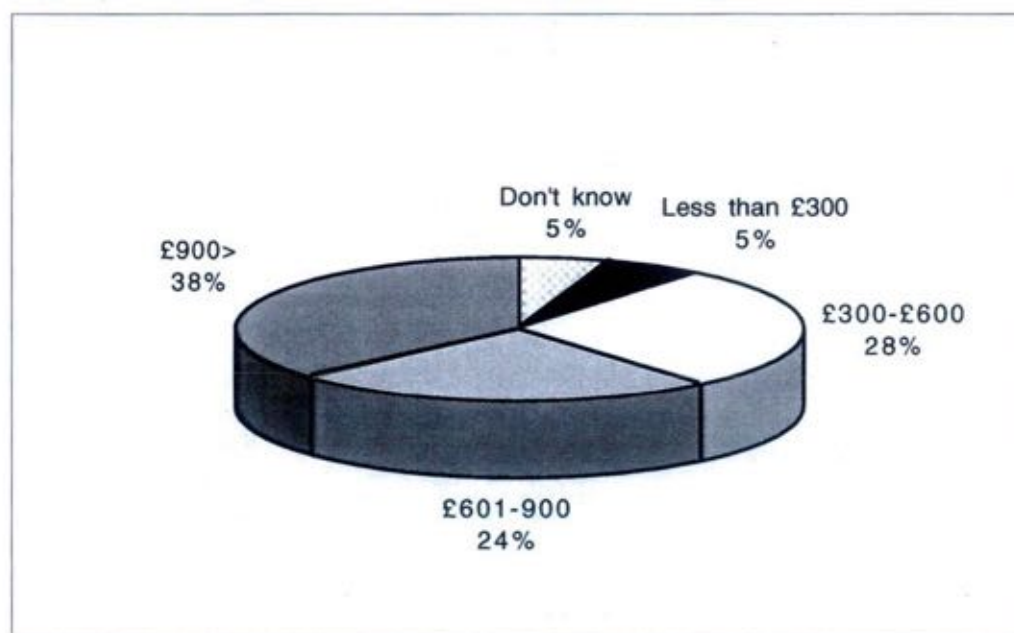
8.3 Estimated annual fuel expenditure

Participants were asked to provide actual figures (where possible) or estimates of their expenditure on electricity (and where applicable gas and/or other fuel). These are shown in Figure 8.5. Participants were not asked to exclude any payments they were making to reduce fuel debt. This reported expenditure was then used to calculate their annual fuel costs. The average estimated amount was £819.27 (SD of £435.38).

Five respondents were unable to estimate their household expenditure on fuel, because they had either only recently moved, or they were not the member of the household responsible for paying the fuel bills.

Comparison of responses from the two surgery groups showed that Ferguslie Park patients thought they were spending more on average than the Glasgow Road patients (£ 903.29 compared with £743.76). Additionally, more households from Ferguslie Park (32) than from Glasgow Road (26) stated they were spending over £600 a year on fuel bills.

Figure 8.5: Respondents' estimates of fuel expenditure

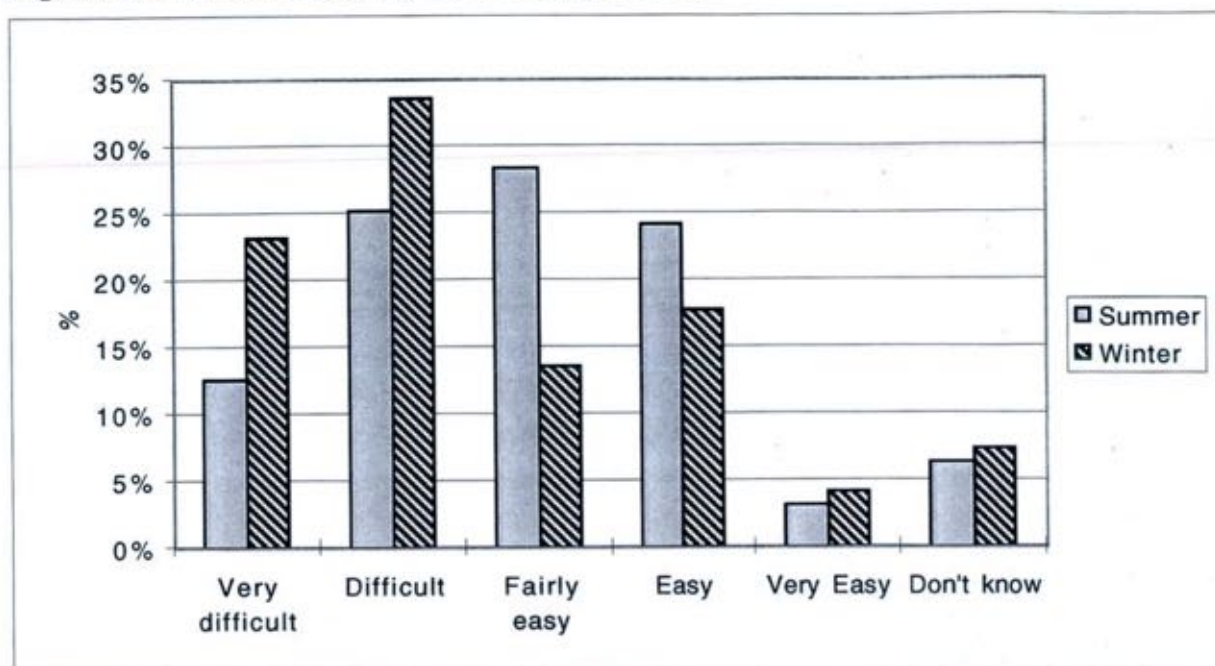


8.4 Ease of payment

Participants were asked to rate how easy or difficult they found it to pay for fuel in the summer and winter. Figure 8.6 shows the results.

In both summer and winter, respondents from Ferguslie Park were more likely to say that they found it difficult or very difficult to pay for fuel. Glasgow Road patients were more likely to say they found paying for fuel easy or fairly easy. Furthermore, the difference between the two groups changed between summer and winter, with significantly fewer Ferguslie Park respondents saying that they could pay for fuel easily or fairly easily in winter than in summer.

Figure 8.6: Ease of paying for fuel by season



9. Damp-related and other problems in the home

Participants were shown separate lists of damp-related and other housing problems and asked if any of the problems listed were present in their home. They were also asked if they felt that the presence of any of these problems affected the health of any of the occupants and, if so, how. Households not reporting problems were in the minority. In total, 54 respondents (57%) said that their home had one or more damp-related problems, 73 (77%) said they had one or more other kind of problem, and 47 (49%) said their home had at least one problem in each of the two categories.

9.1 Damp-related problems

The percentage breakdown of the 54 respondents saying whether or not they had a particular damp-related problem is shown in Table 9.1. Recording the results by surgery showed that 74% of Ferguslie Park patients reported one or more damp-related problems, while only 40% of Glasgow Road patients reported such problems. Mould and 'damp smell' appear to be proportionally bigger problems in Glasgow Road attendees' homes which have dampness, than in Ferguslie Park homes, of whom a bigger proportion had experienced spoiled furniture, spoiled clothes and peeling wallpaper.

The number of damp-related problems in the sample is significantly higher than in comparison with the 1996 SHCS, where assessors found that only 25% of the housing stock was afflicted by problems of dampness and condensation and 31% of householders stated that they were bothered by problems of dampness, condensation or mould.

Table 9.1: Damp-related problems

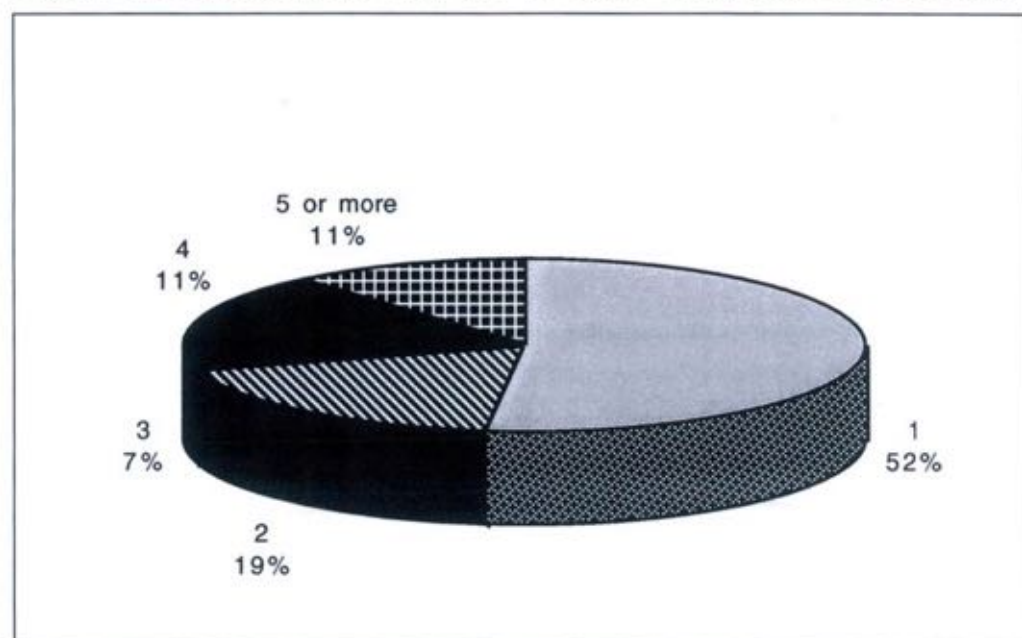
<i>Damp-related problem</i>	<i>Number</i>	<i>All</i>	<i>Glasgow Road</i>	<i>Ferguslie Park</i>
Condensation	30	56%	60%	53%
Mould	13	24%	30%	21%
Spoiled furniture	6	11%	0%	18%
Stained walls/wallpaper	14	26%	30%	24%
Spoiled clothes	7	13%	5%	18%
Peeling wallpaper	15	26%	20%	32%
Damp smell	17	31%	45%	24%
Wet/damp carpets	7	13%	10%	15%
Other	11	20%	10%	26%

In addition, a large number of respondents reported more than one problem, shown in Figure 9.1. A slightly greater proportion of Ferguslie Park patients reported only one problem (53%) than Glasgow Road patients (50%). Glasgow Road patients were more likely to have between two and four problems (45%) than Ferguslie Park patients (33%). However, more Ferguslie Park patients had five or more problems (15%) than Glasgow Road patients (5%).

Furthermore, the highest number of damp-related problems among Glasgow Road patients was five, while one Ferguslie Park patient reported nine problems and another, seven.

This again reflects the current condition of the housing stock in Ferguslie Park with a split between new modern homes where the occupants reported no problems or only one damp-related problem, with the older, poorer housing stock where occupants reported a higher number of problems.

Figure 9.1: Households with one or more damp-related problems



9.2 Do damp-related problems affect health?

Of all those who reported one or more damp-related problems, 46% said that it affected the health of at least one member of the family. Fewer respondents from the Glasgow Road surgery (35%) stated that the health of one or more members of the family was affected by damp-related problems, compared with 56% of Ferguslie Park respondents. The health of children seems to be slightly less affected than that of other members of the family. In the households with children which reported dampness problems, 31% reported that the health of their child(ren) was affected. A further 8% of families with children reported that the whole

family's health was affected. This means only 39% of families with children who lived in a home with damp-related problems felt that the children's health was affected.

Respondents who said their health or the health of members of the household was affected by dampness reported on average a higher number of problems (3) than respondents who stated their health was unaffected by dampness (2).

Table 9.2 lists particular symptoms given by respondents which they felt were aggravated by living in a home which had damp-related problems.

Table 9.2: How does damp influence health?

<i>How is your health affected?</i>
More likely to catch colds/ get colds frequently
Affects asthma
Bronchitis/chest infections
Breathing difficulties
Coughs
Aggravates arthritis
Not getting enough sleep
Feel disgusted/frustrated
Psoriasis
Stuffy nose

9.3 Other problems

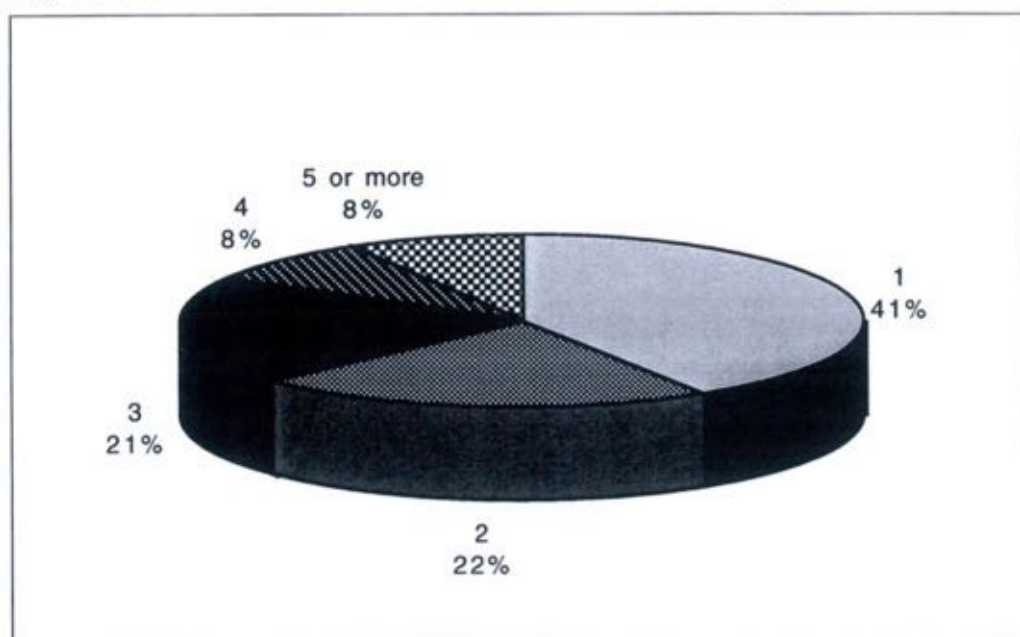
The types of problems reported by the 73 respondents who said they had one or more 'other' kinds of housing problem are shown in Table 9.3. Broken down by surgery, 34 patients (71%) from Glasgow Road had one or more 'other' kinds of housing problem, while 39 (83%) from Ferguslie Park said this was the case. A notable difference between the two surgery groups is that those from Ferguslie Park were more likely to say that their home was cold.

Table 9.3: Other problems in the home

'Other' Problem	All	Glasgow Road	Ferguslie Park
Windows don't fit	44%	44%	44%
Noisy	19%	18%	21%
Overcrowded	11%	9%	13%
Target for burglars/vandals	11%	12%	10%
Home in poor state of repair	16%	9%	23%
Nowhere for children to play indoors	16%	9%	23%
Nowhere for children to play outdoors	25%	18%	31%
Cold	36%	32%	38%
Mice/insects	23%	18%	28%
Other	8%	6%	10%

Figure 9.2 shows the households who had one or more problem.

Figure 9.2: Households with one or more 'other' problems



9.4 Do 'other' problems affect health?

Non damp-related problems are more likely to be perceived by respondents as having an adverse affect on health. Of those who said that they had some 'other' problem, 63% said that it affected their health or the health of a member of the family. Some 71% of Glasgow Road patients who reported 'other' problems said these had affected their health. By contrast, 83% of those from Ferguslie Park felt that this was the case.

10. Lifestyle

Respondents were asked a number of questions in order to provide a snapshot of their lifestyle: whether anyone in the household smoked, and if so how much; how often fresh fruit or vegetables were eaten, as an indication of diet; and how they felt about their quality of life.

10.1 Smoking

There was a high number of households where one or more occupants smoked. In total, 70 households (74%) had someone who smoked, 18 households (19%) had two people who smoked, and 2 households included three people who did so. Smoking was much more widespread among Ferguslie Park patients, where 87% smoked, than among Glasgow Road patients (60%).

10.2 Diet

Half of the respondents (50%) ate fresh fruit or vegetables every day. However, there was a significant difference between the two surgeries. While almost two-thirds of Glasgow Road patients (60%) said they ate fruit and vegetables every day, only four in ten Ferguslie patients (40%) agreed with this statement and one fifth of Ferguslie Park respondents (21%) said they ate fruit and vegetables only once a week.

10.3 Other data

These figures compare with a report for Renfrewshire Council which identified smoking, drinking and obesity to be serious problems, and revealed that less than half the population took sufficient exercise or ate sufficient fresh fruit and vegetables.¹¹

10.4 Outlook on life

In both groups the majority of respondents (56%) said that they were contented with their life. Almost one in five Glasgow Road patients (17%) said they were very happy, but only 4% of Ferguslie Park patients said this was the case. However, of Glasgow Road respondents 21% said they were discontented, and 4% unhappy, while 34% of Ferguslie Park patients were either discontented (6%) or unhappy (30%).

¹¹ Source: Renfrewshire District Council Corporate Plan.

11. Health

11.1 Health ratings

Participants were asked how they would rate their health and the health of other members of the household.

The results show that firstly, out of the four family member categories (i.e. respondents, partners, children and other adults), children were reported to have a good health rating, while for all the adults the modal health rating was fair. One in four (26%) respondents rated themselves as having poor or very poor health, as had 29% of partners, and almost one third (32%) of other adults in the household.

Secondly, the respondents who attended the Ferguslie Park surgery were more likely to give their health or the health of other members of the household a lower rating than respondents attending Glasgow Road.

