# THE PROVISION AND USE OF HEALTH SERVICES, HEALTH INEQUALITIES AND HEALTH AND SOCIAL GAIN

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# 8. EQUITY IN THE USE OF HEALTH CARE IN IRELAND?

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## 8.1 Introduction

Health care tends not to be regarded like other commodities. Surveys across OECD counties consistently show (Wagstaff *et al.,* 1992) that health care is seen as a basic entitlement and ought to be distributed according to need rather than ability to pay.[1] Just how accepted this principle is can be judged from recent health policy documents in Ireland such as the Commission on Health Funding (1989), the 1994 and 2001 health strategies and the primary care strategy (2001), all of which have stated that equity of access to and use of health care services should be a central principle. Yet this concern with equity seems to sit uneasily with the large proportion of care in Ireland delivered through private provision. For example, although those with a medical card (around 30 per cent of the population) receive free dental, aural, optician and GP care, the rest of the population must pay at the point of delivery. Similarly, although public hospital care is available to the whole population subject to relatively small fees for those without medical cards, almost half of the population now have medical insurance which can be used in both private and public hospitals with hospital consultants catering for both public and private patients in public hospitals as well as private patients in private hospitals. The importance of private care and the extent of fee paying in Irish health care has led many to argue that the system is not available to all on the basis of need alone, but instead that personal circumstances may well determine the availability, extent of and speed of treatment.-

This chapter assesses whether there is in fact equity in the utilisation of health care in Ireland across those with different levels

[1] European countries may diverge significantly from the US in this respect. In the latter there is far less support for solidarity in the funding of healthcare across population groups.

of income. Other dimensions of equity in the health sector such as expenditure and access in different geographical locations is just as important, but here we seek only to address the issue of equity across those with different levels of income. Although most policy documents treat the concept of equity as unproblematic, in fact there has been a substantial debate in the health economics literature as to how 'equity' should be defined and the implications this has for the methodology adopted. We address what exactly we mean by 'equity' in the next section of the paper before turning to the data to be used in Section 8.3. In Section 8.4 we embark on a descriptive analysis of the distribution of health care use across the population. As will become apparent, our definition of 'equity' in the use of health care is prefaced on equal levels of treatment for equal need so Section 8.5 examines the distribution of health in Irish society and in particular, how health varies across different income groups. In Section 8.6 of this chapter we derive a measure of the equity of health care that takes into account the balance between need and use before deriving some conclusions from our work in the final section.

## 8.2 How Do We Define and Measure Equity?

In health and health care as in many other areas of policy, 'equity' is often stated as an overarching concern that guides policy and practice.[2] In the health economics literature, however, there has been a long running debate about what aspect of equity in health care is important and how this should be measured. On the one hand some researchers (Le Grand, 1982; Mooney, 1983; Mooney *et al.,* 1991; Mooney *et al.*, 1992) have maintained that equity should be defined in terms of equal *access* to treatment whereas others (Culyer, van Doorslaer and Wagstaff 1992; O'Donnell and Propper, 1991) hold that health economists should be analysing equity in the actual utilisation of healthcare itself. From the early 1980s Mooney (1983) and Le Grand (1982) have maintained that equity in most policy statements refers to equity of access to health care services in the sense that those with an equal need for treatment have equal opportunity to get it, or to put it another way face an equal cost of utilisation. The main argument put forward by the advocates of the access approach is that an individual's level of health care utilisation is determined by a range of factors that often have little to do with health care services per se and more to do with factors that shape the individual's demand for health care. One of these may be the 'need' for treatment, but even individuals with equal need may end up consuming different amounts of care if preferences differ (perhaps in the individuals' perception of the benefits of treatment) and if their marginal utilities of income differ. From this perspective, to attempt to measure the equity of utilisation is to focus on the

[2] For instance, the Irish Health Strategy – *Quality and Fairness: A Health System for You'* (Department of Health and Children, 2001) states that 'equity and fairness' is one of the four guiding principles by which the health care system will be shaped.

wrong subject (hence the subtitle of Mooney *et al's.,* 1991 paper: 'weighing heat?').

