Educational and Employment Experiences of People with a Disability in Ireland: An Analysis of the National Disability Survey

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Glossary

ADHD	Attention Deficit Hyperactivity Disorder
AME	Average Marginal Effect
ASD	Autistic Spectrum Disorder
BMW	Border Midlands West
BTEI	Back to Education Initiative
CSO	Central Statistics Office
DARE	Disability Access Route to Education
DES	Department of Education and Skills
EPMH	Emotional, Psychological and Mental Health
EPSEN	Education for Persons with Special Educational Needs
ETBs	Education and Training Boards
EU-SILC	European Union, using Survey of Income and Living Conditions
GAM	General Allocation Model
GP	General Practitioner
HSE	Health Service Executive
NCSE	National Council for Special Education
NDA	National Disability Authority
NDS	National Disability Survey
NLN	National Learning Network
OLS	Ordinary Least Squares
PAS	Personal Advocacy Service
PLC	Post Leaving Certificate
QNHS	Quarterly National Household Survey
SEN	Special Educational Needs
VECs	Vocational Education Committees
WHO	World Health Organisation
WSS	Wage Subsidy Scheme

Executive Summary

BACKGROUND

Employment is a crucial issue for people with a disability because it has a strong bearing on their economic well-being. People with a disability are more likely than the general population to be poor and depend on social welfare payments for their income. An important reason for their economic disadvantage is the difficulty they have in gaining employment or retaining employment. For policy makers to help improve well-being of people with a disability, it is vital that they understand the factors that help or hinder people with a disability who wish to gain employment, including the extent to which education plays a role in that process.

To help address some of these questions, this report draws on the rich data from the National Disability Survey (NDS) to examine the education and employment circumstances of people with a disability in Ireland. The NDS is a unique resource because of its large sample size and the in-depth information it contains. It allows us to examine how access to services or aids might have an impact on the capacity of disabled people to take up employment. Having examined these issues, we consider how policies may help address the barriers to employment identified in the analysis.

DATA AND METHODS USED

The study drew on the 2006 National Disability Survey (NDS), which included over 7,000 people of working age with a disability. The NDS contains detailed information about nine different types of disability (seeing, hearing, speech, mobility and dexterity, remembering and concentrating, intellectual or learning, emotional, psychological and mental health, pain and breathing) and on several aspects of the person's life, including whether they were affected by their disability while in school or college or later, their work situation and their need for services and supports. We used statistical models to examine the impact of disability on educational and labour market experiences and outcomes, taking other socioeconomic factors into account where possible (e.g. type of disability, age group, gender, marital status and region).

DISABILITY AND EDUCATION

It is widely recognised that education has a key influence on life chances including job prospects, earnings and risk of poverty. Research shows, however, that children with disabilities and special educational needs face considerable barriers in engaging with their school work and their peers in school (Douglas et al., 2012) and are more likely to dislike school (McCoy and Banks 2012). These students are

at risk of poorer academic outcomes (Humphrey et al., 2013), so that they have fewer educational qualifications than non-disabled people when they leave school. This leads to a double disadvantage, where economic prospects are reduced both by disability status and by lower levels of education (NDA 2012).

Most disability is acquired during the life course rather than being present at birth. Consequently, most people with a disability were not yet affected by the disability in their school years. Just 30 per cent of working-age people with a disability were affected by the disability while in education; 17 per cent of them missed some time in school because of their disability and 15 per cent left school sooner than they would have liked. Those with an intellectual or learning disability were far more likely to have been affected during their school years (92 per cent and 80 per cent, respectively).

Because disability can reduce the likelihood of staying in education, people who were already affected by a disability during their school years were less likely to complete second-level education than those whose disability emerged later. The level of educational achievement was even lower for people with intellectual or learning disability. Further detail on this analysis is shown in Chapter 2, Section 2.4.

DISABILITY AND EMPLOYMENT

Most people with a disability have worked in the past or are currently working. While only 29 per cent of our (working age) sample was currently in employment, a further 56 per cent had worked at some point in the past. In addition, nearly half of those not currently in employment said they would be interested in working if the circumstances were right. Men and women with a disability were equally likely to have been in employment at some point in the past and were equally likely to have left employment because of a disability. However, women were more likely to have left for other reasons, so that fewer women with a disability were currently in employment. This analysis is developed in Chapter 3.

Likelihood of Working

We examined how the likelihood of working varied across characteristics of working-age people with a disability. Married men were more likely to work than married women, younger adults more likely than older adults, those with sensory disability more likely than other disability types, those with a moderate level of difficulty more likely than those with greater difficulty, those with good health or stamina more likely than those with health problems, those with higher levels of education more likely than those with less, and those living in Dublin more likely than those living elsewhere.

One surprising result was that, having taken account of all these characteristics, we found that those who had been affected by their disability during their school years were slightly more likely to be currently at work than those whose disability had emerged later. We had expected that people who had a disability for longer would find it harder to gain employment, but the data indicate a more complex picture. This suggests that people whose disability emerges later in life are likely to face particular challenges in remaining in employment or finding suitable employment.

Interest in Working among Those Not Currently Employed

There was a strong overlap between the characteristics of people currently at work and those who would be interested in work. Of those with a disability and not currently at work, younger adults showed particularly high interest in working. Interest was also higher among adults with third-level education, those with lower levels of difficulty associated with their disability, and among married men. Not surprisingly, the level of current interest in work was higher among those who worked in the past compared to those who never worked.

'Labour Market Exclusion'

We use the term 'labour market exclusion' to refer to the situation of those who have never been in employment or have left a job because of a disability. This group is of particular concern for policy makers, because of the difficulties they are likely to face in gaining employment. Our results showed that the greatest level of labour market exclusion is experienced by those with bad health, bad stamina or with emotional, psychological and mental health (EPMH) disability. The level of exclusion was lowest among those with third-level education and those with a hearing disability.

Within the group experiencing labour market exclusion, we could identify a subgroup for whom the main challenge was in getting the first job (younger adults, people with intellectual or speech disability, people affected during their school years). Another subgroup suffering exclusion consisted of people who had left work because of their disability: older adults, people with an EPMH disability, pain disability and those with health or stamina problems. These challenges will require different policy responses.

FACTORS FACILITATING EMPLOYMENT

Chapter 4 examines the links between employment of people with a disability and their access to disability-related services and aids. Since the aids and services that people require are specific to their type of disability, we looked separately at groups of people with four major types of disability: mobility and dexterity, EPMH,

pain and intellectual disability. Nearly nine out of ten working-age people with a disability has at least one of these types of disability.

The services that were most frequently used by people with disability included physiotherapy (mobility and dexterity), psychiatric and counselling services (EPMH disability), pain management (pain) and psychology services (intellectual disability). The devices identified included walking aids (mobility and dexterity), heated massage or muscle stimulation devices (pain) and educational technology (intellectual disability).

Unmet Needs – Services or Aids

Some people with a disability may require services or aids to make it possible for them to take up employment. Findings show that unmet needs for services or devices may be a barrier to employment, but their significance as a barrier varied by type of disability. We found that unmet needs were associated with non-employment for people with mobility and dexterity disability and those with pain disability, but not for people with EPMH or intellectual disability. This might be because the kinds of services or aids involved differ in terms of their significance in facilitating employment.

Unmet Needs – Working Conditions and Wage Subsidies

We also examined a number of general supports people reported that they needed (or would need) in order to be able to work. These included: flexible work arrangements such as reduced hours (46 per cent); modified job tasks (29 per cent); accessibility modifications (32 per cent); and a wage subsidy (24 per cent). The need for flexible working arrangements was correlated with the need for a wage subsidy.

We looked in more depth at the self-reported need for a wage subsidy because it has implications for public policy in relation to the employment of people with a disability. Findings show that people were more likely to say they needed a wage subsidy if they also reported unmet needs for services or devices; if they had lower levels of education; and if they had a higher level of difficulty associated with the disability. There may be a common factor behind peoples' need for a wage subsidy and the presence of unmet needs: both of these could arise because there are additional costs of disability that are not fully covered by existing supports. The need for a wage subsidy among people with lower levels of education is likely to be linked to their lower average earnings. Further details on this analysis are available in Chapter 4, Section 4.6.