Figure 11.1: Respondents' reported health

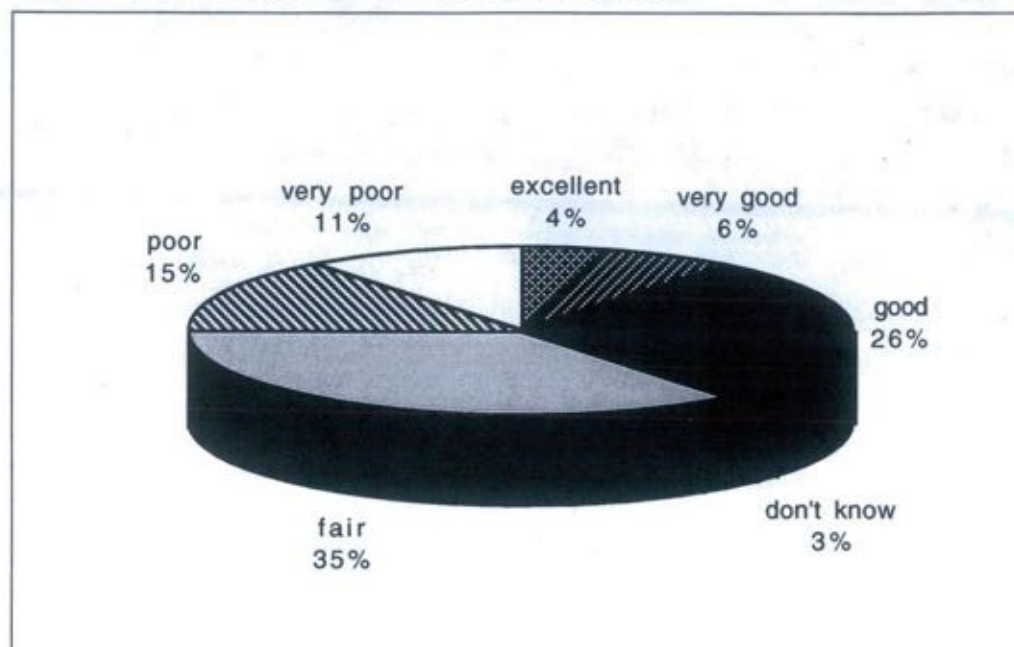


Figure 11.2: Comparison of respondents' reported health

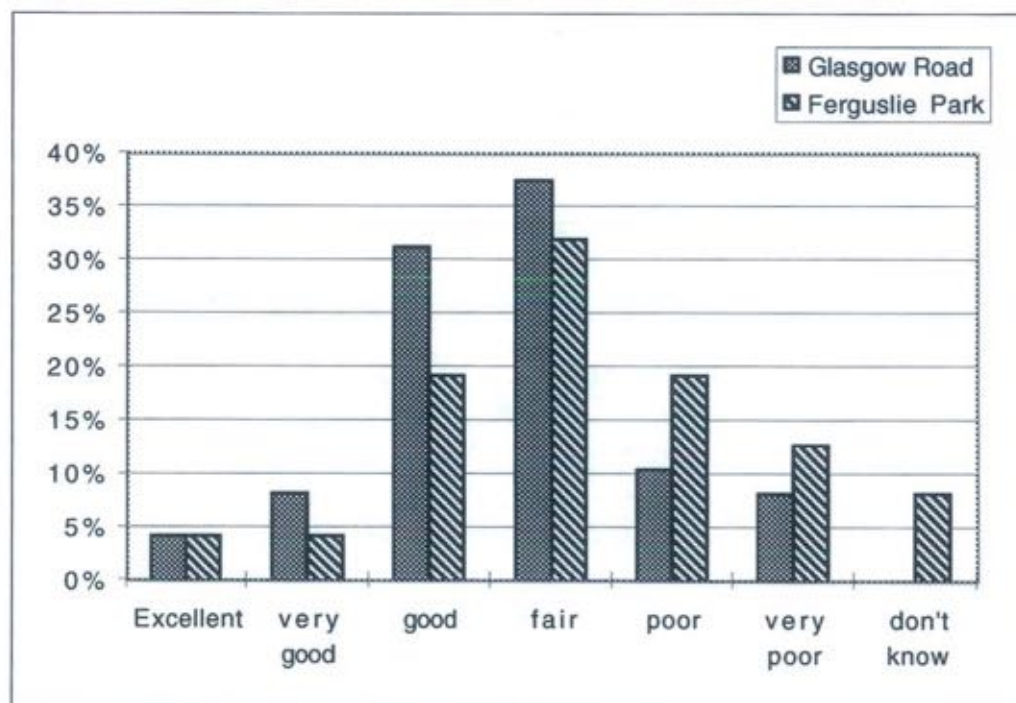


Figure 11.3: Partners' health ratings

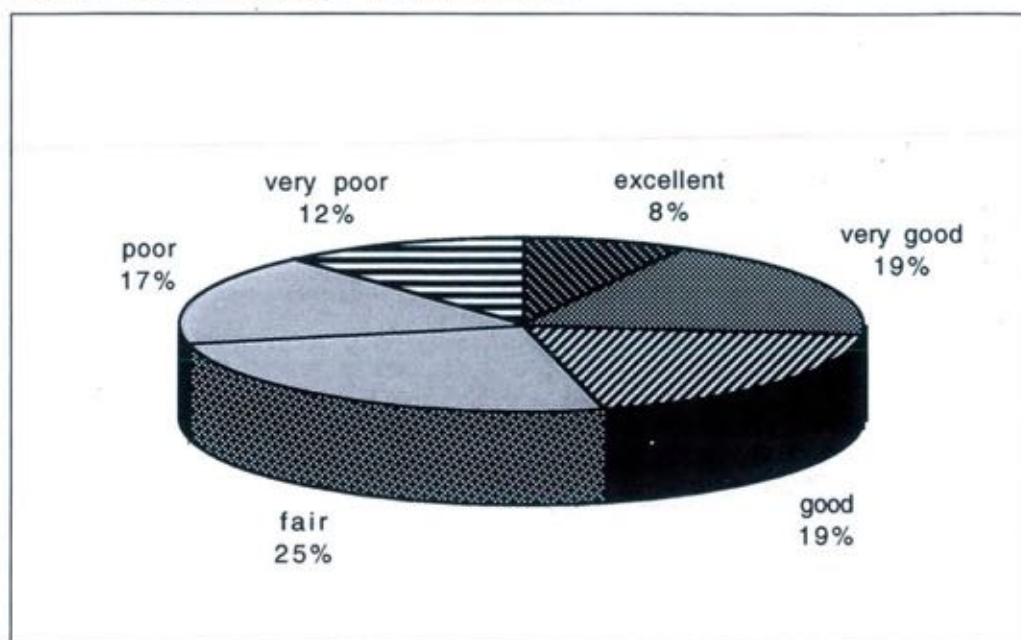


Figure 11.4: Comparison of partners' health ratings

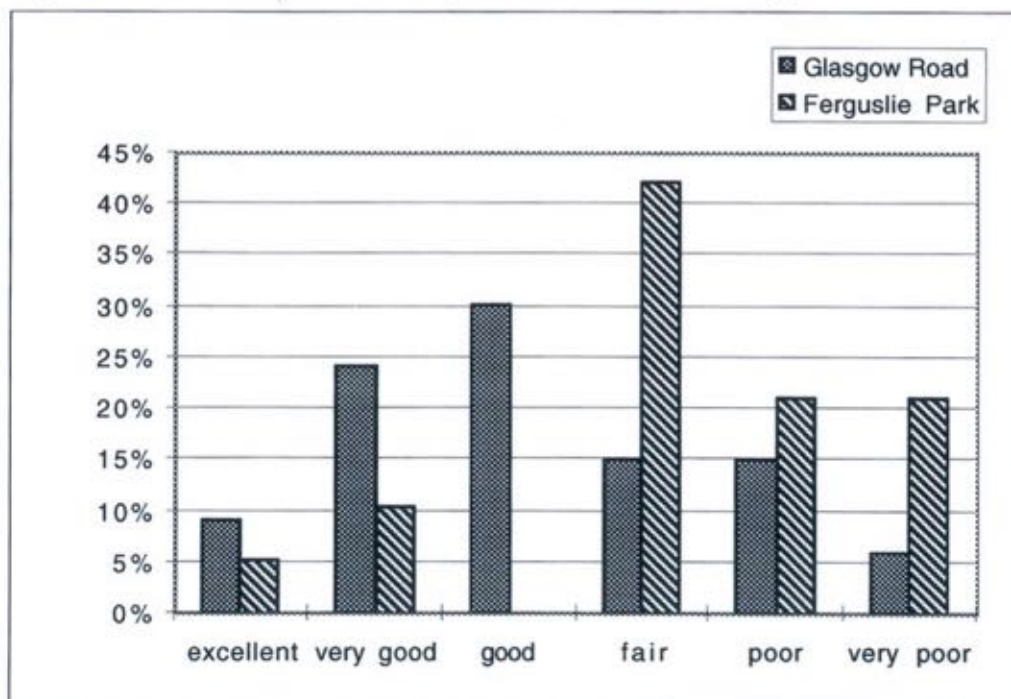


Figure 11.5: Children's health ratings

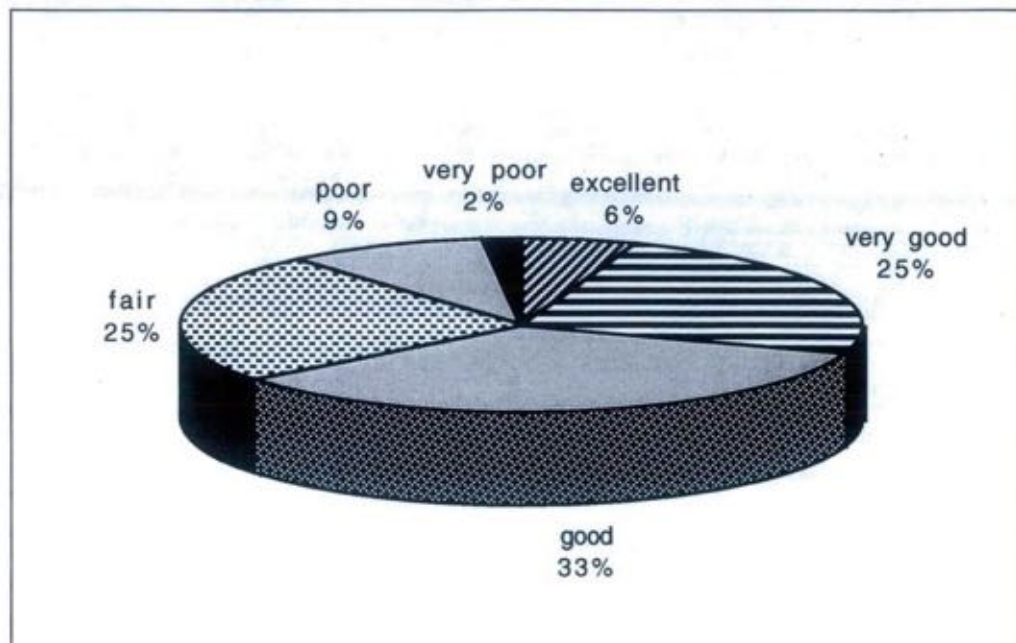


Figure 11.6: Comparison of children's health ratings

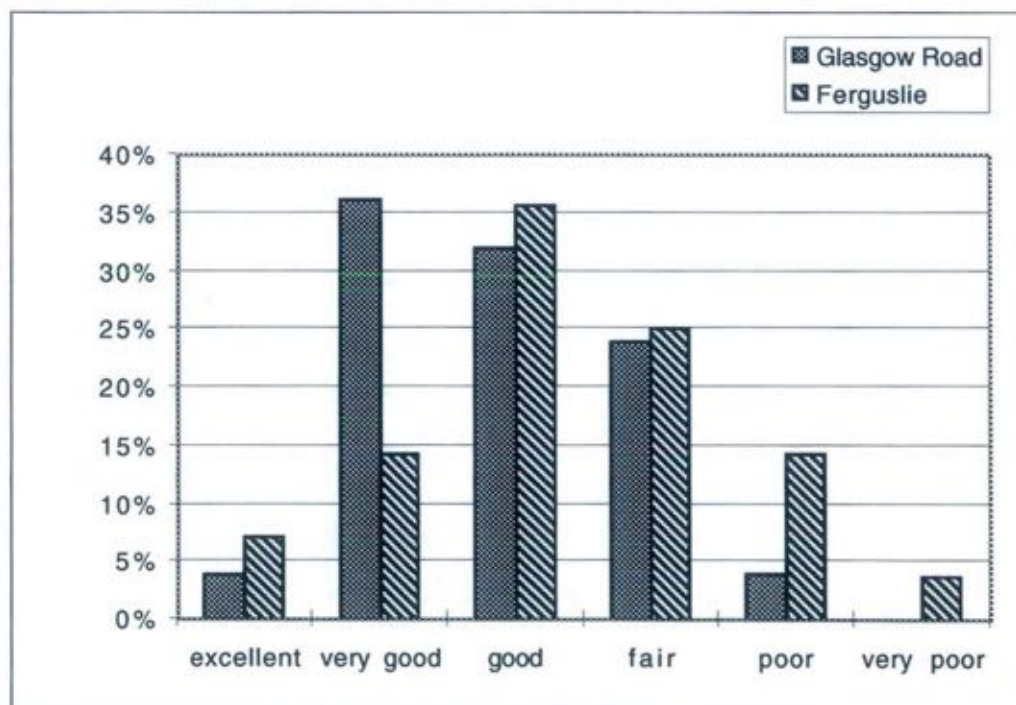


Figure 11.7: Other adults' health ratings

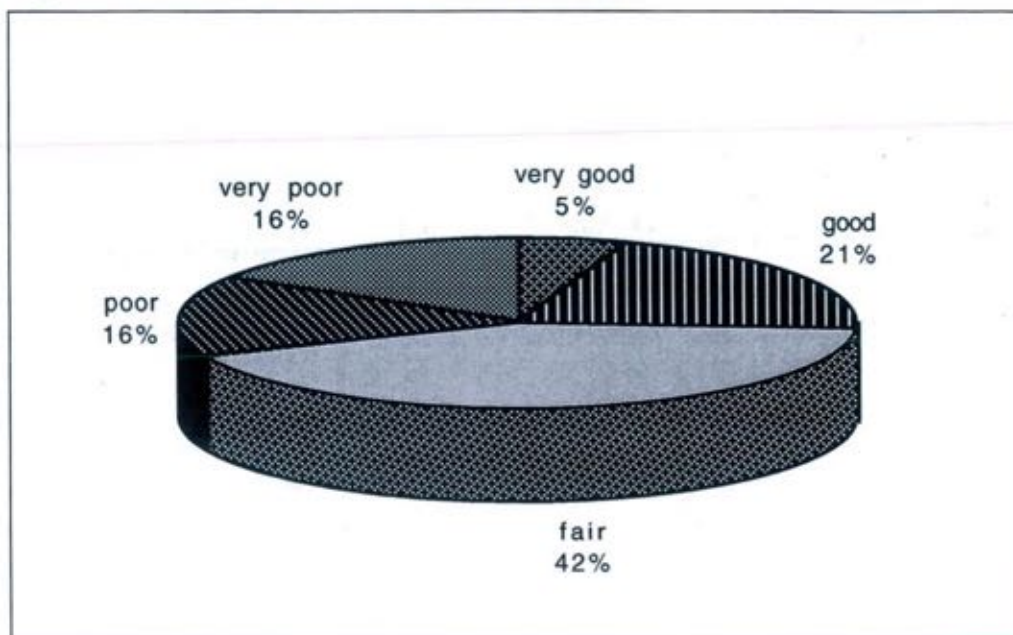
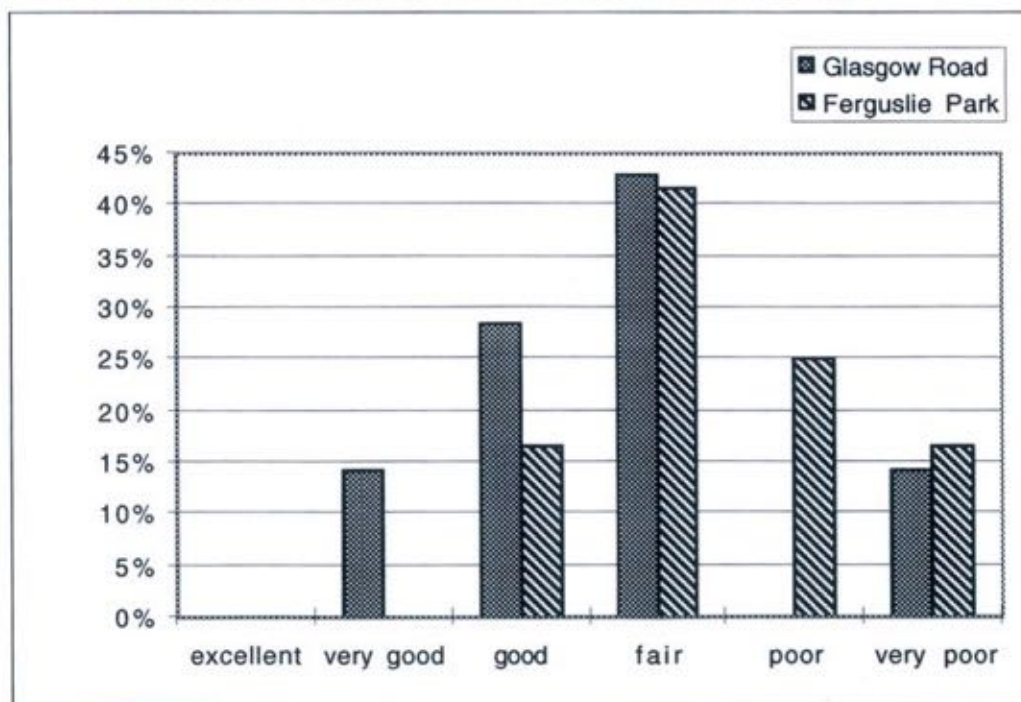


Figure 11.8: Comparison of other adults' health ratings



11.2 Symptoms

Participants were provided with a list of conditions and asked if any member(s) of the household had experienced these symptoms in the last 12 months. Table 11.1 shows the percentage of households reporting specific conditions. There are significant differences between the two surgeries. Around double the proportion of Ferguslie Park households reported that at least one member had had a persistent cough in the last year. In addition, a higher rate of persistent cough was reported by Ferguslie Park patients than by Glasgow Road patients. On the other hand, reports of aches and pains, persistent headaches, feeling low or depressed, and feeling anxious or worried, were all significantly higher among Glasgow Road patients.

Table 11.1: Reported symptoms

<i>Condition</i>	<i>All (95)</i>	<i>Glasgow Road (48)</i>	<i>Ferguslie Park (47)</i>
High blood pressure	32%	33%	30%
Persistent cough	42%	29%	55%
Cold/flu	72%	69%	74%
Wheezing	26%	21%	32%
Aches and pains	53%	63%	43%
Skin problems	28%	31%	26%
Persistent headaches	27%	38%	17%
Nausea/vomiting	16%	21%	11%
Dizziness/fainting spells	23%	23%	23%
Incontinence	5%	4%	6%
Breathlessness/breathing difficulties	38%	38%	38%
Feeling low/depressed	39%	46%	32%
Anxious/worried	36%	40%	32%
Poor appetite	19%	21%	17%
Temper tantrums	13%	10%	15%
Hyperactive	3%	2%	4%
Other	18%	25%	11%

Note: Temper tantrums and hyperactivity refer to children only.

Table 11.2 lists the number of cases reported. This shows that the incidence of respiratory problems other than asthma was far higher in Ferguslie Park than among households which attended Glasgow Road. Persistent cough, wheezing and breathlessness were all considerably greater, as were nausea/vomiting and poor appetite.

However, participants were asked to say whether they, their partner, other adult or any of their children (if any), had suffered from any symptom in the last 12 months. This means that where families have more than one child, the actual number of symptoms could *be under-reported*, particularly in the case of cold and flu. Having said that, the table below still provides a useful indication as to the extent of symptoms.

Table 11.2: Number of reported symptoms

<i>Condition</i>	<i>No. of cases</i>	<i>Glasgow Road</i>	<i>Ferguslie Park</i>
High blood pressure	35	51%	49%
Persistent cough	53	38%	62%
Cold/flu	126	54%	46%
Wheezing	40	28%	73%
Aches and pains	84	50%	50%
Skin problems	38	42%	58%
Persistent headaches	42	55%	45%
Nausea/vomiting	22	45%	55%
Dizziness/fainting spells	32	34%	66%
Incontinence	6	33%	67%
Breathlessness	62	39%	61%
Feeling low/depressed	59	46%	54%
Anxious/worried	55	44%	56%
Poor appetite	28	36%	64%
Temper tantrums	6	83%	17%
Hyperactive	3	33%	67%
Other	24	58%	42%
Asthma	34	50%	50%

Note: Temper tantrums and hyperactivity refer to children only.

11.3 Long term illnesses or disabilities

The majority of households (81%) had one or more members who suffered from either asthma, some other long-standing illness, disability or infirmity or a combination of these conditions. The results are given in Table 11.3.

Some 39% of households contained someone with a long-term illness, and 31% had someone with a disability of some kind. By comparison, the 1996 SHCS found that 29% of Scottish households had a member with a long-term disability or illness and research into health and housing in Glasgow carried out by the City Council and Greater Glasgow Health Board found

that 32 % of participants had a limiting long-term illness.¹²

Some 26% of households had someone with asthma. Comparing the two surgeries, it was found that a larger proportion of Ferguslie Park households reported one or more members of the family as having asthma (32%, compared with 21% for Glasgow Road). (Note that participants were specifically asked whether anyone in the household had asthma, whereas the other conditions were volunteered by the respondents). Looking at the asthma figures in more detail, 17% of the children in the survey and 7% of adults were reported to have asthma. By comparison, figures from the National Asthma Campaign estimate that approximately one in seven (14%) of children have asthma symptoms requiring treatment, as does one in 25 adults (4%).¹³

Table 11.3: Long term conditions (reported by households)

Condition	%
Asthma	26%
Arthritis/spondalitis	20%
Heart problems	16%
Physical Disability	14%
Depression	5%
Alcoholism/drug problem	7%
Other mental condition	8%
Gastro-intestinal	7%
Psoriasis	2%
Bladder problem	1%
Cancer	1%
Diabetes	1%
Gout	1%
Anaemia	1%
Liver disorder	1%
ME	1%
Bronchitis	1%
Hypertension	1%

¹² Source: *Energy Review 'Ecological Glasgow Study'*, Autumn 1996.

¹³ For the 72 households which took part in the phase 2 questionnaire and had an energy audit, the figures were 19% of children and 8% of adults.

11.4 Children's health

There were 53 households with children. The number of children reported as suffering one or more symptoms in the last 12 months was much lower than among adults. However, significant rates of respiratory conditions were reported: 21% of households with children reported that one or more children had had a persistent cough; 15% reported wheezing; 17% breathlessness; and 25% of households had a child with asthma. Other reported conditions were aches and pains (11%), persistent headaches (13%), temper tantrums 23% and other symptoms (13%).

12. Time off work or school due to illness

This section attempts to estimate how much time off work is due to illness, and how many days children have spent off school due to illness.

12.1 Time off work

When asked about their economic situation, 18 respondents (19%) had described themselves as being sick or disabled. Excluding these and participants who were of retirement age left 51 respondents of working age (16-60). Table 12.1 shows what proportion of these respondents were unavailable for work due to illness, and for how long over the last 12 months.

Table 12.1: Respondents' time off work

<i>Time off sick</i>	<i>%</i>
None	43%
1-2 days	6%
3-4 days	0%
1 week	8%
1-2 weeks	4%
>2 weeks	27%
no answer	12%
All working age	100%

A similar pattern emerges among the 34 partners of working age in the sample.

Table 12.2: Partners' time off work

<i>Time off sick</i>	<i>%</i>
None	44%
1-2 days	9%
3-4 days	0%
1 week	6%
1-2 weeks	6%
>2 weeks	15%
no answer	3%
All working age	100%

Note: Table 12.2 includes partners of respondents who stated they were sick or disabled. In addition to the 5 partners (15%) who had been unavailable for work due to illness for more

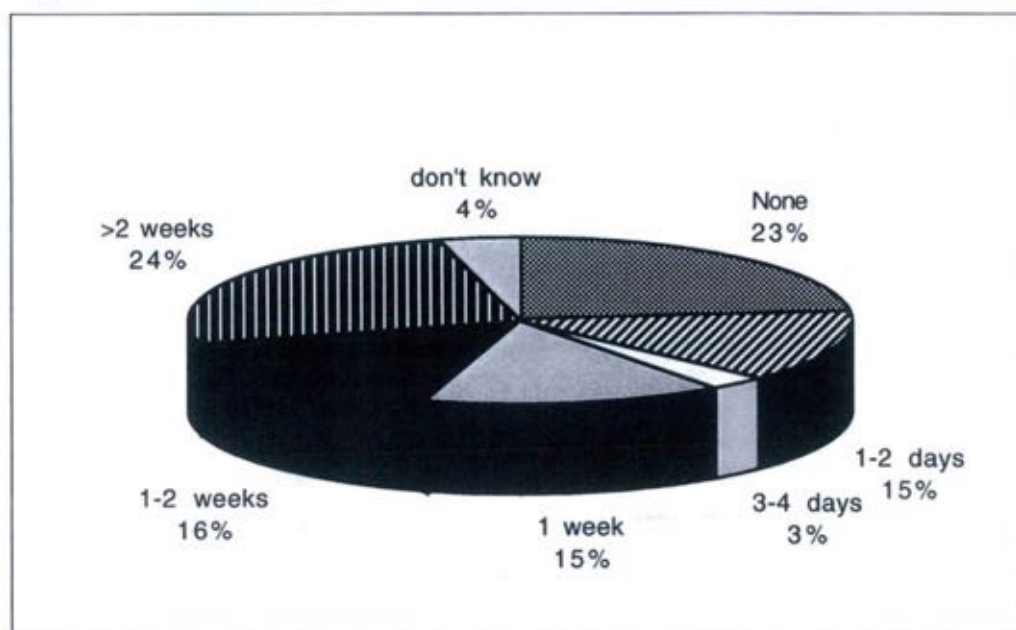
than two weeks in Table 12.2, another six had not been working for at least a year or had retired early due to illness.

There were six households which included a third adult who was either in work or available for work. Four of these had been off for only one or two days in the last year, one had been off for a week and in the last case no precise dates were available

12.2 Time off school

There were 75 children of school age in the participating households, almost one quarter (24%) of whom respondents reported as being off school for more than two weeks in the last year (Figure 12.1). A further 16% had been off school for between one and two weeks. However, similar proportions had either not been off at all (23%), or had been absent for one or two days (15%).

Figure 12.1: Days spent off school



There were 31 school-age children whose families attended the Glasgow Road surgery and 44 whose families attended Ferguslie Park. At both surgeries a quarter of children had been off for more than 2 weeks. Interestingly, Ferguslie Park children were more likely than their counterparts from Glasgow Road to have spent less time off school due to illness. A quarter of Ferguslie Park children (25%), had not spent any time off school, and a further one in five (18%) were reported to have only been off for one or two days, whereas only one in five Glasgow Road children (19%) had not been off school, and only one in ten (10%) had spent one or two days off. Almost a quarter of Glasgow Road children (23%) had spent a week off school, compared to one in ten (9%) Ferguslie Park children.

