Disability and Social Inclusion in Ireland

Brenda Gannon and Brian Nolan
Economic and Social Research Institute

THE EQUALITY AUTHORITY
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NATIONAL DISABILITY AUTHORITY
ÚDARÁS NÁISIÚNTA MÍCHUMAIS

NATIONAL DISABILITY AUTHORITY

The National Disability Authority (NDA) was established in June 2000 as an independent statutory body operating under the aegis of the Department of Justice, Equality and Law Reform.

The NDA's functions, as set out in the National Disability Authority Act of 1999, are:

- To advise the Minister on issues of policy and practice in relation to disability
- To assist the Minister in the co-ordination and development of policy in relation to people with disabilities
- To undertake, commission or collaborate in research on issues relating to disability
- To assist in the development of statistical information for planning, delivering and monitoring services for people with disabilities
- To advise in relation to standards for programmes and services for people with disabilities
- To monitor the implementation of standards and codes of practice for services for people with disabilities

The NDA is committed to the creation of an inclusive Irish society, one in which people with disabilities have equal rights and opportunities to participate in the economic, social and cultural life of the nation.

THE EQUALITY AUTHORITY

The Equality Authority was established in 1999. It has a broad mandate to promote equality of opportunity and to combat discrimination in the areas covered by the Employment Equality Acts 1998 and 2004 and the Equal Status Acts 2000 to 2004.

The Employment Equality Acts 1998 and 2004 prohibit discrimination in the workplace. The Equal Status Acts 2000 to 2004 prohibit discrimination in the provision of goods and services, accommodation and educational establishments. Separate provision is made in relation to registered clubs. Both Acts prohibit discrimination, including indirect discrimination and discrimination by association, sexual harassment and harassment, and victimisation. Both Acts allow positive action (in pursuit of full equality in practice under the Employment Equality Acts) and require a reasonable accommodation of people with disabilities subject to exemptions. Both Acts are subject to exemptions. Both Acts cover nine grounds – gender, marital status, family status, age, disability, race, sexual orientation, religion and membership of the Traveller community. The disability ground is broadly defined to include people with physical, intellectual, learning, cognitive or emotional disabilities and a range of medical conditions.

The functions of the Equality Authority include the provision of information on the working of the Acts and on the Maternity Protection Acts 1994 and 2004, the Adoptive Leave Act 1995 and the Parental Leave Act 1998, to monitor and keep under review the Acts and to make recommendations to the Minister for Justice, Equality and Law Reform for change. The powers afforded to the Equality Authority to carry out its functions include: to conduct equality reviews and action plans, to prepare Codes of Practice, to conduct inquiries, to provide legal assistance to claimants under the Employment Equality Acts and the Equal Status Acts at its discretion on a strategic basis, to take cases in its own name in certain circumstances and to conduct research.

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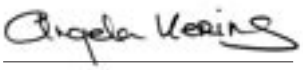
FOREWORD

People with disabilities face many barriers to full participation in society. This report makes an important contribution to documenting the gaps in participation between disabled and non-disabled people. Through detailed statistical analysis of data already collected in the Living in Ireland Survey and the Quarterly National Household Survey, the authors explore the situation of people with disabilities or chronic illnesses with respect to education, earnings, poverty and social participation. They explore some of the factors which lie behind the differences between disabled people and others. In particular they look at the influence of the severity of disability, in terms of restrictions on day to day activities, on wider social inclusion.

People with disabilities are more likely to leave school early and without qualifications, and are less likely to progress to third level. Poorer educational attainment is undoubtedly a factor in reducing earnings potential and the likelihood of having a job, alongside the other barriers there are to disabled people's employment. In turn, as this research highlights, the high proportion of people with disabilities who live in jobless households is an important contributory factor to the higher incidence of poverty among adults with disabilities or long-term illness.

The Authority is grateful to Brenda Gannon and Brian Nolan of the ESRI for their thorough and expert work on this report.

The findings of this report offer a challenge to policymakers to address the root causes of social exclusion of people with disabilities, and to progressively narrow the gaps the report has identified.



Angela Kerins
Chairperson, National Disability Authority

The strategic plan of the Equality Authority reflects a commitment to addressing the specific situation and experience of those within the nine grounds faced with additional barriers of poverty and exclusion. The Equality Authority welcomed the opportunity to work jointly with the National Disability Authority to commission and publish "Disability and Social Inclusion in Ireland". The project provided a valuable and necessary opportunity to explore the interface between poverty and inequality in the situation and experience of people with disabilities.

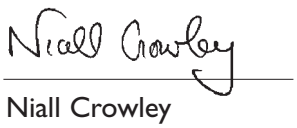
This report confirms the importance of exploring this interface between poverty and inequality. It identifies that about 38% of adults reporting a longstanding or chronic illness or disability in the 2001 Living in Ireland Survey are found to be at risk of poverty, more than twice the rate for other adults. This confirms the importance of people with disabilities being a specific target group in anti-poverty strategies. The report identifies particular disadvantages for people with disabilities in relation to educational status, earnings and social participation. This confirms the need to ensure that strategies to combat educational disadvantage, pay gaps and social exclusion are tailored to accommodate, include and benefit people with disabilities.

"Disability and Social Inclusion in Ireland" builds on previous work commissioned and published by the Equality Authority. "Disability and Labour Market Participation" examined the current labour market situation of people with disabilities and explored the dynamics of disability and labour market participation over time. It provided detailed statistical analysis of the impact of disability on labour market participation. It highlighted that about 40% of those reporting a longstanding or chronic illness or a disability were in employment compared with an employment rate of close to 70% for other adults of working age.

The development and dissemination of this quantitative research has a significant contribution to make to effective equality strategies. It identifies gaps or imbalances in the situation of particular groups. It provides a benchmark against which to measure future progress. It poses a challenge to further evolve and develop equality strategies and to more effective include an equality dimension in general development strategies. "Disability and Social Inclusion in Ireland" fulfils these three functions in relation to people with disabilities.

The report highlights that the degree to which people are hampered in their daily lives by illness or disability is significant. The more they are hampered the greater the disadvantage they are found to experience in each of the fields examined. This reflects the disabling nature of society and its institutions. The physical environment, communication strategies, workplace design and work organisation, the design of service provision and public attitudes continue to pose barriers to people with disabilities. Equality legislation includes requirements in relation to making reasonable accommodation of people with disabilities and allows positive action in relation to people with disabilities. It is important that these requirements are fully respected alongside a strategy that takes full advantage of the positive action allowed.

Brenda Gannon and Brian Nolan deserve gratitude for their valuable work on this research. Their work reflects the high standards and expertise for which they are well known.



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CEO, The Equality Authority

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Very helpful comments on a draft of this study were received from the members of a steering group set up to assist the project – Laurence Bond (Equality Authority), Eithne Fitzgerald (National Disability Authority), Mary Keogh (Forum of People with Disabilities) and Jim Walsh (Combat Poverty Agency). These contributed substantially to the final report and are gratefully acknowledged by the authors.

CONTENTS

List of Tables

EXECUTIVE SUMMARY

People with disabilities face many barriers to full participation in their societies, but only very limited evidence has been available to date for Ireland on the actual impact of disability on different forms of participation. The aim of this study for the Equality Authority and the National Disability Authority is to examine social inclusion and exclusion for people with disabilities under four headings: Education, Earnings, Poverty and Deprivation, and Social Life and Social Participation, through analysis of the information collected in two representative household samples – the Living in Ireland Survey and the Quarterly National Household Survey. (Labour force participation, a central dimension of participation, was analysed in a previous study by the same authors, published by the Equality Authority in 2004).

The Data

The main data source used is the Living in Ireland Survey carried out by the Economic and Social Research Institute, while in studying education the special module on disability included with the CSO's Quarterly National Household Survey in 2002 is also employed. These datasets have serious limitations, since disability is very difficult to capture in a general household survey, but they can still be very informative. The Living in Ireland Survey has information on whether adults reported having a chronic or longstanding illness or disability, and if so whether this hampers them severely, to some extent or not at all in their daily life. As in the previous study on employment, the degree of hampering was found to be a significant factor in the degree of exclusion experienced.

Education

In the 2001 Living in Ireland Survey, half those who were ill or disabled have no formal educational qualification, compared with one-fifth of other adults. This partly reflects age, since those with a chronic illness or disability are older on average. However, within each age range the proportion with no educational qualification beyond primary is still much higher for those with chronic illness or disability. They are also much less likely to have a third-level qualification.

Econometric analysis confirms that, having taken age and gender into account, those reporting a chronic illness or disability that hampers them in their daily activities are much more likely to have no educational qualifications and less likely to have third level education than those without such an illness or disability. However, illness or disability itself may not be the cause of the full differential, since those from backgrounds that are disadvantaged in other ways are also more prone to illness or disability. Therefore, it could partly be those other disadvantages that are impacting on education.

To explore this the study distinguishes between those with illness or disability since before the age of 25 and those who acquired illness or disability after 25, when a direct impact of disability on education seems unlikely. Disabilities or illnesses which hampered people in everyday living, and that were acquired after age 25 are seen to be associated with poor educational outcomes, suggesting that some of the apparent impact of disability is in fact capturing other background factors. However, those with hampering disabilities present before age 25 have a substantially greater likelihood of having no qualifications and reduced chances of having a Leaving Certificate or a third-level qualification compared with those who acquire illness or disability after age 25, so disabilities acquired early in life still do have substantial effects. Analysis of the special module on disability included with the Quarterly National Household Survey in 2002 supports the same conclusion.

Earnings

Chronic illness or disability substantially reduces the likelihood that an individual will be in work, but may also affect the earnings of those who are in work. Data from the Living in Ireland survey allow the earnings of employees who are disabled or ill and others to be compared. This shows that for men there was little or no difference in average hourly or weekly earnings. For women, those reporting a disability or chronic illness had lower weekly earnings than those who did not. However, this was because they worked fewer hours in the week on average rather than because they had lower hourly earnings.

When regression analysis is used to "control" for other factors such as differences in age and experience, initial results for men again suggest no difference in hourly earnings between those with and without a chronic illness or disability. However, disabled people who are actually in employment may have greater ability or determination than those not in employment, and this could bias the comparison. When a correction is made for this, the results do then suggest an earnings gap between those with and without a hampering disability or illness. The extent to which this reflects discrimination per se rather than genuine differences in productivity would be very difficult to assess even with much more in-depth information on the individuals and their jobs.

This analysis refers to differences in earnings between individuals with the same level of education and previous experience in the workforce; it must be emphasised that disability also has an indirect impact on earnings via its effects on the level of education attained and on years of work experience.

Poverty

Two main types of poverty measures have been used in recent Irish studies, namely whether the income of the household falls below a threshold figure (such as 60% of median income) so that they are what the EU terms "at risk of poverty", and whether they are both below an income threshold and experiencing enforced basic deprivation and thus in "consistent poverty". About 38% of adults reporting chronic illness or disability in the 2001 Living in Ireland Survey are found to be at risk of poverty, more than twice the rate for other adults. Their consistent poverty rate was over 7%, again about twice the figure for other adults. Once again, the degree to which people are hampered in their daily lives by illness or disability is significant. Almost half those with a chronic illness or disability that hampered them severely in their daily activities are at risk of poverty, and about 16% of this group are in consistent poverty. On the other hand, those whose illness or disability does not hamper them at all have similar poverty rates to those without chronic illness or disability.

The number in the household at work and the extent of social welfare dependence play a crucial, interlinked role in determining poverty risk. Being at risk of poverty was generally associated with no one in the household being at work and with most or all of the household's income coming from social welfare payments. From 1995 to 2001 the percentage of adults with a chronic illness or disability at risk of poverty rose sharply, from 21% to 38%. They experienced only a marginal decline in

consistent poverty, at a time when other adults saw their rate fall by half. This is once again linked to the extent to which people with chronic illness or disability rely on social welfare payments, since while these payments rose faster than prices they lagged behind the very rapid pace of increase in incomes from work.

Statistical analysis of the relationship between chronic illness or disability and poverty, controlling for other characteristics, suggests that the predicted risk of poverty is between 11 and 22 percentage points higher where the individual has a severely hampering disability, and between 5 and 12 percentage points higher where he or she is hampered to some extent. In terms of consistent poverty, a severely hampering illness or disability raised the incidence of poverty by between 6 and 13 percentage points, while an illness or disability that hampers to some extent increases the consistent poverty rate by 2 to 4 percentage points.

Social Participation

The impact of chronic disability or illness on broader aspects of participation in the life of the community was also explored using some indicators in the Living in Ireland Survey. Simply comparing participation rates, those with a chronic illness or disability that hampers them severely in their daily activities are much less likely than others to be a member of a club or association, to talk to their neighbours most days, to meet friends or relatives most days, or to have had an afternoon or evening out for entertainment in the last fortnight. Those with a disability which hampers them to some extent are below-average on some indicators but not on others, while those not hampered at all have the same participation rates as those with no chronic illness or disability.

Statistical analysis controlling for differences in age and gender profile shows that the presence of a severely hampering chronic illness or disability does indeed significantly reduce the probability of participation in terms of club membership, frequency of contact with neighbours and with friends or relatives, and having an evening out. Being hampered to some extent also reduces the level of participation on these indicators, although the impact is a good deal less than for those who are severely hampered. Individuals whose disability or illness does not hamper them have the same predicted social participation as someone without a disability.

1

INTRODUCTION

Social inclusion means being in a position to participate fully in the life of the society one lives in. Conversely social exclusion entails being prevented from doing so. People with disabilities face many barriers to full participation, and are thus likely to face a heightened risk of social exclusion across various dimensions; however, the evidence available to date for Ireland on the extent and nature of this exclusion is fragmentary. The aim of this research study for the Equality Authority and the National Disability Authority (NDA) is to examine various aspects of inclusion and exclusion for people with disabilities, using available data from representative household surveys of the Irish population. The study used anonymised individual-level datasets (micro-datasets) from the Living in Ireland Survey and the Quarterly National Household Survey. Specifically, this data allows us to investigate the extent of social exclusion for people with disabilities under the following headings: Education, Earnings, Poverty and Deprivation, and Social Life and Social Participation. While these are distinct aspects of exclusion they are also obviously related to each other, and we also seek to bring out those linkages.

In recent years there has been a major shift in the assumptions held about the nature of disability, away from what has been termed the medical model of disability towards what has been termed a social model. The medical model of disability focuses on people's specific impairments. Its underlying assumptions are that people with a disability are different from the norm and that they need to be helped and if possible cured so that they might conform to that norm. Starting from the early 1970s, this way of thinking about disability was increasingly challenged and rejected by people with a disability, in favour of what has been termed the social model of disability. The central shift in thinking was that disablement arose from the environment and organisation of society rather than from the individual and their impairment. Disability is seen as a consequence of social, attitudinal and environmental barriers that prevent people from participating in society. The focus is then on the need to change societal conditions to accommodate the needs of the disabled person. Those with disabilities should be able to participate in such activities as education, employment and leisure along with everyone else.

Labour force participation, which represents an absolutely central dimension of overall participation, has already been analysed from a disability perspective using the same data sources in a previous study by the same authors for the Equality Authority (Gannon and Nolan 2004). That study by its nature dealt with people of conventional working age, but here the entire adult population is of interest. The data sources used here, as in that previous study, are the Living in Ireland Survey carried out by the Economic and Social Research Institute, and the special module on disability included with the Central Statistics Office's Quarterly National Household Survey during 2002. The QNHS disability module covers a particularly large sample and was particularly valuable in studying labour force participation, but is less useful here because it does not have information on earnings, overall household income, or social participation. The Living in Ireland Survey is therefore our primary data source, though we are able to make use of the QNHS data in investigating educational attainment.

The measurement of disability in a survey context poses considerable definitional and methodological difficulties. These issues are the subjects of widespread debate, not least in respect of the implications for measurement of a shift from a medical to a social model of disability (Nolan et al 2003). As we emphasised in examining labour force participation, the available datasets have serious limitations, notably in the way disability is captured. Those reporting chronic or longstanding illness or disability in the surveys can be distinguished, and there is some additional information about the nature of the condition involved and how much it limits or hampers the person. This is fairly crude and cannot serve as substitute for the in-depth information that would be obtained via a full-scale national survey on disability prevalence and impact. None the less, analysis of these existing datasets can add substantially to what we know about disability and social inclusion in Ireland.

We begin in Chapter 2 by describing the data sources and the picture they provide of the extent and nature of chronic or long-standing illness or disability. Chapter 3 then focuses on educational attainment, and investigates whether those reporting chronic illness or disability in the two surveys have lower levels of education than those who do not. The remainder of the study is based on data from the 2001 Living in Ireland Survey, the last in the series of surveys which began in 1994. Chapter 4 analyses earnings for those in employment and explores whether there is a difference in earnings between those who report chronic illness or disability and the rest of the population. Chapter 5 examines the extent to which those reporting a long-standing illness or disability are in households that would be considered "poor", using a variety of measures of poverty. Chapter 6 analyses social participation across various dimensions, once again investigating whether those reporting chronic illness or disability are distinctive.

For each of the four areas of participation/exclusion, we present results first in the form of detailed cross-tabulations. These are followed by regression-based analysis, which estimates statistical models aimed at teasing out the relationship between disability and the outcomes of interest. While these are unavoidably somewhat technical in nature, the text seeks to convey what they aim to achieve, and the key findings are brought out in the conclusions to each chapter.

It is important to note here that, while we can in many cases measure the size and direction of the relationship between chronic illness or disability and these social outcomes, this study does not directly address the underlying causal relationships involved. Disability may impact on the abilities of an individual either through specific effects of impairment or though the effects of broader societal responses to impairment or to difference. In addition, regardless of an individual's abilities, people with disabilities may encounter direct or indirect discrimination, or a failure to accommodate their needs. These issues concerning the causal relationships between specific social outcomes and disability go to the heart of the debate on the social model and the social reality of disability.

Our models examine the relationships between our measures of disability and a range of measures including educational attainment, earnings, poverty and so on. Specifically they measure the impact of chronic illness or disability per se, when other relevant factors such as gender, age, or educational level are taken into account. Where possible, they also examine the role of relevant factors among those who are chronically ill or disabled, such as the timing of onset of illness or disability and the degree to which people report that they are hampered in their daily activities. However, with the data available for this study, it is not possible here to empirically identify the specific channels of influence or causal mechanisms through which these impacts are achieved.

2

DATA SOURCES AND THEIR PROFILE OF DISABILITY

2.1 Introduction

Unlike some other countries, Ireland does not at present have a national survey specifically designed to capture the prevalence of different types of impairment and disability, the extent to which those affected participate in various activities, and the barriers they face. Such a survey will be carried out as a follow-up to the next Population Census, scheduled for 2006, and a pilot survey exercise sponsored by the NDA has already been implemented successfully (as documented in Nolan et al 2003). Existing large nationally representative samples do however have some valuable information on disability. Specifically, as noted in the introductory chapter, the present study seeks to exploit information in the ESRI's Living in Ireland Survey and the special module on disability included with the CSO's Quarterly National Household Survey during 2002, to study various aspects of social exclusion for people with disabilities.

This chapter first provides a brief description of the key features of these data sources and in particular the information they contain about disability. It then goes on to describe the overall extent of disability and profile of people with disabilities suggested by the data in these surveys. This provides the background for the subsequent analysis using these sources, in the chapters that follow, of the relationship between disability and education, earnings, poverty and social participation. It must be emphasised once again that the study is focused by design on exploiting existing data sources. The analyses it can carry out are tightly constrained in having to rely on responses to questions that have already been asked, with no scope to, for example, alter the wording of questions, expand on the areas covered, or deepen the range of measures of, for example, social participation. One implication, for example, is that the situation of children with disabilities cannot be studied because only adults were interviewed in the surveys we use. None the less, as we shall see, a great deal can be learned from these available datasets.