LIMITATIONS OF OUR ANALYSIS DUE TO AVAILABLE DATA

We do not have information about how individuals' circumstances changed over time, or in relation to changes in their disability status. Information on preferences toward working, level of difficulty and the nature of the person's need for services and devices all relate to the same point in time. When modelling these relationships we have tried to disentangle overlapping factors as far as possible. Nevertheless, in the absence of data showing how individuals' situations changed over time, we must be cautious about drawing strong conclusions about which causes were most important in driving the effects we seek to analyse.

POLICY IMPLICATIONS

There are several policy implications arising from the findings in this report. The main ones concern (i) enabling people to remain in education, (ii) life-long education and training, (iii) support services and aids, (iv) the role of the employer, and (v) the need for income support.

Helping People Complete Their Education

Since we know that school engagement is crucial to helping people stay in education, the tendency for students with a disability to dislike school clearly needs to be addressed. A broadening of the curriculum is likely to be helpful, including greater availability of programmes such as the Junior Cycle Schools Programme and Leaving Certificate Applied Programme. The introduction of a Level 2 award under the proposed reform of the Junior Cycle should enhance the school experiences for young people with special needs for whom the traditional Junior Certificate is unsuitable. In addition, access programmes such as Disability Access Route to Education (DARE) could encourage greater numbers of these students to pursue education beyond second level.

In order to better understand the role played by factors such as stigma, health, stamina, accessibility and the suitability of the curriculum, further research is needed. The in-depth information on the lives of children available in the *Growing Up in Ireland* Survey offers an opportunity to investigate these issues further.

Adult Education and Training

The issue of adult education and training is likely to be important, both for people with early-onset and later-onset disability, though for slightly different reasons. Adult education is important to people with early-onset disability because this group tends to have left school with a lower level of qualifications than those whose disability does not emerge until later in life. Among those with later onset

disability, the high proportion leaving a job because of their disability suggests that at least a proportion of this group will need retraining for a different line of work. The recent focus by the National Council for Special Education on the needs of adult learners with a disability is likely to be very important in this regard (DES 2012).

Employment Support Services

The findings reported here from the National Disability Survey were based on data collected in 2006, before the start of the recession. The challenge of finding the first job is likely to be particularly acute for people with a disability in the context of the current high youth unemployment. The employment support services which are now the responsibility of the Department of Social Protection are likely to be especially important to this group.

Employers and Working Conditions

The results in Chapter 4 suggest that flexible working conditions, such as reduced hours, are important in enabling people with a disability to take up employment. Other requirements include modified job tasks or accessibility-related aids for people with mobility and dexterity or pain disability. There is clearly a role for employers here. Policy makers can facilitate this process by providing information on international models of good practice in making reasonable accommodation to support people with disabilities in employment. The advantage for employers is a widening of the pool of potential workers from which employers might draw. Public policy can contribute by alleviating some of the perceived risk and uncertainty involved through schemes such as the Wage Subsidy Scheme (WSS) for employers.

Aids, Supports and Services

There is also a role for public policy to act to bridge the gap between the person's required level of income and what they are able to earn. Some form of supplemental income is likely to be particularly important to people with lower levels of education.

People reporting that they need financial support are also more prone to report the need for disability-specific services and aids. Whether the issue of unmet needs for services or supports is best addressed through direct provision of these services and devices or through financial support to people with a disability (which may take the form of a wage subsidy) remains an open question. Providing a financial supplement can be enabling, in that it gives people some choice, control and influence over the service provider. However, this also depends on the availability of high quality services and devices in the market at an affordable cost.

Chapter 1

Introduction

1.1 INTRODUCTION

The focus of this report is on the barriers and facilitators to employment experienced by people with a disability at different life stages. The 2004 National Disability Strategy sets out a programme of co-ordinated actions across government departments to support the equal participation of people with a disability in Irish society. Participation in employment is one particularly important area. This research provides new information to inform the further development of policy on this topic.

It is widely recognised that being in employment plays a crucial role in preventing poverty and in enabling poor households to move out of poverty (ILO, 2005; Caputo, 1991; OECD 1998, 2004, 2009). However, Irish and international research consistently shows that people with a disability are less likely to participate in the labour market and when they do so, are more likely to be unemployed. In explaining these labour market patterns, it is important to note that education plays a role: children and young people with disabilities also face considerable barriers in engaging in school (Douglas et al., 2012) and are more likely to be 'at risk' academically compared to their peers (Humphrey et al., 2013). Since the risk of poverty is higher for people with a disability (Gannon and Nolan, 2005), strategies to address their levels of income and resources are of particular significance for them. We draw on the research microdata file from the National Disability Survey to address the following research questions:

1. How many people with a disability were affected while still in school and either left before they would have liked or experienced significant absences? What are the barriers and facilitators to people with a disability remaining in the educational system?
2. How significant is early-onset (during school years) disability in limiting people's participation in employment? Given that most disability is acquired during the life course, what are the barriers and facilitators to people remaining in employment after the onset of disability?
3. What are the factors that facilitate, or would facilitate, people with a disability in participating in employment? What role is played by aids or services specific to each type of disability? How does the requirement for

aids and ease of access to them differ by socioeconomic factors such as age group, level of education, social support and type of disability?

This study focuses on working-age (age 18 to 64) adults with a disability. It adds to previous research by bringing together the data on educational and work experience in order to inform policy in both these areas. This will fill gaps in our existing knowledge regarding the factors influencing the skills/competencies which people with a disability bring to the labour market, and those which influence access to the labour market.

In this chapter, we examine what we have learned from existing research about the experiences of people with a disability in the labour market and in the educational system and the consequences for them. We then provide an overview of disability policy and services in Ireland before describing the data and methodology in this report. We end this chapter with an outline of how the analysis is organised in subsequent chapters.

1.2 EXISTING RESEARCH

1.2.1 Disability and Labour Market Outcomes

Existing research in Ireland and internationally has shown that people with a disability are less likely to participate in the labour market and when they do so, are more likely to be unemployed. Figures from the Central Statistics Office's 2010 Quarterly National Household Survey (QNHS) show that 36 per cent of working-age people with a disability participated in the labour market in 2010 compared to 77 per cent of those without a disability and 22 per cent were unemployed, compared to 16 per cent of those without a disability (Watson et al., 2013). When they are employed, people with a disability are more likely to be working part-time (Greve, 2009; Watson et al., 2013). There is also a substantial demand for employment among working-age people with a disability who are not in a job at present: results from the 2006 National Disability Survey indicate that over one-third (37 per cent) would be interested in work if the circumstances were right (CSO, 2010, Table 2.19; Watson and Nolan, 2011).

Drawing on the 2006 National Disability Survey, Watson and Nolan (2011) highlighted a number of factors which would enable people with disability to gain employment including: flexible work arrangements, modified job tasks and a wage subsidy. A wage subsidy or equivalent welfare transfer may be required if equal access to employment is to be achieved, particularly in light of evidence which shows that the earnings of people with a disability are typically lower than average (Gannon and Nolan, 2004) and that there are substantial costs associated with the disability itself (Cullinan et al., 2011). Other issues related to accessibility have been identified such as accessible transport; appropriate lift and parking; accessible buildings and modified workstations; accessible toilets; and handrails

or ramps. Human support, technical aids and communication aids are also identified as enabling employment. Structurally, this research points to elements in work organisation in enabling people with a disability to work, particularly given the greater numbers of adults with a disability working part-time hours compared to the general population.