13. Use of health services

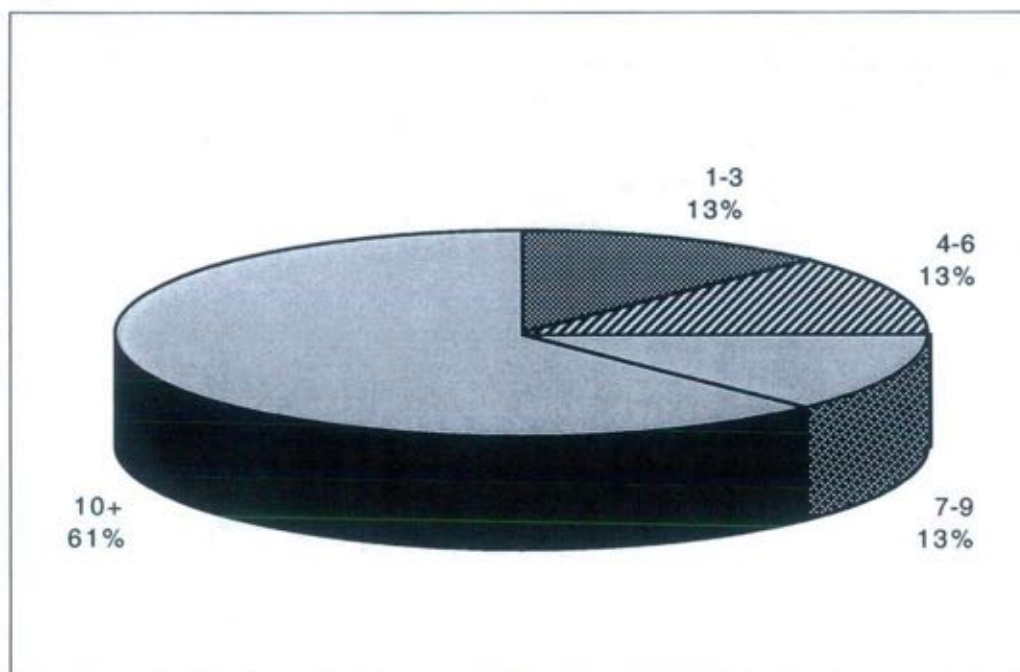
Respondents were asked a number of questions about their use of health services in the last year:

- Â how many times a member of the household had been to the doctor;
- Â how many prescriptions they had had;
- Â how many times they had been visited at home by a doctor;
- Â how many times they had attended a health clinic for regular treatment;
- Â how many times members of the household had been admitted to hospital and for how long (participants were asked to exclude admissions due to pregnancy).

13.1 Going to the doctor

In the study, frequent visits to the doctor were common (Figure 13.1). Six in ten respondents said that one or more members of the household had visited their doctor on 10 or more occasions in the last 12 months and three-quarters (75%) of households had been at least seven times. The frequency patterns for respondents visiting a GP were similar for both surgeries.

Figure 13.1: Number of visits to the doctor



13.2 Comparison with preliminary questionnaire sample

Table 13.1: Comparison of visits to the doctor, examines the answers given by the 95 phase two respondents and the answers supplied by the 444 patients who filled out the phase one questionnaire at their doctor's surgery, from which the sample is drawn. The two groups are not directly comparable because those who filled out the phase one questionnaire were providing answers about themselves only, while those who answered the phase two questionnaire were asked how many times all members of the household had visited the doctor.

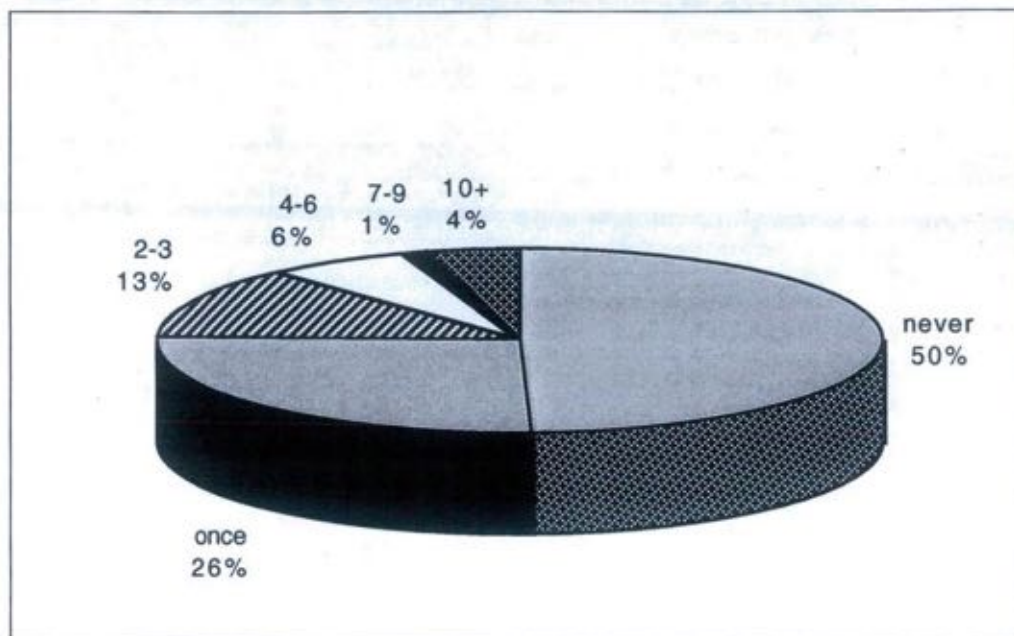
Table 13.1: Comparison of visits to the doctor

<i>Visits to Doctor</i>	<i>Phase one questionnaire</i>	<i>Phase two questionnaire</i>
None	N/A	9%
1-3	12%	32%
4-6	13%	24%
7-9	13%	12%
10+	62%	23%

13.3 Home visits made by the doctor

When respondents were asked the number of times they had called out a doctor for a member of the household exactly half of respondents said this had occurred: (Figure 13.2). However, it was a common anecdotal comment by respondents that the doctor never made home visits (and the head GP at the Glasgow Road surgery stated that the surgery had adopted a policy of encouraging patients to come into the surgery where possible).

Figure 13.2: Number of home visits made by the doctor



Comparing the two surgeries, there is again a similar frequency pattern, with half the respondents in each group saying that they had never had a home visit. However, four Ferguslie Park patients stated that a doctor had visited their home on 10 or more occasions in the last 12 months.

13.4 Prescriptions

Respondents attending each surgery required similar levels of prescriptions although three more Ferguslie Park patients stated that they had not had a prescription in the last 12 months.

Figure 13.3: Number of prescriptions

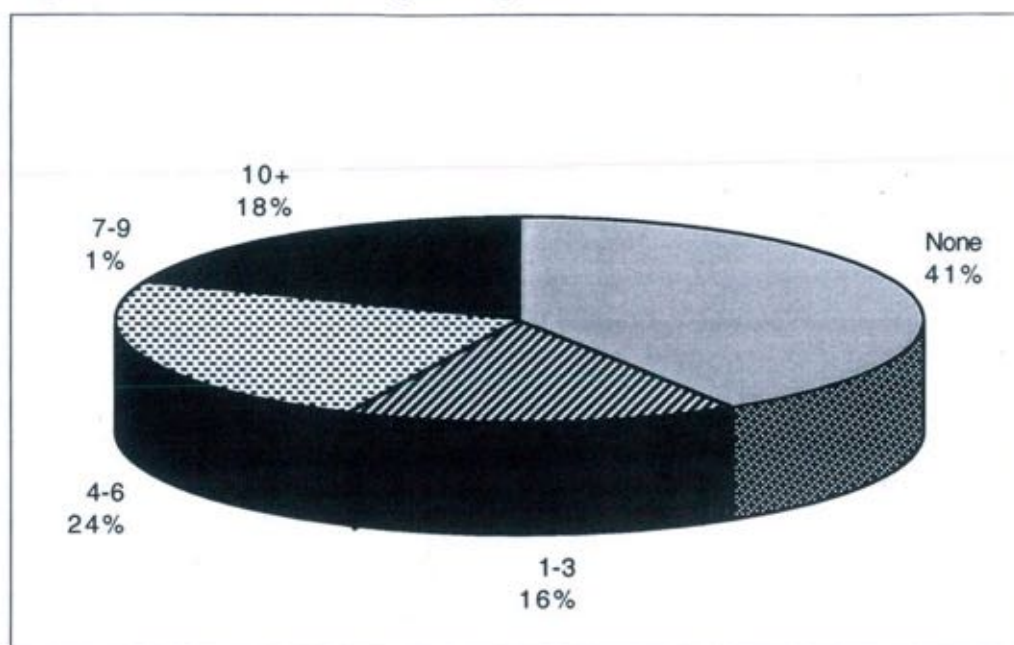
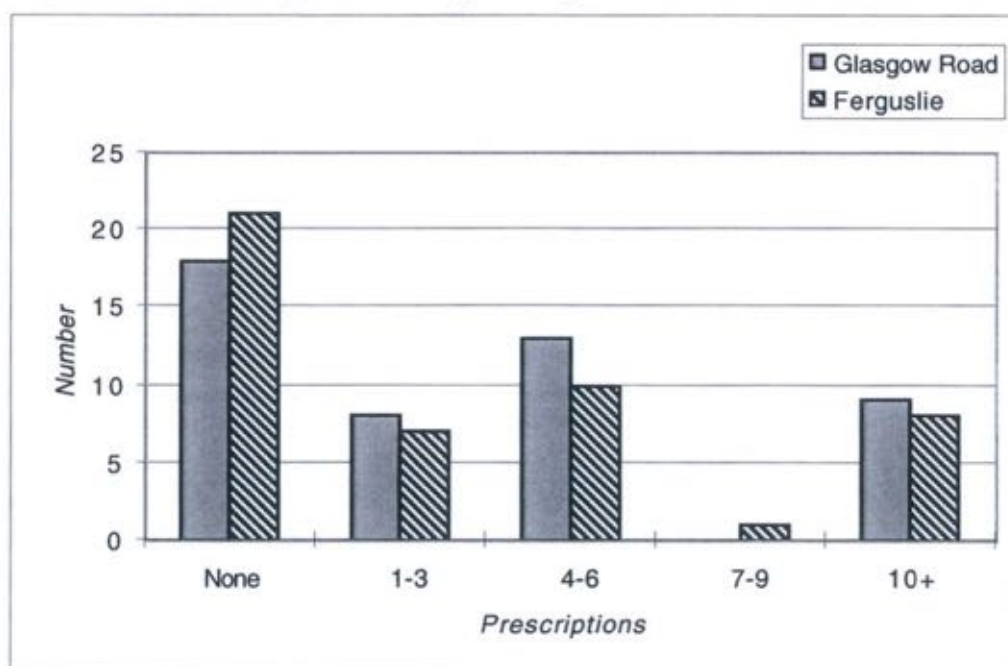


Figure 13.4: Comparison of prescriptions



Participants were also asked if anyone was on a repeat prescription in the household. Almost half (48%) of households were in receipt of one repeat prescription, and 13% of households were receiving two or more repeat prescriptions. In the remaining 38% of households no one was on a repeat prescription.

13.5 Visits to clinics

Of the households interviewed, 40% had one or more members who attended some form of clinic on a regular basis. There was no significant difference between the two surgery groups, where 50% of Glasgow Road patients attended a clinic, as did 51% of Ferguslie Park patients.

13.6 Admissions to hospital

Over one third of households (37%) had had someone admitted to hospital in the last year and in one in ten households (12%) a member of the household had been admitted on more than one occasion. There was no significant difference between the two surgery groups.

Energy audits

14. Energy audit results

The energy audits were carried out during separate visits to the participants. In all, the researchers managed to collect energy audit data from 72 of the 95 households which took part in the phase two questionnaire. The surveys were carried out using a National Home Energy Rating (NHER) level 1 procedure together with additional occupancy data. The data was analysed using the NHER Surveyor 3 software.

This produced for each property:

- * an NHER score;
- * a Standard Assessment Procedure (SAP) score;
- * estimated annual total expenditure on fuel (includes lighting and appliances);
- * estimated annual expenditure on (space and water) heating alone;
- * annual total fuel expenditure required if property was heated to the standard heating regime¹⁴;
- * estimated annual expenditure on heating alone if property was heated to the standard heating regime;
- * estimated average internal temperature in the home.

SAP scores are the Government's preferred method for rating the energy efficiency of domestic properties. However the NHER system gives a more accurate picture of the energy efficiency of a home because it takes account of appliance use and local climatic conditions. This paper considers the NHER scores only.

14.1 Energy Efficiency ratings

The average NHER score for properties of the participating households was 5.1. The least energy-efficient property scored only 0.6 and the highest rating was 8.6. The standard deviation (SD) was 2.0, i.e. the majority of scores ranged between 3.1 and 7.1. The average NHER score for Glasgow Road patients' homes (5.05) was only slightly lower than for the homes of Ferguslie Park patients (5.15). However, the range of scores was greater among Ferguslie Park patients' homes (SD of 2.4, compared to SD of 1.5 for Glasgow Road). At Glasgow Road, 6% of homes had a poor rating, with an NHER score of 2 or less, 86% of respondents' homes had a moderate NHER score (3-6) and 8% a 'good' rating of 7 or above.

¹⁴ A standard heating regime assumes that the home is heated for eight hours a day during the week, and 16 hours a day at weekends. Temperatures achieved are 21 degrees centigrade in the living room and 18 degrees in the rest of the property.

In Ferguslie Park 19% of homes had a poor rating, 50% moderate and 31% had a 'good' energy efficiency rating. This reflects the recent investment made in the housing stock in Ferguslie Park, where homes are either very new and therefore built to modern energy efficiency standards or they are older dwellings, more likely to be in a much poorer condition. The average NHER score for a property in Renfrewshire is 4.3.¹⁵

14.2 Energy auditors' predictions of expenditure on fuel

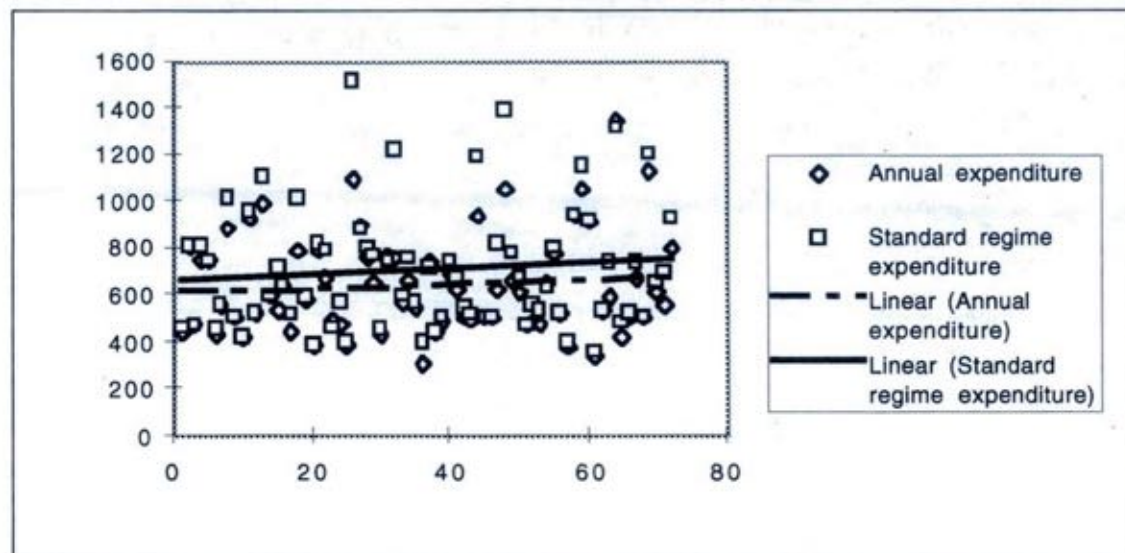
The energy auditors were able to calculate, using the NHER software, how much each household should be spending on fuel. This was based on the number of people in the dwelling and how much the participants said they used their heating and the reported use of appliances. Average predicted expenditure on fuel for the 72 households was £642.65 a year. The lowest expenditure was £310 and the highest was £1,350. The standard deviation was £211.22. Average predicted fuel expenditure was higher among Ferguslie Park patients (£663.52) than among Glasgow Road patients (£621.40), based on the energy audit data. This difference is likely to be due to the greater number of Glasgow Road homes with gas central heating.

14.3 Estimated standard heating regime expenditure

The auditors were also able to predict how much it would cost to heat each dwelling to the standard heating regime (see footnote at the bottom of page 84). The cost of heating a home to the standard regime is an accurate reflection of the energy efficiency of a dwelling. In a majority of cases (69%) it would cost more to heat respondents' homes to the standard regime than the fuel expenditure predicted by the auditors. *In other words, homes were not being heated to the standard regime.* Figure 14.1 shows the linear trendlines for predicted and standard heating regimes. The average estimated expenditure on fuel under a standard heating regime was £704.4, with the lowest expenditure £362 and the highest £1,517. There was also a difference in standard heating regime costs between the two surgeries: the average cost of heating a Glasgow Road patient's home was £675.25, while it was £733.58 for those in Ferguslie Park.

¹⁵ Source: Renfrewshire Council Home Energy Conservation Act first report, 1997.

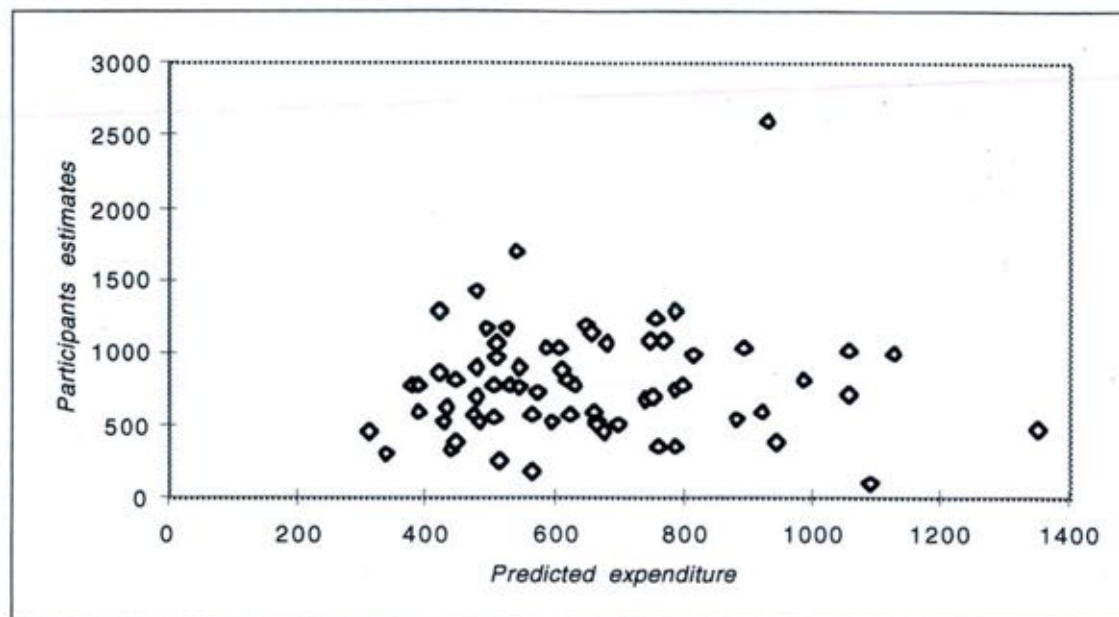
Figure 14.1: Predicted vs standard heating regime costs



14.4 Difference between reported and predicted expenditure on energy

Of the 72 households which were audited, 68 were also able to estimate their energy consumption for comparison (see Chapter 8). In a majority of cases (51%), respondents' reported expenditure on energy was substantially higher (by more than £100 a year) than either the predicted expenditure - calculated using the NHER software - or the expenditure required under a standard heating regime. Due to confounding variables, the data has not produced a significant correlation ($r = 0.06$) between the energy expenditure predicted by the NHER survey software and the expenditure reported by participants' (Figure 14.2), nor between the predicted standard regime expenditure and participants estimates ($r = -0.09$). This may be due to customer ignorance of how much they were paying for their energy, the repayment of debt to the fuel company, or a combination of these two factors.

Figure 14.2: Participants' estimates of expenditure compared with predicted expenditure



Some consumers did not have a clear idea of how much they were paying for fuel, either because the interviewee was not the member of the household responsible for paying the bills, or because they had only recently moved into their present home. However, the majority of respondents were either paying by prepayment meter or were paying a regular fixed amount (either by direct debit, payment book or Fuel Direct), and so were knowledgeable about fuel expenditure. Given the relatively high proportion of participants on prepayment meters or Fuel Direct, it is more likely that a number of respondents were paying off previous debts to the fuel utilities. The survey of Powercard users in Ferguslie Park carried out by the Energy Advice Unit at Renfrewshire Council suggested that as many as 76% of Powercard users may have had a prepayment meter installed to repay fuel debts.¹⁶ Even so, previous research has suggested that participants' reported estimates of fuel expenditure should be treated with caution.

14.5 Predicted internal temperatures

The average internal temperature in the home predicted using the NHER software was 15°C, below the level where respiratory conditions believed to be an increased risk.¹⁷ The lowest predicted average temperature was 9.71°C. The highest predicted average temperature achieved was 18.74°C. Ferguslie Park homes were predicted to be on average almost a degree colder than the homes of respondents who went to Glasgow Road (14.6°C compared with 15.5°C).

¹⁶ Source: Powercard Survey, Renfrew District Council Energy Advice Unit, 1993.

¹⁷ Source: BRE publication, BR 289 (1995), Building Regulation and Health.

14.6 Comparison with the 1996 Scottish House Condition Survey

The average energy efficiency of the homes audited (5.1) was higher than that found in the 1996 SHCS (average NHER 4.1). The range of scores is also different. However, the energy audits in the SHCS were carried out to a Level 0 standard, which uses a less detailed internal survey of a dwelling than a Level 1 audit. In the SHCS, 17% of homes were found to have a poor energy rating (NHER of 2 or below), 76% were classed as moderate (NHER 3-6), and 7% were defined as having a good level of energy efficiency (NHER 7-10). In the Paisley study these percentages were 13%, 68% and 19% respectively. The housing stock in Ferguslie Park proved to be exceptionally energy-efficient by comparison with nearly one third of homes rated 7 or above. This is likely to be due to recent significant investment in the area, which has seen much of the poorest stock replaced by more energy efficient homes.

The SHCS also provides estimates of household total fuel expenditure based on a standard heating regime. The median expenditure was £753, compared with only £704 in the Paisley study, which is to be expected given the higher average NHER scores of the properties surveyed in Paisley. However, the mean standard heating regime expenditure for Glasgow Road was only £675, while for Ferguslie Park it was £733.

Analysis

15. Analysing the results

The following chapters compare the results from the energy audits with answers which respondents gave about conditions in their home. The results from the 72 households where both surveys and energy audits had been carried out were analysed to ascertain whether there were any correlations between the following areas:

- * house conditions and fuel expenditure;
- * house conditions and economic circumstances;
- * economic circumstances and energy expenditure;
- * house conditions and reported health;
- * economic circumstances and reported health;
- * the use of health services.

16. Economic circumstances and energy expenditure

This section explores the relationship between the income group, expenditure on fuel and the proportion of income spent on fuel and which households have difficulty paying for fuel.

16.1 *Income and energy expenditure*

By expressing the proportion of income spent on fuel, a measure of the extent of fuel poverty can be obtained, i.e. how much of the sample was spending more than 10% of their income on fuel. The phase two questionnaires and the energy audits provide three different measures of the participants' expenditure on fuel:

- * expenditure reported by participants (see Chapter 8);
- * the amount predicted by the auditors based upon the NHER score, the occupancy levels and how much participants said they used their heating;
- * the amount it would cost to heat the home to the standard heating regime (21°C in the living room and 18°C in the rest of the home).