2.2 Data Sources

The Quarterly National Household Survey Disability Module 2002

The Quarterly National Household Survey (QNHS) conducted by the Central Statistics Office (CSO) is the main source for national labour force and labour market developments, and is based on interviews with a large nationally-representative sample of households throughout the country. The main questionnaire captures personal data and the employment circumstances of each individual aged 15 or over and usually resident in the household. The survey obtains information on about 100,000 individuals each quarter.

In addition to the core QNHS questions included in each round, special additional modules are attached from time to time covering different issues. A special module on disability and employment was included with the QNHS in the second quarter of 2002, for those of working age. Specifically, respondents were asked:

"Do you have any longstanding health problem or disability?"

Respondents were told to take "longstanding" to mean lasting over the past 6 months or likely to affect them for at least 6 months. Those who said they did were asked how long they had been affected and the cause of the condition or disability (distinguishing conditions that the person was born with, accident or injury, and disease). Those reporting a longstanding health problem or disability were also asked whether it restricted the kind or amount of work they could do, and those recently in work were asked whether it caused any difficulty getting to and from work (a full list of questions is presented in the appendix).

Information from this special module can be combined with the data collected in the core QNHS for the same people, notably on individual characteristics, employment status and level of education. This allows for in-depth analysis of the impact of disability on the extent and nature of labour force participation for this large sample, and the results of such an analysis were included in Gannon and Nolan (2004). In terms of the focus of the present study, the QNHS module allows us to investigate the relationship between disability and education for those of working age. It has no information on earnings, household income or social participation and does not include those aged over 65; in probing those areas we rely on the Living in Ireland Survey, which we now briefly describe.

The Living in Ireland Survey

The Living in Ireland Survey was conducted by the Economic and Social Research Institute (ESRI) each year from 1994 up to 2001. The design was longitudinal, in other words the aim was to follow the same sample from one year to the next rather than interview a different cross-section of the population each year. Where possible each adult in the household was interviewed, and the sample design aimed to produce a nationally representative sample of those living in private households. The size of the initial sample was substantially augmented in 2000, since there had been significant drop-out or attrition of those in the original sample by then (for a detailed description of the survey, response rates etc. see for example Whelan et al 2003). The total sample size in 2001, at 2,865 households and 9,131 individuals, is much smaller than the QNHS but still substantial in conventional survey terms. Since its initiation in 1994 the Living in Ireland Survey has provided the data for a considerable range of research studies on topics such as poverty, income inequality, the labour market and social inclusion (see for example Nolan, O'Connell and Whelan, 2001).

The Living in Ireland Survey included several questions directly focused on illness or disability. Respondents were asked:

"Do you have any chronic physical or mental health problem, illness or disability?"

Those who said they did were then asked

- to describe the nature of this illness or disability
- whether it hampers them in their daily activities (severely, to some extent, or not at all), and the interviewer also notes
- whether they are confined to bed, a wheelchair user, have other mobility problems, or have no mobility problems.

(Once again the full set of questions employed is given in the appendix).

This provides a basis for identifying, albeit much more crudely than one would like, those affected by disability. Disability is a highly complex notion, and the rather summary and limited sets of questions in the two surveys available to us could not hope to capture the gradations and nuances associated with the spectrum of possible impairments and their implications. To take just one example, respondents' own assessment of how severely they are hampered by a chronic illness or disability in their daily lives may well depend on how effective the society has been in addressing barriers to full participation by people with disabilities. (The same point obviously applies to the QNHS question about how restricted people are in the work they can do, which may well be affected by how actively employers address barriers to working). On the other hand, the wealth of data obtained in the Living in Ireland Surveys on income, living standards, and social participation allow for an in-depth investigation of the relationship between these outcomes and disability that would not normally be possible with surveys which are designed to capture disability more comprehensively.

2002 Census of Population

Before concluding the discussion of data it is worth noting that the Census of Population carried out in April 2002 included for the first time some specially-designed questions on disability. These were framed as follows:

"Do you have any of the following long-lasting conditions:

(a) Blindness, deafness or a severe vision or hearing impairment?

(b) A condition that substantially limits one or more basic physical activities such as walking, climbing stairs, reaching, lifting or carrying?"

and

"Because of a physical, mental or emotional condition lasting 6 months or more, do you have any difficulty in doing any of the following activities:

(a) Learning, remembering or concentrating?

(b) Dressing, bathing or getting around inside the home?

(c) Going outside the home alone to shop or visit a doctor's surgery?

(d) Working at a job or business"

These questions differ from those in the two household surveys on which we are focusing, but serve as an interesting point of comparison.

The Census does not include information on income or social participation, so it would not serve as a basis for examining the relationship between disability and poverty or social participation, two of the areas of central interest here. It does include both education and labour force status, however, and anonymised micro-data of a sample from the Census represents an extremely valuable source for further analysis of how they are related to disability. For the present, we seek to exploit the micro-data that are available from the two household surveys.

2.3 The Profile of Disability in the Household Surveys

As we have seen, the 2002 QNHS special module on disability was confined to those of working age. The overall picture of disability it suggests for adults in that age range has already been described in some detail in our previous study on labour force participation (see Gannon and Nolan, 2004 Ch. 4), and is only summarised briefly here.

About 11% of persons aged 15 to 64 in the QNHS module indicated that they had a longstanding health problem or disability, in response to the question described earlier. Slightly more men than

women reported having such a health problem or disability, and the proportion doing so rose steadily with age – from only one in twenty for those aged between 15 and 24 up to one in four for those aged between 55 and 64.

Those with a longstanding problem or disability were asked what was the nature of their condition and were provided with a range of categories that would best describe their health condition. The most commonly reported conditions were chest or breathing problems (15%), followed by heart, blood pressure or circulation problems (14%) and back or neck problems (14%). About 10% reported "mental, nervous or emotional" health problems. Further, about two-thirds of those reporting a longstanding problem said they were restricted in the kind or amount of work they can do. When asked the cause of their disability or illness, about 28% said that they were born with it, 18% said that was the result of an accident, and the remainder said that the cause was disease. When asked the duration of disability or chronic illness, a lower proportion, 15%, said they had experienced the condition from birth.

Turning to the Living in Ireland Survey, Gannon and Nolan (2004) discussed in some detail the pattern of responses to the question about the presence of chronic illness or disability for the working-age adult population in the 2000 survey. About 16% of respondents aged 15-64 responded that they had a chronic illness or disability, considerably higher than the 11% in the QNHS special module who reported a longstanding health problem or disability. The possible explanations for this divergence were discussed in some detail in Gannon and Nolan (2004), notably the fact that the questions themselves were different – the Living in Ireland Survey referring to "any chronic, physical or mental health problem, illness or disability", and the QNHS to "any longstanding health problem or disability". In addition, a much higher proportion of the QNHS individual questionnaires were answered by proxy, whereas those responding directly about themselves appear to be more likely to report a longstanding health problem or disability. The difference between the two surveys also highlights, among other things, that the underlying concept encompasses a range of heterogeneous conditions that is difficult to capture in a survey context.

Detailed results from the Living in Ireland Survey on the profile of disability for those of working age were also presented in Gannon and Nolan (2004). However, since the Living in Ireland Surveys also have responses from those aged 65 or more, it is worth setting out the patterns found in that survey for the adult population as a whole. In all, 22% of adults in the 2001 Living in Ireland Survey responded that they had a chronic illness or disability. (This is higher than the figure reported from the 2000 Survey in Gannon and Nolan (2004) because it covers the whole adult age range, whereas that study focused on working age adults only – the figure for the working age population in 2001 is very similar to 2000).

We show in Tables 2.1 to 2.3 how the percentage reporting chronic illness or disability in the 2001 Living in Ireland Survey varies by age, gender and marital status. The percentage saying they had such a chronic illness or disability is lower for males than females, at almost 23% for women versus 20% for men. It increases markedly with age, particularly comparing those aged 65 or more with those in younger age groups. Among those of working age the percentage rises from 10% for those aged between 15 and 24 up to 29% for those aged between 55 and 64, but for all those aged 65 or over it is 47% – nearly half that older age group report such a condition. The percentage reporting a chronic illness or disability is similar for single and married respondents, but higher for those who are separated and much higher for those who are widowed – largely reflecting their older average age.

Table 2.1: Percentage of Respondents Reporting a Chronic Illness/Disability by Sex, Living in Ireland Survey 2001

Sex	% Reporting Chronic Illness/Disability
Male	20.5
Female	22.7
All	21.6

Table 2.2: Percentage of Respondents Reporting a Chronic Illness/Disability by Age, Living in Ireland Survey 2001

Age	% Reporting Chronic Illness/Disability
15-24	10.2
25-34	12.8
35-44	14.5
45-54	22.3
55-64	29.0
65+	47.4
All	21.6

Table 2.3: Percentage of Respondents Reporting a Chronic Illness/Disability by Marital Status, Living in Ireland Survey 2001

Marital Status	% Reporting Chronic Illness/Disability
Single	21.2
Married	18.7
Separated	24.2
Widowed	46.3
All	21.6

We now look at what this means for the profile of those reporting a chronic illness or disability. Table 2.4 shows that about 47% were male and 53% female. About one-third were aged under 45, one-third were between 45 and 64, and the remaining one-third were aged 65 or more. Almost half were married, one-third were single, and the remainder were widowed or separated.

Table 2.4: Breakdown of Individuals Reporting a Chronic Illness/Disability by Sex, Living in Ireland Survey 2001

Sex	% of Those Reporting Chronic Illness/Disability
Male	46.8
Female	53.2
Total	100.0

Table 2.5: Breakdown of Individuals Reporting a Chronic Illness/Disability by Age, Living in Ireland Survey 2001

Age	% of Those Reporting Chronic Illness/Disability
15-24	7.9
25-34	12.5
35-44	12.4
45-54	16.9
55-64	15.3
65+	35.0
Total	100.0

Table 2.6: Breakdown of Individuals Age Reporting a Chronic Illness/Disability by Marital Status, Living in Ireland Survey 2001

Marital Status	% of Those Reporting Chronic Illness/Disability
Single	34.4
Married	48.1
Separated	3.0
Widowed	14.5
Total	100.0

Those who said they had a chronic illness or disability were asked to describe its nature, and their responses were coded into 22 different categories distinguished in the World Health Organisation (WHO) International Classification of Diseases framework.[1] In Table 2.7, we see that the most common conditions were associated with the circulatory system (17%), the respiratory system (10%), and the musculo-skeletal system (13%), while 20% reported multiple conditions.

Those who reported having a chronic illness or disability were also asked whether they were confined to bed, used a wheelchair, or had other mobility problems, and the responses are shown in Table 2.8. We see that almost three-quarters said they did not have a mobility problem, and most of those who said they had such a problem were not either confined to bed or using a wheelchair.

[1]The more recent WHO International Classification of Functioning, Disability and Health would be preferable but was not available when the survey was initiated.

Table 2.7: Type of Illness or Disability for those Reporting a Chronic Physical or Mental Health Problem, Illness of Disability, Living in Ireland Survey 2001

Category	% of Those Reporting Chronic Illness/Disability
Infectious and Parasitic Diseases	0.8
Cancer	2.0
Endocrine Disorders	3.9
Blood Disorders	1.2
Mental Disorders	0.9
Nervous System Disorders	5.4
Circulatory System Disorders	16.5
Respiratory System	9.5
Digestive System	4.5
Genito-urinary System	2.8
Skin	0.9
Musculo-skeletal System	12.6
Conditions from Birth	0.6
Accident	1.8
Headache, Pain Cause not Specified	0.5
Nerves, Cause not Specified	0.8
Bad back, Cause not Specified	4.1
Other	3.8
Multiple	19.5
Depression	4.4
Physical Impairment	1.2
Intellectual Disability	2.1
Total	100.0

When those reporting a chronic illness or disability were asked whether this hampered them in their daily activities, three-quarters said they were hampered. Most of these said they were hampered "to some extent", while one-quarter of those reporting a chronic illness or disability said they were severely hampered. We look at how this varies by gender and age, in Tables 2.9 and 2.10. The proportion reporting being severely hampered is slightly higher for men than women, while similar proportions of each gender were hampered "to some extent". Amongst those with a chronic illness or disability, the proportion saying they are severely hampered in their daily activities is highest for the younger and older age groups, and lower in the 35-64 range. The proportion of them reporting no such restriction is however highest for those aged under 25, and lowest for those aged 65 or over. Among the over-65s, over 80% of those with a chronic illness or disability say it hampers them to at least some extent in their daily activities.

Table 2.8 Extent of Mobility Problems for those Reporting a Chronic Illness or Disability, Living in Ireland Survey 2001

	% of Those Reporting Chronic Illness/Disability
Confined to Bed	0.8
Wheelchair User	3.3
Other Mobility Problems	23.1
No Mobility Problems	72.7
Total	100.0

Table 2.9: Degree Hampered in Daily Activities by Gender for those Reporting a Chronic Illness or Disability, Living in Ireland Survey 2001

Sex	Severely Hampered	Hampered to Some Extent	Not Hampered	Total
	%	%	%	%
Men	22.7	54.4	23.0	100.0
Women	19.5	54.0	26.5	100.0
All	21.0	54.2	24.9	100.0

This represents a subjective assessment by the respondent on how hampered they are by the condition. Two individuals in the same situation as regards disability might well give different answers, for a variety of reasons. One already mentioned is that the extent to which a given disability hampers someone will be influenced by how effectively barriers to for example mobility in the local environment have been reduced. Further, a person's psychological state might well affect their perception of the impact of an illness or disability. Finally, the standard or point of comparison applied might well differ across individuals, in both a systematic and a random fashion. That standard could well vary by age or gender – with older people "expected" to be less mobile, for example, and perhaps comparing their own situation to others of the same age rather than the general population. None the less, when we come to use this information in our empirical analyses we find that those reporting different subjectively-assessed degrees of "hampering" in their daily activities also have systematically different outcomes across many of the areas we study.

Finally, we noted earlier that information on the prevalence of disabilities was obtained in the 2002 Census of Population (presented in Volume 10 on Disability and Carers, CSO). The figures show 7.9% of the population reporting a disability. This includes children, but even for the adult population the percentage reporting a disability is only about 10%, or about half the number reporting a chronic illness or disability in the Living in Ireland Survey for 2001. However, once again the questions on disability in the Census were different to those asked in the Living in Ireland household survey. In the Census, someone was counted as having a disability if they were affected by blindness, deafness or a severe vision or hearing impairment, or by a condition that substantially limited basic physical activities such as walking, climbing, or carrying, or if they had a physical, mental or emotional condition lasting six months or more that made it difficult to perform activities such as learning, dressing, getting

Table 2.10: Degree Hampered in Daily Activities by Age for those Reporting a Chronic Illness or Disability, Living in Ireland Survey 2001

Age	Severely Hampered	Hampered to Some Extent	Not Hampered	Total
	%	%	%	%
15-24	23.9	35.5	40.6	100.0
25-34	27.8	47.3	24.8	100.0
35-44	14.2	61.9	23.8	100.0
45-54	10.2	55.3	34.5	100.0
55-64	16.9	60.3	22.8	100.0
65+	27.2	54.9	17.8	100.0
All	21.0	54.2	24.9	100.0

Table 2.11: Age Profile of People with Disabilities in Census 2002 Versus Those Reporting Chronic Illness or Disability in Living in Ireland Survey 2001

Age	Census 2002	Living in Ireland Survey 2001
	% Disabled	% Ill/Disabled
15-24	6.4	7.9
25-44	19.0	24.9
45-64	30.3	32.2
65+	45.3	35.0
Total	100.0	100.0

around the home, going outside the home alone, or working at a job. This may be more restrictive than the Living in Ireland Survey question relating to chronic illness or disability in various ways – most obviously in that the latter includes both illness and disability. We have also seen that some of those who said in the Living in Ireland Surveys that they had a chronic illness or disability also said it did not hamper them in their daily activities. This makes it important, in analysing the Living in Ireland Survey data, to distinguish those who are and are not hampered in that sense, and we make that distinction throughout this study as we did in Gannon and Nolan (2004).

It is worth comparing the age distribution of those with a disability in the Census with the group we shall be analysing in the Living in Ireland Survey. Table 2.11 shows the age profile is broadly similar, but a substantially higher proportion of people with disabilities in the Census are in the age 65 and over age category.

2.4 Conclusions

This study seeks to exploit information obtained in large nationally-representative surveys that can illuminate the relationship between disability and various aspects of social exclusion in Ireland. This chapter has described key features of the data sources on which the study relies, from the ESRI's 2001 Living in Ireland Survey and the special module on disability included with the CSO's Quarterly National Household Survey during 2002. It has paid particular attention to the information they contain about disability. We saw that there were substantial differences between the two surveys in the numbers identified as having long-standing or chronic illness or disability, and that this seemed to relate to differences in the precise wording of questions, to the proportion of respondents answering themselves versus by proxy, and to difficulties in capturing such a complex and heterogeneous concept as disability in a general household survey. This was also brought out by the much lower percentage of the population identified as disabled in the Census of Population 2002, based on a quite different set of questions.

The chapter also described the broad profile of disability shown by the data from these surveys. Unsurprisingly, chronic illness or disability is most likely to be reported by older people, aged 65 or over, but the variation across the age range from 25 to 64 is quite limited. A wide variety of conditions were seen to be involved, including multiple conditions affecting the same individual. Among those reporting a chronic or longstanding illness or disability, the surveys allow the distinction to be made between those who are hampered or restricted severely, to some extent or not at all – with the question relating this to work in the case of the QNHS and to daily life in the Living in Ireland Survey. About one-quarter of those reporting a chronic illness or disability in the Living in Ireland Survey said they were not hampered at all in their daily life, while about 55% were hampered to some extent and one-fifth were severely hampered. For the QNHS analysis, we look in the "restricted" categories at those who say they were restricted either in the kind of work they could do, or in the amount of work they could do. As we found in looking at employment, (Gannon and Nolan, 2004), analysing the data by the self-reported degree of hampering or restriction offers many valuable insights.

Having provided this background, we now proceed to use these data to investigate the relationship between chronic illness or disability and various forms of disadvantage or exclusion, starting in the next chapter with education.

3

DISABILITY AND EDUCATION IN IRELAND

3.1 Introduction

One of the main paths via which long-standing illness or disability can have an impact on key outcomes such as labour force participation, income, poverty and broader participation in society is through its effects on education. If there are barriers to people with disabilities attaining the level of education they might otherwise reach, given the way the educational system and its broader societal context are structured, then it is very important that this is demonstrated, understood and addressed.

The relationship between disability and educational attainment is a complex one. The most direct channel of influence is the relationship between disability present from birth or early childhood, the child's participation in education and the level of educational qualifications obtained. The impact on these educational outcomes will clearly vary with both the nature of the disability and with the effectiveness of the education system in supporting children with disabilities. There are however also more indirect channels of influence, and indeed ways in which level of education attained may be associated with the likelihood of acquiring an impairment in adulthood. To give one example, those with lower levels of educational attainment are more likely to be engaged in manual work and to be exposed to a variety of work-related hazards, which directly increase their risk of experiencing accident or injury during their working life. Thus it is more likely they will leave the workforce early due to invalidity, and the probability of disability post-working age is also increased. A more diffuse but still very important channel of influence is that those with low levels of educational attainment are more likely to be towards the bottom of the socio-economic hierarchy, which in turn is strongly related to the likelihood of both illness and impairment. So the complexity of the potential channels of influence must be kept in mind in studying the relationship between disability and educational attainment.