Statistics from the European Union, using Survey of Income and Living Conditions (EU-SILC) data for 2007, suggest that labour market participation by people with a disability in Europe is about 20 per cent lower than for the general population (Eichhorst et al., 2010, p. 7). Care is needed in interpreting differences between survey findings cross-nationally. There is a great deal of variability across countries in the prevalence of disability, even when a harmonised measure is used (Gannon and Nolan, 2004; Applica, CESEP and Alphametrics, 2007; Eichhorst et al., 2010). Part of this variation may be associated with the use of different thresholds by people in each country in deciding whether to describe themselves as being limited in their activities. Adopting different thresholds may be associated with the desire to work, concern with stigmatisation, eligibility for benefits or cultural understandings of disability (Eichhorst et al., 2010, p. 17). Differences in benefit structures and cultural understandings of disability will also affect international comparisons. Even within a country, there may be similar differences between groups that affect the measured prevalence of disability. For instance, Applica, CESEP and Alphametrics (2007, p. 145) suggest that older adults, adults at work and married adults tend to use higher thresholds (i.e. are less likely to report having a disability) than younger adults, those outside the labour market and those who are single, divorced or separated.

Based on EU-SILC data for 2009, the percentage of people reporting activity limitations was highest in Finland (24.8 per cent), was also well above average in Germany, Denmark and the Netherlands (23 to 24 per cent) and was below 10 per cent in Greece, Malta, Bulgaria and Cyprus (Grammenos, 2011).

If countries differ in the threshold adopted, and in some countries less severe activity limitations are included, we might expect a positive relationship between prevalence of activity limitation and the employment rate of people whose activities are limited. This is because the prevalence will be higher if people with less severe activity limitations are included and these people are more likely to be employed. Figures reported in Watson et al. (2013, Figure 1.1) suggest that this is indeed the case: countries reporting lower rates of activity limitation in 2009 tend to have lower rates of employment for those whose activities are limited. Despite these difficulties in comparing across countries, there is evidence that participation in employment by people with a disability in Ireland is lower than elsewhere in Europe. In Ireland, the prevalence of activity limitation was towards the middle of the range across Europe, but the percentage of people with an

activity limitation who are employed in Ireland is among the lowest. This suggests that, even if we take account of cultural differences in the understanding of activity limitation, the employment rate of people with a disability is low in Ireland by European standards. The impact of the recession is likely to have reduced the employment rate among people with a disability even further as their unemployment levels soared in line with the general rise in unemployment (Watson et al., 2010).

1.2.2 Disability and Education

Internationally and in Ireland, the adoption of inclusive education frameworks have been broadly welcomed. The most notable impact of this shift in policy is that children with disabilities and special educational needs (SEN)[1] are increasingly educated alongside their peers in mainstream schools. As the profile of mainstream education changes, research has sought to establish the number of children with special educational needs and examine the nature and profile of this group of students. In line with prevalence estimates internationally (Van der Veen et al., 2010; Hills et al., 2010), findings in Ireland for 2007-2008 show that one-in-four children have special educational needs. In terms of social profile, children from disadvantaged backgrounds, particularly boys, are more likely to be identified with special educational need in schools (Banks and McCoy 2011).

It is widely recognised that education is a key influence on life chances including job prospects, earnings and risk of poverty. Research shows, however, that children with disabilities and special educational needs face considerable barriers in engaging in school (Douglas et al., 2012) and are more likely to dislike school (McCoy and Banks 2012). Academically, these students are greatly at risk of poorer academic outcomes (Humphrey et al., 2013). People with disabilities have fewer education qualifications than non-disabled people when they leave school. This leads to a double disadvantage, where economic prospects are reduced both by disability status and by lower levels of education (NDA 2012). As a result, research consistently shows that young people with disabilities have poorer post-school outcomes (e.g. independent living, employment and attendance in further education) compared to their non-disabled peers (Bouck 2012).

Until recently, our knowledge of the school experiences for children and young people with disabilities in Ireland has been limited. In recent years, research has highlighted, however, that children with disabilities/SEN in mainstream schools are more likely to report not liking school than their peers (McCoy and Banks, 2012). School engagement is accepted as a key factor in student retention at school and school completion. Other studies have highlighted that the majority of students with disabilities/SEN do not require specific supports to follow the

[1] Hereinafter referred to as disabilities/SEN.

curriculum or take exams (Banks et al., 2015) but where they do they generally require additional personnel such as special needs assistants. Although supports are essential for some students with disabilities/SEN, Banks et al., (2015) point to the importance of school climate and ethos in creating an inclusive environment in supporting students with disabilities/SEN (amongst other students) as they navigate the education system. In particular, this research highlights the increased level of difficulty for students with disabilities/SEN in post-primary education where there is a greater exam focus.

Figures from 2004 and 2010 for Ireland confirm that though there have been improvements in levels of education generally, the levels of education remain lower for people with a disability. In 2010, the percentages completing second-level or Post Leaving Certificate (PLC) education had increased to 29 per cent among people with a disability from 25 per cent in 2004, and the percentage completing third-level education had increased to 19 per cent from 12 per cent. However, the percentage completing third-level education remained at about half the corresponding figure among people without a disability (38 per cent) (Watson et al., 2013, p. 15).

1.2.3 Consequences of Educational and Labour Market Disadvantage

The consequences of educational and labour market disadvantage are a high level of dependence on social transfers and increased risk of poverty and material deprivation. Analyses by Watson and Maître (2013) showed that adults with a disability in 2011 depended on social transfers for just over half of their income. In the same year, the income poverty rate among people with a disability was 45 per cent compared to 13 per cent of people without a disability. Basic deprivation is an indicator that captures an ability to afford basic goods and services such as food, clothing, home heating, furniture and a basic social life. The level of basic deprivation had increased across the board as a result of the recession and in 2011 it was 39 per cent among people with a disability and 24 per cent among those without a disability (McGinnity et al., 2013).

1.3 AN OVERVIEW OF DISABILITY POLICY AND LEGISLATION

1.3.1 The Focus of Disability Policy

Policy with respect to people with disabilities in Ireland has moved from a medical model that emphasised disability as a health issue to a ‘mainstreaming’ social model. This social model involves a shift away from segregated disability services towards the provision of individualised supports to remove barriers to participation in society. Policy now places emphasis on the independence and self-determination of people with a disability and is concerned with the range of supports and services required.

Disability policy is broad in scope and includes equality legislation as well a range of services and supports provided by state and non-governmental organisations. A key element of current policy is the 2004 *National Disability Strategy* which set out a programme of co-ordinated actions across government departments to support the equal participation of people with a disability in Irish society. This was to be achieved through a combination of legislation, institutional arrangements and services to support and reinforce equal participation for people with disabilities. The main legislative instruments resulting from the strategy have been the following:

- The Disability Act 2005 established a statutory basis for an independent assessment of health and social service needs for people with a disability. Part V of the Act sets a 3 per cent target of employees with disabilities for government departments, public bodies and their agencies. The Act includes a series of sectoral plans in relation to the provision of services for people with specified disabilities.
- The Education for Persons with Special Educational Needs (EPSEN) Act 2004 made provision for the education of people with special educational needs.
- The Citizens Information Act 2007 included a commitment to implement a Personal Advocacy Service (PAS) for people with a disability.

1.3.2 Equality Legislation

Equality legislation covers employment and the provision of goods and services. The *Employment Equality Acts 1998–2011* prohibit employers from discriminating against a person because they have a disability. The Acts state that the employer shall take appropriate measures, where needed in a particular case, to enable a person who has a disability to have access to employment, to participate or advance in employment and to undergo training. The employer is obliged to take these measures, unless they would impose a disproportionate burden on the employer.

The *Equal Status Acts 2000–2011* require public and private providers of goods and services not to discriminate on the basis of disability and to accommodate the needs of people with disabilities through making reasonable changes in what they do and how they do it (provided the cost is no more than nominal), where, without these changes, it would be very difficult or impossible for people with disabilities to obtain those goods or services.

1.3.3 Services for People with a Disability

Responsibility for services for people with a disability is shared across a range of government departments. The Department of Justice and Equality is currently

responsible for equality legislation. The Department of Social Protection provides social insurance payments to people with disabilities, as well as administering the Supported Employment Scheme and other work schemes. The Department of Health is responsible for policy related to the provision of services, including day services.

The Health Service Executive (HSE) is responsible for and provides a range of services for people with intellectual, physical and sensory disabilities or autism. These services include basic health services as well as assessment, rehabilitation, income maintenance, community care and residential care.