In each case the proportion of income spent on fuel is calculated using the median value in each income band, except in the highest income band where average household income is assumed to be £250 per week.

16.1.1 Participants' estimates

Based upon what participants reported they were spending on fuel, 50% were spending more than 10% of their income on fuel (Table 16.1).

Table 16.1: % of income spent on fuel based on participants' estimates

<i>Participants' estimates</i>	<i>Respondents</i>	<i>No. paying <5%</i>	<i>No. paying 5%-10%</i>	<i>No. paying >10%-19%</i>	<i>No. paying =>20%</i>
All	68	6%	44%	32%	18%
£0-50	2	0%	0%	50%	50%
£51-100	15	7%	13%	27%	53%
£101-150	26	4%	38%	46%	12%
£151-200	12	0%	58%	42%	0%
£200+	6	15%	85%	0%	0%

Note: only 68 households were able to provide estimates of their fuel expenditure.

16.1.2 Auditors' predicted amounts

When the proportion of income spent on fuel is calculated using the amount estimated by the auditors then the proportion of households who did not have affordable warmth (i.e. are spending more than 10% of their income on fuel), drops to 47% (Table 16.2).

Table 16.2: % of income spent on fuel based on auditors' estimates

<i>Auditors' estimates</i>	<i>Respondents</i>	<i>No. paying <5%</i>	<i>No. paying 5%-10%</i>	<i>No. paying >10%-19%</i>	<i>No. paying =>20%</i>
All	72	10%	43%	39%	8%
£0-50	2	0%	0%	0%	100%
£51-100	17	0%	0%	76%	24%
£101-150	27	0%	59%	41%	0%
£151-200	13	0%	69%	31%	0%
£200+	13	54%	46%	0%	0%

16.1.3 The proportion of income required to achieve a standard heating regime

More than half the sample (52%) would be unable to achieve a reasonable degree of heating (i.e. the standard regime) by spending 10% or less of their income on fuel (Table 16.3). This is due to the low level of incomes in the sample, as the energy efficiency of the properties is relatively high. Only those households with an income of more than £200 per week would be able to achieve this level of heating for 10% or less of their weekly income.

Table 16.3: % of income spent on fuel to achieve standard regime

<i>Standard regime</i>	<i>Respondents</i>	<i>No. paying <5%</i>	<i>No. paying 5%-10%</i>	<i>No. paying >10%-19%</i>	<i>No. paying =>20%</i>
All	72	3%	46%	38%	14%
£0-50	2	0%	0%	0%	100%
£51-100	17	0%	0%	65%	35%
£101-150	27	0%	46%	50%	8%
£151-200	13	0%	77%	23%	0%
£200+	13	15%	85%	0%	0%

16.1.4 Comparison between surgeries

When comparisons were made between the two surgery groups, it was found that Ferguslie Park households were more likely to be fuel poor than those who attended Glasgow Road:

- * Based on the participants' estimates of fuel expenditure, 64% of those in Ferguslie Park were spending more than 10% of their income on fuel, as were 31% of Glasgow Road respondents;
- * The surveyors' estimates of expenditure on fuel showed that 58% of Ferguslie Park households were spending more than 10% of their income on fuel compared with only 36% of Glasgow Road households;
- * Nearly two-thirds (64%) of Ferguslie Park households would not be able to heat their home to the standard regime for 10% or less of household income, compared with only 39% of Glasgow Road households. Given that the standard heating regime expenditure is a reflection of the energy efficiency of the dwelling, it can be said that the two-thirds of Ferguslie Park households which cannot afford the standard heating regime are to be found primarily in the two-thirds of homes which did not have an NHER score of 7 or above.

16.2 Ease of paying for fuel and economic circumstances

Comparisons between reported difficulties in paying for fuel and economic circumstances can also be made.

Table 16.4: Expense of heating and income group

<i>Income group</i>	<i>Number</i>	<i>Expensive</i>	<i>Not Expensive</i>
£0-£100	18	73%	27%
£101-£150	25	68%	32%
£151-£200	12	54%	46%
£200+	13	50%	50%
All	68	65%	35%

While the small number of participants in the survey means that the percentages in Table 16.4 may not be an accurate representation of the population as a whole, the overall pattern indicates that those in the lower-income groups are increasingly more likely to find it expensive to heat their home. Furthermore, given that Ferguslie Park households were generally on lower incomes than Glasgow Road households, this means that a greater number of Ferguslie Park households found it expensive to heat their home.

A similar pattern (shown in Table 16.5) occurs when comparing those who said they were able to use their heating as much as they liked and those who said that were not because it was too expensive. A majority of those in the lowest income band were not able to use their heating as much as they would like because they found it too expensive.

Table 16.5: Ability to use heating and income group

<i>Income group</i>	<i>Able to use heating</i>	<i>Not able (too expensive)</i>
£0-£100	43%	57%
£101-£150	63%	38%
£151-£200	85%	15%
£200+	64%	36%
All	61%	39%

16.3 Conclusions

Based on the auditors' estimates just under half (47%) of the sample spent more than 10% of their income on fuel, a higher proportion than those who found it either expensive to heat their home or were not able to use their heating as much as they would like. *Furthermore, given the state of the housing stock, more than half the sample (52%) would not be able to heat their home to a reasonable level on their current income.*

17. Socio-economic circumstances and house conditions

In this section, the analysis concentrates on whether there is a demonstrable link between the economic circumstances of the occupants, the energy efficiency of a property and the presence of damp-related and other problems.

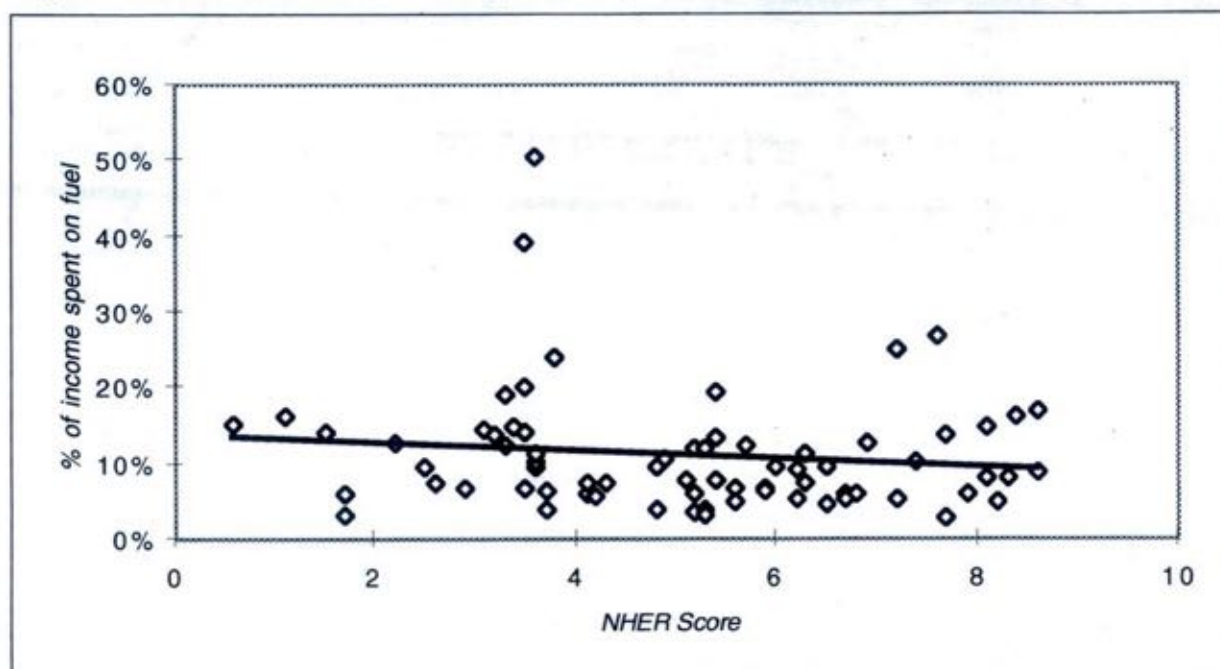
17.1 NHER scores and household income

Comparison of NHER scores and household income shows that due to confounding variables the data has not produced any significant correlation ($r = 0.06$). A closer examination of the incomes and NHER of the two surgeries shows that lower incomes and a greater range of NHER scores are found among Ferguslie Park patients (with nearly one third of homes having a 'good' energy efficiency rating), while a higher than average income and less variation in the NHER score of homes is found among Glasgow Road patients.

17.2 Proportion of income spent on fuel and NHER scores

The behaviour of participants has a strong influence on the proportion of income spent on fuel. Correlating the % of income spent on fuel in order to achieve a standard heating regime produces a statistically significant correlation coefficient ($r = -0.45$), which is to be expected given that the cost of heating to the standard regime is determined by the NHER score. However, correlating the proportion of income spent on fuel (based on the predicted expenditure estimated using the Homerater software) and the NHER scores shows that due to confounding variables the data has not produced a significant correlation, $r = -0.1$ (Figure 17.1). This is also the case when participants' estimates are correlated, ($r = -0.08$). There is no difference between the two surgeries.

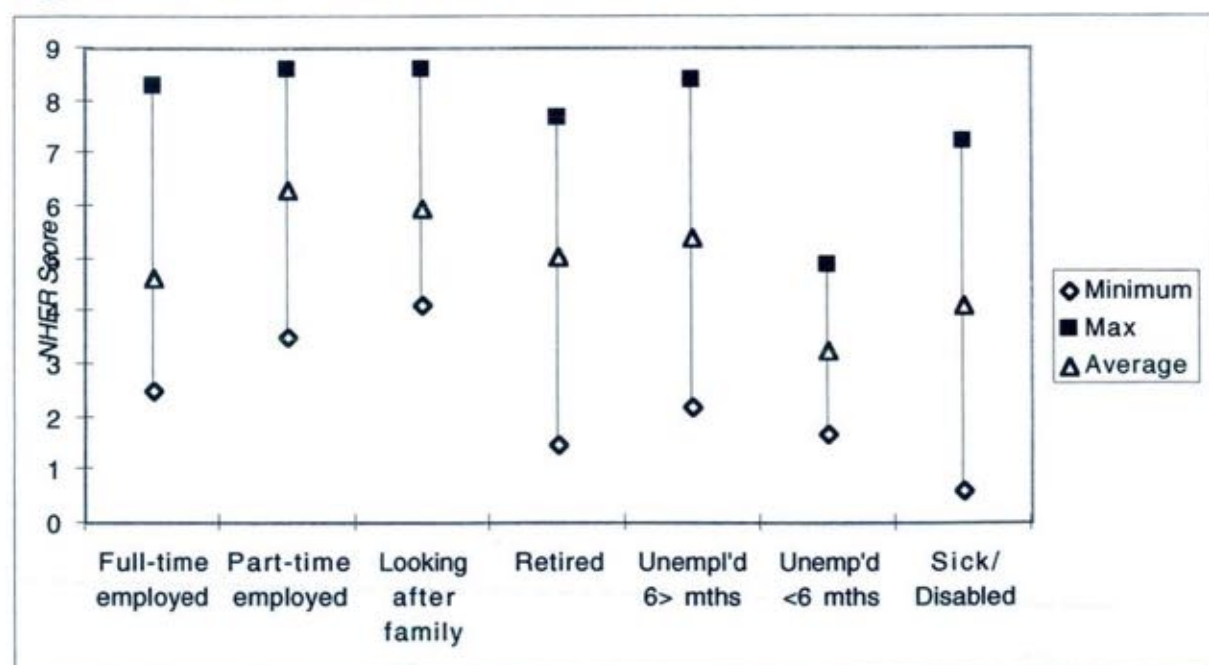
Figure 17.1: NHER scores and percentage of income spent on fuel



17.3 NHER scores and household type

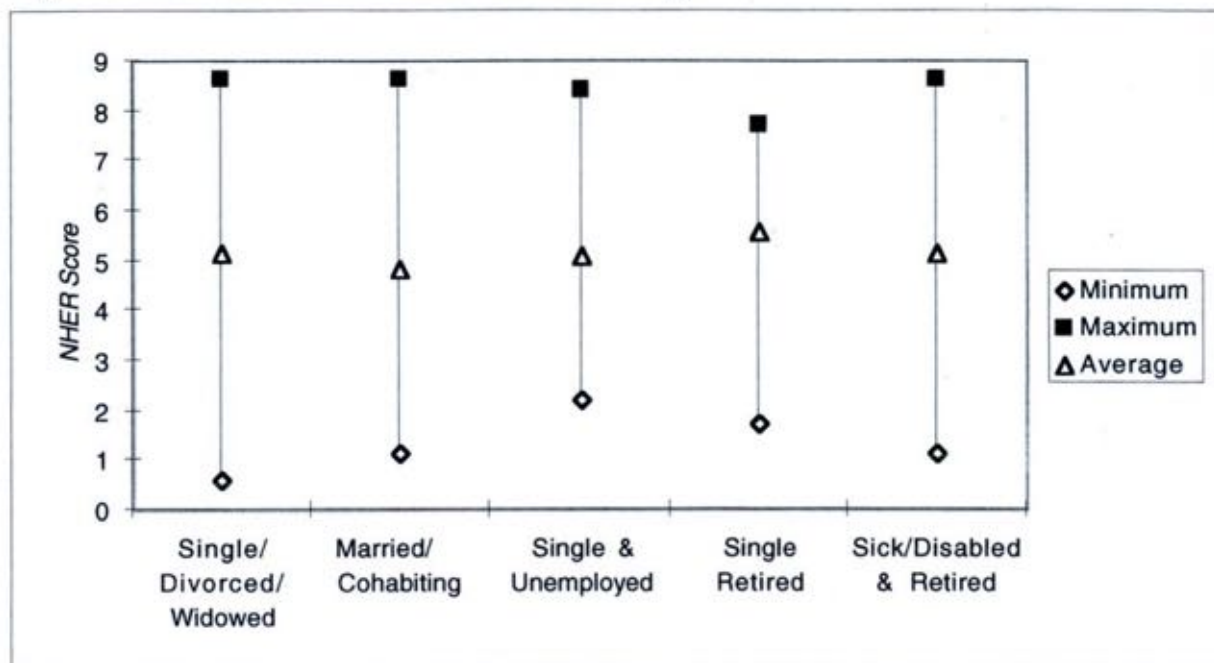
Figure 17.2 shows the minimum, average and maximum NHER scores arranged by economic status of respondent. The average NHER scores of the homes of those who are unemployed, retired, sick or disabled are all lower than those who are either in employment or looking after their family.

Figure 17.2: NHER scores and economic status



There is no obvious connection between the household type and the NHER value of a property, with all categories living in properties with a wide range of energy efficiency.

Figure 17.3: NHER score and household type



17.4 NHER scores and age

Due to confounding variables the data has not produced any significant correlations ($r = 0.03$) between the age of respondents and the NHER score of their home.

17.5 NHER scores and household size

Due to confounding variables the data has not produced any significant correlations ($r = 0.1$) between NHER score of a property and the number of occupants.

17.6 NHER scores and length of occupancy

A comparison of the length of time respondents had lived in their home (Table 17.1) indicates that those who have lived in their home the longest have homes which on average have a lower NHER rating, reflecting the number of families who have been rehoused in newer and more energy-efficient homes in Ferguslie Park (and elsewhere in Paisley).

Table 17.1: NHER scores and length of occupancy

<i>Length of occupancy</i>	<i>Number of respondents</i>	<i>Average NHER</i>
less than a year	12	6.1
1-2 years	17	5.4
3-4 years	18	5.7
5-9 years	22	4.9
10 years or more	26	4.5

17.7 Proportion of the home heated and household income

Twice as many households with an income of over £200 a week heated all of their home than as respondents earning £100 a week or less (Table 17.2). Those in the lowest income band were also more likely to heat less than half their home. Curiously, nearly one third of households in the highest income group also heated less than half their home. As household income was related to household size, this group may comprise larger households which receive a higher level of benefit in relation to the number of people living in the home, and who therefore have higher living costs than smaller households.

Table 17.2: Proportion of the home heated and income band

<i>% of home heated</i>	<i>£0-100</i>	<i>£101-150</i>	<i>£151-£200</i>	<i>>£200</i>
Less than 50%	42%	22%	15%	31%
50%-99%	37%	22%	15%	23%
100%	21%	56%	69%	46%

17.8 Physical conditions and household income

The presence of dampness in the home does not rise or fall in line with household income. While nearly six in ten households in the lowest income band reported dampness, almost seven in ten of the highest income band households reported dampness.

Table 17.3: Income band and the presence of damp-related problems

<i>Income band</i>	<i>Damp</i>	<i>No damp</i>
£0-100	58%	42%
£101-150	59%	41%
£151-200	31%	69%
£200+	69%	31%

A similar pattern emerges when looking at the income category and whether or not the respondent said their home was cold (Table 17.4).

Table 17.4: Income and homes reported to be cold

<i>Income group</i>	<i>Respondents</i>	<i>Cold</i>	<i>Not cold</i>
£0-100	19	32%	68%
£101-150	27	30%	71%
£151-200	13	15%	85%
£200+	13	31%	69%

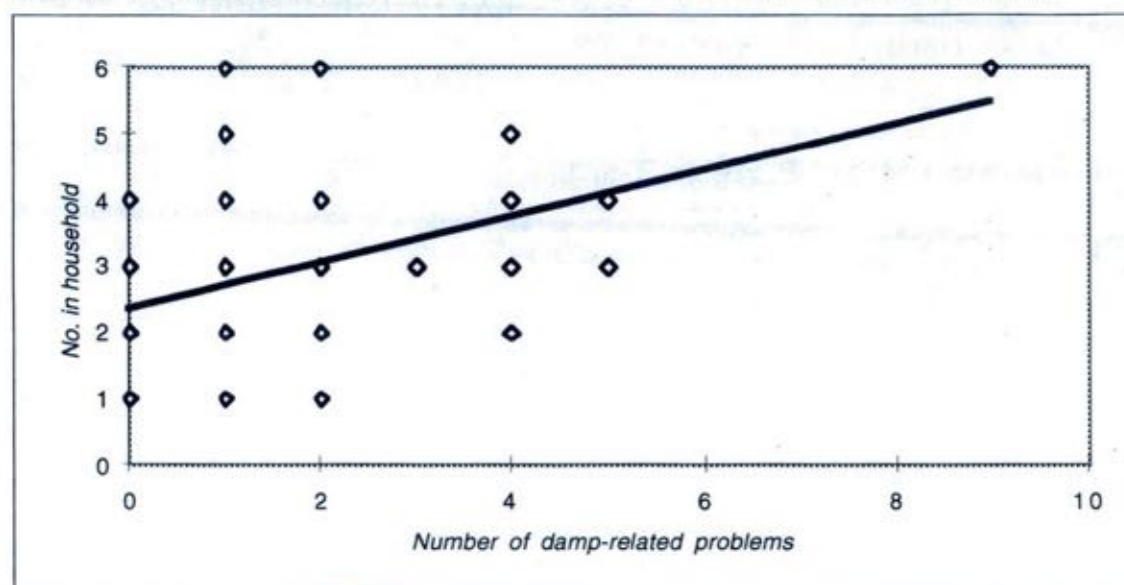
17.9 Physical conditions and percentage of income spent on fuel.

Correlating the number of dampness problems with the percentage of household income spent on (based on the auditors' estimates), shows that due to confounding variables the data has not produced any significant correlations ($r = 0.06$). This is also the case if the number of dampness problems and the percentage of income spent on fuel, which is based on participants' reported expenditure, are correlated, ($r = 0.16$).

17.10 Physical conditions and household size

Correlating the number of reported damp-related problems and the size of the household shows a significant relationship ($r = 0.42$), suggesting that larger families report a greater number of problems. Excluding the household with the largest number of damp-related problems (9), which also happened to be the biggest household (6 members), this reduces r to 0.33 which is still significant.

Figure 17.4: Household size and number of damp-related problems



A comparison of the average household size of respondents who either reported feeling cold, having windows which did not fit properly, or having their home in a poor state of repair, with those households which did not report these problems found that the average household where none of these problems were present (3) was larger than households where problems occurred (2.5).

17.11 Physical conditions and household type

The sample is too small to establish whether there is any sort of pattern between the economic status of the household and the number of damp-related problems (Table 17.5). However, it is possible to compare the proportions of respondents in each category who did and did not have damp-related problems in their home. This shows that retired people are more likely to report having a damp-related problem in the home than any other group.

Table 17.5: Economic status and damp-related problems

<i>Category</i>	<i>Respondents</i>	<i>None</i>	<i>1 or more</i>
Employed	21	45%	55%
Looking after family	7	86%	14%
Retired	14	27%	73%
Unemployed 6+ months	11	64%	36%
Unemployed <6 months	3	100%	0%
Sick/Disabled	15	67%	33%
Other	1	0%	100%

Table 17.6 shows the economic status of respondents who reported that their home was cold. Interestingly, retired respondents were far less likely to report that their home was cold.

Table 17.6: Economic status and cold homes

<i>Category</i>	<i>Respondents</i>	<i>Not cold</i>	<i>Cold</i>
Full-time employed	8	43%	57%
Part-time employed	19	86%	14%
Looking after family	11	57%	43%
Retired	17	86%	14%
Unemployed 6+ months	16	91%	9%
Unemployed <6 months	4	33%	67%
Sick/Disabled	18	67%	33%
Other	2	0%	100%

17.12 Conclusions

There is no clear evidence that the socio-economic circumstances of the sample was linked to either the energy efficiency of a property or the presence of problems for the sample as a whole.

The households in the lowest income bands which are most likely not to have affordable warmth and to find it expensive to heat their homes, do not necessarily live in the worst properties, in terms of energy efficiency ratings or the presence of damp-related or other problems.

However, there is a significant relationship between large households and the number of damp-related problems. Additionally, retired respondents were more likely to report one or more damp-related problems (although they were less likely to report that their home was cold).