Culyer, van Doorslaer and Wagstaff (1992) on the other hand have argued that although it is self evident that persons in equal need may end up consuming different levels of health care because their demand curves differ, we still need to know why the curves differ and whether the difference may in fact be due to differences in income. They use the example of differences in education between the rich and poor (Culyer, van Doorslaer and Wagstaff, 1992, p. 94). If the poor have the same opportunities to receive care as the rich but have a lower take up rate simply because they are not as well informed, surely this would be a concern to policy makers and analysts alike? If so, simply examining the extent of and costs of access for the rich and poor would not be the optimal research strategy. Using a measure of utilisation on the other hand, we would also be able to analyse the factors that explain the lack of take up of care among the poor. Given this, we would do well to study equity in the utilisation of health care as well as the costs and problems of accessing health care to discover the true source of the inequalities between groups. In this chapter we largely adopt the former approach. Our overall question is whether the utilisation of health care is 'horizontally' equitable in the sense that those in equal need receive the same level of treatment irrespective of their income. To put the question another way – do those with a higher level of income consume greater levels of health care for the same level of health need?[3]

In Ireland charges for general practitioner, dental, aural and optician visits (at the point of delivery) may be an important influence on seeking care, with the greatest impact on those on low income but without medical card cover, since a fixed charge will have a greater impact on foregone utility for poorer consumers. Although public hospital care is subject to only relatively small or no charges at the point of delivery in Ireland, waiting lists for most forms of treatment mean that one's ability to pay for treatment directly, or having access to medical insurance which can pay will allow individuals to access treatment more quickly and may influence the individual's decision to seek treatment initially. Around 50 per cent of the Irish population are currently medically insured either with VHI or BUPA.

Provider behaviour can also be influenced by the method of payment within the Irish system. The capitation method of payment used to refund GPs treating patients with medical card cover means that GPs have an incentive to see more private patients. Similarly, in the hospital context, the fact that hospitals receive a fee for private patients rather than the prospective budget allotted to them from State funding may well influence their behaviour in allocating

[3] We will not address the issue of 'vertical equity', i.e. that higher income groups should contribute proportionately more to the funding of health services irrespective of their utilisation of it.

resources. Together these mechanisms mean that there may well be large differences between the utilisation and delivery of health care services to those in different parts of the income distribution.

In assessing 'horizontal equity' in Irish health care it should be underlined that we are making the assumption that all instances of care are of equal quality. This means that whether a GP sees a patient for free through the medical card scheme or privately, we assume that the quality of the consultation is equal. Similarly, for hospital care we assume that the total 'utility' that the individual derives from their treatment is the same whether they are treated as a public or private patient. Given that the latter can avail of costlier and more comfortable 'hotel' services such as a private room, better food etc., within hospitals, this seems unlikely, but we are more interested in the clinical outcomes of treatment. There is very little evidence that these differ significantly between public and private patients although Fadden (2003) in a pharmacy study of the over 70 year olds before and after the extension of the medical card to this group, has shown some difference in prescribing behaviour between GMS and non-GMS patients. The rate of prescribed generic drugs among GMS patients was roughly twice that among private patients. This is usually good practice since generic drugs are cheaper and on the whole, just as effective, but specific proprietary drugs can offer less side effects and a better interaction profile for particular patient types. She also notes that some patients complained of an inferior service after the change with GPs restricting GMS patients to certain hours of the day and not seeing GMS patients for regular check-ups. Wren (2003) has also argued that hospital care for public patients is also less effective than among private patients, the latter being given more time in hospital, more attention and a greater range of tests.

## 8.3 Data Sources

In this chapter we use data from the Living in Ireland Survey (LIIS) 2001. Although other surveys have been carried out since 2001 such as the Survey of Income and Living Conditions (EU-SILC), no survey since the last LII Survey in 2001 includes all the information necessary to carry out an analysis of the equity of health care utilisation in Ireland. The LII Surveys form the Irish component of the European Community Household Panel (ECHP): an EU-wide project, co-ordinated by Eurostat, to conduct harmonised longitudinal surveys dealing with household income and labour situation in the member states. As well as extremely detailed information on income levels and sources, the LII data also includes information on other important topics of relevance to this chapter including several self-assessed health status measures, health care utilisation and a wide range of socio-demographic characteristics. The objective of the sample design was to obtain a representative sample of private households in Ireland. Those living in institutions such as hospitals; nursing homes; convents; monasteries and prisons; are excluded from the target population, in line with the harmonised guidelines set down by Eurostat and standard practice adopted in surveys of this kind (such as the Household Budget Survey

conducted by the Central Statistics Office). The data collected in 2001 were the final round of surveying (the first was in 1994) and data was collected from 2,865 households and 6,521 individuals.