To contribute to the empirical investigation of this issue, in this chapter we first look at levels of educational attainment for those reporting chronic illness or disability in the Living in Ireland Survey for 2001. We compare this in a descriptive fashion with the educational level of adults not reporting illness or disability. We then employ more sophisticated statistical methods in Section 3.3, once again in order to get closer to the impact of illness or disability per se. Since the special module in the QNHS in 2002 allows us to carry out a similar analysis with data from that source with a much larger sample (though only for those of working age), we go on to present the results of that complementary analysis in Section 3.4.

3.2 Disability and Education in the Living in Ireland Survey 2001

We begin our analysis of the Living in Ireland Survey data by simply comparing in Table 3.1 the education level attained by those adults who report the presence of chronic illness or disability and those who do not. We see that the proportion of those reporting illness or disability who have no formal educational qualification whatsoever is remarkably high – half this group, compared with one-fifth of the rest of the adult population have no educational qualification. At the other end of the spectrum twice as many of the adults with no chronic illness or disability – again, one-fifth – have a third-level qualification.

Table 3.1: Educational Qualification by Illness/ Disability, Living in Ireland Survey 2001

	Ill/Disabled	Other	All
	%	%	%
No Qualifications Beyond Primary	49.6	20.1	26.5
Inter/Junior Certificate	20.6	25.0	24.0
Leaving Certificate	19.7	33.0	30.1
Third Level	10.1	22.0	19.4
Total	100.0	100.0	100.0

Of course, this is related among other things to the different age profile of those reporting illness or disability, with more being 65 or over and educational attainment levels being much lower among older people. Table 3.2 thus makes the same comparison but within age groups. We see that in each age range the proportion with no educational qualification beyond primary is still considerably higher for those reporting a chronic illness or disability. This gap is actually widest in the younger age groups. For example, about a quarter of chronically ill or disabled people aged 25-34 have no qualifications compared to only 6% of others in this age-group. Among those aged 65 or over there is still a substantial gap, but the corresponding figures are 75% versus 64% respectively.

The same pattern recurs when we look at the proportion with third-level qualifications. In the younger age groups, a substantial proportion of those who have no disability or chronic illness have third-level education – more than one-third in the 25-34 age range, for example. The corresponding figures for those reporting illness or disability are only half as great. Among older age groups the proportions are much lower, but the gap between the two groups is still considerable

As before, it is important to distinguish between those with chronic illness or disability who report varying degrees of being hampered in their daily activities. Table 3.3 shows that the key distinction in educational attainment terms is between those reporting a chronic illness or disability that hampers them versus those who are not so hampered. We see that more than half those who report that they are hampered have no formal educational qualifications, compared with one-third of those with an illness or disability that does not hamper them. The latter also have considerably higher proportions with the Leaving Certificate and with third-level qualifications.

Table 3.2: Educational Qualifications by Illness/Disability by Age, Living in Ireland Survey 2001

Age	No Qualifications	Inter/Junior Certificate	Leaving Certificate	Third Level	Total
	%	%	%	%	%
Ill/Disabled					
15-24	13.1	36.1	44.2	6.6	100.0
25-34	26.2	24.0	33.5	16.3	100.0
35-44	23.8	32.2	25.0	19.1	100.0
45-54	40.8	26.8	20.2	12.2	100.0
55-64	59.3	17.9	12.2	10.7	100.0
65+	75.4	10.0	10.3	4.3	100.0
Not Ill/Disabled					
15-24	2.3	26.6	53.3	17.8	100.0
25-34	6.2	22.9	35.7	35.1	100.0
35-44	11.3	32.2	33.7	22.8	100.0
45-54	28.5	26.8	25.1	19.6	100.0
55-64	43.2	22.3	19.8	14.8	100.0
65+	63.7	12.7	13.9	9.7	100.0

Table 3.3: Educational Qualification for those with Illness/Disability by Degree Hampered, Living in Ireland Survey 2001

	Severely Hampered	Hampered to Some Extent	Not Hampered	All Ill/ Disabled	Not Disabled
	%	%	%	%	%
No Qualifications	59.9	53.5	31.8	49.6	20.1
Inter/Junior Certificate	20.5	19.4	23.5	20.6	25.0
Leaving Certificate	13.4	17.6	29.7	19.7	33.0
Third Level	6.1	9.5	14.9	10.1	22.0
Total	100.0	100.0	100.0	100.0	100.0

Finally, Table 3.4 shows that these differences in educational attainment levels are reflected, albeit in more muted form, in the age at which people left school. Those with a chronic illness or disability that severely hampers them left school on average at the age of 15, whereas those with no chronic illness or disability left two years later. (Of course the difference in age profile remains relevant here).

Table 3.4: Age Left School by Degree Hampered, Living in Ireland Survey 2001

	Average (Mean) Age Left School
Ill/Disabled and Severely Hampered	15.4
Ill/Disabled and Hampered to Some Extent	15.8
Ill/Disabled and Not Hampered	16.8
Not Ill/Disabled	17.4
All	17.1

3.3 Econometric Analysis of Disability and Education in the Living in Ireland Survey 2001

We now proceed to a more formal econometric analysis of the relationship between reporting a chronic illness or disability and educational attainment in the Living in Ireland Survey. We estimate two models:

(a) The first simply relates the individual's educational attainment to whether they report a chronic illness or disability and the degree to which that hampers them, without any attempt to take other factors into account; and

(b) The second includes in addition a range of other characteristics that may be associated with education level, in order to control for their effects and distinguish more clearly the impact of chronic illness or disability per se.

To do this we use a statistical model called a probit model. This type of model calculates the impact of different characteristics on the probability of falling into a particular category. So this type of model can separate out the different impacts of disability status, age and gender on the probability of reaching a particular level of education. This allows us look at the contribution which disability status on its own makes to lowering levels of educational attainment. In this particular instance, the different categories come in a ranked order, from basic education up to third level, so the type of probit model used is what is called an ordered probit.

This type of model calculates probabilities relative to what is called a reference category. So here we can look at the education qualifications of people with an illness or disability who are hampered to varying degrees, relative to those who have no chronic illness or disability. An estimated coefficient such as the 0.3546 shown in the first cell in Table 3.5, for severely hampered ill/disabled people in the category "no qualifications" means that the probability of someone who is severely hampered by illness or disability not having received any educational qualifications is about 35 percentage points higher than for someone with no disability. A result like –0.0347 in the second cell of that row means the probability of having attained a Junior or Intermediate Certificate is about 3 percentage points lower for someone severely hampered than for someone with no illness or disability. The asterisks show whether the results are statistically significant. The results where there is no asterisk could be due to random variation because we used data from a sample, rather than demonstrating any underlying relationship between disability status and education.

The initial results for the first of these models are presented in Table 3.5. We see that those reporting a chronic illness or disability that hampers them severely in their daily activities are much more likely to have no educational qualifications than those with no chronic illness or disability (the omitted group in the estimated equation with which the comparison is made). Those hampered to some extent are

nearly as likely as those who are severely hampered to have no educational qualifications. Those whose illness or disability does not hamper them at all are much more likely to have some qualifications than those who are hampered, but are still more likely to have had little education compared to those with no illness or disability. A hampering illness or disability significantly reduces the probability relative to those with no illness or disability of having any formal qualification – even the Intermediate or Junior Certificate.

In terms of the magnitude of these estimated effects, the starting-point is that among those with no chronic illness or disability – the omitted reference group in the estimated equation – about 20% had only primary education while 22% had third-level education. The estimated coefficients in Table 3.5 are then to be interpreted as implying that someone who is reporting a severely hampering chronic illness

Table 3.5: Ordered Probit of Educational Qualifications by Degree Hampered, Marginal Effects Compared with No Disability, Living in Ireland Survey 2001

	No Qualifications	Inter/Junior Certificate	Leaving Certificate	Third Level
Ill/Disabled and Severely Hampered	0.3546 **	-0.0347 **	-0.1799 **	-0.1398 **
Ill/Disabled and Hampered to Some Extent	0.2946 **	-0.0101 **	-0.1485 **	-0.1359 **
Ill/Disabled and Not Hampered	0.1123 **	0.0076 **	-0.0553 **	-0.0347 **

Pseudo R^2=0.0252. (The pseudo R^2 is a standard measure of the explanatory power of an equation)
** *Statistically significant at 5 % level*
Reference category: Not ill/disabled.

or disability is 35 percentage points more likely than that reference category to only have primary education – so 55% of that group will have only primary. Conversely they are 14 percentage points less likely to have third-level education, so only 8% will have reached that level.

Given the strength of the relationship between age and education level, it is obviously important to take that into account in attempting to distinguish the impact of chronic disability or illness. The results for the second of our models, where age, gender and location are added to the estimated equation, are given in Table 3.6. The inclusion of these control variables does reduce the estimated effect of chronic illness or disability on educational outcomes, though this reduction is more marked at higher than lower education levels.

The figures in Column 1 of this table (no qualifications) show that compared to a non-disabled man, living in the East/South region and aged under 25, the probability of having no educational qualifications is 22 percentage points higher if someone is severely hampered in their daily activities, about 18% higher if hampered to some extent, about 4% lower if aged 25 to 34, about 7% higher if aged 35 to 44 and so on.

Those who are hampered severely or to some extent in their daily activities are still much less likely to have any educational qualifications than those with no chronic illness or disability. They are also less likely to have a Leaving Certificate or third level education than those reporting no chronic illness or disability. After correcting for the influences of age, gender and region on educational attainment, those

Table 3.6: Ordered Probit of Educational Qualifications by Degree Hampered, Marginal Effects Controlling for Age, Gender and Region, Living in Ireland Survey 2001

	No Qualifications	Inter/Junior Certificate	Leaving Certificate	Third Level
Ill/Disabled and Severely Hampered	0.2209 **	-0.0036	-0.1232 **	-0.0941 **
Ill/Disabled and Hampered to Some Extent	0.1780 **	0.0071 **	-0.0992 **	-0.0858 **
Ill/Disabled and Not Hampered	0.0290	0.0046	-0.0157	-0.0179
Age 25-34	-0.0426 **	-0.0099 **	0.0221 **	0.0304 **
Age 35-44	0.0711 **	0.0096 **	-0.0390 **	-0.0417 **
Age 45-54	0.1553 **	0.0117 **	-0.0861 **	-0.0809 **
Age 55-64	0.3150 **	-0.0113 **	-0.1727 **	-0.1309 **
Age 65+	0.4477 **	-0.0362 **	-0.2373 **	-0.1742 **
Female	-0.0361 **	-0.0069 **	0.0193 **	0.0237 **
Border Midlands Western Region	0.0558 **	0.0093 **	-0.0302 **	-0.0349 **

Pseudo R^2=0.0873

*** Statistically significant at 5% level*

Reference category: not ill/disabled, age under 25, male, East region

reporting an illness or disability which does not hamper them in their daily activities are now seen to be statistically indistinguishable from those with no illness or disability.

As well as taking degree of hampering, age and gender into account in the analysis, it also seems important to try to incorporate when in the life-cycle the individual's illness or disability arose. A disability present from birth or early childhood might well have a very substantial impact on educational attainment, whereas one acquired in mid-life – although it could have a major impact on for example labour force participation – would mostly be too late to affect education. In the Living in Ireland Survey respondents reporting the presence of a chronic illness or disability were asked; "since when have you had this illness or disability?" For illustrative purposes we use this information to make a simple distinction between those who have had an illness or disability from before age 25 and those acquiring chronic illness or disability after that age. We then use this to construct separate dummy variables[2] capturing six distinct situations – where the individual has had a chronic illness or disability from before age 25 and is hampered severely, to some extent or not at all, and the three corresponding categories for those who acquired their illness or disability after age 25. Table 3.7 presents the results.

These show that being chronically ill or disabled before age 25, and being hampered is indeed associated with a substantially increased likelihood of having no qualifications, as well as significantly lower likelihood of having a third level qualification. Those estimated impacts are greater than in respect of all who are hampered (shown above in Table 3.6) regardless of when their illness or

[2]A dummy variable is one that takes the value 1 if the circumstances it describes are present, and zero otherwise

Table 3.7: Ordered Probit of Educational Qualifications by Degree Hampered and Timing of Illness/Disability, Marginal Effects Controlling for Age, Gender and Region, Living in Ireland Survey 2001

	No Qualifications	Inter/Junior Certificate	Leaving Certificate	Third Level
Ill/Disabled Before 25 and Severely Hampered	0.4033 **	-0.0663 **	-0.2149 **	-0.1221 **
Ill/Disabled Before 25 and Hampered to Some Extent	0.1645 **	0.0037	-0.0923 **	-0.0759 **
Ill/Disabled Before 25 and Not Hampered	-0.0108	-0.0022	0.0057	0.0073
Ill/Disabled After 25 and Severely Hampered	0.1833 **	0.0022	-0.1027 **	-0.0828 **
Ill/Disabled After 25 and Hampered to Some Extent	0.1826 **	0.0055 *	-0.1021 **	-0.0861 *
Ill/Disabled After 25 and Not Hampered	0.0429 *	0.0062 **	-0.0235	-0.0256
Age 25-34	-0.0426 **	-0.0099 **	0.0222 **	0.0303 **
Age 35-44	0.0716 **	0.0097 **	-0.0393 **	-0.0419 **
Age 45-54	0.1556 **	0.0117 **	-0.0864 **	-0.0809 **
Age 55-64	0.3150 **	-0.0112 **	-0.1729 **	-0.1308 **
Age 65+	0.4494 **	-0.0366 **	-0.2383 **	-0.1744 **
Female	-0.0361 **	-0.0069 **	0.0193 **	0.0237 **
Border Midlands Western Region	0.0559 **	0.0093 **	-0.0303 **	-0.0349 **

Pseudo R^2=0.0873

** *Statistically significant at 5 % level;* * *Statistically significant at 10% level*

Reference category: not ill/disabled, age under 25, male, East region

disability was acquired. Once again it is worth bringing out the scale of these estimated effects. Whereas someone with no illness or disability had a 20% chance of having no qualification beyond primary, someone reporting a severely hampering illness or disability, present before age 25, has a probability that is 40 percentage points higher – in other words 60% of these will have no qualification. Likewise, whereas only 10% of those with a severely hampering illness or disability present before age 25 attained third level, 22% of those with no illness or disability will have done so.

More surprisingly, perhaps, when we focus on the dummy variables capturing illness or disability that hampers the individual but was not present before age 25, these also are associated with lower levels of educational outcomes. The scale of the impact is rather less, among those severely hampered, for those whose illness or disability was acquired after age 25. But nonetheless it is statistically significant for this group also, both in terms of having no qualifications, and a reduced probability of having attained third level. There could be several explanations for an apparent association between disability post-25 and educational outcomes. The first is that some of these individuals might not have had the disability they are currently reporting before age 25, but could have had some other (perhaps related)

illness or disability from an earlier date. Another is that having a chronic illness or disability could reduce the likelihood of returning to education as a mature student. A more substantial part of the explanation is probably to be sought elsewhere, though. The chances of acquiring a chronic illness or disability later in life are related to a range of other individual and household circumstances, a cluster of disadvantages which in themselves increase the likelihood of low levels of educational attainment. In our estimates acquiring an illness or disability post-25 may be primarily serving as a marker for these characteristics and picking up their effects.

This might well also be the case to some extent for those with an illness or disability from before age 25, of course, and means that the scale of the underlying effect of illness or disability *per* se may not be as great as the estimates suggest. Even if one were to discount entirely the effects estimated for illness or disability acquired post-25 as not a "true" disability effect, however, the additional effects for severely hampering disability present before 25 is still substantial.

3.4 Disability and Education in the QNHS 2002

As we have discussed earlier, the special module on disability included with the QNHS in 2002 also allows us to carry out an analysis of the relationship between illness or disability and educational attainment, with data from a much larger sample than the Living in Ireland Survey, though only for those of working age. In this section we present the results of this analysis, and highlight areas where it adds to the results we have seen from the Living in Ireland Survey.

Table 3.8 first compares educational attainment levels for those with versus those without a longstanding health problem or disability (the key question employed in the QNHS). As in the Living in Ireland Surveys, the proportion with no educational qualifications is very much higher for those reporting a longstanding illness or disability than it is for others, and the proportion with a third-level qualification is much lower.

Table 3.8: Educational Qualifications by Illness/Disability, Age 15-64, QNHS 2002

	Ill/Disabled	Other	All
	%	%	%
No Qualifications	41.9	17.0	19.7
Inter/Junior Certificate	18.5	20.3	20.1
Leaving Certificate	17.5	28.4	27.2
Third Level	22.1	34.3	33.0
Total	100.0	100.0	100.0

The QNHS also asked about the extent to which those with longstanding illness or disability were restricted in their work, and Table 3.9 shows that the greater the degree of restriction the higher the proportion with no formal educational qualification. Among those who are considerably restricted in their work, more than half had no such qualification. By contrast, among those who are ill or disabled and not restricted, only 13% had no educational qualification and about one-third had a third-level qualification.

Table 3.9: Educational Qualifications by Degree of Restriction, QNHS 2002

	Considerably Restricted	Some Restriction	No Restriction
	%	%	%
No Qualifications	56.1	38.8	27.2
Inter/Junior Certificate	18.4	20.2	17.9
Leaving Certificate	12.4	19.5	22.4
Third Level	13.1	21.5	32.5
Total	100.0	100.0	100.0

Table 3.10: Educational Qualifications by Source of Illness/Disability, QNHS 2002

Source of Illness/Disability	No Qualifications	Inter/Junior Certificate	Leaving Certificate	Third Level	Total
	%	%	%	%	%
Born with Illness or Disability	48.1	15.3	19.0	17.6	100.0
Work-related Injury	32.0	22.1	19.9	26.0	100.0
Non-work-related Injury	26.7	23.9	21.7	27.7	100.0
Sports Injury	27.3	20.4	25.0	27.2	100.0
Work-related Disease	41.1	19.2	13.3	26.3	100.0
Non-work-related Disease	42.2	18.9	16.9	22.0	100.0

It is also of interest to see how educational qualifications vary with the source of the longstanding illness or disability, and the QNHS special module obtained some supplementary information that is useful in that respect – whether the individual had the illness or disability since birth, whether it arose from a work-related, sports or other injury, or whether it arose from a work-related or other disease. Table 3.10 shows that, unsurprisingly, those who were ill or disabled from birth had the highest proportion with no educational qualifications – almost half such persons were in that situation. On the other hand, those whose illness or disability arose from injury were less likely than others with long-standing illness or disability to have no qualifications.

Very much the same picture emerges from Table 3.11 when we look at how education level varies with the duration of the illness or disability. While there is some differentiation between for example durations of more versus those of less than 3 years, the striking difference is between those with illness or disability since birth and all others.

Table 3.11: Educational Qualifications by Duration of Illness/Disability, QNHS 2002

Duration of illness/disability	No Qualifications	Inter/Junior Certificate	Leaving Certificate	Third level	Total
	%	%	%	%	%
<6 Months	36.2	20.2	17.0	26.6	100.0
6-12 Months	31.3	18.6	22.7	27.4	100.0
1-2 Years	34.0	20.9	19.2	25.9	100.0
2-3 Years	33.9	21.8	20.0	24.3	100.0
3-5 Years	40.3	19.5	17.5	22.7	100.0
5-10 Years	41.3	20.3	16.8	21.6	100.0
From Birth	50.3	15.5	18.0	16.2	100.0
All Ill/Disabled	40.8	19.2	18.1	21.9	100.0

3.5 Econometric Analysis of Disability and Education in the QNHS 2002

We can statistically examine the relationship in the QNHS between education and the degree of restriction of longstanding illness or disability, as self reported, by once again fitting an ordered probit model. We do so first with only the presence/degree of restriction of longstanding illness or disability as the explanatory variables, and the results are shown in Table 3.12. We see a statistically significant and positive relationship between the degree to which the person is restricted by a longstanding illness or disability and the likelihood that they have no educational qualifications or only the Intermediate or Junior Certificate, and conversely a negative relationship with the probability that they have the Leaving Certificate or a third-level qualification. In other words, the higher the degree of reported restriction, the lower the level of educational attainment is likely to be.