In recent years the National Council for Special Education (NCSE) has taken over responsibility from the Department of Education and Skills for allocating resources for students with disabilities/SEN in mainstream schools. To date a combination of funding models has been used which includes school- and individual student-level funding depending on the severity of needs of the student. Up to 2005 the Department of Education and Skills individually resourced all students with disabilities/SEN through an individual application system. In that year, the general allocation model (GAM) was introduced at school level to target students with disabilities categorised as 'high incidence' (borderline-mild general learning disabilities and specific learning disabilities such as dyslexia). The introduction of block grant funding to schools significantly reduced the administrative burden on the Department of Education and Skills at the time and coincided with new legislation (under the Education for Persons with Special Educational Needs (EPSEN) Act, 2004) which specified for the first time that, where possible, students with disabilities/SEN should be educated alongside their peers in mainstream settings. In 2012, a similar model was introduced at post-primary by the NCSE who, by that time, had taken over responsibility for resourcing students with disabilities/SEN at primary and post-primary. Operating alongside the throughput models at both primary and post-primary however, the resource model remains for students with 'low incidence' or less common disabilities, in respect of whom the school is individually allocated funding based on the nature and type of disability. In 2013 however the Minster for Education formed a working group to evaluate the existing funding models for special education.

In 2014, the NCSE published proposals to completely revise the current method of funding allocation for students with SEN. The NCSE working group report, '*Delivery for students with special educational needs - a better and more equitable way'*, proposed a new resource teacher model which would replace the current GAM structure of funding. Under the proposed new model, parents would no longer need to get a diagnosis for their children to be able to access additional resources and there will be greater emphasis on monitoring

educational outcomes. The group proposed that resource teachers be allocated based on two components; school educational profile, and a baseline component provided to every mainstream school to support inclusion, prevention of learning difficulties, and early intervention. The school educational profile would be based on three elements: students with complex special educational needs, percentages of students performing below a certain threshold on standardised test results, and the social context of a school including gender (NCSE, 2014).

On leaving school there are a range of services available for young people with disabilities wishing to enter the labour market or further education and training. These include employment support provided by the Department of Social Protection for people with disabilities to facilitate labour market entry and retention through its local employment service offices and Intreo centres. For those with a disability who need assistance finding a job or taking up paid employment, a service known as 'EmployAbility' (formerly the Supported Employment Service) provides supports and services. Services include 'on-the-job' supports such as a job coach and are provided by sponsor organisations on behalf of the Department of Social Protection.

For those wishing to pursue further education or training after school, SOLAS is the organisation responsible, and many of its programmes operate through the newly established Education and Training Boards (ETBs) which replaced Vocational Education Committees (VECs). Students with disabilities can avail of Back to Education Initiative (BTEI) which provides part-time options in further education programmes. Training programmes are also available for people with disabilities by specialist training providers such as the National Learning Network (NLN) (DES 2012). The NCSE is 'mapping' adult education for learners with disabilities and recently commissioned a literature and country review of what works best in the education and training of adults with disabilities (DES 2012).

The Department of Health also provides rehabilitative training (training that is not linked to the labour force) and sheltered work for people with disabilities. Responsibility for the delivery of these services rests with the Health Service Executive (HSE). Rehabilitative training and sheltered work is provided largely in accredited training centres that are run by the HSE or by service providers contracted by the HSE and designated sheltered workshops. This type of training focuses on the development of life skills, social skills and basic work skills with the objective of enhancing the trainee's quality of life and general work capacity. The aim of sheltered work for people with disabilities is to give them the opportunity to take part in work in a sheltered setting where they receive personal support services.

1.3.4 Non-Governmental Organisations Providing Services

Most disability services in Ireland are provided by the voluntary or non-profit sector with grant aid from the HSE. In 2009 a total of 280 service providers/ agencies were funded by the HSE to provide services, or received grants towards the cost of their services (Keogh, 2011). The sector is extremely diverse, ranging from small single-focus groups to large organisations employing several hundreds of people. Disability services cover a wide range of provision, including residential and respite services, medical and clinical therapies, day services, work and employment services, assisted living/personal assistant services, home support and the provision of aids and appliances. Information, advocacy and support services are often provided by agencies or bodies with expertise in particular conditions. There are approximately 72 medium to large non-statutory service providers each receiving over €1 million in funding (Keogh, 2011).

1.4.4 Income Supports

Income supports for people with a disability are administered by the Department of Social Protection. The main long-term weekly benefits are Disability Allowance and Invalidity Pension. Both are long-term payments available to people up to the age of 65 who qualify on disability grounds. Disability Allowance is a means tested social assistance payment while Invalidity Pension is not means tested but is linked to past social insurance contributions. The Occupational Injuries Benefit Scheme is another set of payments that applies to work related injuries and illnesses.

The traditional income support model for people with a disability assumed that they would not be able to work at all. In recent years, however, there has been an increasing move towards the use of income supports to enable people with a disability to find or remain in employment. The Partial Capacity Benefit (PCB) is available to people who have been receiving a disability-related social protection payment for at least six months. It enables a person who has a reduced capacity to work (assessed by Medical Assessors of the Department) to return to work or self-employment and continue to receive a payment from the Department of Social Protection. Individuals may return to Invalidity Pension if, for example, their employment ceases or they cannot continue to work.

For those in receipt of Disability Allowance, if the employment is considered to be of a rehabilitative nature, there is an earnings disregard available. The first €120 of earnings is disregarded and 50 per cent of earnings between €120 and €350 is disregarded in the calculation of means for purposes of determining the amount to be paid.

In recognition of the fact that some disabilities may reduce the productivity of an employee, there is a Wage Subsidy Scheme that offers financial support for employers who employ certain people with disabilities on a full-time basis (21 hours or more). This enables the employer to make up a shortfall in productivity that may arise from some types of disability. The employee in respect of whom the grant assistance is claimed is entitled to the same conditions of employment as other employees.

1.4 DATA AND METHODOLOGY OF THIS REPORT

1.4.1 The National Disability Survey

This report builds on the existing studies to address the research questions outlined at the beginning of this chapter. The data for the research come from the 2006 National Disability Survey (NDS), with key variables matched onto the NDS data file from Census 2006. The NDS was a landmark in terms of in-depth information about people with disabilities in Ireland and provides a basis for the examination of the living and working circumstances and needs of people with disabilities (CSO 2008, 2010). The survey was designed as a follow-up to the 2006 Census and includes 12,661 people with a disability. The model of disability underlying the NDS is the 'biopsychosocial model' advocated by the World Health Organisation (WHO, 2001). In this model, disability is understood in terms of how the individual interacts with the physical and social environment (NESC, 2009). In other words, in order to understand what people are able to do, we need to take account of the resources available to them and the barriers placed before them in their environment as well as their own physical, mental and emotional resources. Accordingly, in the National Disability Survey, information is gathered both on the person's condition, on the environment in which they live and the implications of both for their capacity to participate in education, employment, family, social and political life. In order to be considered as having a disability, the condition must limit the person's capacity to act in some way. For most of the types of disability covered in the survey, the person is considered as having a disability if the condition limited them at least 'a moderate amount'. In the case of emotional, psychological and mental health (EPMH) disability, and learning or intellectual disability, the person is regarded as having a disability if the condition limits them even 'just a little'. This was done in order to be as inclusive as possible in recording these types of disability where stigma may discourage people from acknowledging the presence of the condition or difficulty.

The present study focuses on working-age people with a disability, defined as those aged 18 to 64, living in private households and excluding students under age 30. There are 7,205 cases of this type in the National Disability Survey. The questionnaire gathered information in detail on several aspects of the person's life relevant to disability, including whether they were affected while in school or

college, their work situation and their need for services and supports. The main relevant questions from the NDS are shown in Appendix Table A1.1.