## 8.4 Health Care Utilisation by Income

In this section we examine the pattern of health care utilisation across a range of services across the income distribution. The LII Survey included questions (given to all survey respondents) on their use of health care services including consultations on their own behalf with GPs (including home visits), medical specialists (including outpatient services), dentists and opticians in the last twelve months. The survey also asked about nights spent in hospital over the same period.

**Table 8.1: Use of Specific Health Care Services in 12 Months Previous to Interview in 2001**

| Service | % Visiting N Times | | | | | | | For Those with 1+ Visits |
|---|---|---|---|---|---|---|---|---|
| | 0 | 1-5 | 6-10 | 11-20 | 21-50 | 50+ | Mean | Median |
| Inpatient Nights | 88.0 | 6.2 | 2.9 | 1.6 | 1.0 | 0.3 | 9.68 | 5 |
| Doctor Visits | 26.2 | 55.8 | 9.2 | 7.6 | 1.0 | 0.2 | 4.75 | 3 |
| Dentist Visits | 56.4 | 42.2 | 1.1 | 0.3 | 0.1 | 0.0 | 1.87 | 1 |
| Optician Visits | 71.0 | 28.9 | 0.1 | 0.0 | 0.0 | 0.0 | 1.27 | 1 |
| Outpatient | 75.4 | 22.0 | 1.8 | 0.6 | 0.1 | 0.1 | 2.87 | 2 |

Using this information we gain a relatively detailed picture of utilisation in the last year and give some descriptive statistics on utilisation in Table 8.1. This shows that the vast majority (88 per cent) of people did not have any in-patient care in hospital in the last year. Of those that did, the largest proportion had between 1 and 5 nights in hospital with the average for those who experienced 1 or more nights being just almost 10. This is pulled upward by the small proportion of respondents who experienced high numbers of nights in hospital as can be seen from the 'median' statistic (the number of visits for the person half way up the distribution) which is 5 nights.

For visits to the general practitioner, on the other hand, the 2001 data show that almost 74 per cent see a doctor at least once in the year, with 56 per cent attending between 1 and 5 times and a substantial 9 per cent attending more than 10 times in the last 12 months. The mean number of doctor visits for those attending at least once is almost 5 times with a median number of 3.

When we look at visits to dentists, opticians and outpatients we see substantially lower figures with a large 56 per cent not taking their dentists advice and staying away for the year and more than 70 per cent not seeing an optician or attending an outpatient clinic in the last year.

Our central concern is how this pattern of utilisation is distributed across the income distribution, and this can be illustrated by first categorising people in terms of their position by income quintile (i.e. ranking the population according to their income and then dividing the distribution into five equal size groups). With one-fifth of persons in each quintile, we can then look at the share of total utilisation for each service attributable to each. It is important

to control for the fact that some households may have more individuals than others thus all analyses using income in this chapter include an 'equivalisation' factor which divides the household income according to the number of adults and children in the household.[4]

Table 8.2 shows that the bottom 40 per cent, the two lowest income quintiles, have over half of all hospital nights and GP visits. The bottom one-fifth has over 35 per cent of in-patient nights and 36 per cent of all GP visits. When we look at the distribution of dentist and optician visits on the other hand we see the opposite pattern, with over 26 per cent of dentist visits and 30 per cent of optician visits occurring in the top income group. Table 8.2 also shows that the distribution of out-patient hospital services tends to be 'u-shaped' with high proportions in the top and bottom income groups and lower proportions in the middle income groups.

**Table 8.2: Shares of Service Utilisation (Defined as Number of Visits in the Last Year) by Equivalised Income Quintile 2001**

| Income Quintile | Inpatient Nights | GP Visits | Dentist Visits | Optician Visits | Out Patient Visits |
|---|---|---|---|---|---|
| Lowest | 35.3 | 36.4 | 15.8 | 17.5 | 22.6 |
| 2 | 21.7 | 21.3 | 17.2 | 16.9 | 20.1 |
| 3 | 15.4 | 16.0 | 19.1 | 15.9 | 18.3 |
| 4 | 18.5 | 13.3 | 21.8 | 19.5 | 14.9 |
| Highest | 9.1 | 13.0 | 26.1 | 30.2 | 24.1 |

The results in Table 8.2 show that services utilisation varies significantly over different income groups and varies according to which service we focus on. It is clear for instance that lower income groups have higher numbers of nights in hospital and are more likely to visit their GP. Higher income groups on the other hand are more likely to visit the dentist and optician. The distribution of outpatient visits is distributed in a more complex manner across groups. It would be convenient if we had a summary measure of the distribution of service utilisation across income and this is exactly what has been put forward by Adam Wagstaff and colleagues (Wagstaff, Paci, *et al.*, 1991) in the form of the concentration index (CI). When calculated, the CI ranges from –1 to +1 with –1 implying that all service use is among the most disadvantaged and +1 showing that all use is among the most advantaged. A coefficient of zero implies that the service is used equally by all income groups. Table 8.3 gives the CI coefficients for the five service areas examined so far, along with standard errors for the measures and level of significance (i.e. are the coefficients significantly different from zero?).