Table 3.12: Ordered Probit of Educational Qualifications, Marginal Effects, QNHS 2002

Duration of Illness/Disability	No Qualifications	Inter/Junior Certificate	Leaving Certificate	Third Level
Ill/Disabled and Considerably Restricted	0.3431 **	0.0173 **	-0.1124 **	-0.2479 **
Ill/Disabled and Restricted to Some Extent	0.1798 **	0.0308 **	-0.0501 **	-0.1605 **
Ill/Disabled and Not Restricted	0.0547 **	0.0168 **	-0.0103 **	-0.0613 **

Pseudo R^2=0.0131

** *Statistically significant at 5% level*

Reference category: not ill/disabled.

We then introduce additional explanatory variables that allow us to control for age, gender, and region, and see whether this has much impact on the estimated effects of having a longstanding illness or disability. Table 3.13 shows that while the size of the effects are slightly lower, the pattern of the relationships and the statistical confidence one can have in identifying them remain. Having a considerably restricting longstanding illness or disability has a pronounced effect in increasing the likelihood that the individual has no educational qualifications or the Intermediate/Junior Certificate only, and in reducing the likelihood that he or he has the Leaving Certificate or a third-level qualification. Effects more modest in size but in the same direction are found for longstanding illness or disability that restricts the person to some extent and where they are not restricted in work at all.

Table 3.13: Ordered Probit of Educational Qualifications, Marginal Effects Controlling for Age, Gender and Region, QNHS 2002

	No Qualifications	Inter/Junior Certificate	Leaving Certificate	Third Level
Ill/Disabled and Considerably Restricted	0.2654 **	0.0367 **	-0.0823 **	-0.2025 **
Ill/Disabled and Restricted to Some Extent	0.1332 **	0.0342 **	-0.0334 **	-0.1217 **
Ill/Disabled and Not Restricted	0.0324 **	0.0126 **	-0.0049 **	-0.0354 **
Age 25-34	-0.1369 **	-0.0806 **	-0.0109 **	0.1886 **
Age 35-44	-0.0832 **	-0.0433 **	0.0013 **	0.1067 **
Age 45-54	-0.0072 **	-0.0032 **	0.0007 **	0.0084 **
Age 55-64	0.1003 **	0.0326 **	-0.0203 **	-0.1010 **
Female	-0.0157 **	-0.0068 **	0.0017 **	0.0183 **
Border Midlands Western Region	0.0686 **	0.0262 **	-0.0107 **	-0.0745 **

Pseudo R^2=0.0409

** *Statistically significant at 5% level*

Reference category: not ill/disabled, age under 25, male, East region

Finally, we can introduce into the equation whether the respondent has had the illness or disability since birth. We do this by constructing separate dummy variables capturing where the individual has had a longstanding illness or disability since birth, and the degree of restriction. Table 3.14 shows that having had such illness or disability since birth is associated with a much higher probability of having no educational qualification or Inter/Junior Certificate only, and negatively associated with having Leaving Certificate or third-level.

The scale of these estimated effects is now that where someone without a health problem or disability had a 17% chance of having no educational qualification beyond primary, someone reporting illness or disability present since birth and considerably restricted has a probability that is 57 percentage points higher, in other words about 74% or three-quarters of such people had no qualifications. Likewise, whereas one-third of those with no disability attained third level, less than 5% of those with an illness or disability present from birth and considerably restricted will have done so.

Table 3.14: Ordered Probit of Educational Qualifications, Marginal Effects Controlling for Age, Gender, Region and Duration of Illness/Disability, QNHS 2002

	No Qualifications	Inter/Junior Certificate	Leaving Certificate	Third Level
Ill/Disabled Since Birth and Considerably Restricted	0.5705 **	-0.0584 **	-0.2177 **	-0.2942 **
Ill/Disabled Since Birth and Restricted to Some Extent	0.1504 **	0.0372 **	-0.0438 **	-0.1437 **
Ill/Disabled Since Birth and Not Restricted	0.0386 **	0.0154 **	-0.0073 **	-0.0467 **
Ill/Disabled Not Since Birth and Considerably Restricted	0.1888 **	0.0401 **	-0.0583 **	-0.1706 **
Ill/Disabled Not Since Birth and Restricted to Some Extent	0.1155 **	0.0337 **	-0.0306 **	-0.1186 **
Ill/Disabled Not Since Birth and Not Restricted	0.0188 **	0.0081 **	-0.0030 *	-0.0239 **
Age 25-34	-0.1437 **	-0.0910 **	-0.0122 **	0.2469
Age 35-44	-0.0859 **	-0.0477 **	0.0024 **	0.1313 **
Age 45-54	-0.0002	-0.0001	0.0000	0.0003
Age 55-64	0.1157 **	0.0377 **	-0.0277 **	-0.1256 **
Female	-0.0217 **	-0.0100 **	0.0288 **	0.0288 **
Border Midlands Western Region	0.0626 **	0.0257 **	-0.0110 **	-0.0773 **

Pseudo R^2=0.0444
***Statistically significant at 5% level; *Statistically significant at 10% level*
Reference category: not ill/disabled, age under 25, male, East region

When we focus on the dummy variables capturing restricting illness or disability that currently affects the individual but was not present from birth, these also are associated with lower levels of educational outcomes, though the scale of the impact is less. As brought out in the earlier discussion of the results from the Living in Ireland Survey, these disability measures may mostly be capturing the effects of a range of background individual and household disadvantages that increase the likelihood of both low levels of educational attainment and of illness or disability in later life, rather than the impact of illness or disability *per se*. The fact that illness or disability present since birth is seen to have a much greater effect supports the notion that there is indeed a substantial independent effect of early-onset illness or disability on educational outcomes.

3.6 Conclusions

If people with chronic illness or disability are hindered in attaining the level of education they might otherwise reach, that can impact on labour force participation, income, poverty and broader participation in society. The relationship between illness or disability and educational attainment is a complex one. Not only can illness or disability influence the level of education attained, but low educational attainment could also affect the likelihood of acquiring chronic illness or disability for example through having riskier work.

We first looked at levels of educational attainment for those reporting chronic illness or disability in the Living in Ireland Survey for 2001. We saw that half had no formal educational qualification whatsoever, compared with one-fifth of non-disabled adults. This partly reflected their age profile, since those with a chronic illness/disability are more concentrated in older age groups where educational levels are lowest anyway. However, within each age range the proportion with no educational qualification beyond primary was much higher for those reporting chronic illness or disability. This education gap was widest in the younger age groups. A quarter of those reporting a chronic illness or disability aged between 25 and 34 had no formal educational qualification, compared with only 6% for others in the same age group. Also for that age group, those with a chronic illness or disability were only half as likely to have a third-level qualification as those without.

Econometric analysis of the relationship between disability or chronic illness and educational attainment confirmed that, having taken age and gender into account, those reporting a disability or illness that hampers them severely or to some extent were much more likely to have no educational qualifications than those with no such illness or disability. They were also less likely to have a Leaving Certificate, or third level education. Those reporting that their illness or disability does not hamper them in their daily activities were statistically indistinguishable from those with no such disability

When the illness or disability was acquired should also be critical to its impact on education, with illness or disability acquired by individuals after they have left education only having at most a marginal impact (reducing the likelihood of returning as a mature student). A crude distinction was drawn between those people who had an illness or disability from before the age of 25, and those who had acquired the reported illness or disability only after that age. People whose illness or disability arose before age 25, and who reported that they were hampered in their daily activities, had a substantially increased likelihood of having no qualifications and a reduced chance of having a third-level qualification. More surprisingly, hampering illness or disability acquired after 25 was also estimated to have a negative (though more modest) impact.

This is probably because the chances of acquiring a chronic illness or disability later in life are related to a range of background individual and household disadvantages that increase the likelihood of low levels of educational attainment, and the illness/disability measures are picking up their effects. This might well also be the case to some extent for those with an illness or disability present before age 25, of course, and means that the scale of the underlying effect of illness or disability *per se* may not be as great as the estimates suggest. Even if one were to discount entirely the effects estimated for illness or disability acquired post-25 as not a "true" disability effect, however, subtracting these from the effects for illness or disability present before 25 would still leave a substantial impact among those severely hampered, though not among the hampered to some extent category.

The special module on disability included with the QNHS in 2002 has a much larger sample than the Living in Ireland Survey, though only for those of working age, and also showed the proportion with no educational qualifications to be very much higher, and the proportion with a third-level qualification much lower, for those reporting a longstanding illness or disability than for others, Once again the greater the degree of restriction reported, the higher was the proportion with no formal educational qualification, and those with illness or disability since birth had strikingly low levels of education. Econometric analysis showed a pronounced impact of illness or disability from birth on education level, but also some association between having an acquired illness or disability and lower than average attainment. This suggests once again that part of what is showing up as an effect of illness or disability actually reflects a range of background individual and household disadvantages that increase the likelihood both of low levels of educational attainment and of illness or disability in later life. Nonetheless, a substantial impact from illness or disability present from birth remains among those who report considerable restrictions when this is taken into account.

4

DISABILITY AND EARNINGS IN IRELAND

4.1 Introduction

Participation in the paid labour force is a central form of participation in society and impacts on many other aspects of social inclusion, both directly and indirectly. The relationship between disability and labour force participation, and the relationship between labour force status and other aspects of life for people with disabilities, thus merit intensive research. The relationship between disability and labour force participation *per se* was analysed in detail using data from the Living in Ireland Survey in an earlier study for the Equality Authority (Gannon and Nolan, 2004), and it is not part of the present study to develop investigation of that critical topic further. However, there may also be a relationship between disability and other labour market outcomes, notably the earnings paid to those in work or their income from self-employment. In this chapter we concentrate on employees, because this accounts for most of those at work and because self-employment income is particularly difficult to capture and analyse. We use the Living in Ireland Survey to compare the earnings of employees who report a chronic illness or disability and those who do not, and try to tease out the extent to which this reflects differences in their educational qualifications and employment experience versus other factors.

While the chapter is focused on earnings among those in employment, we begin by filling in the background in terms of the relationship between having a chronic illness or disability and being in work in the first place, by recalling in Section 4.2 key findings from our earlier study on that topic. Section 4.3 then discusses the factors that might operate to produce differences in earnings between those with versus those without a disability.

4.2 Disability and Labour Force Participation

Disability can have a major impact on an individual's participation in the labour force through a variety of channels of influence, and Gannon and Nolan (2004) sought to use the datasets on which the present study also relies to investigate this empirically for Ireland. The results showed that the labour market status of those of working age reporting a longstanding or chronic illness or disability in these surveys differed systematically from the rest of the samples, in both the QNHS special module and the Living in Ireland Survey. About 40% of those reporting a longstanding/chronic illness or disability were in employment, with the remainder mostly counted as outside the labour force rather than unemployed, compared with an employment rate of close to 70% for other adults of working age.

Among those reporting long-term illness or disability – as among the general population – labour force participation varies substantially by gender, age, and educational attainment. It also varied

strikingly with the extent of self-reported restrictions in work or in daily activities associated with the illness or disability. For example, in the QNHS the employment rate for men who said they were severely restricted in the kind of work they could do was only 18%, and for women in that situation it was only 15%. In the Living in Ireland Survey, the employment rate for those who said they were severely hampered in their daily activities by a chronic illness or disability was only 24%, compared with 64% for those with an illness or disability who reported that they were not hampered.

Regression analysis was used to identify the influence of the chronic illness or disability, and how restrictive or hampering it was, on labour force participation, while controlling for other characteristics such as age or gender. The results showed that those reporting a longstanding/chronic illness or disability that hampered them in their daily activities or restricted the kind of work they could do had a significantly reduced probability of labour force participation. For men who reported being severely hampered or restricted, that reduction was as much as 60 percentage points or more, while for women it was about 50 percentage points. For those who reported being hampered or restricted "to some extent" the effect was much smaller but still substantial. On the other hand, for those reporting a longstanding/chronic illness or disability which did not hamper or restrict them, the probability of being in the labour force was similar to others of the same age, gender and educational attainment and not reporting any such illness or disability.

The unique longitudinal data obtained in the Living in Ireland Survey, which tracked a set of individuals from 1994 to 2000, was also used to look at illness or disability and labour force participation over time rather than in a single snap-shot. Those reporting a chronic illness or disability in all six years spent an average of only 1.6 years in work over the period, whereas those who never reported such an illness or disability spent 3.5 of the years in work on average. When individuals were tracked from before the onset of illness or disability through the period of onset and beyond, a substantial and sustained decline in their employment rate was also seen.

The broad finding that chronic illness or disability can have a major impact on the likelihood of being in paid work is consistent with evidence from other countries, and forms an important part of the context in which any impact on earnings, for those in work, is examined. We now turn to earnings, and before setting out our empirical analysis discuss in the next section the channels whereby disability might indeed affect those earnings.

4.3 Disability and Earnings

As noted in Chapter 1, differences in outcomes such as earnings between those with and without disabilities could arise from a number of different sources, and in ways that have rather different implications in terms of an appropriate policy response. The nature of impairment could be such as to genuinely reduce the productive capacity of an individual, compared with someone else with the same education and experience without such impairment. This could be reflected in their earnings capacity and actual earnings. The result would be that there would be differences in earnings across individuals which are not explained by education or experience, but are attributable to genuine differences in productivity.

There could of course also be discrimination, such that even where there is no difference in productive capacity a person with a disability is paid less than someone similar in other respects but without a disability. (Discrimination would in effect also be operating where there was a difference in productive capacity but it was not sufficient to justify the scale of the actual difference in wages). There is some evidence from other countries that disability has some direct impact on earnings. For example, Stern (1996) shows that in the US having a work-limiting condition is associated with lower wages than would otherwise be the case, and Mitchell and Burkhauser (1990) show in the specific instance of arthritis, that being disabled is associated with reduced wages. This effect on wages can come about if for example promotion prospects are reduced for those with a disability. While simply

paying a lower rate for a given task simply because the person is disabled is generally illegal, that may also occur.

Finally, some people with disabilities currently in employment might have been hindered in attaining the education level they might otherwise have reached, leaving them less well placed in terms of the earnings they can command as an employee. Disability might also have affected their labour force history, so that they might have accumulated less experience, or less valuable experience, than others of their age group by the point we observe them in a survey. Conventional studies by economists of the factors influencing the variation in earnings received across individual employees, based on what is known as the human capital model, highlight just those factors – education and experience – as key determinants of why one person is paid more than another. Even if employers treat people with disabilities in exactly the same way as everyone else, if either the individual's education or their previous labour market history had been adversely affected through disability, this might well be reflected in lower current earnings.

This potentially very important channel of influence has to be kept in mind when interpreting the results of analyses of the relationship between disability and current earnings. Such analyses concentrate on how much difference there is in earnings between those with and without disability, having "controlled" for their age, education, experience and other features that are known to influence earnings. While this is designed to capture any direct impact of disability on earnings, it assumes in effect that education and labour force experience are given, and the potentially important indirect effect of disability on earnings through education and experience is not captured.

While it is important to distinguish conceptually between the potential sources of difference between the earnings of someone with a disability versus someone without a disability, they are likely to be very difficult to disentangle empirically in a fully satisfactory way. In particular, discrimination *per se* would be difficult to identify conclusively, even if one had in-depth information on the nature of impairments affecting different individuals and their impact in the context of the specific job the individual does. The information available to us for Ireland falls very far short of that, but we can look first in Section 4.4 at whether there are in fact differences in earnings between those with a disability and others. In Section 4.5 we then investigate the role of measured differences in education, age and experience, and whether there are any further differences in earnings between those with and without disabilities once such differences in measured human capital are taken into account. We rely throughout on the Living in Ireland Surveys, since the QNHS does not seek information on earnings.

4.4 Earnings and Disability in 2001

Individual respondents to the Living in Ireland Surveys who were in employment were asked in some detail about their earnings and hours of work. Actual gross earnings (before tax) in the last pay period, how long a period that covered (generally a week, two weeks or month), and number of hours of normal pay and overtime were sought. From the responses both weekly and hourly earnings can be derived, and we will be interested in analysing whether either seems to be affected by the presence of a chronic illness or disability. Weekly earnings are potentially affected by either differences in the hourly rate of pay or differences in hours worked during the week.

Table 4.1 provides an overview of the average weekly earnings reported by employees in 2001, distinguishing first those who said they had a chronic illness or disability and those who said that they did not. As well as the overall averages we show men and women separately, since for a variety of structural and other reasons there are persistent gender differences in earnings in Ireland and elsewhere (see for example Callan *et al*, 2000).

Table 4.1: Average Weekly Pay for Employees With Versus Without Illness/Disability, Living in Ireland Survey 2001

	Male £ per week	Female £ per week	All £ per week
No Chronic Illness or Disability	446.79	314.83	387.66
Chronic Illness or Disability	448.94	289.00	367.66
Among Whom:			
Chronic Illness or Disability for 6 Months or More	449.69	286.29	365.52
Chronic Illness or Disability for 12 Months or More	468.33	283.19	372.61
Hampered Severely or to Some Extent in Daily Activities	390.43	338.57	366.55
Not Hampered in Daily Activities	539.60	241.49	370.79

The table shows that employees who did not report a chronic illness or disability had considerably higher weekly earnings on average than those who did – the gap in average earnings was £20 per week. However, this reflects *inter alia* the fact that women – who have substantially lower earnings on average – make up a higher proportion of those reporting chronic illness/disability. When we look at men and women separately, we see that among men there is in fact effectively no difference in average weekly earnings between those with a chronic illness or disability and those without. However there is a difference among women, those reporting a chronic illness or disability earning £25 per week less on average than other women.

The table goes on to look at the average earnings of those reporting a chronic illness or disability who say that it has already lasted for some considerable time – for over six months, and then for over twelve months. We see that among men, average weekly earnings are no lower for those with six months or more duration, and are then unexpectedly a good deal higher for those with duration of a year or more. This brings out that there may well be other differences between the individuals in each of these groups – including in age and qualifications – that affect their wage, and that we will seek to take into account in our statistical analysis in the next section. Among women, average earnings do decline as duration increases but the difference is not pronounced.

The table finally distinguishes, amongst those reporting a chronic illness or disability, between those who say that it hampers them (severely or to some extent) in their daily activities and those who say it does hamper them at all. We see that for men there is a very substantial difference in the expected direction, with those who are not hampered having very much higher average earnings. For women, on the other hand, it is those who are hampered who have the higher earnings on average, so once again this is something we will be seeking to disentangle via in-depth statistical analysis.

Weekly earnings are a product of the number of hours worked in the week and the rate of hourly earnings, so it is important to look at both those aspects separately. Table 4.2 looks at hours worked, and shows that those reporting a chronic illness or disability do indeed work fewer hours on average, both among men and women. This does not vary much by the duration of the disability, but there are

Table 4.2: Average Weekly Hours Worked for Employees by Illness/Disability Status, Living in Ireland Survey 2001

	Male	Female	All
	Hours per Week	Hours per Week	Hours per Week
No Chronic Illness or Disability	40.6	32.0	36.7
Chronic Illness or Disability	38.7	27.3	32.9
Among Whom:			
Chronic Illness or Disability for 6 Months or More	38.3	26.8	32.4
Chronic Illness or Disability for 12 Months or More	39.1	26.2	32.4
Hampered Severely or to Some Extent in Daily Activities	37.4	28.2	33.2
Not Hampered in Daily Activities	40.3	26.4	32.4

differences between those who report being hampered and those who say they are not hampered. Among men, those who are not hampered work more hours in the week, and this contributes to their substantially higher weekly earnings (though by no means fully explains them). For women, on the other hand, those who are not hampered work fewer hours on average, and this once again contributes to producing lower weekly earnings.