The NDS contains detailed information about nine different types of disability (seeing, hearing, speech, mobility and dexterity, remembering and concentrating, intellectual or learning, EPMH, pain and breathing). Most people with a disability have more than one type, with the average being 2.6 of these different types (CSO, 2008, p. 15). In the analysis in Chapters 2 and 3 we include an indicator of the person's main disability type. The 'main disability' is based on asking people with more than one of the nine different types of disability which they considered to be the main one. In the analysis reported here, we also distinguish between people with learning disability (such as dyslexia) *only* or ADHD *only* and those whose main disability includes an intellectual disability or autistic spectrum disorder, as shown in Table 1.1. We anticipate that the distinction may be important in terms of educational and labour market outcomes. Although ADHD and learning disability are distinct from one another, there are too few cases to separate those with each of these *only* (i.e. in the absence of intellectual disability).

TABLE 1.1 Distinguishing Between Learning and Intellectual Disability

	% of Total with Learning or Intellectual Disability %	N cases
1. Intellectual disability only	19	282
2. Autism or Autistic Spectrum Disorder only	<3	<50
3. Intellectual and ASD disability	4	51
4. Learning disability or ADHD only	22	307
5. Learning/ADHD and Intellectual disability	32	479
6. Learning/ADHD and ASD disability	<3	<50
7. Learning/ADHD and Intellectual and ASD disability	20	328
Total	100	1,485
Learning Disability or ADHD (4)	21.9	307
Intellectual disability or Autism Spectrum Disorder (1,2,3,5,6,or 7)	78.1	1,178

Source: National Disability Survey 2006, analysis by authors.
Note: People with a disability age 18-64.

About 22 per cent of working-age people with a learning or intellectual disability have a learning disability or ADHD only and do not also have an intellectual disability or autistic spectrum disorder (ASD), as shown in Table 1.1. The remainder have either an intellectual disability or, more rarely, autistic spectrum disorder. Many of the latter also have difficulty when it comes to learning new things.

In Chapter 4 we conduct separate analyses for subgroups of people with each of four major disability types (mobility and dexterity; emotional, psychological and mental health; pain and intellectual disability). For the purpose of the subgroup analyses, we include all persons with each type of disability, not just those identifying that type and their main disability.

Box 1 A Note on Imputation of Missing Information

Approximately 18 per cent of working-age people with a disability were not asked certain employment questions because of a routing problem following the question on whether they were affected by disability before age 65 (variable s701_age). The answer should be yes in all cases where the person with a disability is under age 64, but some answered 'no', and were routed out of the employment questions.

We have been able to use other information (such as main economic status from the Census) to impute key variables such as whether the person ever worked and their status with respect to being at work, interested in work or not interested in work. These key variables have been imputed for all but about 6 per cent of the relevant sample. Present status from the census was used to identify those currently at work; those describing themselves as unemployed were treated as interested in work. If the person was seeking their first job, they were presumed not to have worked in the past while those describing themselves as retired were presumed to have worked in the past and to be 'not interested' in a job.

Of the 6 per cent still 'missing' on the variable for whether they were interested in work, 34 per cent describe their main status as 'looking after home and family and 58 percent have a main status 'unable to work because of illness or disability'. It seems likely, therefore, that the majority of this group would not be interested in work, at least in the short term.

This also affects the analysis in Chapter 4 on general requirements the person has in order to be able to work, such as a wage subsidy or flexible working arrangements. Those answering that they were not affected by their disability before the age of 65 were also routed out of this set of items, even though they might have been under age 65 at the time of the interview. The percentage missing on the work requirement items was higher for those at work (34 per cent), those with hearing disability (35 per cent) and those with third-level education (23 per cent). It is likely that this group is less limited (or consider themselves less limited) by their disability, so they are probably less likely to require special services or modifications in order to take up employment.

1.4.2 Analysis Methodology

As well as tabular analysis of the NDS using weighted data and testing for significance where appropriate, we go beyond a description of people's circumstances to identify the factors that are most important in facilitating or hindering the participation of people with a disability. We do this by conducting a statistical analysis of the individual-level information on people with a disability.

The statistical analysis allows us to take account of individual differences (such as in gender, age, type and severity of disability, and age of onset) in addressing the research questions.

As part of this analysis, we consider the factors associated with different levels of self-reported needs and unmet needs for aids specific to each type of disability. The goal here is twofold: (a) to assess the extent to which non-employment is associated with unmet needs for aids and (b) to assess the extent to which other individual resources (such as education) are associated with being able to obtain the required aids. Since most of the aids are specific to one type of disability, we examine these by counting the number used and the number lacked.

The purpose of the statistical models is to disentangle the influences of different related factors. For instance, people who have a disability during their school years may leave school sooner. The statistical model allows us to separate the impact of having a disability from the impact of have a lower level of education. Most of the models deal with outcomes that are categorical, such as whether or not the person was affected by having a disability during their school years. We use logistic regression, a well-established method for carrying out multiple regression analysis on models with categorical outcomes. One disadvantage of this approach is that it is somewhat more difficult to explain the results of logistic regressions than simpler regression techniques. In order to facilitate the interpretation of the results, we use the models to estimate the percentage of people likely to have the characteristic of interest, with other factors held constant. For example, we use the models to calculate the percentage of males and females we would expect to have been influenced while at school, if males and females were similar in terms of their current age, type of disability and region of residence. We refer to these as 'adjusted percentages' to distinguish them from the observed percentages. The adjusted percentage is the percentage we would expect if the other characteristics in the model were held constant.[2]

Because the data refer to a particular point in time, many of the patterns we report are associations and we cannot be certain of the direction of causation. In many instances we can use information on timing to inform insights about the direction. For example, it is reasonable to expect that education was completed before the person made a decision on whether to enter the labour market, for instance, and we know when the person was first affected by the disability. However, when discussing the association between unmet need for services and being outside of employment we are less certain about the direction of causation.

[2] The method used is to estimate the average effect of each variable, assuming the groups had the overall sample characteristics on all other variables. Essentially this involves computing a predicted probability for each case and then averaging the predicted values (Williams, 2012). This is done in Stata software using the 'margins' command to calculate average marginal effects or 'AMEs' (Williams, 2012).

For example, people with a disability who are not in employment may be more likely to report that there are some aids or devices that they need but do not have. This might be because a lack of access to aids and devices acts as a barrier to entering employment, or it might be because people with a disability who are not in employment have more difficulty in affording the aids and devices they need. Our strategy is to control for as many as possible of the potentially confounding factors such as the person's health, stamina and the difficulty associated with the disability – factors which may both increase the need for services and reduce the probability of employment. Nevertheless, in the absence of longitudinal data, caution is needed in drawing inferences about the direction of causation.

1.5 OUTLINE OF REPORT

In the next chapter we focus on the educational experiences of working-age adults with a disability, including the numbers affected by disability during their school or college years and the impact this had on the highest level of education completed.

In Chapter 3 we turn to a consideration of the labour market experiences of people with a disability and the way in which employment status is, in turn, influenced by educational experiences. We examine unmet demand for employment among people with a disability as well as type of exclusion from employment. For some people with a disability, the main challenge is getting into the labour market in the first place, while for others the challenge is to retain the link to employment after onset of a disability.

In Chapter 4 we consider the issue of use of and need for aids and devices specific to each of four major types of disability (mobility and dexterity; emotional, psychological and mental health; pain and intellectual disability). Nearly nine out of ten working-age adults with a disability has one of these types of disability. We examine factors associated with use of these services/aids, unmet need for services/aids and the extent to which an unmet need may be linked to non-participation in employment, controlling for severity of the disability, health, stamina and a range of other factors. We also consider the issue of whether a wage subsidy may be needed in order to enable working-age adults with a disability to participate in employment.

Finally, in Chapter 5, we summarise the results of the analysis and draw out the implications for disability policy.

Chapter 2

Disability and Education

2.1 INTRODUCTION

In this chapter we focus on the first research question, which concerns the extent to which people with a disability were affected by their disability while in school or college. As well as descriptive tables, we present the results of a statistical model to investigate which groups of people with a disability are most likely to have left school sooner than they would have liked and a statistical model to investigate the consequences for educational attainment.