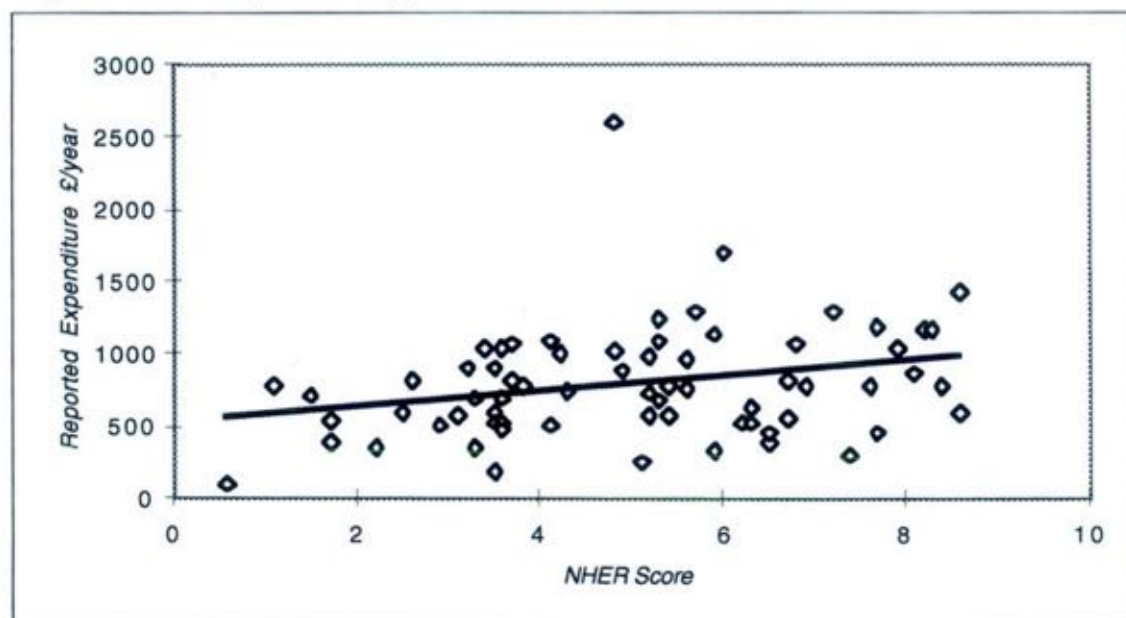
18. Energy expenditure and house conditions

Using the NHER software it is possible to calculate the NHER rating of the properties. The average weekly expenditure predicted by the auditors and that required to achieve the standard heating regime, and the predicted average internal temperature are all generated. There is therefore a strong relationship between these factors. As the NHER score of a property increases so the predicted weekly amount spent on fuel falls and the predicted average internal temperature rises.

18.1 Reported energy expenditure and NHER scores

Comparisons of the participants' reported expenditure on energy reveals the opposite result. The participants' estimates were likely to be higher the more energy efficient their home (Figure 18.1), although the correlation is not significant, $r = 0.27$. However, exclusion of the household with the largest reported expenditure increases r to 0.34, which is significant. When correlations are made for the two surgery groups, both show the same relationship - that reported expenditure rises as NHER scores rise - but because of the smaller numbers the relationship is insignificant.

Figure 18.1: Reported expenditure and NHER scores



There are a number of reasons which might explain why this relationship between participants' estimates and NHER scores is the opposite to that predicted by the NHER software:

- * The participants' estimates are wrong. For example, more than half the sample paid for their electricity through a non-regular payment method (see section 8.1). There is therefore significant scope for error;
Gains in energy efficiency are used to increase the level of comfort in the home, as has been argued by Professor Tom Markus; (As is shown in Table 18.3 participants in dwellings with more efficient and cheaper-to-run heating systems heat more of their home).
Households with electric fires may feel it is worthwhile to heat only one or two rooms, rather than the whole house;
- * Many of the low-income households in the sample who live in modern energy-efficient homes may still be paying off a previous fuel debt. When the NHER scores of homes are examined in relation to payment methods for electricity and gas used by the occupants a consistent pattern emerges. For both fuels the average NHER score of the homes is higher for payment methods associated with paying off fuel debt. The NHER score of households who pay for electricity by prepayment meter is 5.5, for those on Fuel Direct 6.0, while for those who pay quarterly or by direct debit the average NHER score of their homes is only 4.2. For gas, the average NHER score of a home whose occupants pay by prepayment meter is 6.8, while for those on Fuel Direct it is 7.0. By contrast, for those who pay quarterly the average NHER score of a home is 4.3, and for direct debit payers the average NHER of their property is 5.2. It is also notable that payment for electricity and gas through a prepayment meter is more expensive than payment by quarterly or direct debit arrangements.

18.2 Reported energy expenditure and proportion of the home heated

Due to confounding variables, the data has not produced any significant correlations between either participants' reported expenditure and the proportion of the home heated ($r = 0.1$) or between the predicted expenditure level calculated using the NHER software ($r = -0.13$). Even when the highest and lowest participants' estimates of expenditure are excluded, the correlation with proportion of the home heated remains insignificant ($r = 0.22$).

18.3 Type of heating system and expenditure on energy

Table 18.1 shows the average weekly expenditure of households, based on respondents' estimates, for each type of heating system. Households with electric storage heaters spend the most on heating their home, and the next most expensive form of heating is gas central heating (even though a home with a gas central heating system will have a higher NHER rating). The two households with district heating were spending the least amount by a significant margin.

Table 18.1: Heating system and reported weekly expenditure

<i>Type of heating</i>	<i>Number of respondents</i>	<i>Average reported weekly expenditure</i>
Gas central heating	39	£16.10
Gas fire	8	£14.46
Electric fire	6	£9.98
Storage heaters	13	£17.05
District heating	2	£5.75

18.4 Type of heating and percentage of income spent on fuel

Comparison of the percentage of income spent on fuel with the heating system used by the different households (Table 18.2) shows that for the four most commonly used heating systems around half of the households were paying more than 10% of their income on fuel. Those with storage heaters were most likely to be spending 20% or more. Households with storage heaters were also the least likely to be spending less than 5% of their income on fuel as were those with gas central heating.

Table 18.2: Type of heating system and % of income spent on fuel

<i>% income on fuel</i>	<i>less than 5%</i>	<i>5% - 10%</i>	<i>>10% - 19%</i>	<i>20% +</i>
Central heating	3%	51%	41%	5%
Gas fire	0%	50%	50%	0%
Electric fire	33%	50%	17%	0%
Storage heaters	8%	54%	15%	23%
District heating	100%	0%	0%	0%

18.5 Type of heating and proportion of home heated

When a comparison is made of the type of heating system used and the proportion of the home heated (Table 18.3), it clearly shows that a majority of those with gas central heating reported that they heated all their home. Of the remainder, the majority heated at least half of their home. Respondents with storage heaters clearly have the worst of both worlds in that they reported paying the highest amount on fuel, yet two-thirds of them heated less than half of their home.

Table 18.3: Type of heating system and proportion of home heated

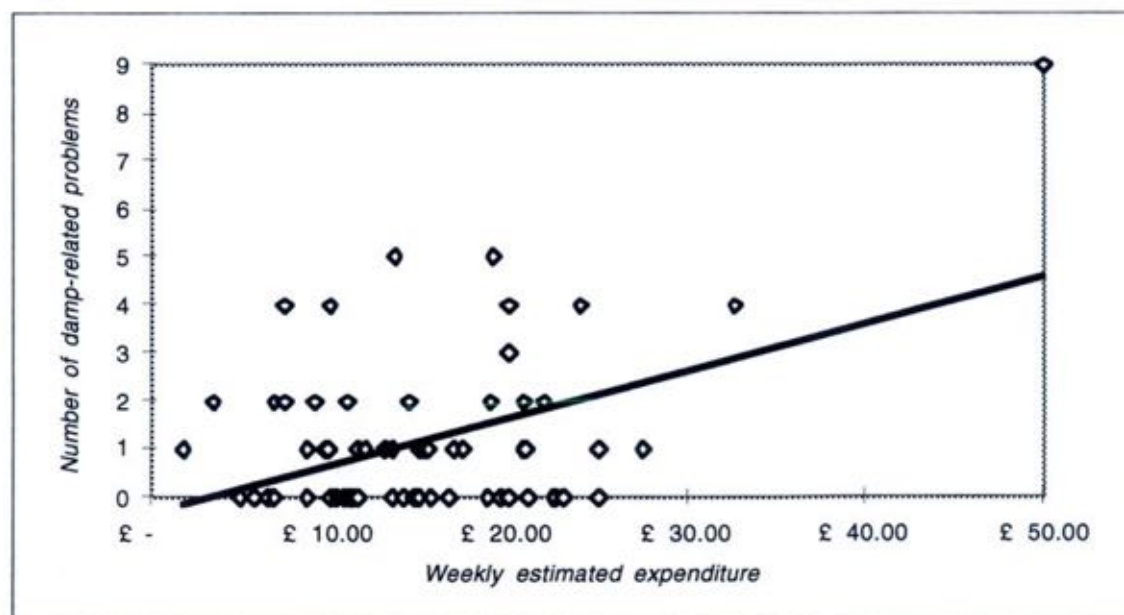
Proportion of home heated	less 50%	50%-99%	100%
Central heating	10%	29%	62%
Gas fire	50%	25%	25%
Electric fire	57%	29%	14%
Storage heaters	67%	17%	17%
District heating	0%	0%	100%

18.6 Damp-related problems and expenditure on energy

Correlating the number of damp-related problems and predicted expenditure on energy gives $r = 0.02$, showing that there is not a linear relationship between these two data sets. However, when a comparison is made between participants' estimates of fuel expenditure and the number of damp-related problems, then a significant correlation occurs ($r = 0.4$). Figure 18.2 is the scatter diagram of this relationship. This shows that one household has both the highest reported expenditure and the highest number of number damp-related problems. Removing this property from the correlation means the correlation becomes insignificant ($r = 0.16$).

It is notable that the household with the highest weekly expenditure paid by Fuel Direct - a payment method associated with fuel debt.

Figure 18.2: Estimated weekly expenditure and damp-related problems



18.6.1 Differences between the surgery groups

When the correlation is made for each surgery group, both surgeries produce positive coefficients between the number of damp-related problems and the weekly expenditure based on participants' reported estimates which are significant to a 5% level (for Ferguslie $r = 0.41$ and for Glasgow Road $r = 0.44$). If the households which reported the most damp-related problems are removed from each group, then the Glasgow Road coefficient remains significant ($r = 0.43$), while the figure for Ferguslie becomes negative (i.e. damp declines as expenditure rises) but insignificant ($r = -0.24$).

18.7 Cold homes and expenditure on energy

Respondents who said that their home was cold were predicted to spend more on average on fuel - £13.29 a week compared with only £11.90 a week for those who did not say their home was cold. Where participants said their home was cold the average estimated weekly expenditure was £16.74, compared with only £13.37 where a cold home was not reported.

18.8 Cold, damp homes and expenditure on energy

A higher rate of expenditure on fuel is even more marked when comparing homes which reported one or more damp-related problems and which were cold (predicted average weekly expenditure £14.26), with those which had no damp-related problems and were not cold (predicted average weekly expenditure £10.91). Again the same pattern emerges when comparing participants' estimates of energy expenditure. Those in cold, damp homes averaged £18.26 a week on fuel, while those with neither problem averaged £13.21 a week.

18.9 Ease of paying for fuel and NHER scores

Participants were asked a range of questions about how easy they found it to heat their home or pay for fuel, which provided mixed results. Those who said they found it expensive to heat their home lived in properties which had a lower average NHER score (4.9) than those who said it was not expensive (NHER 5.3). Additionally, those who said that they could not use their heating as much as they would like, and said the reason was because fuel was expensive had a lower NHER score (4.7) compared with those who stated that they were able to use their heating system as much as they liked (5.4).

However, when the NHER scores are compared against the answers given in response to a question about how easy the participants found paying for fuel in summer and winter (Table 18.4: Ease of paying for fuel and NHER score), the outcome is less clear. This is unsurprising given the high proportion of participants who were paying for their electricity or gas in regular fixed amounts, either through direct debit, weekly, bi-weekly or through Fuel Direct. Only

those respondents who paid quarterly or through a prepayment meter would see seasonal fluctuations in their heating bills.

Table 18.4: Ease of paying for fuel and NHER score

<i>Ease of paying</i>	<i>Number in summer</i>	<i>Average NHER</i>	<i>Number in Winter</i>	<i>Average NHER</i>
Very difficult	5	4.9	11	5.7
Difficult	19	5.7	29	5.4
Fairly easy	25	4.8	10	4.8
Easy	16	4.9	12	5.0
Very easy	2	4.6	2	5.0

18.10 Conclusions

There is a statistically significant, although weak, correlation between estimated energy expenditure by a household and the NHER of their home. However, it is the reverse of what might be expected in that participants' reported energy expenditure rises as the NHER score rises, and there are a number of reasons why this is the case.

Due to confounding variables, the data has not produced any significant relationship between damp-related problems and participants' reported levels of expenditure on fuel for the sample as a whole (although, in particular households where the participants reported very high levels of expenditure on fuel, a considerable number of damp-related problems were also reported). For the two surgery groups, there was a significant positive correlation, although to a lower level of significance, between the number of damp-related problems and expenditure on energy. This remains significant for the Glasgow Road group even once the property with the most damp problems is removed, while for Ferguslie Park the correlation becomes negative, but insignificant.

However, predicted average expenditure by those in a home which participants said was cold was considerably higher (around £1.30 a week, approximately 11%) than in homes where the participants did not report feeling cold. Again the contrast between homes where both cold and damp problems were present and those where they were both absent was the most marked: a difference in expenditure of £3.35, which is 31%.

This relationship is even stronger when participants' reported estimates of energy expenditure are examined. The difference between cold homes and non-cold homes was £3.37 (25%). Between cold, damp homes and those where neither problem was present the difference was £5.05 (38%).

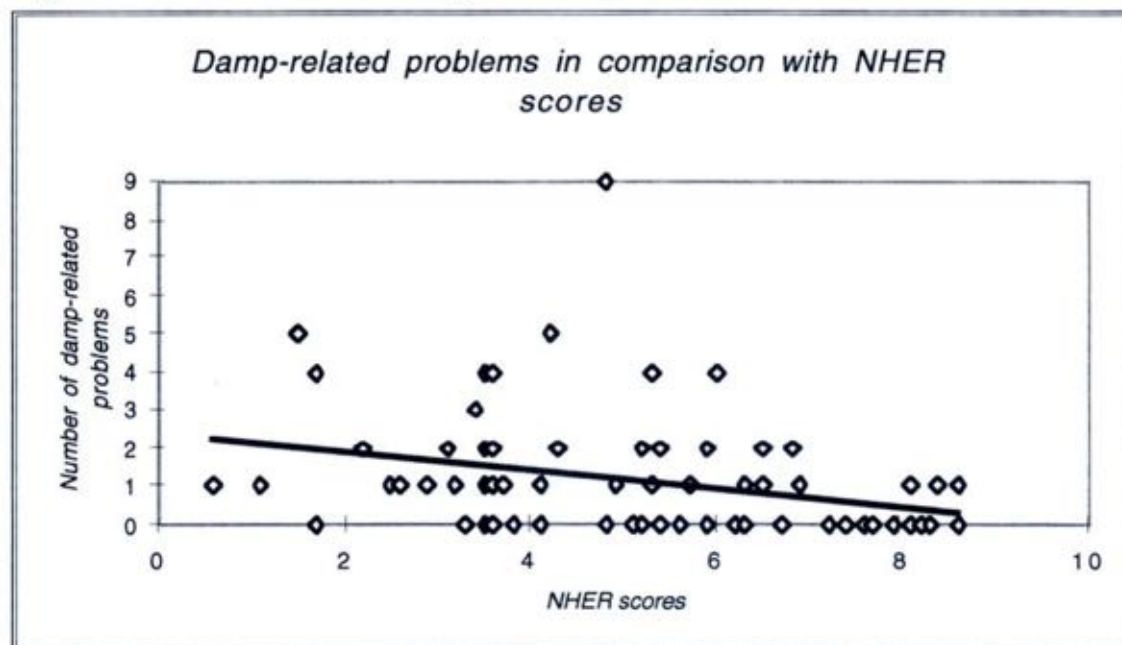
On average, those who felt constrained in their use of heating because of the cost lived in less energy-efficient homes than other participants, as did those said they found their home expensive to heat.

19. Energy efficiency and house conditions

19.1 NHER scores and the presence of damp-related problems

The average NHER score for a property without damp-related problems (5.9), was considerably higher than in properties where such problems were reported (4.5). Correlating the NHER rating of a property and the number of damp-related problems reported by the occupants (as a crude indicator of the extent of dampness in the home) gives a value of $r = -0.31$ (Figure 19.1), which is a weak but still significant correlation. That is to say, as the NHER scores rises, so the number of damp-related problems reported falls. If the home with the highest number of damp-related problems is excluded then the correlation coefficient rises to -0.37 .

Figure 19.1: Number of damp-related problems and NHER scores



19.1.1 Differences between the surgery groups

For households in Ferguslie Park there is a significant (to a 5% level) negative correlation between the number of damp-related problems and the NHER score of the dwelling ($r = -0.42$). However, for Glasgow Road respondents the correlation is not significant ($r = -0.11$).

19.2 NHER scores and cold homes

The difference in NHER scores between homes where the occupants reported that the property was cold and those where they did not was less marked: 4.5 against 5.2.

19.3 NHER scores and cold, damp homes

The average NHER score of a home which was reported to be both cold and have one or more damp-related problems was 4.1, while for homes where neither condition was present, the average NHER score was 5.7.

19.4 NHER scores and homes where the windows did not fit properly

The average NHER score of the homes of respondents who said that the windows did not fit properly (4.6) is lower than for those who did not report a problem with their windows (5.4).

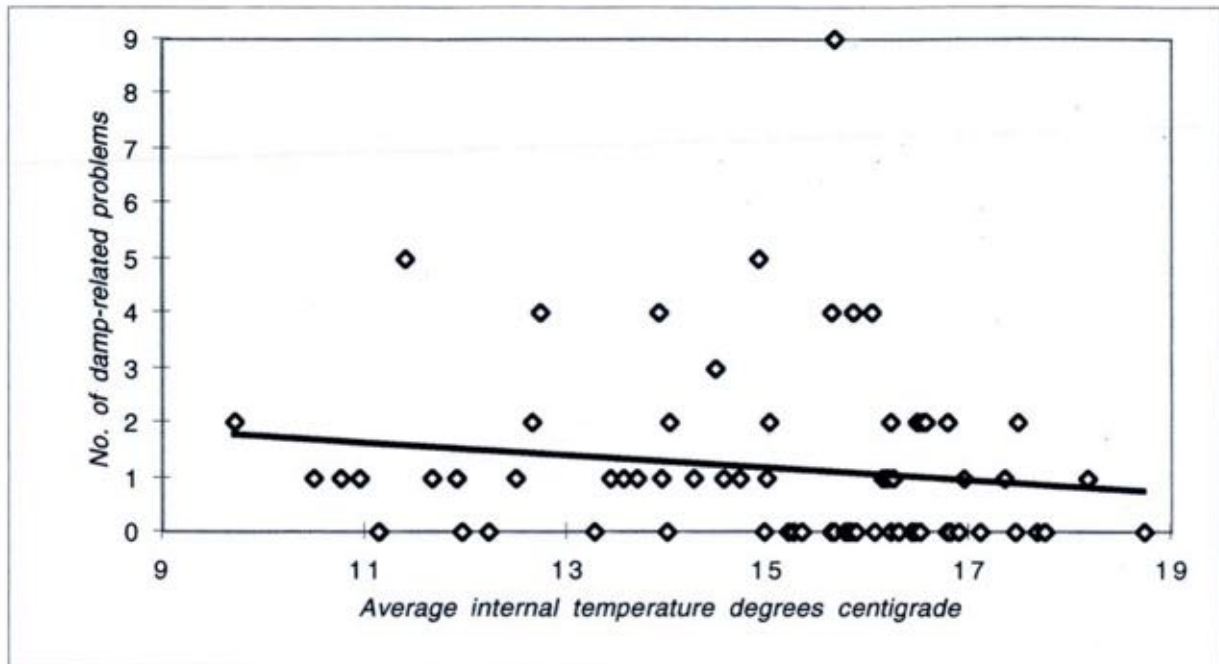
19.5 NHER scores and homes in a poor state of repair

Respondents who reported that their home was in a poor state of repair were also more likely to live in a home with a lower NHER score (4.3) than those who did not (5.3).

19.6 Average internal temperature and damp-related problems

Figure 19.2 shows the relationship between the average internal temperature in the home (as calculated using the homerater software) and the number of reported damp-related problems. There is not a significant correlation between the two data sets ($r = -0.16$). However, it is notable that a majority of the homes (59%) where the predicted average temperature is above 15°C reported no damp-related problems. Excluding the household with the most damp-related problems raises the correlation coefficient to - 0.21.

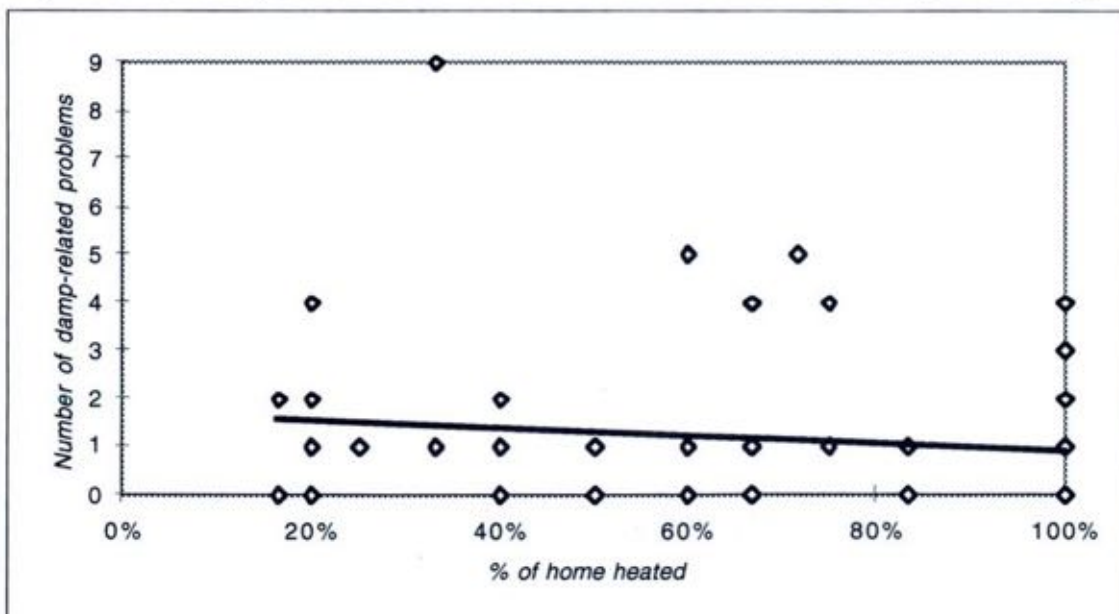
Figure 19.2: Predicted internal temperature and damp-related problems



19.7 Proportion of the home heated and dampness

Correlating the proportion of the home that was heated against reported number of damp-related problems (Figure 19.3) gives an insignificant correlation ($r = -0.16$). This declines even further ($r = -0.11$) if the household which reported nine problems is removed.

Figure 19.3: Proportion of home heated and number of damp-related problems



19.8 Conclusions

There is a statistically significant link for the sample as a whole between the presence of damp-related problems and the energy efficiency of a property in that the more energy efficient a dwelling the fewer damp-related problems were reported. However, this is not the case in the homes of respondents who went to Glasgow Road, suggesting that dampness in these households is not linked to energy efficiency.

Where participants said that their home had damp-related problems, or was cold, both cold and damp, had windows that did not fit properly, or was described as being in a poor state of repair, the NHER score was on average lower than in homes where none or few problems were reported.