[4] Here we use the 'modified' OECD equivalence scale which weights the first adult (14+) by 1, all other adults by 0.5 and each child (<14) by 0.3.

**Table 8.3: Concentration Indices for Different Utilisation Types (Defined by Number of Visits in the Last Year) 2001**

| | Inpatient Nights | GP Visits | Dentist Visits | Optician Visits | Outpatient Visits |
|---|---|---|---|---|---|
| CI | -0.200** | -0.216*** | 0.105*** | 0.128 | -0.007 |
| SE | 0.058 | 0.023 | 0.025 | 0.081 | 0.047 |

Key: *=P<0.05;**=P<0.01;***=P<0.001

The results in Table 8.3 confirm the analyses from Table 8.2 with hospital and GP services distributed in a 'pro-poor' fashion, i.e., having significantly negative CI coefficients). The distribution of GP visits is however marginally more pro-poor than inpatient hospital nights. On the other hand, Table 8.3 shows that dental and optician services are distributed in a pro-rich fashion with strong positive CI coefficients. As expected, the result for outpatient services is almost neutral with a small negative and non-significant CI coefficient (reflecting the 'u-shaped' distribution of outpatient visits.

For primary care services, e.g. GP, dentist and optician services it is also useful to look at the distribution of the probability of any use in the last year, i.e., the extent to which having one or more visits in the last year varies across the income distribution. It could be for instance that whereas the probability of having any contact with primary care is dictated by the characteristics of the individual in question (e.g., their age, sex and preference for care), the number of visits will also be influenced by the judgements of the health professional.

**Table 8.4: Concentration Indices for Different Utilisation Types (Defined by whether Visited in the Last Year) 2001**

| | GP Visits | Dentist Visits | Optician Visits |
|---|---|---|---|
| CI | -0.022*** | 0.141*** | 0.081*** |
| SE | 0.006 | 0.013 | 0.018 |

Key: *=P<0.05;**=P<0.01;***=P<0.001

Table 8.4 gives the CI coefficients for having one or more consultations with a GP, dentist or optician in the last year. This shows some significant differences to the results in Table 8.3. It is clear for instance that the probability of having any contact with the GP in the last year is not nearly as pro-poor as the number of visits. This suggests that higher income groups also see their GP, but do so less frequently. For dentist visits the new measure is actually more 'pro-rich' suggesting that the probability of any visit is higher among higher income groups. This could also suggest that although lower income groups are less likely to attend the dentist overall, when they do, they tend to have more visits. The new measure proves to be less pro-rich than the measure based on number of visits.

It is clear that health care is not distributed equally across the population, but inequality does not necessarily mean inequity if the level of health need varies across income groups. It could be for instance that the higher utilisation of GP services found among lower income groups results from worse health among these groups. The next section examines the distribution of health across income groups.

## 8.5 Measuring the Level of Health Need Across Income Groups

Blaxter (1989) has classified morbidity measures as falling into three main types depending on the underlying conceptual model: the *medical*, the *functional* and the *subjective*. The first defines health in terms of deviation from some physiological norm, the second defines ill health in terms of lack of ability to perform 'normal' tasks and roles and the last is defined in terms of the individual's perception. The LII 2000 data includes an example of all three of these different types of measures which we could use, although each has a slightly different relationship to the income distribution. In terms of the medical model, the LII Survey includes a variable on whether the person has chronic physical or mental health problem, illness or disability. It also includes a question which asks whether the respondent has 'cut down' or not done any of the things which they would normally have done due to a physical or mental health problem which allows us to construct a functional measure of limiting illness. The LII Survey also includes a measure based on the individual's subjective assessment in the form of a question asking "in general, how good would you say your health is?" with outcome measures from very good to very bad via fair. Whilst these measures are certainly simple, there is good evidence (for example in Blaxter) that such measures are close analogues of clinically assessed health status and good predictors of outcomes such as mortality.