Previous Irish research has shown that people with a disability have lower levels of education than people without a disability, but there is a general increase in levels of education both for people with a disability and for people without a disability over time (Watson et al., 2013). Table 2.1 shows the educational profile of the working-age population by presence of disability in 2004 and 2010. In 2004, 61 per cent of people with a disability had less than full second-level education, compared with 31 per cent of people without a disability; 25 per cent of people with a disability had completed second-level or post-Leaving Certificate (PLC) education, and a further 12 per cent had completed third-level education. In 2010 the percentages completing second-level or PLC education had increased to 29 per cent and the percentage completing third-level education had increased to 19 per cent. The percentage completing third-level education remained less than half the rate of third-level completion among people without a disability (38 per cent) in 2010 (Watson et al., 2013).

TABLE 2.1 Education of People With and Without a Disability

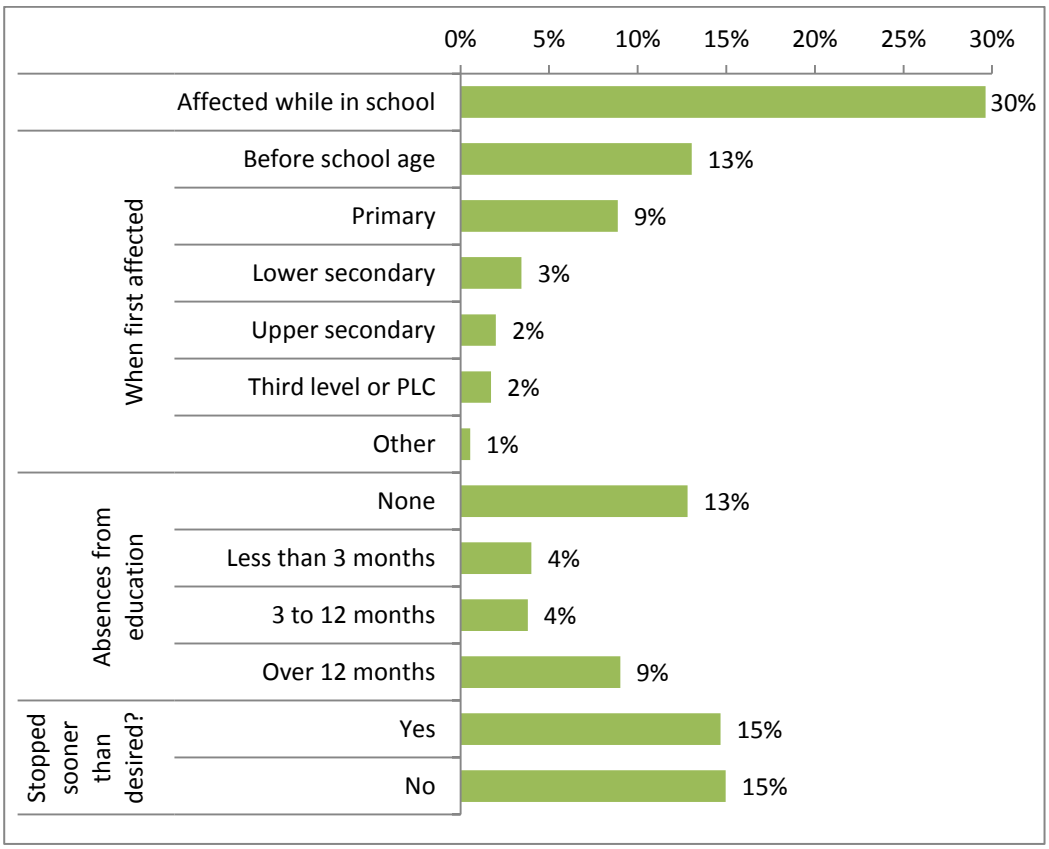
	2004 No Disability %	2004 Has a Disability %	2010 No Disability %	2010 Has a Disability %
Less than full second-level	31	61	22	50
Higher second-level to PLC	36	25	37	29
Third-level	30	12	38	19
Not stated	2	2	3	3
	100	100	100	100

Source: Watson, Kingston and McGinnity, 2013, Figure 2.3, p. 16; data from QNHS Equality Modules.

2.2 PEOPLE AFFECTED BY DISABILITY DURING EDUCATION

We now turn to the National Disability Survey and begin by providing an overview of the proportion of working-age people with a disability who were affected by disability during the time they were in school or college and the impact this had on educational absences and leaving school sooner than desired. Figure 2.1 shows that disability during the school years affected 30 per cent of working-age people with a disability. More than two thirds of these were first affected before starting school or in primary school.

FIGURE 2.1 Whether Affected by Disability while in School, when First Affected, Educational Absences and whether Finished School Sooner than Desired



Source: National Disability Survey 2006, analysis by authors. People with a disability age 18-64.

Over half of those affected during their school years had educational absences over the course of their educational career, with most having absences lasting over 12 months. Expressed as a percentage of working-age people with a disability, this amounts to about one in six who lost some time in school or college because of a disability and nearly one in ten missing a year of more of education.

Fifteen per cent of working-age people with a disability – or half of those affected while still in education – left school sooner than they would have liked because of the disability. These figures show that the impact of disability on education was an important barrier to participation for a minority of working-age people with a disability, with about one in seven leaving school sooner than they would have liked.

Table 2.2 shows the profile of working-age people with a disability (last column) in terms of gender, age group and main type of disability and the percentage of each group affected by their disability during their education.

Turning first to the profile of working-age people with a disability, we see that they are fairly evenly divided between males and females. In terms of age group, more than half are over age 45 but a substantial proportion (nearly one quarter) are under 35. The most common types of main disability are pain (25 per cent), mobility and dexterity (22 per cent) and emotional, psychological and mental health disability (EPMH, 20 per cent). Fewer than one in ten identify each of the following as their main disability: seeing, hearing, speech, remembering and concentrating and breathing disability.

TABLE 2.2 Whether Affected by Disability while in School by Gender, Age Group and Main Type of Disability

		Yes, Affected %	Not Affected %	Total %	% of Population
Gender	Male	31	69	100	51
	Female	28	72	100	49
Age group	18-34	61	39	100	24
	35-44	31	69	100	20
	45-54	23	77	100	25
	55-64	10	90	100	30
Main Disability	Seeing	31	69	100	4
	Hearing	35	65	100	6
	Speech	64	36	100	1
	Mobility and Dexterity	18	82	100	22
	Remembering and Concentrating	43	57	100	4
	Learning disability	80	20	100	1
	Intellectual disability	92	8	100	9
	Emotional, Psychological and Mental Health	33	67	100	20
	Pain	11	89	100	25
	Breathing	20	80	100	8
Total		30	70	100	100

Source: National Disability Survey 2006, analysis by authors. People with a disability age 18-64.

About one per cent of working-age people with a disability identify learning disability as their main type without also having an intellectual disability or an autistic spectrum disorder (ASD). Nine per cent identify intellectual disability or more rarely autistic spectrum disorder as their main disability. This group is made up primarily of people who have an intellectual disability either alone (24 per cent) or combined with difficulty in learning or combined with ASD (75 per cent). Only 1 per cent have ASD but no other intellectual or learning problems.

Working-age men with a disability are slightly more likely than their female counterparts to have been affected by the disability while in school (31 per cent vs. 28 per cent). We know that most disability is acquired over the life-course rather than being present from birth or childhood (Watson and Nolan, 2011). As a result, older people with a disability are more likely to have acquired the disability at some point after leaving school. As we might expect, therefore, the younger working-age people with a disability are more likely to have been affected while in school (61 per cent of 18-34 year olds vs. 10 per cent of those over 55).

People with certain types of main disability are more likely to have been affected by disability while in school, especially intellectual disability (92 per cent), learning disability (80 per cent) and speech disability (64 per cent). The figure is 43 per cent for those whose main disability is remembering and concentrating and 20 per cent of those whose main disability is associated with breathing difficulties. Roughly one-third of those with seeing, hearing or EPMH disability were affected while in education. People whose main disability is pain are least likely to have been affected by it while in education (11 per cent).

Table 2.3 shows some further detail by age group. In spite of the fact that younger adults with a disability are more likely to have been affected while in school, they are also more likely to have completed second-level education. This is, at least in part, due to the general increase in the percentage of young people completing second level which has been rising since the 1960s.