Focusing then on hourly earnings, Table 4.3 shows that for men, there is effectively no difference in average hourly earnings between those reporting a chronic illness or disability and others employees in the sample. For women, those reporting a chronic illness or disability actually earn more per hour on average, the gap being about £1 (€1.25) per hour in their favour. Among both men and women we see little impact on hourly earnings when we distinguish those whose illness or disability has lasted for at least six months or at least a year. The extent to which the illness or disability hampers the individual does seem to make a substantial difference though. For men, this is in the expected direction: those who are hampered severely or to some extent have considerably lower hourly earnings than those who are not hampered at all. For women, however, the difference is also substantial but in the other direction: those who are not hampered have much lower earnings. This illustrates the fact that those with illness or disability and those without may well differ in many other respects, in terms of other characteristics that affect their earnings, and so one should not read too much into the simple comparison of average earnings.

Thus when we look at the age and education profile of women in employment and reporting a chronic illness or disability, we find that they are indeed older and more highly educated than the (much larger) group of women employees without a disability with whom they are being compared. To try to disentangle the various influences on individual earnings and hone in on the impact of illness or disability per se, we have to move beyond cross-tabulations to more sophisticated forms of statistical analysis, as we do in the next section. Unfortunately, we have to confine that analysis to men, without attempting to carry out a parallel analysis for women, because the number of women employees in the sample might not be sufficient to allow it.

Table 4.3: Average Hourly Pay for Employees by Illness/Disability Status, Living in Ireland Survey 2001

	Male	Female	All
	£ per hour	£ per hour	£ per hour
No Chronic Illness or Disability	11.2	10.1	10.7
Chronic Illness or Disability	11.4	11.1	11.2
Among Whom:			
Chronic Illness or Disability for 6 Months or More	11.4	11.3	11.3
Chronic Illness or Disability for 12 Months or More	11.8	11.4	11.6
Hampered Severely or to Some Extent in Daily Activities	9.9	13.4	11.5
Not Hampered in Daily Activities	13.6	8.9	11.0

4.5 Econometric Analysis of Earnings and Disability in 2000/2001

Differences in average earnings between any two groups in the population might well reflect differences in their education levels and experience – with each being strongly associated with age, most obviously. In exploring what lies behind the observed differences in average earnings between those who do and do not report a chronic illness or disability, we now proceed to introduce into our analysis measures of these characteristics for individuals. Because we are concerned about having sufficient cases for our statistical analysis, as already noted we concentrate on men. Reflecting the same concern we also pool the results of the 2001 Living in Ireland Survey with those for 2000.[3]

In terms of the characteristics of the male employees in the sample, the average number of years spent in work is actually higher for those reporting chronic illness or disability than others, but so is the average number of years since leaving education spent not in work. This reflects the fact that those reporting chronic illness or disability are older on average, and left education earlier than other respondents – so their potential time in work over their career to date is longer. The most striking difference between the two groups is in their education profile: the proportion with secondary or third-level education among those reporting a chronic illness or disability is very much lower.

So we now estimate a standard wage equation where the hourly wage is the dependent variable and the characteristics discussed enter as explanatory variables. We first estimate a single equation for the entire sample of male employees, and include as explanatory variables years of experience, education, and whether the individual is reporting a chronic illness or disability. The results show that having an illness or disability and being hampered severely or to some extent has no statistically significant impact on earnings, once education and experience have been taken into account. Illness or disability that does not hamper the person is actually seen to have a statistically significant positive effect; this is presumably picking up the effects of other characteristics not included in this quite simple model.

[3] Since the Living in Ireland Survey is a panel we have the same individuals in the two surveys, but we do have new information about their earnings and characteristics. The fact that the two samples are not independent cross-sections could be taken into account in the econometric modelling by the introduction of terms to capture what are termed the "fixed effects" associated with each individual, but we have not sought to do so in the results presented here.

Table 4.4: Results of Estimated Wage Equation, Men, Living in Ireland Surveys 2000-2001

	Coefficients
Constant	1.6525 **
Ill/Disabled and Severely Hampered	-0.1683
Ill/Disabled and Hampered to Some Extent	-0.0233
Ill/Disabled and Not Hampered	0.1505 **
Years In Work	0.0379 **
Years In Work Squared/100	-0.0581 **
Years Out of Work	-0.0308 **
Years Out of Work Squared/100	0.1759 **
Secondary Education	0.2211 **
Third Level Education	0.6211 **
Number of Cases	2933
R Squared	0.3482

** *Statistically significant at 5% level*
Reference category: no illness/disability, primary education.

We made the point earlier that "controlling" for education and previous work experience allows the direct impact of illness or disability on earnings to be studied, but that illness or disability also has an impact on education and previous experience that will feed through to influence earnings. Chapter 2 brought out the extent to which illness or disability affects educational attainment for this same sample, but the importance of the influence on earnings through previous work experience can be illustrated by a simple exercise at this point. The earnings equation in Table 4.4 includes work experience as an independent variable, as is standard, and we see that years in work have a positive impact on predicted earnings. If we simply replace the work experience variables by the individual's age, the negative coefficients on being ill/disabled and hampered either severely or to some extent – which are insignificant in Table 4.4 – become statistically significant and increase in size. So those with chronic illness or disability who report being hampered in their daily lives are being penalised in earnings terms for the additional time they have spent not in work, compared with others of the same age.

It is then instructive to divide the sample into those with versus those without chronic illness or disability, and estimate separate earnings equations for the two groups. This allows the effects of each of the explanatory variables to vary across the two groups, and we can then compare the results.[4] Those reporting the presence of a chronic illness or disability but saying that it does not hamper them in their daily activities appear not to be affected in earnings terms, and so for this purpose we include them with those reporting no illness or disability. The groups are then distinguished as those reporting an illness or disability that hampers them (severely or to some extent), versus all others. Table 4.5

[4] Estimating a single equation for the two groups combined with dummy variables for the presence of disability, as in Table 4.4, means that the impact of the other variables on earnings is constrained to be the same for the two groups. One could include a set of interaction terms between chronic illness or disability and each of the other variables, and the results would then be identical to the separate equation approach.

shows that the estimated constant term is the same for the two groups: there is no difference in the predicted hourly wage between an otherwise identical individual in either of these two categories.

One potentially important feature that this does not take into account is the fact that those with a disability and in employment represent only a sub-set of those of working age, and may have particular characteristics not captured in the estimated model that might affect the comparison. Those in employment may have unobserved characteristics, for example they may be more determined or more motivated on average, than those not in employment, and these very characteristics might well also affect their earnings. This has been treated as a serious econometric issue in estimating the gap between men and women in earnings, because most men but only a proportion of women of working

Table 4.5: Results of Estimated Wage Equation for Employees With Versus Without Hampering Illness/Disability, Men, Living in Ireland Surveys 2000-2001

	No Hampering Illness/Disability	Hampering Illness/Disability
Constant	1.6100 **	1.6084 **
Years In Work	0.0403 **	0.0335 **
Years In Work Squared/100	-0.0687 **	-0.0604 *
Years Out of Work	-0.0239 **	-0.0415
Years Out of Work Squared/100	0.01352**	0.0021
Secondary Education	0.2486 **	0.2570 *
Third Level Education	0.6887 **	0.5518 **
Number of Cases	3025	173
R Squared	0.2845	0.1598

*** Statistically significant at 5% level; * Statistically significant at 10% level.*
Reference category: Primary education only.

age are in employment. This may then introduce what is known as a selection bias into the estimated wage equation, whereby those included as employees are not a random selection from all those of working age. Very much the same issue arises in looking at disability, since less than half those with a chronic illness or disability and an even smaller proportion of those reporting that they are hampered in their daily activities are in employment and it may well be that they have particular characteristics not observed in our data (and perhaps not observable even in an ideal dataset) that have enabled them to overcome the barriers to gaining employment.

The standard econometric estimation procedure to take this into account is to first estimate an equation capturing the factors influencing participation in employment, and using the results from that to "correct" the wage equation. In a disability context this procedure has been adopted in for example Stern's (1996) study of the USA, and the results "corrected" for selection bias in this way showed a wider gap in earnings between those with and without a disability than the uncorrected estimates. Here we are starting from the position where for Ireland we find no gap before making such a correction, but it is equally important to investigate this possible source of bias in those estimates.

Table 4.6 Results of Estimated Participation Equation for Those With Versus Without Hampering Illness/Disability, Men, Living in Ireland Surveys 2000-2001

	No Hampering Illness/Disability	Hampering Illness/Disability
Constant	1.1884 **	0.6423
Years In Work	0.1138 **	0.0329
Years In Work Squared/100	-0.2687 **	-0.0751
Years Out of Work	-0.1805 **	-0.1515 **
Years Out of Work Squared/100	0.3205 **	0.0021 **
Border Midlands Western Region	0.0197	-0.3087
Married	0.0235	-0.0858
Youngest Child <4 Years	0.7949 **	0.2653
Youngest Child 5-11 Years	0.4428 **	0.2066
Youngest Child 12-17 Years	0.4829 **	-0.1221
Secondary Education	-0.2245	0.1703
Third Level Education	0.0917	0.7135 **
Pseudo R^2	0.3125	0.2569

** *Statistically significant at 5% level*
Reference category: Primary education only, East region, single, no children.

Table 4.6 shows the participation equation that we estimate for that purpose. As one might expect, for those not reporting a chronic illness or disability which hampers them in their daily lives, it shows participation being positively associated with years previously spent in work and negatively associated with years out of work. Having dependent children also increases the probability of participation. Level of education is not statistically significant for that group, but levels of participation are very high across the education levels. On the other hand, for those reporting a chronic illness or disability, and being hampered, the number of years spent out of work is a key predictor of current participation, and having a third-level education also substantially increases the likelihood of being in employment.

When the wage equations for those with and those without illness or disability are then re-estimated but corrected for potential selection bias via this participation equation, the results are shown in Table 4.7. In contrast to the uncorrected results, the estimated constant term is now lower for those reporting a hampering chronic illness or disability. This means that the predicted hourly wage for an otherwise identical individual will be lower where he is reporting a chronic illness or disability and being hampered. The scale of the gap is of the order of £1 (€1.25) per hour, which is quite substantial. So correcting the original estimates for potential selection bias has had a substantial impact on the results, revealing a difference in hourly earnings between those with and those without disability that was not previously seen.

The reliability of this finding obviously depends on the robustness of the correction procedure itself, and this is not easy to assess. Experience in gender wage gap research, where it has been used extensively, suggests that different approaches to correcting for selection bias and indeed differences in the precise specification of equations can significantly influence the results. There is much less international experience to draw on in the disability context, but the effect we found from correcting for that bias does not appear out of line with what is available. None the less, our finding

Table 4.7: Results of Estimated Wage Equation for Employees with Versus Without Hampering Illness/Disability With Selection Bias Correction, Men, Living in Ireland Surveys 2000-2001

	No Hampering Illness/Disability	Hampering Illness/Disability
Constant	1.729 **	1.4441 **
Years In Work	0.0261 **	0.0391 **
Years In Work Squared/100	-0.0344 **	-0.0727 **
Years Out of Work	-0.0100 **	-0.0619 **
Years Out of Work Squared/100	0.1755 **	0.2032
Secondary Education	0.2622 **	0.3092 **
Third Level Education	0.6879 **	0.6505 **
Lambda	-0.4161 **	0.2283 **

** *Statistically significant at 5% level*
Reference category: Primary education only.

that after introducing a correction there is an earnings gap for those with illness or disability should probably be given more weight than the specific estimate of the extent of that earnings "penalty" we have presented.

4.6 Conclusions

Chronic illness or disability substantially reduces the likelihood that an individual will be in work, as brought out in an Irish context in the study by Gannon and Nolan (2004). It found that those reporting a longstanding/chronic illness or disability that hampered them in their daily activities or restricted the kind of work they could do had a significantly reduced probability of labour force participation. Where that hampering or reduction was severe, the probability of being in the labour force was as much as 50 or 60 percentage points lower, having taken other characteristics such as age, gender and education into account. The impact of illness or disability may not stop there, however, it may instead continue to be felt by those in work in the earnings they are paid. In this chapter we have used the Living in Ireland Survey to compare the earnings of employees who are ill or disabled and those who are not.

This found first that for men, there was little or no difference in average hourly or weekly earnings between those who did versus those who did not report a chronic illness or disability. For women, those reporting such an illness or disability had lower weekly earnings than those who did not, but this was because they worked fewer hours in the week on average – their hourly earnings were actually somewhat higher than average.

This overall comparison of earnings takes no account of the fact that those with a chronic illness or disability also differ in terms of other characteristics that would be expected to affect their earnings – notably in terms of age and experience. We then investigated the influences on individual earnings in some depth for men only, for whom the data has the large number of cases required for such an analysis. When regression analysis was used to "control" for other factors, the initial results suggested that there was no difference in hourly earnings between those with and without a chronic illness or disability that hampered them in their daily activities. However, only a minority of those with an illness or disability in the relevant age range are actually in employment, and they may be more likely on

average to have characteristics – such as greater ambition or determination – that are not measured or included in our analysis, and the same factors that enabled them to overcome barriers to obtaining or remaining in employment may also affect their earnings.

When this is taken into account by a statistical procedure intended to correct for such "sample selection bias", the results then did suggest that there was an earnings gap between those with and those without a hampering illness or disability. The reliability of this result depends on the robustness of the correction procedure itself. The finding that (after correction) there is an earnings gap for those with chronic illness or disability should probably be given more weight than the specific estimate of that earnings "penalty", which was £1 (€1.25) per hour. The extent to which this reflects discrimination *per se* rather than genuine differences in productivity would by its nature be very difficult to distinguish conclusively, even if one had much more in-depth information on the individuals and their jobs than is actually available.

It must also be emphasised that this represents an estimate of the direct impact of disability on earnings, but indirect channels of influence may be at least as important. This estimate refers to differences in earnings between individuals who have the same level of education and previous experience in the workforce, and we know that both education and experience have a very substantial impact on earnings. However, disability acquired early in life may, through a range of channels of influence, have reduced the level of education attained – as we saw in the previous chapter – and disability acquired then or later may also have reduced time spent in the workforce. Although the direct effects are of considerable interest in themselves, these indirect effects would need to be incorporated into an overall picture of the complex relationship between disability and earnings.

5

DISABILITY AND POVERTY IN IRELAND

5.1 Introduction

The Living in Ireland Survey, on which we have mostly relied in this study, has also served as the principal basis for monitoring and understanding the evolution of poverty in Ireland over the period from 1994 to 2001, in a series of studies carried out at the ESRI. To date the position of individuals reporting chronic illness or disability in relation to the range of indicators used to monitor poverty has not been studied. In this chapter we investigate the poverty risk facing these people, and the extent to which it is associated with chronic illness or disability *per se*, rather than linked to other characteristics of the individual or household.

Poverty, is a complex phenomenon that can be conceptualised and measured in different ways. We therefore begin in Section 5.2 by describing the way it has been measured in recent Irish studies, and the debates that surround this type of measurement. We then focus on the relationship between illness or disability and poverty. We first briefly review in Section 5.3 some relevant but limited results presented in previous publications from the Living in Ireland Surveys, which relate only to the poverty status of households where the reference person's labour force status is "not in work due to illness or disability" (the reference person is the person most responsible for meeting its housing costs such as mortgage repayments or rent).

We then focus in Section 5.4 on the poverty status of all adults reporting chronic illness or disability in the 2001 Living in Ireland Survey. Their situation is compared to all other adults, in terms of a range of indicators of poverty. We also distinguish, among those with a disability or long-term illness, by the extent to which they report being hampered in their daily lives.

Section 5.4 investigates in more detail how poverty, measured in different ways, varies by key characteristics such as age and gender for those reporting a chronic illness or disability versus others. The period from the mid-1990s saw dramatic socio-economic changes in Ireland, and Section 5.5 looks at trends in poverty for those reporting chronic illness or disability and how these compare with the rest of the population. A formal econometric analysis, which seeks to separate out the influence of illness or disability on poverty status from other factors such as age, gender and education level, is presented in Section 5.6.

5.2 Measuring Poverty

The Living in Ireland Surveys have provided the data for an extensive research programme aimed at monitoring and understanding the evolution of poverty in Ireland, with the most recent results, from the 2000 and 2001 surveys, analysed in detail in Layte et al (2002) and Whelan et al (2003) respectively.

A range of indicators has been used in measuring poverty in this research, and these results have contributed to the development of the National Anti-Poverty Strategy and the way it formulates poverty reduction targets. The complex conceptual and measurement issues involved are discussed at length in, for example, Nolan and Whelan (1996) and Layte, Nolan and Whelan (2001). Here our aim is simply to convey clearly the nature of the poverty measures that we will be using, rather than revisiting this broader discussion.

Poverty is widely thought of as inability to participate in the life of one's society due to lack of resources, and that is the way it is defined in Ireland's National Anti-Poverty Strategy. Agreeing on the definition does not however solve the problem of how best to measure this complex phenomenon. Key trends for Ireland have been tracked in terms of two main types of poverty measures:

1) The first measures whether the income of the household falls well below the average for all Irish households. More precisely, it measures the percentage of persons in households with incomes below income thresholds set at for example 60% or 70% of median income.[5] In constructing these measures household incomes are adjusted to take the greater needs of larger households into account.[6] In 2001 the 60% of median threshold for a single adult household was the equivalent of €164 per week, while the threshold for a couple with two children was €381. The Social Inclusion Indicators now employed at EU level include this first measure, which is described as capturing those "at risk of poverty". This label reflects the fact that not all those on low incomes at a point in time will be poor (because they might not be on low income for long, or might have savings or other sources of support), but those on well below average incomes do face a heightened risk of poverty.

2) The second key indicator measures "consistent poverty", that is whether someone is poor both in terms of their income and of the actual goods and services they have or can use.[7] It does this by looking at households who are both below a relative income threshold and experiencing enforced basic deprivation, in other words going without one or more very basic items for lack of money. Basic deprivation in our work to date on measuring poverty is captured by a set of eight indicators, such as whether the household has been able to afford new clothes, to have a substantial meal every other day, and to avoid falling into debt or arrears for ordinary living expenses such as electricity or gas bills.[8] The Irish National Anti-Poverty Strategy has framed its core poverty reduction target in terms of this second measure of poverty, which was developed at the ESRI.

Both of these measures have a number of variants, in that choices have to be made about where to set the relative income threshold, about how precisely to adjust for differences in household size and

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[5] The median is the mid-point of the income distribution, measuring the point where half the households have incomes above this level and half have incomes below this level.

[6] In adjusting incomes for household size and composition we use an equivalence scale that gives a value of 1 to the first adult in the household, 0.66 to each additional adult, and 0.33 to each child; total household income is then divided by the number of "equivalent adults" in the household. At EU level the scale most often used gives 1 to the first adult, 0.5 to other adults, and 0.3 to each child.

[7] In principle someone could be income rich but have a very low standard of living (a rich miser) or income-poor but with a high standard of living (someone living off high accumulated savings). By consistent poverty we mean someone who is consistently considered as poor whether we measure poverty in terms of income or in terms of living standards and household consumption.