Dampness is not linked to the proportion of the home heated or the predicted average temperature in the home.

20. Socio-economic circumstances and medical symptoms

The health of the households was examined in relation to a variety of socio-economic data, comparing the number (as a crude indication of level of health) and type of symptoms reported.

20.1 Household size and number of reported symptoms

As might be expected, there is a significant and fairly strong correlation between household size and the number of reported symptoms ($r = 0.5$). However, when the number of symptoms per member of the household is correlated with household size then the opposite relationship occurs ($r = -0.35$), indicating that individual members of larger families appear to enjoy a better level of health than individuals living in smaller families, or on their own. However, this result should be treated with caution as the number of symptoms reported by children in larger families may be under-reported (see 11.2).

Figure 20.1: Household size and total number of reported symptoms

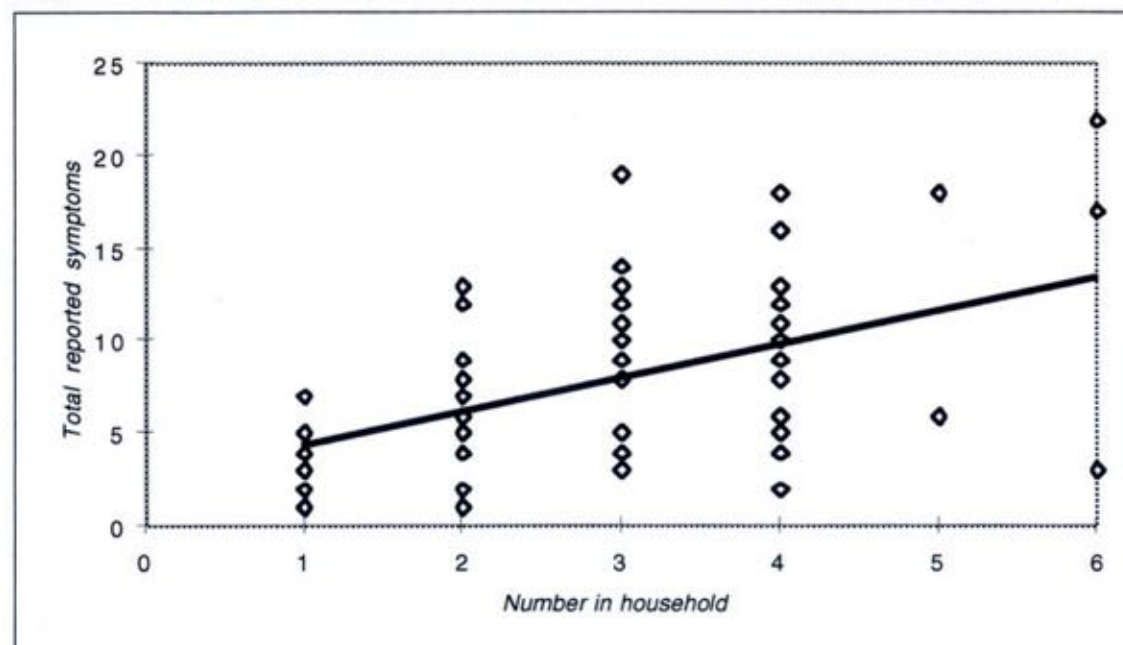


Table 20.1 lists the percentage of respondents by household size who reported having a particular symptom and does not show any pattern in symptoms reported by respondents in different sizes of household.

Table 20.1: Reported symptoms and household size

<i>Household size</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5+</i>
Respondents	15	17	18	17	5
High blood pressure	20%	35%	28%	12%	0%
Persistent cough	7%	24%	33%	41%	20%
Cold/flu	53%	47%	56%	71%	60%
Wheezing	13%	6%	28%	29%	20%
Aches and pains	60%	76%	61%	41%	60%
Skin problems	47%	18%	28%	6%	20%
Persistent headaches	0%	29%	28%	24%	0%
Nausea/vomiting	13%	6%	22%	6%	0%
Dizziness/fainting spells	13%	29%	44%	12%	0%
Breathlessness	47%	35%	39%	29%	20%
Feeling low/depressed	40%	29%	39%	53%	40%
Anxious/worried	27%	18%	44%	65%	40%
Poor appetite	20%	12%	22%	12%	20%
Other	20%	12%	6%	12%	0%
Asthma	0%	6%	11%	18%	0%

20.2 Age and symptoms

A correlation of respondents' age with the number of symptoms reported by each household does not give a significant coefficient ($r = -0.2$). Given that there was a strong negative correlation between age and household size, this suggest that older respondents are reporting more symptoms per member of the household than younger respondents. Yet correlating the number of symptoms per family member and the age of respondents shows that while the number of symptoms reported per head does indeed rise with age, it is not a significant relationship ($r = 0.11$).

Table 20.2 shows the symptoms reported by respondents only in each age group. (This removes differences between households of different sizes.) This shows that high blood pressure appears to be strongly influenced by age. On the other hand, older respondents had significantly fewer colds or flu, and those over 60 appear to be less likely to have had a persistent cough, or persistent headaches. Breathlessness is higher in the two older age groups than in the younger categories. Nausea and vomiting and dizziness and fainting spells are more common among those aged 30 and under, as are persistent headaches, aches and pains.

Table 20.2: Age and reported symptoms

<i>Age group</i>	<i>16-30</i>	<i>31-45</i>	<i>46-60</i>	<i>61+</i>
Number	11	28	22	11
High blood pressure	0%	11%	36%	45%
Persistent cough	27%	21%	36%	9%
Cold/flu	91%	54%	64%	27%
Wheezing	9%	21%	23%	18%
Aches and pains	82%	43%	68%	64%
Skin problems	18%	25%	23%	27%
Persistent headaches	55%	18%	18%	9%
Nausea/vomiting	36%	7%	9%	0%
Dizziness/fainting spells	55%	11%	27%	18%
Incontinence	0%	0%	14%	0%
Breathlessness	27%	18%	55%	55%
Feeling low/depressed	36%	54%	36%	55%
Anxious/worried	36%	46%	36%	27%
Poor appetite	18%	21%	14%	9%
Other	18%	4%	23%	0%
Asthma	0%	21%	14%	0%

20.3 Income and symptoms

Examining the relationship between household income and the number of symptoms reported, along with the number of symptoms reported per member of the household, shows that a household with an income of less than £100 per week has fewer symptoms (6.5) than a household in the highest income band of £200 or more per week (8.3) - a difference of 28%, due to those households in the higher income groups being larger. When the number of symptoms per household member is compared the situation is reversed, with families in the lowest income band reporting 3.7 symptoms per occupant, compared to only 2.5 symptoms in the highest income group, almost half as many again (47%).

Table 20.3 compares the symptoms reported by respondents only in each income group. There appears to be a relationship between reporting of aches and pains and the income group, with 30% more respondents in the lowest category reporting this symptom than in the highest income category. Respondents in the lowest category were also more likely to report skin problems, breathlessness, feeling low or depressed, and have a poor appetite.

Respondents with a household income of £200 or more a week were slightly more likely to say that they had had a cold or flu in the last 12 months and were significantly more likely to report

feeling anxious or worried than any other group. Those whose household income was over £150 were more likely to report asthma than those in a household with an income of £150 or less, and of those in the highest income group, the reported incidence was even greater.

Table 20.3: Income and reported symptoms

<i>Income Group</i>	<i>£0-100</i>	<i>£101-150</i>	<i>£151-200</i>	<i>£200+</i>
Number	19	27	13	13
High blood pressure	16%	30%	15%	23%
Persistent cough	21%	30%	23%	15%
Cold/flu	63%	48%	46%	69%
Wheezing	16%	15%	23%	31%
Aches and pains	68%	67%	54%	38%
Skin problems	42%	15%	31%	0%
Persistent headaches	5%	26%	31%	15%
Nausea/vomiting	21%	7%	15%	0%
Dizziness/fainting spells	26%	19%	38%	8%
Incontinence	0%	11%	0%	0%
Breathlessness	47%	30%	38%	31%
Feeling low/depressed	47%	33%	46%	38%
Anxious/worried	42%	33%	23%	62%
Poor appetite	47%	11%	23%	8%
Other	16%	11%	8%	8%
Asthma	5%	0%	15%	23%

20.4 Percentage of income spent on fuel and symptoms

Comparing the number of symptoms reported by those paying 10% or less of their income on fuel (based on the expenditure *predicted by the auditors*) and those paying over 10%, shows that those paying 10% or less reported the same number of symptoms per household as those paying more than 10% (7.6). When the number of symptoms per head are compared, then those in households paying 10% or less average 2.6 symptoms each in the last 12 months, compared with 3.2 symptoms per head in houses paying more than 10%, a 32% difference.

However, correlating the number of symptoms reported per household member with the percentage of income spent on fuel based on participants' estimates (Figure 20.2), does not provide a coefficient with a significant value ($r = 0.17$). Excluding the household with the largest proportion of income spent on fuel does not change the value of r .

Figure 20.2: Percentage of income spent on fuel and no. of reported symptoms

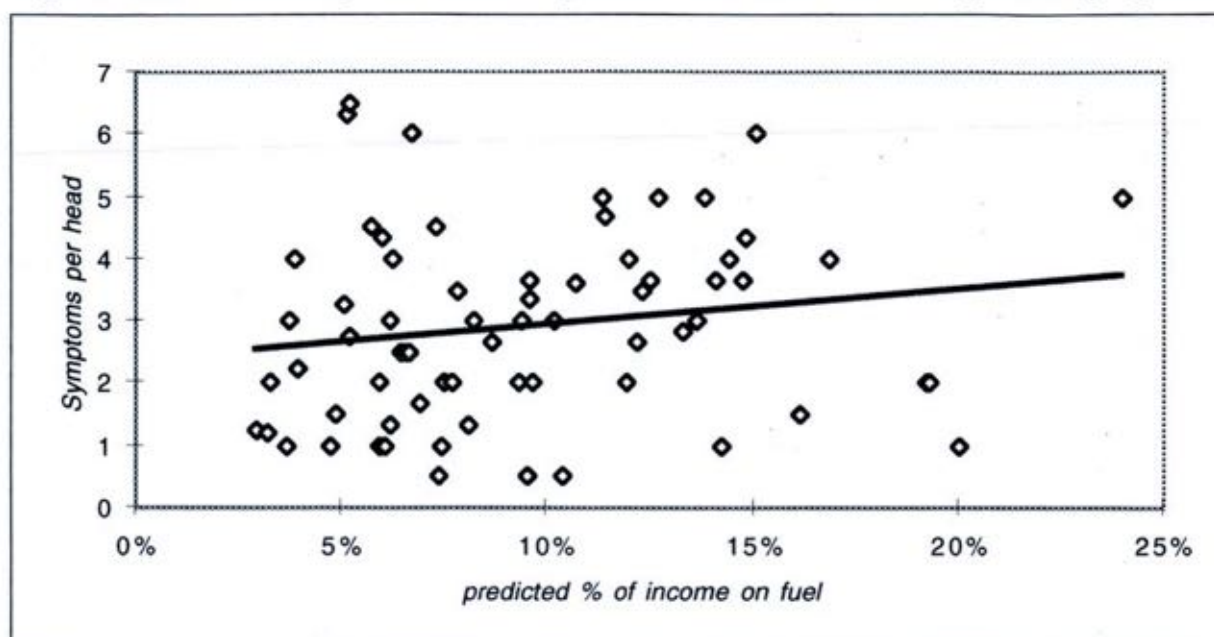


Table 20.4 shows the symptoms reported by respondents in relation to the percentage of income spent on fuel. No clear pattern emerges, for example, while wheezing and asthma are higher in households spending 10% or less of their income on fuel, breathlessness and breathing difficulties are lower.

Table 20.4: Percentage of income spent on fuel and reported symptoms

<i>% of income spent on fuel</i>	<i>10% or less</i>	<i>more than 10%</i>
Number	38	34
High blood pressure	21%	24%
Persistent cough	32%	21%
Cold/flu	55%	59%
Wheezing	24%	15%
Aches and pains	47%	74%
Skin problems	11%	38%
Persistent headaches	24%	15%
Nausea/vomiting	8%	15%
Dizziness/fainting spells	16%	32%
Incontinence	8%	0%
Breathlessness	26%	47%
Feeling low/depressed	39%	41%
Anxious/worried	39%	38%
Poor appetite	11%	24%
Other	5%	18%
Asthma	13%	3%

20.5 Conclusions

As might be expected, the size of a household has a significant influence on the number of symptoms reported, although individuals in a larger household appear to experience fewer symptoms than those in smaller households. However, this is still the opposite to that found between household size and the average number of symptoms reported. The age of the respondent does not appear to have a significant effect on the reported number of symptoms per occupant. There appear to be some differences between the age groups in the types of symptoms experienced.

Household income appears to have a marked effect on the number of symptoms reported per member of household. While a similar trend was found comparing the percentage of income spent on fuel it does not appear to be significant, due to the confounding variables. Nor is there any particular difference in the kind of symptoms reported.

21. Health and Housing Conditions

This section examines the relationship between house conditions and health in terms of the number and kinds of symptoms reported. A number of previous studies have linked the presence of dampness in the home with the health of the occupants, in particular asthma, as well as linking low temperatures and morbidity rates (see *The Impact of housing conditions and fuel poverty on Scotland's health*, EAS 1998, for details).

21.1 Relationship between damp housing and health

Excluding asthma, households who reported one or more damp-related problem also reported more medical symptoms on average (8.9), compared with respondents in damp-free homes (6) - a difference of 48%. There is a significant correlation ($r = 0.37$) between the number of problems and the number of symptoms. Households which reported damp were also more likely to be larger (see 17.10). Analysing the average number of symptoms reported per member of the family shows a smaller difference. In homes with damp, the average number of symptoms per person was 3.2 compared with 2.7 in non-damp households (19% greater) and the correlation coefficient drops to an insignificant level ($r = 0.16$).

In section 20.1, it was shown that there was a statistically significant negative correlation between household size and the number of symptoms reported per capita, i.e. that an individual in a large household was likely to have experienced fewer symptoms than an individual in a smaller household or who lived on their own. However, as discussed above, there was little difference in the number of symptoms per capita between damp households (which are larger), and non-damp households (which are smaller). In other words, the effect of damp is to reduce the influence of other factors which mean that a person in a large household will have experienced fewer symptoms over the last 12 months.

21.1.1 Differences between the surgeries

When the same correlations are carried out for each surgery group, both show a strong positive correlation (to a 5% significance level) between the number of damp-related problems and the number of symptoms reported: for Ferguslie Park $r = 0.44$, and for Glasgow Road $r = 0.66$ (which is also significant to a 1% level). When the number of damp-related problems is correlated with the average number of symptoms reported per household member, then no correlation is found for Ferguslie Park ($r = -0.02$), but there is one for Glasgow Road ($r = 0.39$) which is significant to a 5% degree level. This suggests that the health of Glasgow Road patients is affected more by damp than the health of Ferguslie Park patients.

21.1.2 Types of symptoms reported

Table 21.1 shows the respondents who reported these symptoms or conditions in the last 12 months, divided by whether the respondent had reported any damp-related problems.

(Symptoms reported by other members of the family are excluded, so that the difference in household size does not skew the results). There are a number of significant differences (defined as a difference of more than 10 percentage points).

A respondent living in a home with one or more damp-related problems was significantly more likely to report cold/flu, aches and pains, persistent headaches, nausea vomiting, feeling low/depressed, anxious/worried, or some other symptom.

Table 21.1: Symptoms and dampness

<i>Symptom</i>	<i>Dampness</i>	<i>No dampness</i>
Number of respondents	40	32
High blood pressure	25%	19%
Persistent cough	28%	25%
Cold/flu	63%	50%
Wheezing	18%	22%
Aches and pains	68%	50%
Skin problems	25%	22%
Persistent headaches	25%	13%
Nausea/vomiting	18%	3%
Dizziness/fainting spells	28%	19%
Incontinence	5%	3%
Breathlessness	33%	41%
Feeling low/depressed	48%	31%
Anxious/worried	53%	22%
Poor appetite	20%	13%
Other	20%	0%
Asthma	10%	6%

Table 21.2 examines the prevalence of reported symptoms among respondents who reported condensation, mould and two other damp-related problems that were most frequently reported.

Due to the small numbers in each category, a 20% difference in the rate of reported ailments between the respondents reporting a specific damp-related problem and those with none is deemed to be significant.

Table 21.2: Symptoms and specific dampness problems

<i>Symptom</i>	<i>Condensation</i>	<i>Mould</i>	<i>Stained walls</i>	<i>Damp smell</i>	<i>No dampness</i>
High blood pressure	29%	14%	18%	17%	19%
Persistent cough	29%	29%	36%	42%	25%
Cold/flu	62%	71%	73%	75%	50%
Wheezing	33%	14%	45%	33%	22%
Aches and pains	76%	71%	64%	67%	50%
Skin problems	19%	43%	27%	33%	22%
Persistent headaches	24%	14%	36%	42%	13%
Nausea/vomiting	24%	0%	18%	25%	3%
Dizziness/fainting spells	29%	29%	18%	42%	19%
Breathlessness	43%	43%	27%	50%	41%
Feeling low/depressed	38%	71%	64%	50%	31%
Anxious/worried	24%	57%	55%	58%	22%
Poor appetite	19%	14%	18%	25%	13%
Other	24%	29%	45%	25%	0%
Asthma	14%	0%	0%	8%	6%

Respondents in a home with condensation were significantly more likely to have suffered from or experienced aches and pains, nausea or vomiting, and some other complaint in the last 12 months. They also had the highest number of asthma complaints.

Mould in the home significantly increases the likelihood of a respondent having experienced mental health problems - feeling low/depressed, anxious/worried, as well as cold/flu, aches and pains, and skin problems.

Homes with stained walls were more likely to have a respondent with cold/flu, wheezing, persistent headaches, mental problems - feeling low/depressed, anxious/worried and other symptom(s).

Where there was a damp smell, respondents had an increased likelihood of experiencing cold/flu, persistent headaches, nausea/vomiting, dizziness/fainting spells, feeling low/depressed and other symptom(s).

21.2 Children's health and dampness

Of the 72 households in this analysis, 38 included children. There were 20 households with children which had damp problems and 12 households that were damp-free. Table 21.3 shows the symptoms reported for children living in damp and damp-free homes. Note that no children were reported as having incontinence, or feeling low/depressed, or anxious/worried.

Table 21.3: Children's symptoms and dampness

<u>Symptom</u>	<u>Damp</u> <u>households</u>	<u>Damp-free</u> <u>households</u>
Number of households	26	12
High blood pressure	8%	0%
Persistent cough	23%	42%
Cold/flu	73%	92%
Wheezing	19%	25%
Aches and pains	19%	8%
Skin problems	12%	17%
Persistent headaches	19%	17%
Nausea/vomiting	12%	8%
Dizziness/fainting spells	4%	0%
Breathlessness	31%	8%
Poor appetite	12%	0%
Temper tantrums	35%	25%
Other	15%	17%
Asthma	42%	17%

The children in damp households were reported to have significantly higher (20% or more) rates of asthma and breathlessness/breathing difficulties, but were less likely to have had a cold or flu.

21.3 Health and 'other' problems in the home

Householders who reported that their home felt cold, had windows which did not fit properly, or that the home was in a poor state of repair, reported a greater number of symptoms, excluding asthma (7.9), than those where none of these other problems were present (7.3) - which is only 8% more. Households where these other problems were found were slightly smaller than households where such problems were absent. This meant that the number of symptoms per family member living at an address where other problems were present was higher than where they were not: 3.4 symptoms per head compared to 2.6 - 30% more.

21.3.1 Difference between surgery groups

At the Glasgow Road surgery, 7.1 symptoms per household were reported by respondents with the other problems present, compared with 6.1 where these problems were absent. However, there was no variation in the average number of symptoms per member of the household (2.8) relative to the presence of these problems.

In Ferguslie Park, there was very little difference in the number of symptoms reported by households which did have other problems in the home (8.5), compared with those who did not (8.6). On a per capita basis, households with other problems averaged 3.3 symptoms per family member compared with 3.2 in homes without these problems.

21.3.2 Types of symptoms reported

Table 20.4 examines the reported cases per household. Firstly, comparing the incidence in homes where none of the four conditions were present with homes where one or more were present, it is notable that, even though households where these problems are present tend to be smaller, the number of reported cases per household is larger for every symptom, *except* for respiratory conditions (wheezing, breathlessness and asthma).

Table 21.4: Other problems and reported symptoms

<u>Symptom</u>	<u>None</u>	<u>Any</u>	<u>Windows</u> <u>don't fit</u>	<u>Home in poor</u> <u>state of repair</u>	<u>Cold</u>
Number of households	34	38	25	9	20
High blood pressure	29%	32%	36%	33%	30%
Persistent cough	26%	50%	36%	78%	50%
Cold/flu	68%	79%	72%	89%	85%
Wheezing	38%	32%	24%	56%	35%
Aches and pains	62%	76%	80%	78%	85%
Skin problems	26%	47%	48%	67%	50%
Persistent headaches	29%	42%	40%	78%	50%
Nausea/vomiting	9%	32%	28%	33%	35%
Dizziness/fainting spells	21%	39%	40%	44%	35%
Incontinence	6%	8%	8%	22%	15%
Breathlessness	50%	50%	56%	56%	40%
Feeling low/depressed	44%	58%	60%	56%	70%
Anxious/worried	41%	53%	44%	56%	60%
Poor appetite	24%	26%	28%	44%	40%
Other	12%	34%	36%	33%	40%
Asthma	44%	11%	8%	22%	20%

In looking at the results for each problem, respondents who reported that windows in their home did not fit properly were less likely to have someone with a persistent cough. These homes were also the least likely to include someone with asthma.

Homes which were in a poor state of repair were significantly more likely to be occupied by someone with a persistent cough, cold/flu, skin problems, persistent headaches, nausea/vomiting or who experienced some other symptom.

Those participants who lived in cold homes were more likely to have a persistent cough, cold/flu aches and pains, skin problems, persistent headaches, nausea and vomiting, feel low/depressed, anxious/worried, have a poor appetite or have some other symptom.

21.4 Children's health and other problems

Table 21.5 shows the symptoms which children were reported as having in the last 12 months in homes that were cold, had windows that did not fit properly or were in a poor state of repair. Table 21.5 only lists symptoms where there were a sufficient number of cases to provide any meaningful information, although wheezing and breathlessness are listed. This would appear to indicate that respiratory conditions are much less likely to occur in children living in cold or potentially draughty homes.

Table 21.5: Children's symptoms and other problems

<i>Symptom</i>	<i>Number of households</i>	<i>None</i>	<i>Any</i>
Persistent cough	11	55%	45%
Cold/flu	30	47%	53%
Wheezing	8	75%	25%
Breathlessness	9	67%	33%
Temper tantrums	12	50%	50%
Asthma	13	77%	23%

21.5 Symptoms and NHER scores

Due to confounding variables the data has not produced a significant correlation between the number of symptoms reported by households and the NHER score of their home ($r=0.02$).