The table also shows the level of difficulty associated with disability. For those with more than one type of disability, the maximum level of difficulty is shown. Across all working-age adults, more than half have a lot of difficulty or have certain things they cannot do at all because of their disability. Adults in the 18-34 age range are less likely than their older counterparts to have a lot of difficulty or to be unable to do certain things: 55 per cent compared to more than 60 per cent for the older age groups. We might expect, therefore, that a higher proportion of this group would be in employment, something we investigate in Chapter 3.

TABLE 2.3 Percentage Completing Second Level and Percentage with Each Level of Difficulty by Age Cohort

		Age 18-34 %	Age 35-44 %	Age 45-54 %	Age 55-64 %
Education	Did not complete second level	50	58	66	76
	Completed second level	50	42	34	24
Total		100	100	100	100
Difficulty	Moderate or a little	45	39	36	33
	A lot or cannot do certain things	55	61	64	67
Total		100	100	100	100

Source: National Disability Survey 2006, analysis by authors.
Note: People with a disability age 18-64.

2.3 MODEL FOR LEAVING SCHOOL SOONER THAN DESIRED

Which groups of working-age people with a disability are most likely to have left school sooner than they would have liked? We answer this question by running two statistical models: one for whether affected while in school and one for leaving school sooner than desired, conditional on being affected while in school. The independent variables are gender, type of disability, current age and region, and level of difficulty associated with the disability. The logit models are shown in Appendix Table A2.1. Table 2.4 shows the adjusted percentage in each group that would have been affected while in school, controlling for other characteristics, and the adjusted percentage (of those affected during the school years) leaving school sooner than they would have liked.[3] The adjusted percentage is the percentage we would expect if the other characteristics in the model were held constant. The adjusted percentage will differ from the overall figures in Table 2.2 to the extent that the compositions of the groups differ. For instance, we saw in Table 2.2 that males are slightly more likely than females to have been affected by the disability during the school years. When we control for type of disability, however, we see that the gender difference is not statistically significant.

Turning first to whether the person was affected by disability during the school years, the adjusted figures are shown in the first column of Table 2.4. As noted above, there is no significant gender difference in this respect when we control for type of disability. In terms of age group, younger adults with a disability are more likely to have been affected while in school, mainly because they have less time post-school in which the disability may emerge. Turning to disability type, we see that those with an intellectual disability (85 per cent) or learning disability (75 per cent) are more likely to have been affected by the disability while in

[3] The method used is to estimate the average effect of each variable, assuming the groups had the overall sample characteristics on all other variables. Essentially this involves computing a predicted percentage for each case and then averaging the predicted percentages (Williams, 2012).

school (with other factors held constant), followed by those with a speech disability (56 per cent). Compared to the reference category of people with a mobility and dexterity disability (adjusted value of 18 per cent affected while in school), the percentage is also significantly higher for those with seeing, hearing, remembering and concentrating and emotional, psychological and mental health disabilities (all in the range from 32 to 39 per cent). The percentage estimated by the model is significantly lower for those with pain disability (at 12 per cent) and is slightly higher for those with breathing disability (24 per cent).

Those with a greater current level of difficulty associated with the disability are more likely to have been affected while in school, with adjusted figures of 40 per cent for those who cannot do some things at all and 30 per cent for those with 'a lot' of difficulty compared to 26 per cent for those with a moderate level of difficulty or 'just a little' difficulty.

TABLE 2.4 Adjusted Percentage Affected During School Years and (of those Affected During School Years) Adjusted Percentage who Left School Sooner Than Desired

		Model 1: Affected in School Years %	Model 2: If affected in School Years, Left Sooner Than Desired %
Gender	Male (Ref.)	*29*	*53*
	Female	n.s.	46
Age	18-29	55	41
	30-44	34	n.s.
	45+ (Ref.)	*21*	*57*
Main disability	Seeing	32	n.s.
	Hearing	38	n.s.
	Speech	56	n.s.
	Mobility and dexterity (Ref).	*18*	*44*
	Remembering and concentrating	40	n.s.
	Learning	75	n.s.
	Intellectual	85	n.s.
	EPMH	33	64
	Pain	12	n.s.
	Breathing	24	n.s.
Difficulty	Moderate or a little (Ref)	*26*	*43*
	A lot	30	54
	Cannot do some things	40	52
Region	Border, Midlands and West	n.s.	n.s.
	Dublin	n.s.	44
	South and East (Ref.)	*29*	*52*

Source: National Disability Survey 2006, analysis by authors. See Appendix Table A2.1 for model odds ratios.

Note: People with a disability age 18-64 (N=7,205) for 'whether affected during school years' and people with a disability who were affected by the disability during school years for 'left sooner than desired' (N=2,173). The reference category for each group is shown in italics. Figures for other categories are shown only if they are statistically significant from the reference category, otherwise "n.s." is shown.

The differences by region are not statistically significant. The Border, Midlands and West (BMW) region does not differ from Dublin or from the South and East in terms of the adjusted percentage affected by the disability during the school years.

The second column in Table 2.4 focuses on whether the person left school sooner than they would have liked. This analysis is conducted on the sample of those who were affected by their disability while in school. The numbers in the table refer to the adjusted percentage of those who were affected during the school years and who left school sooner than desired because of the disability. This is the percentage we would expect if the other characteristics in the model were held constant. Here we do see a significant gender difference, after taking account of current age, type of disability, region and level of difficulty. Males with a disability are more likely than females with a disability to have left school sooner than desired because of the disability (53 per cent and 46 per cent, respectively).

In terms of age, we see that younger adults with a disability who were affected by the disability while in school are less likely than their older counterparts to have left school because of the disability. We need to be cautious in interpreting this pattern. It might reflect a better retention of people with a disability in the education system in recent times than in earlier decades. Alternatively, it may be that less limiting forms of disability are being diagnosed in the younger cohort. The labelling of a child as having a disability might also be related to the availability of school-level funding for children with disabilities, particularly where the funding is specifically linked to the number of children with a disability in the school.

We saw earlier in Table 2.3 that younger adults with a disability are more likely to have completed second-level education. They are also less likely than their older counterparts to have a lot of difficulty arising from disability or to have certain things they cannot do at all. However, this reflects their present situation and not necessarily the level of difficulty they experienced while at school. Therefore, while it is suggestive that there may be cohort differences in the level of difficulty experienced, it could just as well be the case that the level of difficulty increases with age or with the emergence of additional disabilities.

Turning to type of disability, those with EPMH disability are most likely to have left school sooner than they would have liked (64 per cent). Those with the other types of disability do not differ significantly from the reference group of people with mobility and dexterity disability.

Those currently reporting higher levels of difficulty associated with their disability are more likely to report having left school sooner than they would have liked. The adjusted percentage is 54 per cent for those experiencing a lot of difficulty compared to 43 per cent for those experiencing a moderate amount or just a little difficulty.

We do see a difference between the regions in leaving school sooner than desired among people affected by disability during the school years. People living in Dublin are less likely to have left school sooner than desired (adjusted rate of 44 per cent compared to 52 per cent elsewhere). Note that the region refers to the region where the person currently lives and this may differ from the region where they completed schooling. For instance, people who have achieved higher levels of education may be more likely to move to Dublin in search of work.

2.4 IMPACT OF LEAVING SCHOOL SOONER THAN DESIRED ON EDUCATIONAL ATTAINMENT

Table 2.5 shows the impact of individual characteristics on the level of education completed. The table shows the odds ratios from a multinomial regression model for leaving at the end of second level or leaving after third level versus leaving at lower second level or sooner (the reference category). Level of difficulty associated with the disability is also included in the model. Note that this refers to the level of difficulty at the time of the interview and is an imperfect indicator of the level of difficulty experienced during the school years.

Odds ratios greater than one indicate a higher risk while ratios less than one indicate a lower risk. For instance, working-age women with a disability have odds of completing second level of 1.43 times the odds of their male counterparts. People with intellectual disability have odds of completing second level that are only 0.345 times that of people with mobility and dexterity disability.