[8] The full list of items used to signal basic deprivation are the enforced lack (due to shortage of money) of a meal with meat fish or chicken every second day; new, not second-hand clothes; a warm waterproof overcoat; two pairs of strong shoes; a roast or equivalent dinner once a week; a day in the last two weeks without a main meal; or enforced going without heating during the last year; or going into debt on ordinary day to day living expenses or availing of charity. Families who are short of money may make different choices as to what basics they forgo in order to manage. Where any one of these has occurred due to lack of money (rather than by choice) the household is described as experiencing basic deprivation.

composition, and about the specific items used to capture basic deprivation. Here we focus on those below 60% of median income in presenting results for relative income poverty, and in presenting results on "consistent poverty" we focus on those below 70% of the median and reporting deprivation on at least one of the original 8 non-monetary indicators described in our previous studies. We also look separately, where relevant, at those experiencing basic deprivation regardless of their relative income. In presenting results in this chapter we will simply refer to these three indicators for convenience as the "at risk of poverty" rate, the "consistent poverty" rate and basic deprivation.

5.3 Poverty and Disability in Published Results from the Living in Ireland Surveys

Only quite limited results relating to poverty and disability have been published to date in the course of researching Irish poverty. It is worth clarifying at the outset how these results relate to the broader focus on disability we will be adopting here. In looking at how poverty varies across different types of households and individuals, one of the breakdowns employed in previous studies in profiling people living in poverty has been labour force status. Individuals have been categorised in terms of the labour force status of the household reference person, that is the person most responsible for meeting its housing costs such as mortgage repayments or rent. Previous studies have examined, for different measures of poverty, the way poverty risk and incidence vary across these labour force status categories. One of these categories distinguishes people in households where the reference person's labour force status is not in work due to illness or disability.

Thus the most recent of the poverty monitoring studies (Whelan et al, 2003) shows, for example, that in 2001 a total of 22% of all individuals in the Living in Ireland Survey were living in households at risk of poverty. Among those in households where the reference person's labour force status was not in work due to illness or disability, though, the corresponding figure was very much higher, at 66%. This was considerably higher than the poverty risk facing even those in households where the reference person was unemployed or working full-time in the home (where the figure was about 45%); where the reference person was employed the poverty risk was only 8%. This represented a very marked increase over time in poverty risk for households where the reference person was not in work due to illness or disability, up from 30% in 1994 to 66% by 2001.[9]

The overall consistent poverty rate, at about 5%, was much lower than the percentage at risk of poverty, but once again that rate was much higher, at 22%, for those in households where the reference person was not in work due to illness or disability. In other words more than one in five of these households were below 70% of median income and experiencing basic deprivation, the highest consistent poverty rate for any of the labour force categories. The rate for households where the reference person was an unemployed person was 19% and where it was by an employee was as low as 2%.[10] Whereas the consistent poverty rate for households generally fell from 15% in 1994 to 5% by 2001, the decline for households where the reference person was unable to work due to illness or disability was much less, from 36% to 22%.

While the poverty levels and trends for this group in the population are clearly both striking and important, they do not relate to all those with a chronic illness or disability. This is true in two respects: the sub-group in question is identified on the basis of labour force status rather persons reporting that they have a chronic illness or disability, and it is only the situation of the household reference person that is taken into account. As Gannon and Nolan (2004) demonstrated, many of

[9] See Whelan et al (2003) Table 4.7, p. 24; A similar pattern was seen with other relative income thresholds – indeed almost 60% of those in households where the reference person was ill or disabled fell below even 50% of median (equivalised) income in 2001.

[10] See Whelan et al (2003) Table 5.10, p.41.

those reporting a chronic illness or disability are not "not in work due to illness or disability" in labour force status terms (for example, people with a disability who are in work), and indeed some of those in that labour force status do not report such a chronic illness or disability (they could include short-term sick). So in this study our focus is on the poverty status of all those individual adults who report a chronic illness or disability, irrespective of their labour force status or position in the household.

5.4 Poverty and Disability in 2001

We first look at the picture provided by the 2001 Living in Ireland Survey of the situation of adults reporting a chronic illness or disability with respect to the various poverty indicators described in Section 5.2. Table 5.1 shows that 38% of these adults were then in households at risk of poverty. This was more than twice the poverty risk for adults not reporting a chronic illness or disability, which was 17%, and well above the overall average rate for adults in the sample which was 21%.

While this is a substantially heightened risk of poverty for those who are ill or disabled, the gap is not as great as in cases where the reference person in a household is out of work due to illness or disability, as was discussed in the previous section. This reflects *inter alia* the fact that a significant proportion of those reporting long-term illness or disability are in work and thus have higher household incomes than those whose labour force status is "ill or disabled". It is also likely that having the reference person rather than another household member out of work due to illness or disability has a more adverse impact on household income.

Table 5.1: Poverty and Illness/Disability, Living in Ireland Survey 2001

	At Risk of Poverty	Experiencing Basic Deprivation	Consistently Poor
	%	%	%
Ill/Disabled	37.5	13.2	7.4
Not Ill/Disabled	16.7	7.4	2.9
All	21.3	8.6	3.9

Table 5.1 also shows the percentage of long-term sick or disabled people who are in households experiencing basic deprivation, and their consistent poverty rate. We see that the percentage in households experiencing basic deprivation, at 13%, is nearly twice as high as for other adults. The consistent poverty rate is over 7% for sick or disabled adults, compared with 3% for other adults and the overall average for all adults of 4%.

We emphasised earlier that the additional information obtained in the survey on the extent to which chronically ill or disabled people reported being hampered in their daily activities could be very valuable in examining the relationships between illness or disability and various social outcomes. Table 5.2 looks at the variation in the poverty indicators across the three categories used – hampered severely, to some extent, or not at all. We see that there is a very pronounced and consistent relationship between degree hampered and poverty. Almost half those reporting severe hampering are at risk of poverty. This figure falls to 40% for those hampered "to some extent", and to 21% for those who say they are not hampered at all. The poverty risk facing this "not hampered" group is still higher than those who do not report chronic illness or disability, but not by much.

Table 5.2: Poverty and Degree Hampered, Living in Ireland Survey 2001

	At Risk of Poverty	Experiencing Basic Deprivation	Consistently Poor
	%	%	%
Ill/Disabled and Severely Hampered	49.4	24.6	15.7
Ill/Disabled and Hampered to Some Extent	39.6	12.9	6.1
Ill/Disabled and Not Hampered	21.4	3.6	2.7
Not Ill/Disabled	16.7	7.4	2.9

The same pattern is then to be seen when we look at the percentage in households experiencing basic deprivation – in other words families who are going without basics such as proper meals or are running into debt on day to day living, due to lack of money. This is very high at 25% for those reporting that they are severely hampered. For those hampered to some extent the percentage experiencing basic deprivation is only half that figure, though still considerably above the average. For those who say they are not hampered the corresponding percentage is actually lower than for those with no chronic illness or disability. Turning to the rate of "consistent poverty", 16% of those who are severely hampered are in households in consistent poverty, which is about five times higher than the rate for those with no chronic illness or disability. The rate for those hampered to some extent is about twice that for those with no chronic illness or disability. Finally, for those who say they are not hampered at all, the consistent poverty rate is no different to that for adults with no chronic illness or disability.

5.5 Exploring the Relationship Between Poverty and Disability in 2001

We now look in more depth at the poverty status of those reporting chronic illness/disability in 2001, to see how this varies across individuals and households. Table 5.3 shows how both poverty risk and consistent poverty vary by gender. We see that the poverty risk is about the same for disabled men and disabled women, whereas for non-disabled adults, the poverty risk is higher for women than men. Table 5.4 shows an analysis of poverty risk and consistent poverty by age. As can be seen, there is a heightened poverty risk for ill/disabled people throughout the age groups, but that gap is proportionately greatest in the 45-64 age range. In other words, the relative impact of disability on household income seems to be greatest in late middle age. On the other hand, the absolute incidence of poverty risk peaks in the age group 65 plus. But while there is a gradual increase with age in the proportion of disabled people at risk of poverty and no great leap at age 65, this is not the situation for the non-disabled group, where there is a sharp rise in the proportion at risk of poverty among the over-65s.

Focusing on consistent poverty, we see first that the poverty rate is much higher for men than for women, both among those who are ill or disabled and others. The consistent poverty rate is higher for the ill or disabled group than for all others throughout the age range, except in the youngest age category. The gap between the incidence of consistent poverty for the disabled and others is now proportionately greatest in the 45-54 and 65+ age ranges. However, the rate of consistent poverty for those reporting chronic illness/disability is highest in the 45-64 range.

Table 5.3: Poverty and Illness/Disability, Living in Ireland Survey 2001, by Gender

	At Risk of Poverty		Consistently Poor	
	Ill/Disabled	Not Ill/Disabled	Ill/Disabled	Not Ill/Disabled
	%	%	%	%
Male	36.7	14.1	7.1	7.7
Female	38.1	19.3	2.3	3.4

Table 5.4: Poverty and Illness/Disability, Living in Ireland Survey 2001, by Age

Age	At Risk of Poverty		Consistently Poor	
	Ill/Disabled	Not Ill/Disabled	Ill/Disabled	Not Ill/Disabled
	%	%	%	%
15-24	28.0	14.7	2.2	4.3
25-34	15.1	10.8	3.8	2.5
35-44	18.2	15.8	5.9	2.8
45-54	37.6	12.6	11.2	1.6
55-64	46.3	19.1	13.5	4.7
65+	49.5	37.3	6.0	1.6

Teasing out the full range of factors influencing the heightened poverty risk facing those with chronic illness or disability is an extremely complex task, but it is useful to explore two key inter-related factors here – the numbers in the household at work and the extent of dependence on social welfare payments. To do so, Table 5.5 distinguishes three sets of persons, within each age category:

1) Those not reporting a chronic illness or disability,
2) Those reporting a chronic illness or disability but not at risk of poverty (i.e. in households above the 60% of median income threshold), and
3) Those reporting a chronic illness or disability and at risk of poverty (i.e. in households which are below the 60% of median income threshold).

It then shows, for each of these groups, the proportion in households where no-one was at work, where one person was at work, and where more than one person was at work.

We first look at the pattern for those aged under 65. The table shows that most of those not reporting a chronic illness or disability are in households where someone is at work. For those aged up to 55, only about 5% are in households where no one is at work, and even in the 55-64 age range that figure is only 18%. A substantial proportion, often more than half, have more than one person in the household at work.

Table 5.5: Percentage Distribution of Adults by Number in Household at Work, Living in Ireland Survey 2001

Age	Number in Household at Work			
	0	1	2+	Total
	%	%	%	%
Not Ill/Disabled				
15-24	6.7	25.9	67.4	100.0
25-34	6.9	34.6	58.5	100.0
35-44	4.9	43.8	51.3	100.0
45-54	7.3	29.8	62.9	100.0
55-64	17.9	38.7	43.4	100.0
65+	68.1	19.1	12.8	100.0
All	14.6	32.8	52.6	100.0
Ill/Disabled but Not at Risk of Poverty				
15-24	8.7	26.7	64.5	100.0
25-34	8.0	36.1	55.9	100.0
35-44	6.8	45.1	48.1	100.0
45-54	13.8	28.1	58.2	100.0
55-64	26.5	34.4	39.1	100.0
65+	71.7	18.8	9.4	100.0
All	24.4	36.7	38.9	100.0
Ill/Disabled and at Risk of Poverty				
15-24	8.2	18.1	0.0	100.0
25-34	48.9	49.4	1.6	100.0
35-44	66.5	32.4	1.1	100.0
45-54	83.4	15.9	0.8	100.0
55-64	79.3	13.7	6.9	100.0
65+	90.5	8.9	0.6	100.0
All	83.3	14.9	1.9	100.0

Table 5.6: Poverty Risk, Illness/Disability, and Main Source of Income, Living in Ireland Survey 2001

Main Source of Income	Not Ill/ Disabled	Ill/Disabled but Not At Risk of Poverty	Ill/Disabled and At Risk of Poverty
	%	%	%
Work	81.4	67.0	10.0
Private Pension	4.2	13.7	0.7
Social Welfare	13.3	18.3	86.5
Other	1.1	1.0	2.8
Total	100.0	100.0	100.0

For those reporting chronic illness or disability but not at risk of poverty the proportion who are in households where no-one is at work is slightly higher than for those who are not ill or disabled but it is still a small minority except in the 55-64 age group where it is 26.5%. A high proportion of these non-poor ill or disabled people are in households with two or more people at work, coming close to the proportion among those who are not ill or disabled.

By contrast, those reporting a chronic illness or disability who are at risk of poverty are mostly in households where no-one is at work, and very few indeed have more than one person at work. In the 45-64 age range, four-fifths of this group are in households with no-one at work. So this is clearly a central influence on the income of the household and its poverty risk.

For those aged 65 or over, the number at work in the household is less important but still has a role to play. Table 5.5 shows that for non-disabled in this age category, over 30% are in households with someone at work, and about one-third of these have more than one at work. For over 65s who are ill or disabled but above the poverty risk income threshold, once again about 30% are in households where someone is at work, and about 10% have two or more at work. For over-65s with a disability or long-term illness, and whose incomes put them at risk of poverty, on the other hand, only 10% have someone in the household at work and hardly any have more than one.

The related issue of sources of income coming into the household, and in particular the extent of dependence on social welfare payments, is examined in a summary fashion in Table 5.6. This shows that for non-disabled people, on average over 80% of the income of the household came from work – from earnings or self-employment income. For those with a long-term illness or disability but above the risk-of poverty line, while the share was lower, still about two-thirds of household income was from work. For people who were ill or disabled and at risk of poverty, by contrast, only 10% of income was from work and 86% was from social welfare payments.

So what distinguishes people with a long-term illness or disability in households below the risk-of poverty income threshold is that their households have little engagement with paid work and are highly dependent on social welfare. As previous studies on trends in poverty more generally have shown, the relationship between levels of social welfare payment and average incomes and how this has changed over time are critical to the numbers falling below relative income thresholds. This is discussed in more detail in the next section focusing on trends over time.

5.6 Trends in Poverty and Disability from 1995 to 2001

Having examined the pattern shown by the 2001 Living in Ireland Survey, it is also of considerable interest to look at how the position of those reporting chronic illness or disability evolved over time. We can do so by comparing the results on poverty risk, deprivation and consistent poverty from 2001 with the corresponding figures from the 1995 Living in Ireland Survey.[11]

Table 5.7 shows first that the percentage at risk of poverty rose sharply for long-term ill or disabled adults between 1995 and 2001, from 21% to 38%, whereas the poverty risk for other adults was stable over that period at about 17%. This is linked to the extent to which people with illness or disability and the households in which they live rely on social welfare payments as a source of income. As we saw in the previous section, social welfare accounts for most of the income accruing to households with an ill/disabled member and at risk of poverty in 2001. As emphasised in previous ESRI studies of trends in poverty in Ireland, over the period from the mid-1990s to 2001 social welfare payment rates rose faster than prices, and so increased in terms of purchasing power. However, they lagged behind the very rapid pace of increase in incomes from work, which was quite exceptional. As a result, those who continued to rely primarily on social welfare for their household incomes saw their living standards improve. However a larger proportion fell below income thresholds which were expressed as a proportion of average incomes. So in absolute terms, social welfare recipients saw their living standards improve, but their position relative to other people fell back. As the threshold used to determine those at risk of poverty (those with less than 60% of median income) moved in line with incomes generally, the disimprovement in the relative position of social welfare incomes led to a growth in the numbers of households dependent on social welfare coming below this line.

The table also shows that the percentage in households experiencing basic deprivation fell by a half over this period, both for those who were ill or disabled and for other adults. This reflects increasing purchasing power, as both social welfare and even more so other incomes rose substantially faster than prices.

Table 5.7: Poverty and Illness/Disability, Living in Ireland Surveys 1995 and 2001

	At Risk of Poverty	Experiencing Basic Deprivation	Consistently Poor
	%	%	%
Ill/Disabled			
1995	21.2	26.0	7.8
2001	37.5	13.2	7.4
Not Ill/Disabled			
1995	16.7	15.7	6.0
2001	16.7	7.4	2.9
All			
1995	17.6	17.8	6.3
2001	21.3	8.6	3.9

[11] The first Living in Ireland survey, in 1994, had slightly different wording for key questions.

Focusing on consistent poverty, there was only a marginal decline between 1995 and 2001 for those with a long-term illness or disability whereas other adults saw their consistent poverty rate fall from 6% to 3%. For those with a disability or long-term illness, the proportion experiencing basic deprivation did fall but this was offset by the rise in the proportion below the relative income threshold.[12] This in turn came about principally because social welfare payments lagged behind median income over the period. A significant number of households containing adults with a chronic illness or disability and relying on social welfare went from being clustered above the income threshold to falling below it.

5.7 Econometric Analysis of Poverty and Disability in 2001

We now present the results of statistical analysis of the relationship between the presence of a chronic illness or disability and our three indicators of poverty. We estimate in each case three equations:

a) A simple model where the dependent variable is the poverty indicator (at risk of poverty, basic deprivation or consistent poverty), and the independent variables are dummy variables capturing chronic illness or disability; degree of hampering; illness or disability but not hampered; and not ill or disabled. The last of these, no illness or disability, is the omitted reference category in the estimated equation;

b) A more complex model where, in addition to these illness/disability variables, we also include as explanatory variables the individual's age, gender, marital status, the region they live in (distinguishing Border, Midlands and Western from the rest), and the number of children and adults in the household. All these might be expected to influence the household's risk of poverty, and by including them in the equation the aim is to separate their effects from those of disability *per se*.

c) A further model including as additional explanatory variables the educational level attained by the individual and whether he or she is currently in paid work (as an employee or self-employed person). The distinctive feature of these two variables is that they are likely to have a substantial impact on the probability of being in poverty, but may well themselves be affected by the presence of a chronic illness or disability. By including them as control variables we run the risk of understating the overall impact of disability on poverty, since some of that impact may work through educational attainment and labour force status, as brought out in our discussion in previous chapters. However, by comparing the results of models b) and c) we can in effect put bounds on the range of the likely impact of chronic illness or disability on poverty, with b) potentially representing an upper bound and c) a lower one.

The statistical model employed is once again the probit model, where the aim is to estimate the marginal impact of various characteristics on the likelihood of being in a particular state. The three states we look at are whether someone is below the "risk-of-poverty" income threshold, is experiencing basic deprivation, or is in consistent poverty.

At Risk of Poverty

The results for the equation relating to the risk of poverty, i.e. falling below the 60% of median income threshold, are presented in Table 5.8. We see in the simple model that the estimated impact of having a severely hampering chronic illness or disability on the likelihood of being below the income line is substantial, the impact is still large for those hampered to some extent, and that it is much smaller but still statistically different from zero for those whose chronic illness or disability does not hamper them

[12] For consistent poverty, the threshold used is 70% of median income.

Table 5.8: Estimated Effects on the Probability of Being At Risk of Poverty, Living in Ireland Survey 2001

	Marginal Effects		
	Model a)	Model b)	Model c)
Ill/Disabled and Severely Hampered	0.3172 **	0.2227 **	0.1100 **
Ill/Disabled and Hampered to Some Extent	0.2060 **	0.1167 **	0.0503 **
Ill/Disabled and Not Hampered	0.0595 **	0.0199	0.0045
Female		0.0132	-0.0337 **
Number of Children		0.0353	0.0264 **
Number of Adults		-0.0850	-0.0826 **
Age 25-34		-0.0528 **	-0.0041
Age 35-44		-0.0354 *	0.0132
Age 45-54		0.0110	0.0443 **
Age 55-64		0.1212 **	0.0822 **
Age 65+		0.1746 **	0.0445 **
Border Midlands Western Region		0.0713 **	0.0665 **
Married		-0.0688 **	-0.0526 **
Working			-0.2312 **
Secondary Education			-0.0219 **
Tertiary Education			-0.0526 **
Pseudo R^2	0.0392	0.1677	0.2387

*** Statistically significant at 5% level; * Statistically significant at 10% level.*
Reference category: column (1): not ill/disabled; Column (2): Not ill/disabled, age under 25, male, East region; Column (3): Not ill/disabled, age under 25, male, East region, primary education only, not working.

at all. The scale of the estimated effects is very large. Whereas 17% of those without a chronic illness/disability are at risk of poverty, the coefficients suggest that someone with a severely hampering illness/disability will have a rate that is 32 percentage points higher. Where the disability hampers them to some extent, the predicted risk of poverty rate is 21 percentage points higher, and even where it does not hamper the individual at all, their predicted rate is 6 percentage points higher than someone without a chronic illness or disability.