Table 21.6 shows the symptoms reported by respondents. Homes with a poor NHER score (2 or less), had more reported cases per household of high blood pressure and respondents feeling low or depressed.

The highest reported rates of cold/flu, aches and pains and persistent headaches were in households whose homes scored between 3 and 6 on the NHER scale.

For the majority of the symptoms listed in the table, respondents in a home with an NHER score of 7 or more reported higher rates of incidence of each symptom than those living in a property with an NHER score of 2 or lower. The exceptions were high blood pressure, dizziness and fainting spells and feeling low and depressed. Interestingly, reported cases of breathlessness appear to rise as the NHER score rises.

Table 21.6: Reported symptoms and NHER scores

<i>NHER Score</i>	<i>0-2</i>	<i>3-6</i>	<i>7+</i>
Number of respondents	9	49	14
High blood pressure	44%	20%	14%
Persistent cough	11%	27%	36%
Cold/flu	44%	69%	29%
Wheezing	22%	14%	36%
Aches and pains	44%	67%	43%
Skin problems	33%	16%	43%
Persistent headaches	11%	24%	7%
Nausea/vomiting	11%	10%	14%
Dizziness/fainting spells	33%	22%	21%
Incontinence	0%	4%	7%
Breathlessness/breathing difficulties	11%	35%	57%
Feeling low/depressed	56%	39%	36%
Anxious/worried	33%	37%	50%
Poor appetite	11%	14%	29%
Other	0%	16%	0%

21.6 Asthma and NHER scores

Correlating the NHER scores of the homes where the occupants stated that one or more members of the family suffered from asthma gives a value of $r = -0.421$. However, as there are only 19 households which have one or more members with asthma, r is only significant if it exceeds 0.456, although, it is interesting to note that the average NHER of the homes where one or more occupants has asthma (5.9) is higher than the average for the sample (5.5).

21.7 Conclusions

Dampness problems in the home appear to have an effect on the types of symptoms reported by the occupants, although they do not appear to influence the overall number of symptoms they experienced. Mental health conditions seem to be most influenced by the presence of damp-related problems, as does nausea/vomiting and colds/flu. Looking at specific problems, such as mould, stained walls and damp smell, these appear to have an effect on mental health symptoms whereas condensation does not.

The level of reported breathlessness and asthma among children is strongly linked to dampness; 42% of the homes with dampness had one or more children with asthma. This was more than double the rate found in damp-free homes.

Homes which were reported to be cold or had ill-fitting windows (and therefore were likely to be draughty) or were described as being in a poor state of repair were significantly less likely to include someone who had asthma or a respiratory symptom associated with asthma - such as breathlessness.

Apart from asthma and breathlessness, there appears to be no discernible relationship between the relative energy efficiency of a home and the health of the occupants in the sample.

22. Other factors and symptoms

22.1 Smoking and symptoms

Households where someone smoked reported a higher number of symptoms per household member (8.5), than households where no-one smoked (5.3), suggesting that smoking is a significant factor in determining ill health. However, households with smokers were larger (average size 3) than non-smoking households (average size 2.2). Despite this, there is still a difference in the number of symptoms reported on a per capita basis. A person in a smoking household experienced on average 3.1 symptoms in the last year compared with 2.7 for a person in a household where no one smoked.

Among children there is a significant difference in the number of reported symptoms in households where at least one person smoked (1.8), and households where no-one smoked (0.8).

Table 22.1 shows reported symptoms, from respondents only, among smokers and non-smokers. In households where one or more respondents smoked, respiratory conditions were more frequently reported than in households where no one smoked - including persistent cough, wheezing, and breathlessness, which were all higher. In the case of persistent cough, this was significantly higher (20% difference). Households with someone who smoked were also more likely to report a mental health symptom - feeling low/depressed or anxious/worried.

Table 22.1: Reported symptoms and smoking

	<u>Smokers</u>	<u>Non-smoking</u>
	<u>household</u>	<u>household</u>
Number of households	52	20
High blood pressure	19%	30%
Persistent cough	31%	10%
Cold/flu	58%	55%
Wheezing	23%	10%
Aches and pains	62%	55%
Skin problems	23%	25%
Persistent headaches	19%	20%
Nausea/vomiting	12%	10%
Dizziness/fainting spells	25%	20%
Breathlessness	40%	25%
Feeling low/depressed	44%	30%
Anxious/worried	44%	25%
Poor appetite	19%	10%
Other	12%	10%
Asthma	10%	5%

22.2 Diet and symptoms

The frequency with which fresh fruit and vegetables are eaten does appear to have a slight bearing on the number of reported symptoms per household member. Those who said they ate fresh fruit or vegetables every day reported 2.9 symptoms per capita, while those who only ate fruit and vegetables once a week or less reported 3.3 symptoms.

Table 22.2 shows the symptoms reported in relation to the frequency with which fresh fruit and vegetables are eaten. In households where they were eaten once a week or less, there was a significantly higher reported level of aches and pains than in households where fresh fruit and vegetables were eaten more often.

Table 22.2: Reported symptoms and diet

<i>Frequency</i>	<i>every day</i>	<i>2-3</i>	<i>once a week or less</i>
Number of households	35	25	12
High blood pressure	26%	32%	42%
Persistent cough	37%	40%	42%
Cold/flu	69%	88%	58%
Wheezing	31%	28%	58%
Aches and pains	60%	76%	83%
Skin problems	40%	32%	42%
Persistent headaches	34%	28%	58%
Nausea/vomiting	11%	20%	50%
Dizziness/fainting spells	14%	28%	83%
Breathlessness	49%	40%	75%
Feeling low/depressed	40%	60%	67%
Anxious/worried	46%	48%	50%
Poor appetite	20%	24%	42%
Other	26%	24%	17%
Asthma	14%	40%	33%

22.3 Outlook and symptoms

Comparing the number of symptoms reported and stated outlook on life does not reveal any particular relationship. However, those who said they were unhappy with their situation in life did report the highest number of symptoms per member of the household, although those who reported they were very happy had the next highest number of reported symptoms (Table 22.3).

Table 22.3: No. of symptoms and outlook on life

<i>Outlook</i>	<i>Very Happy</i>	<i>Contented</i>	<i>Discontented</i>	<i>Unhappy</i>
average no. of symptoms	7.4	5.7	6.2	6.4
symptoms per head	3.0	2.3	2.0	3.9

Table 22.4 examines the extent to which symptoms were reported by households in comparison with their reported outlook on life. This shows that households which said they were very happy had the highest reported rates of respiratory complaints such as persistent cough, cold/flu, wheezing and breathlessness. They were also significantly more likely to report persistent headaches and nausea/vomiting. They also had the highest reported rate of other symptoms.

Those who said they were discontented had the highest rate of being anxious/worried and the second highest rate of feeling low or depressed.

Households which were reported to be unhappy had the highest rates of aches and pains, dizziness/fainting spells feeling low/depressed and a poor appetite.

Table 22.4: Reported symptoms and outlook on life

<u>Outlook</u>	<u>Very Happy</u>	<u>Contented</u>	<u>Discontented</u>	<u>Unhappy</u>
Number of households	8	42	11	9
High blood pressure	13%	38%	27%	22%
Persistent cough	50%	43%	18%	33%
Cold/flu	88%	71%	82%	67%
Wheezing	50%	38%	27%	22%
Aches and pains	75%	69%	64%	89%
Skin problems	50%	33%	45%	44%
Persistent headaches	63%	36%	27%	33%
Nausea/vomiting	63%	7%	27%	33%
Dizziness/fainting spells	50%	21%	36%	56%
Breathlessness	75%	52%	36%	33%
Feeling low/depressed	38%	48%	64%	67%
Anxious/worried	25%	43%	82%	44%
Poor appetite	38%	19%	27%	44%
Other	38%	24%	18%	22%
Asthma	25%	26%	27%	22%

22.4 Conclusions

Reported rates of respiratory conditions were all higher in smoking households than in non-smoking households. Smoking appears to have a bigger effect on the health of children than on the health of respondents.

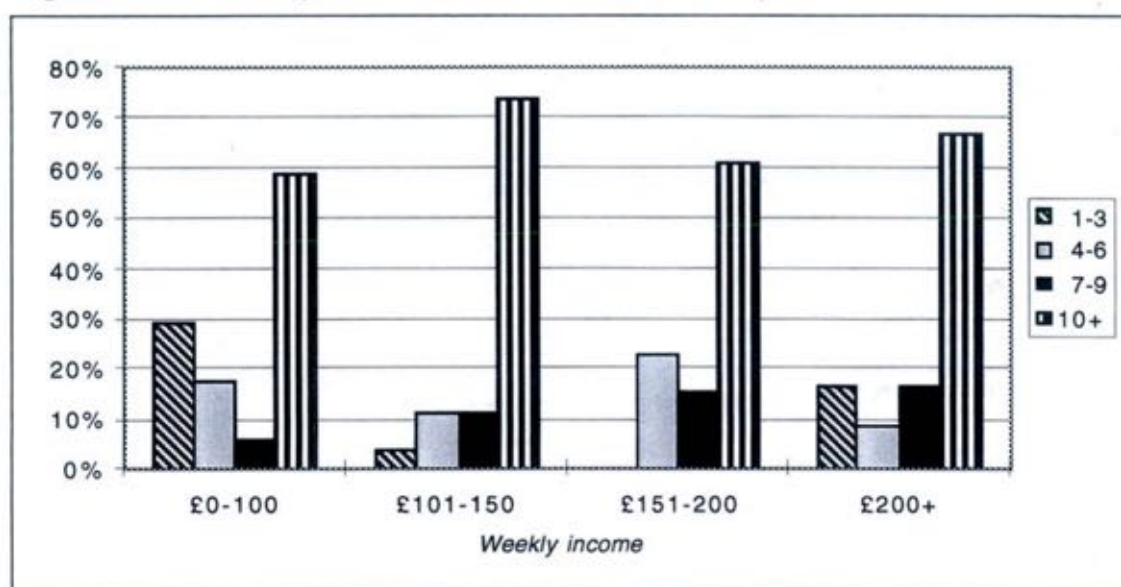
Unsurprisingly, a respondent's outlook on life is related to reported mental health symptoms i.e. feeling low/depressed, anxious/worried, and having poor appetite. More surprising is that households which said they were very happy reported higher rates of respiratory conditions.

23. Use of health services and economic circumstances

23.1 Income and number of visits to the doctor

Figure 23.1 shows the visits to the doctor made by households in each income band. In all cases a majority had visited the doctor on 10 or more occasions.

Figure 23.1: Weekly income and visits to the doctor



23.2 Proportion of income spent on fuel and visits to the doctor

Table 23.1 shows the average percentage of income spent on fuel compared with the frequency of visits to the doctor. This appears to show that households which visited the surgery the least were spending a greater proportion of their income on fuel. However, the difference is less than 3%.

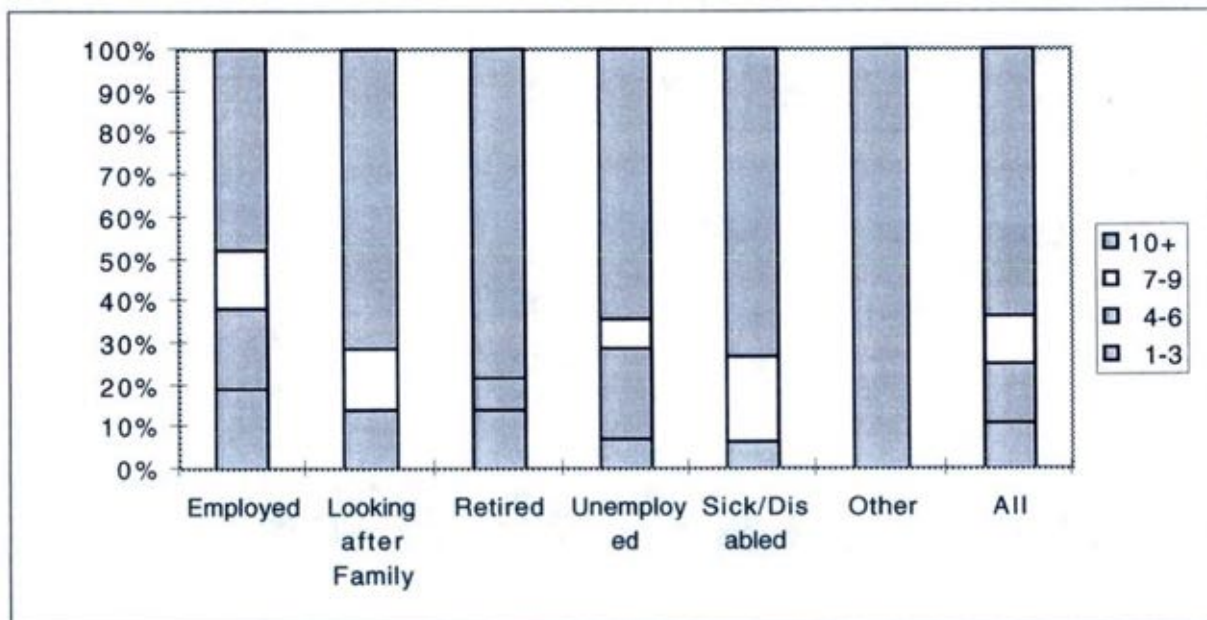
Table 23.1: Doctor's visits and % of income spent on fuel

Number of doctor's visits	Average % of income on fuel
1-3	13.07%
4-6	11.99%
7-9	11.60%
10+	10.33%

23.3 Economic status and visits to the doctor

Figure 23.2 shows the number of visits to the doctor in the last year, broken down by the economic category of the respondent. This clearly shows that those in employment go to their doctor less often than other respondents, while those who are retired or who are sick/disabled are more likely than other respondents to have visited their doctor on 10 or more occasions.

Figure 23.2: Visits to the doctor by economic status



Note: there was only one respondent in the 'other' category.

23.4 Payment method and visits to the doctor

Table 23.2 compares the frequency of visits to the doctor with the type of payment method used by the respondents to pay for the household's electricity. Due to the large proportion of respondents who either went to the doctor on 10 or more occasions, or who paid by prepayment meter it is not possible to draw any firm conclusions.

Table 23.2: Payment method and visits to the doctor

Payment method	1 - 3	4 - 6	7 - 9	10 +	All visits
Quarterly	0	2	0	9	11
Direct Debit	0	1	0	8	9
Weekly	4	1	0	9	14
Prepayment	2	6	5	18	31
Fuel Direct	2	0	2	1	5

23.5 Conclusions

Unlike the results from the phase one questionnaire, these results do not show any clear link between visits to a GP and household income. Furthermore, those who visited the doctor the least appear to be spending slightly more on average than others. Nor does there appear to be any indication that those paying for fuel by prepayment meter or who are on Fuel Direct visited the doctor more frequently.

However, there does seem to be a link between socio-economic circumstances and visits to a GP. This may reflect the fact that those who, for whatever reason, are not in employment have more time available to visit a doctor.

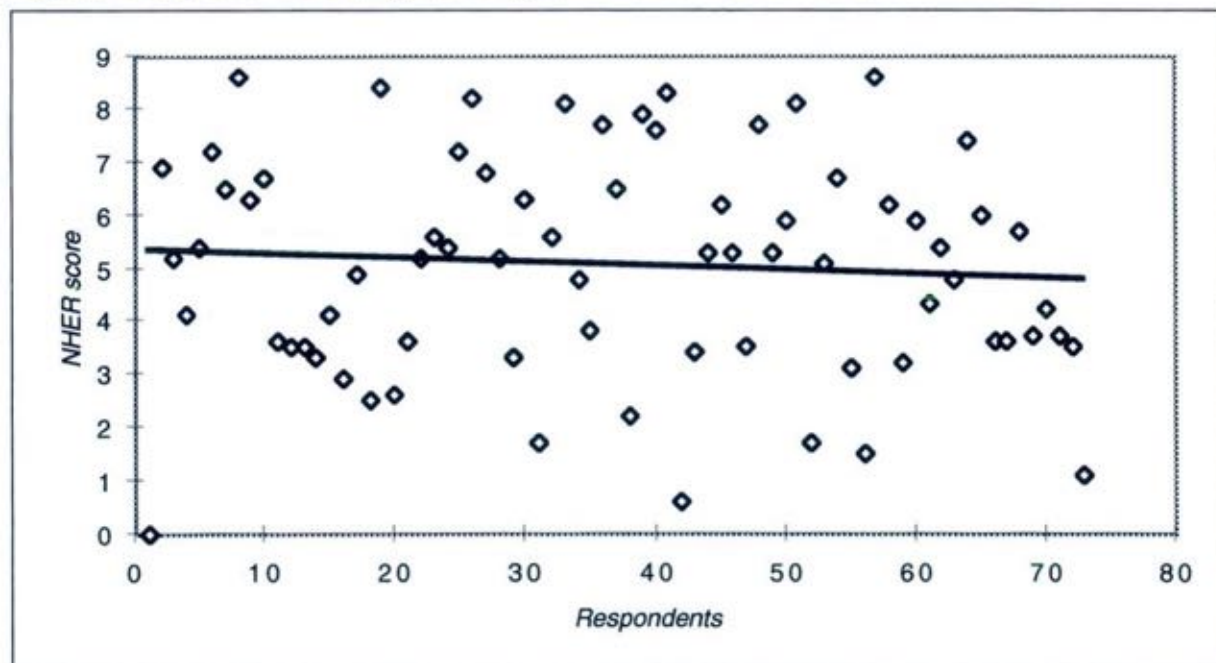
24. Use of health services and housing conditions

Rather than compare house conditions with all the uses of medical services, the number of visits respondents and members of the household made to their doctor is used as the primary indicator of the overall use of health services.

24.1 Frequency of visits to the doctor compared with NHER

Is there a relationship between the energy efficiency of a home, as expressed by its NHER rating and the number of reported visits to the doctor? Figure 24.1 shows the NHER values of respondents' homes arranged in order of the number of visits to the doctor. Along the x-axis those on the left-hand made the fewest number of visits, while those to the right made the most. The trendline shows a very slight decline in the NHER values as the number of visits to the doctor increases.

Figure 24.1: NHER ratings arranged in order of visits to the doctor



24.2 Predicted average internal temperature and visits to the doctor

As Table 24.1 shows, there is no relationship between the average predicted internal temperature in the home compared with the frequency of surgery visits.

Table 24.1: Average internal temperature and visits to the doctor

<i>No. visits to doctor</i>	<i>Average internal temperature</i>
1-3	15.3
4-6	14.7
7-9	15.1
10+	15.1

24.3 Proportion of the home heated and visits to the doctor

Table 24.2 compares the frequency of visits to the doctor and the proportion of the home heated. There does not appear to be any clear relationship between how much of the home is heated and use of medical services, with around the same proportion of those who had been to the doctor between one and three times and 10 or more times heating less than 50% of their home.

Table 24.2: Proportion of the home heated and visits to the doctor

<i>No. of visits</i>	<i><50%</i>	<i>50%-99%</i>	<i>100%</i>
Households	22	17	33
1-3	9%	6%	15%
4-6	23%	29%	6%
7-9	14%	6%	12%
10+	55%	59%	67%

24.4 Type of heating system and visits to the doctor

Results from the phase 1 questionnaire (see chapter 3) suggested a strong relationship between visits to the doctor and the presence of central heating. Comparing the visits made by the 72 households and whether they had central heating (including two households with district heating) or not produces a similar result (Table 24.3). Households without central heating had been to the surgery on at least four occasions in the last 12 months.

Table 24.3: Central heating and visits to the doctor

<i>No. of surgery visits</i>	<i>1-3</i>	<i>4-6</i>	<i>7-9</i>	<i>10+</i>	<i>All</i>
Central heating	18%	9%	9%	64%	100%
No central heating	0%	21%	21%	57%	100%

24.5 Number of damp-related problems and visits to the doctor

There appears to be some relationship between the presence of damp-related problems and visits to the doctor. Twice as many households with dampness went to see their GP on 4-6 occasions as households which were damp-free.

While around three-quarters of both groups had been to the doctor on 7 or more occasions, almost seven out of ten households with damp had visited the surgery 10 times or more compared with only six out of ten damp-free homes.

Table 24.4: Damp and visits to the doctor

<i>Damp problems</i>	<i>None</i>	<i>one or more</i>
Households	32	40
1-3	16%	8%
4-6	9%	18%
7-9	16%	8%
10+	59%	68%

24.6 Cold homes and visits to the doctor

Table 24.5 shows the relative percentages of patients who visited their doctor on a given number of occasions and who stated whether their home was cold or not, irrespective of any other problems. This shows that none of those who said their home was cold had visited their doctor between one and three times. Rather, they were more likely to have been to their doctor on 10 or more occasions.

Table 24.5: Visits to the doctor and cold homes

<i>No. of visits to a doctor</i>	<i>Number</i>	<i>Cold</i>	<i>Not cold</i>	<i>All</i>
1-3	8	0%	15%	11%
4-6	10	17%	13%	14%
7-9	8	11%	11%	11%
10+	46	72%	61%	64%
All	72	100%	100%	100%

24.7 Cold, damp homes and visits to the doctor

Some 15 households reported that their home was cold and that it had one or more damp-related problems, while 26 reported neither cold nor dampness.

Table 24.6 divides these categories by the number of visits that were made to a GP. Having a home which is cold and damp does not appear to increase the frequency of visits to the surgery even further, compared with a home where only dampness problems were present.

Table 24.6: Visits to the doctor and cold, damp homes

<i>No. of visits to a doctor</i>	<i>Cold and damp</i>	<i>Neither</i>	<i>All</i>
Number of respondents	15	26	72
1-3	0%	15%	11%
4-6	20%	8%	14%
7-9	13%	19%	11%
10+	67%	58%	64%

24.8 Conclusions

There does seem to be a slight link between the number of damp-related problems and visits to the doctor. However, the relationship between the number of reported visits made to the doctor by members of a household and the energy efficiency of the respondents' home, as measured by the NHER score, does not appear to be significant.

There also appears to be a link between homes that are reported to be cold by the occupants and the frequency of visits to the doctor. Yet visits do not appear to be linked to the average internal temperatures, as calculated using the Homerater software, nor to the proportion of the home that is heated.

25. Use of health services and other factors

The number of visits to the doctor was compared against family size, the presence of smoking and the quantity of cigarettes smoked, diet and outlook on life, to examine whether there was any link.

25.1 Family size

It might be expected that larger households would visit the doctor more often. However, as Table 25.1 demonstrates, there is no linear relationship between family size and the number of visits a household made to the surgery. Almost the same proportion of single-person households had been to the doctor on 10 or more occasion as four person households. Two person households went to the doctor more frequently than other households, with more than 80% going on 10 or more occasions.