It is possible to apply the same concentration index methodology to these measures of health as used to measure the distribution of health care utilisation. However, for simplicity we have collapsed some of the outcome categories for the limiting health and subjective health assessment questions. We now measure whether the respondent has any limiting health condition and whether they have "less than good health".

**Table 8.5: Concentration Indices for Different Health Measures, 2001**

| | Chronic Illness | Limiting Health | Less than Good Health | Ill Health Index |
|---|---|---|---|---|
| CI | -0.223*** | -0.218*** | -0.727*** | -0.028*** |
| SE | 0.025 | 0.043 | 0.052 | 0.003 |

Key: *=P<0.05;**=P<0.01;***=P<0.001

The results in Table 8.5 show that each of the three health measures are concentrated among lower income groups with significant negative CI coefficients. The most negative measure is that for having "less than good health" followed by the chronic illness measures. This suggests that lower income groups have a significantly worse health status than higher income groups and, by inference, a much higher need for health care. If so, this would partly explain why use of inpatient nights and GP care is more likely among lower income groups. However, it may be that each of our observed health variables is, in fact, a flawed measure of an underlying, latent dimension of ill health. If so, it would improve our analyses if we combined each of these 'flawed' measures into a single indicator that summarises health and distils from the three indicators their common component. Adda, Chandola and Marmot (2003)

have suggested a method through which different health indicators can be combined based upon factor analysis and this is the procedure we adopt here. This produces an 'ill health index' (IHI), the CI coefficient for which can be seen in the last column on the right in Table 8.5. The CI for the ill health index is significantly negative, like the other measures in Table 8.5, but less so, primarily because it is a continuous measure on which all income categories score rather than being dichotomous like the other measures in Table 8.5. We use the IHI in the next section of this chapter to standardise for 'health need' and thus to compute an index of the inequity for our different measures of health care. It should be said that the measures of health that we have available are more suited to measuring the need for general medical services than they are for measuring specific health needs such as the need for dentist or optician care. It would be preferable to have specific measures of need for these services, but unfortunately, these are not available in the LII data file. This may mean that our standardisation for health need in Section 8.6 is not as reliable an indictor of inequity in use of dentist and optician services as it is for use of inpatient, GP and outpatient services.

## 8.6 Measuring Inequity in the Utilisation of Health Care in Ireland

Having examined the distribution of both health care utilisation and health need in Ireland we are now in a position to move on to the measurement of the equity of health care utilisation. Wagstaff *et al.* (1991) have suggested that these concentration indices can be used to derive an overall summary measure of equity, or health inequality measure (HI) which is based on whether utilisation shares across income groups are in proportion to the health need of each income group. If HI is positive this implies that there is inequity favouring the better off and if negative, inequity favouring the worse off.

However, in analysing the impact on income on service use controlling for need, we also need to control for other factors that may confound the relationship. For example, older people are likely to have a worse health status than younger people and are likely to have a lower income than average because of their reliance on pension incomes. If we did not control for age this may artificially increase the association between low income and utilisation.

Given this, here we adopt a more analytical approach by standardising each of the measures of service use to take account of variations in the distribution of sex and age that may confound the relationship between income and usage. Technically we want to estimate the partial correlation of the confounding variables sex, and age on service utilisation conditional on health status. After the concentration index of utilisation has been standardised, the HI index is computed as the unstandardised CI minus the standardised CI. If after this procedure HI is still positive we will have evidence that the distribution of health expenditure is actually skewed toward the better off even when we have controlled for health status.

Table 8.6 gives the results of these analyses. This shows that hospital inpatient nights are distributed in an essentially neutral manner across the income distribution once we standardise for health need. Although the HI index is positive, it is not significantly different from zero. For GP visits on the other hand we see a significantly negative HI coefficient suggesting that lower income groups visit their GP significantly more for a given health status than higher income groups.

**Table 8.6: Health Inequality Indices for Different Utilisation Types (Defined as Number of Visits in the Last Year) 2001**

| | Inpatient Nights | GP Visits | Dentist Visits | Optician Visits | Outpatient Visits |
|---|---|---|---|---|---|
| HI | 0.07 | -0.093*** | 0.071** | 0.186* | 0.12** |
| SE | 0.057 | 0.021 | 0.024 | 0.082 | 0.046 |

Key: *=P<0.05;**=P<0.01;***=P<0.001

For dentist, optician and outpatient visits on the other hand we see significant positive HI coefficients suggesting that higher income groups have higher numbers of visits controlling for their health status. It is almost certainly true, as mentioned in the last section, that our measure of health need is not really suited to an analysis of dentist and optician services. However, Table 8.6 suggests that a specific measure of dental and optical need would have to be extremely skewed toward higher income groups if it were to counterbalance the higher levels of utilisation among these groups.