The second column of the table shows the results of the more elaborate model which controls for age, gender, region and household composition, but not for education level or whether the individual is working. We see that all these control variables are statistically significant and their inclusion substantially reduces the estimated effect of having a chronic illness or disability. However, being hampered, whether severely or to some extent, is still associated with a significantly increased likelihood of being below the income line. For those who are severely hampered by their illness or disability, the proportion at risk of poverty is 22 percentage points higher than those without an illness or disability – less than the 32 point increase in the model with no control variables but still very substantial. For the "hampered to some extent" group, the proportion at risk of poverty is now 12

Table 5.9: Estimated Effects on the Probability of Basic Deprivation, Living in Ireland Survey 2001

	Marginal Effects		
	Model a)	Model b)	Model c)
Ill/Disabled and Severely Hampered	0.1712 **	0.2225 **	0.1556 **
Ill/Disabled and Hampered to some Extent	0.0716 **	0.0956 **	0.0625 **
Ill/Disabled and not Hampered	0.0038	0.0208	0.0113
Female		0.0087	0.0029
Number of Children<18		0.0287	0.0169 **
Number of Adults		-0.0019	-0.0024
Age 25-34		0.0030	0.0095
Age 35-44		0.0156	0.0138
Age 45-54		-0.0017	-0.0126
Age 55-64		0.0213	-0.0113
Age 65+		-0.0226 *	-0.0523 **
Border Midlands Western Region		0.0009	-0.003
Married		-0.0403 **	-0.0334 **
Working			-0.0384 **
Secondary Education			-0.0470 **
Tertiary Education			-0.0528 **
Pseudo R^2	0.0290	0.0655	0.0942

** *Statistically significant at 5% level;* * *Statistically significant at 10% level.*
Reference category: column (1): not ill/disabled; Column (2): Not ill/disabled, age under 25, male, East region; Column (3): Not ill/disabled, age under 25, male, East region, primary education, not working.

percentage points (rather than 20) higher than for those without illness or disability. For the disabled but not hampered group, there is now no statistically significant increase in the likelihood of being at risk of poverty, compared to those with no illness or disability.

Finally, the third column of the table shows the results when education level and whether the individual is working are also included. We see that these are both statistically significant. Their inclusion approximately halves the size of the estimated effects of having a hampering chronic illness/disability compared with the second model, but those effects are still statistically significant. So the overall conclusion is that having a chronic illness or disability and being hampered in your daily activities is associated with a substantial increase in the probability of being below 60% of median income; the scale of that increase is somewhere between 11 and 22 percentage points where the individual is severely hampered, and between 5 and 12 percentage points where he or she is hampered to some extent.

Table 5.10: Estimated Effects on the Probability of Being Consistently Poor, Living in Ireland Survey, 2001

	Marginal Effects		
	Model a)	Model b)	Model c)
Ill/Disabled and Severely Hampered	0.1184 **	0.1299 **	0.0567 **
Ill/Disabled and Hampered to some Extent	0.0416 **	0.0395 **	0.0141 **
Ill/Disabled and not Hampered	0.0125	0.0173 *	0.0086
Female		0.0018	-0.0057 **
Number of Children		0.0119	0.0079 **
Number of Adults		-0.0113 **	-0.0085 **
Age 25-34		-0.0017	0.0057
Age 35-44		0.0004	0.0066
Age 45-54		0.0043	0.0052
Age 55-64		0.0283 **	0.0109
Age 65+		-0.0055	-0.0140 **
Border Midlands Western Region		0.0032	0.0014
Married		-0.0239 **	-0.0147 **
Working			-0.0466 **
Secondary Education			-0.0050
Tertiary Education			-0.0136 **
Pseudo R^2	0.0386	0.1091	0.1852

*** Statistically significant at 5% level; * Statistically significant at 10% level.*
Reference category: column (1): not ill/disabled; Column (2): Not ill/disabled, age under 25, male, East region; Column (3): Not ill/disabled, age under 25, male, East region, primary education, not working.

Experiencing Basic Deprivation

Table 5.9 shows the corresponding estimation results for the likelihood of experiencing basic deprivation. Illness or disability and being hampered is seen to increase that likelihood greatly when no other variables are included in the equation; whereas about 7% of those without a chronic illness or disability experience basic deprivation, there is a 17 percentage point increase in the predicted rate for someone with illness or disability and severely hampered. The inclusion of the control variables in model b) now makes little difference to the scale of the estimated impact of hampering chronic illness or disability, with most of the additional explanatory variables not statistically significant. When education and labour force status are added these are significant but have a rather modest impact on the size of the estimated effects of hampering illness or disability.

Consistent Poverty

Finally, Table 5.10 shows the corresponding estimation results for the likelihood of being consistently poor. Before the inclusion of the control variables, both the hampering dummy variables are significant and have substantial effects but a non-hampering illness/disability is not significant. The variables added in model b) make little difference, but once again when education and work status are added in model c) they are significant and reduce the estimated impact of hampering illness/disability. Having a chronic illness or disability and being hampered to some extent still increases the likelihood of being in consistent poverty, but being severely hampered has a much more pronounced effect.

While the consistent poverty rate is about 3% for someone without an illness or disability, an individual with a severely hampering illness/disability has a predicted rate that is between 6 and 13 percentage points higher, in other words consistent poverty rates of between 9% and 16%. Thus someone with severely hampering disability could be up to five times more likely to be in consistent poverty. Someone whose illness/disability hampers them to some extent is just 2-4 percentage points more likely to be in consistent poverty than a non-disabled person.

5.8 Conclusion

Disability is likely to increase an individual's probability of experiencing poverty through various direct and indirect channels, and this chapter has sought to investigate that relationship empirically by analysing data from the Living in Ireland Surveys. Poverty can be captured in different ways, and we began by describing how it has been measured in recent Irish studies, distinguishing three poverty indicators. The first looks at whether the income of the household falls below income thresholds set at 60% of median income (the mid-point of the distribution); in the EU Social Inclusion process this is now referred to as being "at risk of poverty". A second measures enforced basic deprivation – as reflected in indicators such as not being able to afford new clothes or have a substantial meal every other day. A third indicator measures "consistent poverty", that is whether someone is both below a relative income threshold and experiencing enforced basic deprivation.

Results relating to disability presented in previous ESRI publications on poverty trends were then discussed, to bring out that these related only to households where the household reference person gave their labour force status as "not at work because ill or disabled", and not to all adults with an illness or disability.

The poverty status of adults reporting chronic illness or disability in the 2001 Living in Ireland Survey was then examined. About 38% were found to be at risk of poverty, more than twice the rate for other adults. The percentage in households experiencing basic deprivation was 13%, and the rate of consistent poverty was over 7%. For each measure these rates are about twice the corresponding figures for those not reporting illness or disability. Distinguishing among those with a chronic illness or disability by the extent to which it hampered them in their daily life proved very important once again, with a very pronounced and consistent relationship between degree hampered and poverty. Almost half those reporting a chronic illness or disability that severely hampered them in their daily activities were at risk of poverty. About 16% were in consistent poverty, five times higher than the rate for those without a disability. Where the chronic illness or disability hampered the person to some extent their consistent poverty rate was about twice that for adults with no illness or disability. On the other hand, those with an illness or disability but not hampered in their daily activities had the same consistent poverty rate as those without illness or disability.

Exploring why poverty is so high for those reporting illness or disability highlighted the critical role of work versus social welfare dependence, relating not simply to the individual but to their household. Focusing on those under 65 years of age with a chronic illness or disability who were in households at risk of poverty, the distinctive feature was that most often there was no one in the household at work. For those aged 65 or over the number at work in the household was less important but still

had a role to play. The other side of the same coin was household dependence on social welfare payments: among those reporting a chronic illness or disability and in households below the 60% of median income threshold, only 10% of household income came from work and 86% came from social welfare payments.

The chapter then looked at trends over time, comparing the results on poverty risk, deprivation and consistent poverty from 2001 with the corresponding figures from the 1995 Living in Ireland Survey. This showed that the percentage at risk of poverty rose sharply for adults with a chronic illness or disability, from 21% in 1995 to 38% in 2001, whereas the poverty risk for other adults was stable over the period at about 17%. This was linked to the extent to which the people who are chronically ill or disabled rely on social welfare payments as a source of income, since social welfare payment rates rose faster than prices but lagged behind the very rapid pace of increase in incomes from work. There was a marginal decline in consistent poverty for those reporting a chronic illness or disability, whereas other adults saw their consistent poverty rate fall by half.

The results of a statistical analysis of the relationship between chronic illness or disability and the three indicators of poverty were then presented. In the simplest models estimated, only chronic illness or disability and degree hampered in daily activities were included as explanatory variables, and the effect of introducing additional explanatory variables was then assessed. Focusing first on the risk of poverty, having an illness or disability was seen to increase the likelihood of being below 60% of median income very substantially, especially when the individual was severely hampered in their daily activities. When a more elaborate model controlling for age, gender, region and household composition was estimated, the estimated effect of having a hampering chronic illness or disability was reduced somewhat but was still pronounced.

A third model was then estimated, incorporating as additional explanatory variables the individual's education level and whether he or she was working. Including these runs the risk of understating the overall impact of illness or disability on poverty, since some of that impact may work through educational attainment and labour force status. However, the results when these variables are omitted versus when they are included can be seen as indicating upper and lower bounds on the likely impact of chronic illness or disability on poverty. Their inclusion approximately halved the size of the estimated effects of having a hampering chronic illness or disability on the probability of being at risk of poverty, but those effects were still statistically significant. Overall, the increase the proportion at risk of poverty where the individual was severely hampered, was between 11 percentage points when educational attainment and labour force status are controlled for and 22 percentage points without these controls. Where the individual was hampered to some extent the increased rate of being at risk of poverty was between 5 and 12 percentage points.

The results for the likelihood of experiencing basic deprivation show a 17 percentage point increase in the predicted percentage for someone with a severely hampering illness/disability. The inclusion of the additional explanatory variables in this case has a much more modest impact in reducing the size of these effects. Finally, the inclusion of education and work status do reduce the estimated effects of hampering illness/disability on the likelihood of being consistently poor, but the effects of hampering disability are still substantial. Whereas the consistent poverty rate was about 7.5% for someone without an illness or disability, an individual with a severely hampering illness or disability was predicted to have a rate between 6 and 13 percentage points higher. Someone with an illness or disability that hampers them to some extent had a predicted rate of consistent poverty that was 2-4 percentage points higher.

6

DISABILITY AND SOCIAL PARTICIPATION IN IRELAND

6.1 Introduction

The final topic addressed in this study is social participation and how it is affected by chronic illness or disability, and that is the focus of this chapter. Concern about social exclusion increasingly goes beyond financial resources and standard of living to encompass broader aspects of participation in the life of one's community and society, and the barriers to such full participation. Given that people with chronic illness or disabilities face a range of barriers to social participation, over and above financial barriers, this is an important topic. Here we make use of the limited but useful information obtained in the Living in Ireland Survey relating to social participation and involvement in the community, to explore differences between those reporting chronic illness or disability and those who do not. Once again we first present a descriptive picture and then the results of more formal statistical modelling.

6.2 Social Participation and Disability in 2001

The information obtained in the living in Ireland Surveys relating to social participation and involvement covered the following:

1) Whether the respondent was a member of a club or organisation such as a sports or entertainment club, a neighbourhood group, a political party etc;
2) How often he or she talks to any of the neighbours
    a) On most days
    b) Once or twice a week
    c) Once or twice a month
    d) Less than once a month; or
    e) Never
3) How often he or she meets friends or relatives (not living in the same household)
    a) On most days
    b) Once or twice a week
    c) Once or twice a month

d) Less than once a month; or

e) Never

and also whether during the last week the respondent has spoken to anyone not a member of the household, even if only on the telephone.

4) Whether he or she had an afternoon or evening out in the last fortnight, for entertainment, something that cost money; and if not was the main reason

a) Didn't want to

b) Full social life in other ways

c) Couldn't afford to

d) Can't leave the children

e) Illness; or

f) Other (to be specified)

5) If there were a general election tomorrow, would the respondent vote in it?

We can first compare the responses to each of these questions given by those who do versus those who do not have a chronic illness or disability, without trying to take into account the fact that these two groups differ in other respects as well. In doing so we distinguish among those who do have an illness or disability by the extent to which they say it hampers them in their daily activities, because one would expect that this could be an important influence on the activities being considered.

Table 6.1 shows these results for the first measure of participation, namely whether the person is a member of a club or organisation. We see that 30% of those with a chronic illness or disability which hampers them severely in their daily activities are members of a club or organisation, which is a substantial number, but considerably less than the 47% of adults with no long-term illness or disability.

Table 6.1: Percentage Club Members For Those With Versus Without Illness/Disability, Living in Ireland Survey 2001

	Club/Organisation Member %
Ill/Disabled and Severely Hampered	29.8
Ill/Disabled and Hampered to Some Extent	34.0
Ill/Disabled and Not Hampered	43.3
No Illness/Disability	46.9
All	44.5

For those hampered to some extent by illness or disability, the figure is slightly higher at 34% but is still a relatively low one. Ill or disabled people who are not hampered in their daily activities are about as likely to be members of clubs or organisations as people with no illness or disability.

Table 6.2 shows the frequency with which people talk to their neighbours. We see that those with an illness or disability and severely hampered in their daily activity are least likely to talk to their neighbours most days. Most strikingly, 6% say they never talk with the neighbours, which although a small minority is substantially higher than for any of the other categories distinguished. On the other hand, those with chronic illness or disability that hampers them to some extent or not at all look little different in terms of frequency of contact to those with no illness or disability.

Table 6.3 shows the frequency with which people meet friends or relatives. Once again those whose illness or disability hampers them severely in their daily activities are distinctive, being less likely to meet friends or relatives most days and most likely to meet them less than once a month or never. None the less, it should be noted that even for this group almost nine out of ten meet friends or relatives at least once a month. Those hampered to some extent or not at all once again look little different to those with no chronic illness or disability.

Table 6. 2: Frequency Talking with Neighbours for Those With Versus Without Illness/Disability, Living in Ireland Survey 2001

	Most Days	1-2 per Week	1-2 per Month	< 1 per Month	Never	Total
	%	%	%	%	%	%
Ill/Disabled and Severely Hampered	44.7	34.3	11.6	3.2	6.2	100.0
Ill/Disabled and Hampered to Some Extent	55.7	34.1	7.1	1.9	1.2	100.0
Ill/Disabled and Not Hampered	51.3	37.9	7.5	2.3	1.0	100.0
No Illness/Disability	51.4	37.6	6.6	2.7	1.7	100.0
All	51.6	37.0	6.9	2.6	1.8	100.0

Table 6.3: Frequency of Meeting People for Those With Versus Without Illness/Disability, Living in Ireland Survey 2001

	Most Days	1-2 per Week	1-2 per Month	< 1 per Month	Never	Total
	%	%	%	%	%	%
Ill/Disabled and Severely Hampered	54.8	32.5	8.7	2.9	1.1	100.0
Ill/Disabled and Hampered to Some Extent	70.9	22.8	5.8	0.2	0.3	100.0
Ill/Disabled and Not Hampered	68.1	27.1	4.6	0.2	0.0	100.0
No Illness/Disability	71.4	24.8	3.5	0.3	0.0	100.0
All	70.4	25.0	4.1	0.4	0.1	100.0

Table 6.4 looks at the percentage having an afternoon or evening out for entertainment in the last fortnight. Those with a chronic illness or disability who are severely hampered in their daily activities are much less likely to do so, with only 45% having an afternoon or evening out compared with 85% for those without an illness or disability. Those hampered to some extent are more likely to have an afternoon or evening out than those who are severely hampered, but at two out of three are still considerably less likely than people without illness or disability.

Table 6.4: Percentage Having Afternoon/Evening Out for Those With Versus Without Illness/Disability, Living in Ireland Survey 2001

	Afternoon/Evening Out
	%
Ill/Disabled and Severely Hampered	45.4
Ill/Disabled and Hampered to Some Extent	66.2
Ill/Disabled and Not Hampered	74.5
No Illness/Disability	84.5
All	80.2

Those who said they did not have an afternoon or evening out were asked why, and shown the set of response categories described above. Table 6.5 shows how the responses varied by illness or disability status, and degree hampered. A substantial proportion – not far short of half – of those with a severely hampering chronic illness or disability said that illness was the main reason for not going out. A relatively small proportion of this group said it was because they did not want to. Those hampered to some extent were much less likely than those severely hampered to say that illness was the main reason. However they were still more likely to give illness as a reason than the unhampered group or people with no illness or disability.

Table 6.5: Reason for Not Having Afternoon/Evening Out for Those With Versus Without Illness/Disability, Living in Ireland Survey 2001

	Don't Want	Full Life	Can't Afford	Children	Ill	Other	Total
	%	%	%	%	%	%	%
Ill/Disabled and Severely Hampered	32.2	0.0	18.4	0.0	44.1	5.3	100.0
Ill/Disabled and Hampered to Some Extent	57.3	3.0	16.4	1.7	16.8	4.7	100.0
Ill/Disabled and Not Hampered	72.8	3.7	11.1	2.5	4.9	4.9	100.0
No Illness/Disability	63.2	5.8	14.4	5.7	3.5	7.5	100.0
All	59.0	4.4	15.0	4.0	11.0	6.5	100.0

Finally, Table 6.6 looks at the percentage in each of our groups who said that they would vote in a general election. In this case there is little variation across the categories, although those who are severely hampered are a little less likely than others to say they would vote. It should be noted that stating the general intention to vote is not necessarily always reflected in actually voting. Whereas 87% of adults in this sample say they would vote, a special QNHS module in 2002, which asked respondents whether they had voted in the June election that year, showed just over three-quarters had actually voted.

Table 6.6: Percentage Saying They Would Vote for Those With Versus Without Illness/ Disability, Living in Ireland Survey 2001

	Would Vote %
Ill/Disabled and Severely Hampered	84.8
Ill/Disabled and Hampered to Some Extent	88.5
Ill/Disabled and Not Hampered	90.0
No Illness/Disability	86.8
All	87.1

6.3 Statistical Modelling of Social Participation and Disability in 2001

While the descriptive analysis in the previous section suggests that many of the social participation indicators are affected by the presence of a severely hampering disability or illness, to explore this further we present in this section the results of formal statistical modelling. This allows us to take into account differences in for example age and gender composition of the groups we are distinguishing, in order to hone in on the potential impact of the chronic illness or disability and degree hampered *per se*.

We estimate separate logistic regression models[13] for the probability that the respondent

1) Is a member of a club or organisation
2) Meets people most days or once/twice a week
3) Talks to neighbours most days or once/twice a week
4) Had an afternoon or evening out in last fortnight

Since voting intentions revealed little variation and is not a measure of actual voting behaviour we omit that indicator at this stage. We also estimate a model focused on the likelihood that the respondent had a positive response on all four of these areas. In each case the independent variables include reported illness or disability and degree hampered, and also age, gender, household composition and region.