Table 25.1: Visits to the doctor and household size

<i>Family size</i>	<i>one</i>	<i>two</i>	<i>three</i>	<i>four+</i>
Households	15	17	18	22
1-3	27%	0%	6%	14%
4-6	13%	12%	17%	14%
7-9	7%	6%	11%	18%
10+	53%	82%	67%	55%

25.2 Smoking

Around two-thirds of households had been to the doctor on 10 or more occasions whether smokers lived in the household or not. However, three-quarters of households where at least one person smoked had visited the surgery seven or more times in the previous 12 months, as did nearly nine out of ten households where two smokers were present. This compares with only two-thirds of those of those in households without smokers. This indicates that smoking does affect the frequency of visits made to the doctor.

Table 25.2: Visits to the doctor and smoking

<i>No. of smokers</i>	<i>none</i>	<i>one</i>	<i>two</i>
Households	20	37	15
1-3	15%	11%	7%
4-6	20%	14%	7%
7-9	0%	14%	20%
10+	65%	62%	67%

25.3 Diet

Table 25.3 compares the number of visits made to the doctor divided by the frequency with which fresh fruit or vegetables were eaten. Households which reported eating fresh fruit or vegetables less than once a week visited their GP far more frequently than other households: more than nine out of ten had been more than 10 times. However, given the small number of participants in this last group, this may not be statistically significant.

Table 25.3: Visits to the doctor and diet

<i>Diet</i>	<i>Everyday</i>	<i>2-3 times a week</i>	<i>once a week or less</i>
Households	35	25	12
1-3	14%	8%	8%
4-6	14%	20%	0%
7-9	11%	16%	0%
10+	60%	56%	92%

25.4 Outlook

Table 25.4 compares the number of doctor's visits with the respondent's outlook on life and shows that there is very little difference between outlook on life and visits to the doctor. 'Very happy' households were only slightly less likely to have visited a GP than an 'unhappy' household.

Table 25.4: Visits to the doctor and outlook on life

<u>Outlook</u>	<u>Very Happy</u>	<u>Contented</u>	<u>Discontented</u>	<u>Unhappy</u>
Respondents	7	42	11	9
1-3	0%	10%	27%	11%
4-6	29%	17%	0%	0%
7-9	0%	14%	9%	11%
10+	71%	60%	64%	78%

25.5 Long-term conditions and visits to the doctor

Of the 72 households, the majority (78%) had one or more family member who had one or more long-term illness or condition (including asthma) and 22% reported no long-term conditions. There is no significant difference in the frequency of visits to the doctor made by households which included someone with a long-term condition and households which did not: 63% of households with one or more long-term conditions had been to the doctor on 10 or more occasions, as had 69% of households which did not include someone with a long-term condition.

25.6 Conclusions

Neither family size, diet, outlook on life nor the presence of a long-term condition have a significant impact on the number of visits made to the doctor by respondents or their families. However, the presence of smoking and the number of smokers in a household does appear to influence the frequency of visits to the doctor.

26. Time spent off work or school and house conditions

26.1 Time off work

Correlations were made between the time spent off work or the availability for work by 43 respondents (excluding those over 60 or who were said they were sick/disabled), with the NHER rating and the number of damp-related problems.

26.1.1 Time off and NHER scores

At first glance, there appears to be no relationship between availability for work by respondents and the NHER score of their home. However, the average NHER score of the home of a respondent who spent more than one week off work (6) was higher than that of those who did not spend any time off work (4.6).

Table 26.1: Time off work and NHER scores

<i>Time off work</i>	<i>average NHER</i>
None	5.7
1-2 days	4.2
1 week	3.9
1-2 weeks	6.3
>2 weeks	5.7

26.1.2 Time off work and the number of damp-related problems

Respondents who spent more than one week absent from work had very slightly fewer damp-related problems on average (1.3) than those who had been absent for less than a week (1.4).

Table 26.2: Time off work and number of damp-related problems

<i>Time off work</i>	<i>average no. damp problems</i>
None	1.0
1-2 days	2.0
1 week	1.3
1-2 weeks	0.7
>2 weeks	1.8

26.2 Time off school

Comparisons were made with the time spent off school by the 50 children of school age in the participating households and energy ratings with the number of damp-related problems in the home. (Parents were unable to provide answers for three of the children).

26.2.1 Time off school and NHER scores

Children spending less than a week off school did live in slightly more energy-efficient homes, but not significantly so (5.5 compared with 5.3).

Table 26.3: Time off school and NHER scores

<i>Time spent off school</i>	<i>Average NHER</i>
None	5.5
1-2 days	6.2
3-4 days	5.2
1 week	5.1
>1 week	5.2

26.2.2 Time off and number of damp-related problems

Children who have spent more than one week off school will live in a home with twice as many damp problems on average (2.9) as those who have only been absent for one week or less (1.4).

Table 26.4: Time off school and number of damp-related problems

<i>Time spent off school</i>	<i>Average no. of damp problems</i>
None	1.3
1-2 days	0.8
3-4 days	2.0
1 week	1.3
>1 week	2.9

26.3 Conclusions

The energy efficiency rating of a home appears to have a stronger influence on amount of time spent off work by respondents than the number of damp-related problems.

With children, the opposite relationship occurs with dampness having a much stronger effect on the amount of time spent off school than the energy efficiency of the home as measured on the NHER system.

It should be noted that some respondents commented that they could not afford to take time off work because they might lose wages, which will reduce the apparent influence of dampness and relative energy efficiency.

27. Discussion

This project set out to explore whether there was a link between fuel poverty, health and housing conditions. A significant majority of the households surveyed (72%) could be classified as low-income - having a weekly income of less than £200 a week. The incidence of fuel poverty, as measured by the proportion of income spent on fuel, was less widespread, but still significant. Using the expenditure on fuel predicted by the auditors, almost half (47%) of households were paying more than 10% of their income on fuel. This rises to exactly half of the sample when householders' reported expenditure is used to calculate the proportion of income spent. Furthermore, more than half the sample (52%) would be unable to heat their home to the standard regime because their home was energy inefficient or their income was too low.

In addition, almost one third of households (32%) heated less than half of their home, and just over one third said that they found their heating was expensive *and* that they were unable to use it as much as they would have liked because they could not afford to do so.

Unsurprisingly, the proportion of households paying for their gas and electricity by prepayment meter or Fuel Direct - which are payment methods associated with fuel debt - is also far higher than is found nationally: for example, 42% of the sample paid by prepayment meter, compared with 22% of ScottishPower customers; across the UK, only 7% of gas customers have a prepayment meter compared with 24% of those surveyed.

The poor conditions found in the housing stock are also apparent. While the average NHER score of properties in the survey (5.1) is higher than that found in Renfrewshire as a whole (4.3) and in the 1996 SHCS (4.1), the proportion of households reporting damp-related problems (57%) is almost double the proportion reported in the 1996 SHCS (31). Almost half the sample (44%) reported that their windows did not fit properly. Over one third (36%) said their home was cold and 16% agreed that their home was in a poor state of repair. The NHER scores can be statistically correlated with the number of damp-related problems reported by participants and the average NHER scores for homes with dampness or the other problems listed above were all lower than in homes where these problems were absent.

There was also a relationship between household size and the level of damp. Comments made by council housing officers suggest a complex relationship between low incomes, the habits of households and the level of dampness.

"People on a low income do not want to let heat out of the window, even if they are drying clothes in the house... You ask 'Do you open the windows after having a shower? [and the tenant replies] 'No, it's the winter time. I don't open the windows in the winter.' - It's adding to condensation."

Moirra Patterson, Housing Officer.

In cases such as these it is easy to see that a larger household, washing more clothes and taking more showers or baths, is more likely to have a higher level of moisture in the home which can be linked to damp-related problems in the home.

When asked to rate their health and the health of their families, respondents were likely to rate the health of children as good. However, more than one in four respondents (26%) rated their health as poor or very poor, as did a similar proportion of their partners (29%) and nearly a third of other adults living in the home (31%). Levels of smoking were very high with almost three-quarters of households (74%) including at least one person who smoked. Only half the sample said they ate fresh fruit or vegetables every day.

The level of long-term illness, disability or other health problems found in the sample is very high, with 81% of households reporting at least one family member with a long-term problem. This is far higher than was found in either the 1996 SHCS (29%) or in the 1996 Ecological Cities study into health and housing in Glasgow (32%). Over one quarter of the 95 households who took part in the home questionnaire (26%) included someone with asthma, of which 11 were adults and 17 were children. The reported incidence of asthma among adults in the sample (7%) was almost twice the national average (4%), while the figure for children (17%) was also higher than that found nationally (14%).

Almost one fifth of the sample (19%) classified themselves as being sick/disabled when asked about their economic status. A further 15% had been off work for more than two weeks over the previous 12 months. One quarter of children (25%) had been absent from school for more than two weeks due to illness in the last year.

The use of health services was also very high. The sample of patients in phase one was going to the doctor twice as many times as the Scottish average over the same period. In phase two, three-quarters of households (75%) had been to see a doctor on seven or more occasions in the last 12 months, and more than six in ten had visited the surgery on 10 or more occasions. Four in ten (40%) households had someone who attended some form of clinic and almost the same proportion had a member of their household admitted to hospital in the last year.

While all this shows the extent of fuel poverty, housing conditions and ill health in the sample very clearly, establishing causal relationships between these variables has proved more difficult (as others studies have also found). In this survey, many respondents were on low incomes, were frequent visitors to the surgery or lived in homes with damp-related problems. Although these are significant indicators in themselves, this has meant that the data is 'grouped' around certain factors, which makes it harder for any relationships to become clearly apparent.

Whatever variable was chosen, around 60-70% of the participating households had visited their doctor on at least 10 occasions. The biggest difference was caused by diet, where 92% of those who ate fresh fruit and vegetables less than once a week visited their doctor at least 10 times, compared with only 60% of those who ate a more healthy diet, yet this is likely to be due to the small number in the sample.

27.1 Fuel poverty and health

Income appears to have a fairly strong influence on the number of symptoms experienced by members of a household, with low-income families experiencing more symptoms per household member than those in the highest income band.

However, when a similar analysis was carried out using the proportion of income based on fuel as compared with the number of symptoms reported then the relationship was weaker, nor was it found to be statistically significant.

In his interview, Dr Scullion of the Glasgow Road surgery linked social class with higher attendance. However, the survey data showed that the income band of the household does not appear to affect the frequency of visits to the doctor, although those who visited the doctor most frequently did appear to be spending a slightly smaller percentage of their income on fuel. This could be explained by those in the higher income bands having larger households. However, due to confounding variables no correlation of any significance was found between household size and the number of visits to the surgery, so some other factor must play a role.

27.2 Fuel poverty and housing conditions

Those households in the sample which could be classified as being fuel poor (spending more than 10% of their income on energy), were no more likely to live in a energy-inefficient or cold, damp home than those households which were spending 10% or less of their income on fuel.

Once again, due to confounding variables the data has not produced any significant correlations between the NHER scores and the percentage of income spent on fuel, suggesting that income has a much greater influence on whether warmth is affordable than the relative energy efficiency of the home. An initial analysis of the percentage of income spent on fuel and the number of damp-related problems did appear to indicate a significant correlation. However, once the household with the highest number of problems and the highest percentage of income spent on energy was excluded this correlation disappeared for the rest of the participants.

It might be assumed that the more energy efficient a home, the less money is spent by the occupants on fuel and indeed data from the energy audits shows that as NHER scores rise so the predicted expenditure on fuel falls. However, when NHER scores are correlated with the level of expenditure reported by participants, exactly the opposite relationship is shown, i.e. respondents in a more energy-efficient home reported spending more on energy.

It has been suggested that increasing the energy efficiency of a low-income household, especially if the home was previously very energy-inefficient, may lead to an increase in energy consumption, as gains in efficiency are used to increase the level of comfort achieved per pound spent on energy, rather than reduced energy consumption. This may explain the link between increased expenditure and higher NHER scores found in the survey. This is supported by the fact that while those with gas central heating spent the second highest weekly amount on fuel, a clear majority were heating all of their home.

While the correlation between a higher NHER score and greater expenditure on fuel was statistically significant, it was also relatively weak. This could be explained by the number of households using electric storage heating which were spending the highest average amount on fuel. Indeed the relationship between NHER scores and reported fuel expenditure only became a significant one once the household with the highest reported expenditure (which used storage heaters) was discounted. Given that the highest weekly expenditure on fuel (based on participants' estimates) was for homes using storage heating, this suggests that the correlation between a high energy efficiency rating and a higher level of expenditure may be even stronger. This was not found to be the case when homes with storage heaters were excluded from the correlation ($r = 0.24$).

Existing fuel debts or different tariff rates may also be factors, as the households with prepayment meters (which have a higher standing charge, a higher fuel tariff and which can be used to collect debt) and those paying by Fuel Direct (used to reduce fuel debt) lived in homes with on average higher NHER scores than those households paying by direct debit or quarterly bills.

Alternatively, the participants' reported expenditure on fuel could be somewhat inaccurate.

The presence of cold or dampness or both conditions in housing was associated with lower NHER scores. Participants who felt they were living in a cold home or a home that was cold *and* had damp-related problems (and was therefore likely to have a lower NHER score), reported that they were spending significantly more (38% on average for a cold, damp home) than those who did not report such problems. With the exception of a particular household - which could be classified as extremely fuel poor (i.e. paying over 30% of their income on fuel), and had reported nine damp-related problems - the data did not show a significant correlation between the reported number of damp-related problems and reported expenditure on fuel. This was also found to be the case with the proportion of the home that was heated and the number of damp-related problems.

27.3 Housing conditions and health

Although the levels of ill health and use of health services in the sample are relatively high, this made it extremely difficult to demonstrate a strong relationship between reported health and *any* factors which might influence health. It is widely recognised that housing conditions are only one of a number of factors influencing health. Moreover, the relationship between incomes, lifestyle factors and housing conditions is also very complex, as this comment from Housing Officer Moira Patterson makes clear:

"You go into houses that are not aired... if people are in all day, they're not opening the windows, they're sitting puffing away - they are not ventilating [the home]. They are sitting in smoky, although not necessarily damp, atmospheres.. It's winter, they are not going out, they are getting quite depressed because they are sitting in, in the areas that they are living in."

Despite this complex relationship, there are indications that conditions in the home and the presence of dampness in particular influence the health of the occupants, as has been suggested by previous studies (see for example SP Platt et al (1989), 'Damp housing, mould growth and symptomatic health state', *British Medical Journal*, Vol 298). Other studies are referred to in C Revie (see *The Impact of housing conditions and fuel poverty on Scotland's health* (1998)).

27.3.1 Symptoms

"Compared to ten years ago - when I came here the situation was miserable - we used to see a lot of problems... Since they [the residents of Ferguslie Park] have been given reasonable accommodation...I have a feeling that there is a lot of improvement in the general health of children."

Dr Latif, head of the Ferguslie Park surgery

The survey found a strong correlation between the number of dampness problems and the number of symptoms reported ($r = 0.49$), but not between symptoms per capita and the number of damp-related problems.

When the number of symptoms per member of the family was compared by family size alone there was a significant negative correlation (-0.35), which was interpreted as meaning that individuals living in larger households experienced fewer symptoms. If dampness is taken into account, this correlation disappears, which may mean that individuals in large households with dampness may be more adversely affected than individuals living on their own or in a smaller household who also have dampness problems.

Dampness has a considerable influence on the levels of reported asthma among children.¹⁸ In the study, the level of reported asthma was more than twice as high in homes with dampness (44%), than in homes which were damp-free (17%). In adults, dampness is associated with higher reported rates of mental symptoms. By contrast, cold homes or draughty homes (i.e. where the windows did not fit properly) had much lower rates of reported asthma than homes which were not draughty.

27.3.2 Use of health services

Figure 24.1: NHER ratings arranged in order of visits to the doctor suggest that there may be a weak relationship between the NHER score of a property and the number of visits to the surgery made by the household in the preceding 12 months.

Importantly, there does appear to be a stronger relationship between visits made to the doctor's surgery and the number of damp-related problems. Despite the fact that larger households were associated with a greater number of damp-related problems, there was no relationship between large households and visits to the doctor, again suggesting that the presence of

¹⁸ See for example R Dales et al (1991), 'Adverse health effects among adults exposed to home dampness and mould', *Annual Review of Respiratory Disease* No.143.

dampness is a crucial factor. The number of damp-related problems also produced the strongest association with absences from school. Children spending more than one week off school tended to live in a home with more dampness problems.

It may also be significant that none of the households which reported feeling cold had visited the surgery on less than 4 occasions in the previous 12 months.

The results from the phase 1 survey suggested that the presence of central heating may have some influence on the number of times a patient visited the surgery: 72% of respondents said that they had either not previously visited the surgery or had been on only three visits at most. The results from the phase 2 questionnaire have indicated a similar relationship between households with and without central heating, and the number of visits made to the doctor. In nearly one in five homes (18%) which had central heating, members of the household had only visited their doctor between 1 and 3 times in total. Whereas in households with no central heating, visits to the surgery were more frequent: members of the household having been on at least 4 occasions.

When the head GP at the Ferguslie Park practice was asked whether he felt that the surgery had become less busy over the years as a result of the improvements made to the housing stock in the area he said:

"It is a very deprived community, so the workload, in my experience, hasn't decreased at all, but we feel more satisfied."

He felt that patients had become more receptive to the advice that the doctors were giving and had become more polite. He suggested that the reasons for people visiting the surgery frequently were partly social:

"...most of them are unemployed, and they having nothing else to do, so for very minor things they pop into the surgery"

and partly to do with the working practices of the surgery, which did not have an appointment system for morning consultations, so people would often come with very minor problems.

However, the head of the Glasgow Road practice, Dr Scullion, was much more positive:

"I think that the improvement in the housing stock in Paisley has undoubtedly lessened our workload, and therefore the general level of health in the population has improved. I don't think that there is any doubt about it."

He said that the doctors at the practice were making far fewer house calls than previously, although he acknowledged that this was partly because they were encouraging patients to come to the surgery where the facilities were better.

When Housing Officer Moira Patterson was asked if she felt that improving housing conditions improved people's health, she replied: *"Lifestyle improves, but whether health improves, I don't know."*

Dr Scullion felt that improving house conditions improved self-esteem, which in turn was linked to health:

"If you live in a dump your whole persona is influenced by that, whereas if you live in a nicer house you feel better in yourself and a lot of health problems are influenced by that."

He also felt that the advice that doctors gave would be more effective when housing conditions are improved:

"If you are living in a dump and someone gives you advice - it's like bouncing off a brick wall - you tend not to listen. People in that situation want a prescription, they want medicine. Whereas if your self-esteem is improved whether through better housing....I think the health message is better received than if your self-esteem is low because of poor housing."

Any future study might find it easier to examine the impact upon the use of health services if more exact information on the use of medical services can be obtained.

27.4 Other factors and health

Apart from diet, other factors such as age and smoking do not appear to have an influence on the number of symptoms reported. However, smoking does affect children's health and those households where one or more people smoked were more likely to go to the doctor than households which were smoke-free.

27.5 Differences between the surgeries

The percentage of households which could be classified as not having affordable warmth was far higher in Ferguslie Park (69%) than among those who attended the Glasgow Road surgery (16%). The reported incidence of dampness (74% compared with 40%) was also markedly

different, although the percentages of homes reporting cold, or windows that did not fit properly, or homes in a poor state of repair were broadly similar. A Ferguslie Park household was also more likely to live in a home which had either 'poor' or 'good' energy efficiency than a Glasgow Road household.

Despite these differences in the extent of fuel poverty and the conditions found in the home, both surgeries had a remarkably similar pattern in their use of health services. Although Ferguslie Park patients were more likely to give themselves and other members of the household a lower health rating, there were more symptoms for which Glasgow Road reported the greater number of cases. When asked if the improvement in housing conditions had reduced the workload in their surgeries, the heads of the two practices gave differing views. Dr Latif of the Ferguslie Park surgery felt that his workload had not decreased, while Dr Scullion was emphatic that this was definitely the case. Dr Scullion said his patients also included some people who lived in Ferguslie Park, and specifically said:

"It was very noticeable that before a lot of money was spent in Ferguslie...there was a lot of medical input... that tends not to happen now."

The differing answers may be because the Ferguslie Park surgery is located within the estate, and is therefore very accessible to its patients whereas the Glasgow Road surgery is located in the centre of Paisley and covers patients from all parts of the town.

28. Cost to the NHS

Using data supplied by Argyll and Clyde Health Board, it has been possible to provide some estimate of the relative cost of treating patients in relation to specific conditions, which appeared to have the strongest affect on health.

28.1 Health Board costs

Average cost to the Health Board of a GP surgery consultation

	<u>£/year</u>
GP Remuneration	58,000
Ancillary staff	15,000
Surgery Costs	<u>10,000</u>
	83,000

GP Consultations

Average appointment =	10 mins
Average consultation time / week =	17.5 hours
Average consultations / week =	105
46 weeks =	4,830

Average cost / surgery consultation = 10 minutes	£17.18
Average Domicillary visit = 25 minutes	£42.95
Average Prescription Cost (including dispensing fee)	£11.57
Outpatient visit (Royal Alexandra Hospital) Cost to Health Board*	£198.00
Inpatient stay (Royal Alexandra Hospital) Cost to Health Board*	£1,350.00

*Inpatient cost is per episode (i.e. admission) - not per day

Costs quoted are an average of all specialities

Costs include all medical staff and drugs

28.2 Estimating the health costs of participants

The large proportion of phase 2 households which reported visiting their doctor on 10 or more occasions means that any health costs calculated using the phase two data may seriously underestimate the actual costs. A household reporting 10 or more visits may have been to their GP 25 times in the last year. However, using the data from phase one participants it is possible to estimate the additional costs to GPs of treating participants who lived in homes reported as not having central heating or with dampness problems.

On surgery visits alone the average cost of a patient in Scotland is £182.63 per year (average number of visits 3.08 and assuming that an average of 3.64 prescription is given on each occasion¹⁹). This works at £59.29 per visit.

- * For a phase one respondent, the average cost is £362.85 for visits made to the surgery. Therefore the additional cost to the GP is £180.22.
- * For individuals living in homes with gas central heating (who on average made 5.95 visits in a year) the average cost was £353.02. The additional cost to the GP is therefore £170.39.
- * For patients living in homes without *any* kind of central heating, the average number of visits made was 6.71 and the average cost was £397.95. The additional cost is therefore £215.32.

Phase one patients who reported dampness, condensation and mould in their home went to their GP 7.52 times on average in the preceding 12 months. This is an additional 2.56 visits more than those in the sample who did not report any of these problems in their home (an additional £151.78) and 4.44 more visits than the Scottish average. This equates to £263.25 per year more than the average person in Scotland.

¹⁹ This is based on the number of prescriptions given out in the last year (57,192,917) and the number of visits made to GPs (average no of visits per head of population 3.08 * population (5.1 million) = 15,708,000). Divide 57,192,917 by 15,708,000 = 3.64 prescriptions per doctor consultation.