As in Section 8.4, it is important to examine the impact which changing the measure of utilisation has on the level of inequity. Table 8.7 gives the HI indices for GP, dentist and optician visits for those having one or more visits in the last year. Although the pro-rich inequity found in Table 8.6 for dental and optician visits remains using a measure of having visited one or more times in the last year, the result for GP visits changes profoundly. Table 8.7 shows that higher income groups are actually significantly more likely to visit their GP once or more than lower income groups for a given health status.

**Table 8.7: Health Inequality Indices for Different Utilisation Types (Defined by Whether Visited in the Last Year) 2001**

| | GP Visits | Dentist Visits | Optician Visits |
|---|---|---|---|
| HI | 0.012* | 0.109*** | 0.125*** |
| SE | 0.006 | 0.012 | 0.018 |

Key: *=P<0.05;**=P<0.01;***=P<0.001

## 8.7 Conclusions and Discussion

The complex mix of public and private provision in Irish health care has raised concerns that a person's circumstances and their income in particular may have an influence on if and when they will get treatment. Given the ubiquity of payment in primary care in Ireland and the high levels of health insurance in the Irish population it would seem legitimate to ask whether income has a bearing on the equity of utilisation observed across social groups. As the second section of this chapter made clear, it is possible to define equity in different ways with each having different implications for

measurement. Here we adopted utilisation rather than access as our metric of measurement and 'horizontal equity' as our definition, i.e. equal utilisation of health care for equal levels of health 'need'.

Our results showed that utilisation patterns differ significantly across the income distribution and across different services with hospital inpatient nights and GP visits much more frequent among lower income groups. Dentist and optician visits on the other hand were more frequent among higher income groups. Outpatient services proved to have a more complex utilisation across income groups with higher usage both at the top and the bottom of the income distribution.

Our analysis of the distribution of health need on the other hand showed that lower income groups were significantly more likely to have a worse health status and by implication, a higher level of 'need' for health care services. Combining the level of utilisation with the level of need across the income distribution we found that the heavier use of inpatient services among lower income groups is largely counter-balanced by the higher level of need among lower income groups leading to an essentially neutral outcome. This result presents something of a paradox. It is clear that waiting lists for hospital treatment are a problem in Ireland and it is likely that it is lower income groups (i.e., those without medical insurance) who dominate these lists. It would be logical that the differential in waiting times would lead to higher utilisation among higher income groups, but this is not what we observe. It may be that the higher level of need among lower income groups leads to lower income groups making up a far higher proportion of the overall case load for Irish hospitals and this then leads to the patterns for equity we observe.

We also found higher levels of utilisation for lower income groups for GP visits, a pro-poor distribution which remained even once we standardised for higher levels of need among lower income groups. Interestingly however, a measure of use based on having one or more visits in the last year was not nearly as skewed toward lower income groups and the measure based on number of visits. Once we standardised for health the former measure yielded a significantly pro-rich distribution. This suggests that higher income groups are actually more likely to have visited at least once in the last year than lower income groups (for a given level of health), but that lower income groups visit more frequently when they are ill. Once again this presents a paradox. As we noted earlier, GPs have an incentive to promote visits among private patients (called 'supplier induced demand') because private patients pay per visit whereas GPs are paid a set amount per GMS patient on their register. Our results suggest that this incentive has no basis in reality with public patients actually more likely to visit.

However, one solution to this paradox is suggested by the results for the alternative measure of GP utilisation and for outpatient treatment. The patterning of use for these services may be related through differential waiting times for secondary care. It is now well established that public patients in Ireland wait far longer for care

than private patients (the waiting period is the primary reason given for purchasing medical insurance, c.f Nolan & Wiley 2000, and since lower income groups are far less likely to purchase medical insurance it is these groups that make up the waiting lists for public care. Longer waiting times for specialist care among public patients could mean that they end up having more visits to their GP to deal with chronic problems whilst private patients with lower waiting times simply see their GP once to get a referral to the specialist and so have fewer visits overall. This would explain the differential findings for different measures of GP utilisation and the higher level of utilisation for outpatient care among higher income groups.

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