The results, presented in Table 6.7, show that when we have controlled for these other characteristics the presence of a severely hampering chronic illness or disability significantly reduces the probability of participation with each of the four measures. It is also of interest that now that being hampered to some extent by illness/disability is also seen to be associated with a reduced level of social participation on these particular indicators. However, the scale of the estimated impact is a good deal less than for those who are severely hampered. The model shows that, for the most part, those whose chronic illness or disability does not affect them in their daily activities are no different in terms of social participation than people with no illness or disability.

[13] These are statistical models which estimate the influence of a number of different factors (the independent variables) on the likelihood of a particular outcome (the dependent variable). Here the models look at the influence of chronic illness/disability, age, gender etc. on the likelihood of social participation.

Very much the same pattern emerges when we look in Table 6.8 at a similar analysis. Here the dependent variable captures participation versus non-participation in all four aspects together. Once again, after controlling for other characteristics, the presence of a severely hampering chronic illness or disability significantly reduces the probability of participation in all four, while an illness or disability that hampers the individual to some extent is also associated with a reduced level of participation, though the impact is more modest.

Table 6.7: Estimation of Marginal Effects for Models Predicting Social Participation, Living in Ireland Survey 2001

	Club member	Meet people most days or once/twice a week	Talk to neighbours most days, or once/twice a week	Evening out in last fortnight
Ill/Disabled and Severely Hampered	-0.1986 **	-0.0706 **	-0.1534 **	-0.2444 **
Ill/Disabled and Hampered to Some Extent	-0.0889 **	-0.0154 *	-0.0221 *	-0.0768 **
Ill/Disabled and Not Hampered	-0.0096	-0.0041	0.003	-0.0432 **
Female	-0.1532 **	0.0011	-0.0093	-0.0311 **
Number of Children	-0.0131 **	-0.0042 *	0.0072 **	-0.0248 **
Number of Adults	0.0095 *	-0.0023	-0.0017	0.0074 *
Age 25-34	-0.0857 **	-0.0267 *	0.0015	-0.0993 **
Age 35-44	-0.0454 **	-0.0609 **	0.0369 **	-0.1456 **
Age 45-54	-0.0282	-0.0815 **	0.0589 **	-0.2020 **
Age 55-64	-0.0080	-0.0735 **	0.0763 **	-0.2357 **
Age 65+	-0.0963 **	-0.0834 **	0.0738 **	-0.3416 **
Border Midlands Western Region	-0.0668 **	0.0231 **	0.0144 *	-0.0069
Married	0.0386 **	-0.0012	0.0027	0.0204 *
Working	0.0648 **	-0.0012	-0.0278 **	0.0771 **
Secondary Education	0.0146	0.0031	0.0521 **	0.0264 **
Third Level Education	0.0936 **	-0.0035	0.0377 **	0.0655 **
R^2	0.0490	0.0440	0.0398	0.1276

*** Statistically significant at 5% level; * Statistically significant at 10% level.*

Reference category: Not ill/disabled, age under 25, male, single, East region, not working, primary education only.

Table 6.8: Estimation Results for Models Predicting Participation in All Four Aspects of Social Participation, Living in Ireland Survey 2001

	Participate in All 4	
Ill/Disabled and Severely Hampered	-0.2149	**
Ill/Disabled and Hampered to Some Extent	-0.0874	**
Ill/Disabled and Not Hampered	-0.0455	*
Female	-0.1271	**
Children <18	-0.0108	*
Adults >18	0.0095	*
Age 25-34	-0.0701	**
Age 35-44	-0.0490	*
Age 45-54	-0.0309	
Age 55-64	0.0018	
Age 65+	-0.0831	**
Border Midland Western Region	-0.0379	**
Married	0.0253	
Working	0.0448	**
Secondary Education	0.0496	**
Third Level Education	0.1165	**
R^2	0.0472	

*** Statistically significant at 5 % level; * Statistically significant at 10% level. Reference category: Not ill/disabled, age under 25, male, East region, single, not working, primary education only.*

6.4 Conclusions

Disability may well impact not only on income and participation in the labour force, but also on broader aspects of participation in the life of one's community and society. This chapter has examined this topic using limited but useful information obtained in the Living in Ireland Survey relating to social participation and involvement in the community. The available indicators covered whether the respondent was a member of a club or organisation, how often he or she talked to neighbours, how often he or she meets friends or relatives (living outside the household), whether he or she had an afternoon or evening out in the last fortnight that cost money, and whether he or she intended to vote in the next general election.

These results showed first that whereas 47% of adults with no chronic illness or disability were members of a club or organisation, the corresponding figures were 30% for those with a chronic illness or disability that hampered them severely in their daily activities, and 34% of those hampered to some extent by disability or illness. While there is clearly a substantial gap, these levels of participation among those affected by disability were nonetheless quite high. On the other hand, people with illness or disability which did not hamper their activities were as likely to be members of clubs or organisations as people who were not ill or disabled. The severely hampered group were much less likely to talk to their neighbours most days than non-disabled people, with 6% of the severely

hampered saying they never do so. On the other hand, those hampered to some extent or not at all by their illness or disability looked little different to those with no illness/disability in terms of frequency of contact. Very much the same pattern was seen when the frequency with which people met friends or relatives was examined. Those with a chronic illness or disability which hampered them severely in their daily activities were less likely than others to meet friends or relatives most days and most likely to meet them less than once a month or never. None the less, even for this group almost nine out of ten met friends or relatives at least once a month. Those hampered to some extent or not at all by their illness or disability once again looked little different to those with no chronic illness or disability.

Those with a severely hampering chronic illness or disability were also much less likely to have had an afternoon or evening out for entertainment in the last fortnight. Only 45% reported having done so, compared with 85% for those without illness or disability. Almost half this "severely hampered" group said that illness was the main reason for not going out. Those hampered to some extent by their illness or disability were more likely to have an afternoon or evening out than those who are severely hampered. They were much less likely than the severely hampered group to say that illness was the main reason for not going out, however they still went out less than people without chronic illness or disability.

Those with a severely hampering chronic illness or disability were also less likely than others to say they would vote in a general election, but otherwise presence of an illness or disability did not appear to affect responses to this question.

We then estimated separate logistic regression models looking at the way different characteristics, including illness or disability and self-reported degree hampered in daily activities, affect the probability that the respondent participated socially on four of the indicators (excluding intention to vote at this stage). The models also looked at the likelihood that the respondent had a positive response on all four. As well as illness or disability status and degree of hampering, the independent variables included age, gender, household composition and region.

The results showed that having controlled for these other characteristics, the presence of a severely hampering chronic illness or disability significantly reduced the probability of participation with each of the four measures. The presence of an illness or disability that hampered the individual to some extent was also associated with a reduced level of participation with all of the indicators, although the scale of the estimated impact was a good deal less than for severely hampering illness or disability. For the most part those whose illness or disability did not hamper them in daily life were similar to those without illness or disability in terms of the aspects of social participation that we studied.

7

CONCLUSIONS

7.1 Introduction

The aim of this study for the Equality Authority and the National Disability Authority has been to examine social inclusion and exclusion for people with chronic illnesses or disabilities under four headings: Education; Earnings; Poverty and Deprivation; and Social Life and Social Participation, through analysis of the information collected in two representative household samples – the Living in Ireland Survey and the Quarterly National Household Survey. Labour force participation, a central dimension of participation, has already been analysed in Gannon and Nolan (2004). In this concluding chapter we bring together and summarise our main findings.

7.2 The Data

The main data source used was the Living in Ireland Survey carried out by the Economic and Social Research Institute. In studying education the special module on disability included with the CSO's Quarterly National Household Survey in 2002 was also employed. These datasets have serious limitations, in that disability is a complex and heterogeneous concept that is very difficult to capture in a general household survey, but they can still be very informative about disability and social inclusion. The key information used in measuring disability in the Living in Ireland Survey was whether the individual said that they had a chronic physical or mental health problem, illness or disability, and if so whether this hampered them severely, to some extent or not at all in their daily life. In all 22% of adults responded that they had a chronic illness or disability. About one-quarter of these said they were not restricted at all in their daily life, while about 55% were restricted to some extent and one-fifth were severely restricted – a distinction that proved particularly valuable in the rest of this study. The key information from the QNHS – which was confined to those of working age – was whether the respondent had any longstanding health problem or disability and whether this restricted the amount or kind of work that they could do. About 11% of persons aged 15-65 responded that they had a longstanding illness or disability, of which about two thirds reported being restricted.

7.3 Education

The relationship between disability and educational attainment is a complex one, with low education being associated with an enhanced risk of becoming disabled as well as disability adversely related to educational attainment. The study first simply compared levels of educational attainment for adults reporting chronic illness or disability in the 2001 Living in Ireland Survey with other adults. Half those who were ill or disabled had no formal educational qualification, compared with one-fifth of other

adults. This partly reflected age, since those with a chronic illness or disability are more concentrated in older ages where educational levels are lowest. However, within each age range the proportion with no educational qualification beyond primary was still much higher for those with long-term disability or illness, and they were also much less likely to have a third-level qualification.

Econometric analysis of the relationship between long-term illness or disability and educational attainment was then carried out. This confirmed that, having taken age and gender into account, those reporting a chronic illness or disability that hampered them severely or to some extent were much more likely to have no educational qualifications than those with no illness or disability. They were also less likely to have third level education. Those with an illness or disability that does not hamper them in their daily activities were statistically indistinguishable from those with no illness or disability.

The study then distinguished between those who had the illness or disability they were reporting in the survey from before the age of 25 – when an impact on educational attainment might be expected – and those only affected after 25, when such a direct impact would be unlikely. Illness or disability present before 25 and where the respondents were hampered in their daily lives was indeed associated with a substantially increased likelihood of having no qualifications and a reduced chance of having a third-level qualification. However, illness or disability that only affected the person after age 25, where the individuals were hampered in their daily lives, was also estimated to have a negative (though more modest) impact.

This is probably because the chances of acquiring disability or illness later in life are related to a range of background individual and household disadvantages that increase the likelihood of low levels of educational attainment, and the disability measures are picking up their effects. This might well also be the case to some extent for those with illness or disability from before age 25, of course, and means that the scale of the underlying effect of illness or disability *per se* may not be as great as the raw estimates suggest. Even taking this into account, however, disabilities acquired early in life seem to have substantial direct effects on educational attainment.

The special module on disability included with the QNHS in 2002 has a much larger sample than the Living in Ireland Survey, though only for those of working age. It also showed the proportion with no educational qualifications to be very much higher, and the proportion with a third-level qualification much lower, for people with longstanding illness or disability than for other adults. Once again, the greater the degree of restriction associated with the disability, the higher was the proportion with no formal educational qualification. Those with illness or disability since birth had strikingly low levels of education.

Econometric analysis showed a pronounced impact of disability present from birth on education level, but also some association between having an illness or disability not present from birth and lower than average attainment. This suggests once again that part of what is showing up in the estimates as an effect of disability actually reflects a range of background individual and household disadvantages that increase the likelihood both of low levels of educational attainment and of illness or disability in later life. Nonetheless, for those who say they are restricted in the kind of or amount of work they can do, illness or disability present from birth continues to have a substantial impact when the influence of such background factors is taken into account.

7.4 Disability and Earnings

Disability substantially reduces the likelihood that an individual will be in work, as brought out in Gannon and Nolan (2004). The impact of disability may continue to be felt by those in work, potentially affecting what they earn. To investigate this possibility, here data from the Living in Ireland Survey were used to compare the earnings of employees with a chronic illness or disability and those without. This found first that for men, there was little or no difference in average hourly or weekly earnings between these two groups. For women, those reporting an illness or disability had lower

weekly earnings than those who did not, but this was because they worked fewer hours in the week on average rather than lower hourly earnings.

Those with versus those without a chronic illness or disability could also differ in terms of other characteristics that would be expected to affect their earnings – notably in terms of age, education and experience. A more formal statistical analysis taking this into account was carried out for men only, since it requires a large number of observations and there are more male employees. When regression analysis was used to "control" for other factors such as age and experience, the initial results suggested that there was no difference in hourly earnings between those with and those without a chronic illness or disability.

However, those with an illness or disability actually in employment are a minority and may be more likely than average to have characteristics that are not measured or included in the analysis that might positively affect their earnings, such as greater ability or determination. When this is taken into account by a statistical procedure aimed at correcting for such "sample selection bias", the results did then suggest an earnings gap between those with and without a hampering illness or disability. The extent to which this reflects discrimination per se rather than genuine differences in productivity would be very difficult to assess even with much more in-depth information on the individuals and their jobs.

This analysis refers to differences in earnings between individuals with the same level of education and previous experience in the workforce. It must be emphasised that illness or disability also has an indirect impact on earnings via its effects on the level of education attained and on years of experience.

7.5 Disability and Poverty

In analysing the relationship between disability and poverty we focused on three indicators of poverty used in recent Irish studies. The first looks at whether the income of the household falls below 60% of median income, termed in the EU Social Inclusion process as being "at risk of poverty". A second measures enforced basic deprivation, that is, going without key basics like proper meals for lack of money. A third indicator measures "consistent poverty", that is whether someone is both below a relative income threshold and experiencing enforced basic deprivation. Previous studies on poverty using the Living in Ireland Survey presented poverty rates only for households where the reference person had the labour force status "unable to work due to illness or disability", not for all adults with a chronic illness or disability.

About 38% of adults reporting chronic illness or disability in the 2001 Living in Ireland Survey were found to be at risk of poverty; this was more than twice the rate for other adults. Their consistent poverty rate was over 7%, again about twice the figure for those not reporting a chronic illness or disability. There was a pronounced relationship between degree of reported hampering in daily activities and poverty. Almost half those reporting a chronic illness or disability that severely hampered them in their daily activities were at risk of poverty, and about 16% were in consistent poverty. Where the chronic illness or disability hampered the person to some extent, their consistent poverty rate was a good deal lower, but still about twice that for those with no chronic illness or disability. On the other hand, those with an illness or disability that did not hamper them at all had the same rates of poverty as persons not reporting illness or disability.

The number in the household at work and the extent of social welfare dependence were found to play a crucial, interlinked role in determining poverty risk. For ill or disabled persons under 65 years of age, being at risk of poverty was generally associated with there being no-one in the household at work. For those aged 65 or over, the number at work in the household was less important but still had a role to play. The other side of the same coin was dependence on social welfare payments: among those with a long-term illness or disability and in households below the 60% of median income threshold (the "at risk of poverty" threshold), only 10% of household income came from work and most of the rest came from social welfare payments.

Over the period from 1994 to 2001, the percentage of adults with a chronic illness or disability at risk of poverty rose sharply, from 21% to 38%, at a time when the incidence of poverty risk for other adults was stable at about 17%. There was a marginal decline in consistent poverty for those with a chronic illness or disability, whereas other adults saw their consistent poverty rate fall by half. This was linked to the extent to which the ill or disabled rely on social welfare payments as a source of income, since social welfare payment rates rose faster than prices but lagged behind the very rapid pace of increase in incomes from work over the period.

More formal statistical analysis of the relationship between chronic illness or disability and poverty, controlling for other characteristics, identified lower and upper bounds for the estimated impact, reflecting whether educational attainment and current employment – which are both influenced by illness or disability – were controlled for in the models. This analysis suggested that the predicted risk of poverty was between 11 and 22 percentage points higher where the individual had a severely hampering chronic illness or disability, and between 5 and 12 percentage points higher where he or she was hampered to some extent. In terms of consistent poverty, a severely hampering illness or disability was associated with a poverty incidence between 6 and 13 percentage points higher, while an illness or disability that hampered to some extent had a predicted rate 2-4 percentage points higher. Overall, when other influences such as age were accounted for, people hampered severely by their illness or disability had a consistent poverty rate which was five times that of people with no illness or disability.

7.6 Disability and Social Participation

The impact of chronic illness or disability on broader aspects of participation in the life of the community was also explored using limited but useful information on that area obtained in the Living in Ireland Survey. The available indicators covered whether the respondent was a member of a club or organisation, how often he or she talked to neighbours, how often he or she met friends or relatives (living outside the household), whether he or she had an afternoon or evening out in the last fortnight that cost money, and whether he or she intended to vote in the next general election.

Analysis of these responses showed that those with a chronic illness or disability that hampered them severely in their daily activities were much less likely than others to be a member of a club or association, to talk to their neighbours most days, to meet friends or relatives most days, or to have had an afternoon or evening out for entertainment in the last fortnight, and also slightly less likely to say they would vote in a general election. For those with a chronic illness or disability that hampered them only "to some extent" the picture was more mixed: they had a below-average percentage in clubs/associations and were also less likely than average to have had an afternoon or evening out in the last fortnight, but in terms of frequency of contact with neighbours, relatives or friends and voting intentions looked little different to those with no illness or disability. Those with chronic illness or disability that did not hamper them at all were indistinguishable from those with no chronic illness or disability on these indicators.

Regression models were estimated in order to control for differences between the groups being compared in terms of, for example, age and gender, which could affect their levels of social participation (the measure of intention to vote was omitted at this stage). The results showed that having controlled for those other characteristics, the presence of a severely hampering chronic illness or disability significantly reduced the probability of participation in terms of club membership, frequency of contact with neighbours and with friends or relatives, and having an evening out. The presence of an illness or disability that hampered the individual to some extent was now seen to also be associated with a reduced level of participation on all of the indicators, although the scale of the estimated impact was a good deal less than for severely hampering illness or disability. Individuals reporting chronic illness or disability that did not affect them in their daily activities had predicted participation similar to someone without an illness or disability.

7.7 Building on the Research

This study, as well as illuminating the extent and nature of the impact of illness or disability on key aspects of participation in Irish society by exploiting existing datasets, should serve to build the foundation for future research which will be able to exploit other emerging or anticipated datasets. The 2002 Census of Population included a range of questions about disability, as described in Chapter 2, and anonymised samples just becoming available from the Census will allow the relationship between disability and such key areas as education and labour force participation to be analysed in greater depth. The Census does not however include information about earnings, household income, deprivation, or social participation. Furthermore, a national disability prevalence and impact survey following up on the next Census of Population scheduled for 2006 has the potential to produce a wealth of new data and a much more complete picture of levels of participation and the barriers to full participation by people with disabilities in Irish society.

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APPENDIX: SURVEY QUESTIONS ON DISABILITY

Questions on Disability in Living in Ireland Survey:

"Do you have any chronic, physical or mental health problem, illness or disability?"

"What is the nature of this illness or disability?"

"Since when have you had this illness or disability?"

"Are you hampered in your daily activities by this physical or mental health problem, illness or disability?"

Interviewer to note whether the respondent is usually confined to bed, wheelchair user, other mobility problems, no mobility problems

Questions on Disability in QNHS Survey:

"Do you have any longstanding health problem or disability?"

"Which of the following categories would best describe your health condition?"

1. Problems with arms or hands (which include arthritis or rheumatism)
2. Problems with legs or feet (which include arthritis or rheumatism)
3. Problems with back or neck (which include arthritis or rheumatism)
4. Difficulty with seeing
5. Difficulty with hearing
6. Speech impediment
7. Skin conditions (including disfigurement or allergies)
8. Chest or breathing problems (including asthma or bronchitis)
9. Heart, blood pressure or circulation problems
10. Stomach, liver, kidney or digestive problems
11. Diabetes
12. Epilepsy
13. Mental, nervous or emotional problems

14. Other progressive illnesses (including cancers, MS, HIV, Parkinson's disease etc.)
15. Other longstanding health problems
16. Refusal

"Does (would) your health condition or disability restrict the kind of work that you can (could) do?"

1. Yes, considerably
2. Yes, to some extent
3. No

"Does (would) your health condition or disability restrict the amount of work that you can (could) do?"

1. Yes, considerably
2. Yes, to some extent
3. No

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