In terms of educational attainment of working-age people with a disability, the biggest difference is based on main type of disability. Compared to people with mobility and dexterity disability, people with intellectual disability have only about 0.35 times the odds of completing second level and 0.21 times the odds of completing third level. The odds ratio is even lower for people whose main disability is speech, with ratios of 0.18 and 0.03, respectively. The odds of completing higher second level are also low for people whose main disability is a learning disability, at 0.56. The other main types of disability do not differ significantly from mobility and dexterity disability.

There are also large differences between older and younger cohorts of people with a disability. Those in the 18-29 age group have over four times the odds of completing second level and twice the odds of completing third level compared to those over age 45; even controlling for type of disability, being affected while in education and severity of disability. Those in the 30 to 34 age group are also more likely to have completed second level and third level, but the gap between this group and those over the age of 45 is smaller.

Women are more likely than men to complete second (ratio of 1.43) and third level (ratio of 1.42).

TABLE 2.5 Odds Ratios for Completing Upper Second Level or Third Level Versus Leaving School Sooner Than This

	Higher Second Level	Third Level
Female vs Male	1.434***	1.416***
Age 18-29 vs. 45+	4.522***	2.199***
Age 30-34 vs. 45+	2.346***	1.839***
Seeing vs. mobility and dexterity	1.133	1.350
Hearing vs. mobility and dexterity	1.043	1.024
Speech vs. mobility and dexterity	0.179***	0.030***
Remembering etc. vs. mobility and dexterity	1.051	0.818
Learning vs. mobility and dexterity	0.556**	0.449*
Intellectual vs. mobility and dexterity	0.345***	0.210***
EPMH vs. mobility and dexterity	1.042	0.970
Pain vs. mobility and dexterity	1.012	0.861
Breathing vs. mobility and dexterity	0.835	0.723
A lot of difficulty vs. moderate	0.722***	0.399***
'Cannot do' vs. moderate	0.574***	0.388***
Affected while in school vs. not affected	0.749***	1.065
BMW Region vs. South and East	0.818**	1.023
Dublin Region vs. South and East	0.982	1.973***
Constant	0.334***	0.157***

Source: National Disability Survey 2006, analysis by authors. *** p<0.01, ** p<0.05, * p<0.1. People with a disability age 18-64 for whom information on education is available (N=6,938).

The level of difficulty associated with the disability at the time of interview is no more than an approximate indicator of the level of difficulty the person may have experienced while in school. The level of difficulty may have increased, particularly for those in the older part of the working-age group, since many types of disability are likely to have been acquired during the life course rather than being present from childhood. There is a strong association between level of difficulty and level of education completed. Those with a lot of difficulty have only 0.72 times the odds of completing second level and 0.40 times the odds of

completing third level compared to those with a moderate level or just a little difficulty. The corresponding figures for those who cannot do certain things because of their disability are 0.57 times for completing higher second level and 0.39 times for completing third level.

Not surprisingly, those who were affected while in school are likely to leave school sooner. This group has odds of completing second level that are 0.75 times those of people not affected while in school. The two groups do not differ in terms of the odds of completing third level, however, when other characteristics are controlled. This suggests that much of the impact of disability during the school years takes place at primary and secondary level.

There are some differences by region. Those in the BMW region are less likely than those living elsewhere to have completed second-level education (odds ratio of 0.82) while those in the Dublin region are more likely to have completed third level (odds ratio of 1.97). Again, since this is the person's current region, this pattern may be linked to selective migration to Dublin by people taking up professional or public sector occupations.

Comparing the results in Table 2.5 with those in Table 2.4 we see some patterns which suggest differences in expectations by main type of disability. Table 2.4 showed that people with learning, intellectual and speech disabilities are more likely to have been affected while in school (Model 1) but that, among those affected while in school, they are no more likely than people with other types of disability to have left sooner than they would have liked (Model 2). Table 2.5, however, shows that people with learning, intellectual and speech disabilities are likely to have completed significantly lower levels of education. The combination of lower levels of achievement and with finding they are not more likely to report leaving school sooner than they would have liked suggests that their expectations were lower.

2.5 SUMMARY

In this chapter we focused on the educational experience of working-age people with a disability. In line with research findings internationally (Bouck 2012; Humphrey et al., 2013), we found that working-age people with disabilities have had poor educational experiences and outcomes. Findings show that disability during their school years affected 30 per cent of working-age people with a disability; 17 per cent missed some time in school because of their disability and 15 per cent left school sooner than they would have liked. People with certain types of disability were more likely to have been affected while in school or college, particularly those whose main disability was intellectual disability, learning disability or speech disability.

Even when we take account of any differences by main type of disability, age cohort, level of difficulty and gender, people who were affected by their disability during their school years were disadvantaged in terms of educational attainment, with the effect mainly evident in terms of not completing second level. We estimated that, controlling for type and severity of disability, age cohort, gender and region, working-age people with a disability who were affected during the school years had only about three-quarters the odds of completing second-level education compared to people with a disability who were not affected until later in life.

Part of the reason for the association between early onset disability and lower levels of educational attainment is that the disabilities which are present in childhood include learning and intellectual disability. These types of disability create particular difficulties in the school context, with its emphasis on learning new material. Early identification of disability may also reflect the presence of more severe impairment which is likely to have a greater impact on educational achievement than impairments that are less severe.

Chapter 3

Impact of Early-Onset Disability on Labour Market Outcomes

3.1 INTRODUCTION

In this chapter we focus on the second research question, which concerns the significance of early-onset disability, that is, disability which is acquired early in life, in limiting participation in employment.

We begin by presenting descriptive tables on the economic status and interest in work by age of onset of disability, gender, type of disability, whether the respondent left school sooner than desired and level of education completed. We then turn to a set of statistical models to identify the main factors that facilitate or hinder participation in employment. This includes asking what factors are associated with demand for work (being in a job or interested in employment) and employment participation history (having never been in employment or having left a job because of disability).

3.2 EMPLOYMENT AND INTEREST IN EMPLOYMENT

Table 3.1 shows the situation of people with a disability with respect to employment. The first column of figures shows the proportion of working-age people with a disability who are at work in each subgroup. The base here is working-age people with a disability (aged 18-64), excluding those under age 30 still in education (about 13 per cent of this age group). The second column of figures shows the proportion of those outside employment who would be interested in work if the circumstances were right. Overall, 29 per cent of people with a disability in this age group are in employment. Of those not in employment, 47 per cent would be interested in a job if the circumstances were right. The asterisks in the table indicate whether the group differences are statistically significant.

Males are more likely than females to be in employment but, among those not at work, equal proportions of both would be interested in work (the difference is not statistically significant).

There is a large age difference. Young adults with a disability are more likely to be in employment (43 per cent of those aged 18-34 vs. 21 per cent of those aged 45

and over). There is also a clear drop in interest in work after age 45, which may be linked to the emergence of health problems in older adults.

In terms of main types of disability, people with hearing disability and those with learning disability are most likely to be at work, with figures of 57 to 58 per cent. The proportion in employment is lowest for people with mobility and dexterity disability, pain disability and EPMH disability (all in the 22 to 24 per cent range). The percentage in employment is at an intermediate level for those with intellectual disability (38 per cent).

TABLE 3.1 Percentage at Work or Interested in Work by Gender, Age, Education and Main Disability

		At work %		Of those not at work % would be interested %	
Gender	Male (Ref.)	32		48	
	Female	25	***	46	
Age	18-34	43	***	67	***
	35-44	36	***	64	***
	45 and over (Ref.)	21		37	
Type disability	Seeing	43	***	45	
	Hearing	57	***	49	*
	Speech	31	*	32	
	Mobility and Dexterity (Ref.)	22		40	
	Remembering and Concentrating	40	***	48	
	Learning	58	***	61	**
	Intellectual	38	***	37	
	Emotional, Psychological and Mental Health	24	n.s.	55	***
	Pain	24	n.s.	52	***
	Breathing	30	**	40	
Level of Difficulty	Moderate/little (Ref.)	43		53	
	A lot	22	***	47	***
	Cannot do	16	***	37	***
Education	Lower second level or less (Ref)	22		42	
	Upper second level	37	***	60	***
	Third level	56	***	60	***
Affected in school	Yes	37	***	49	
	Not affected (Ref.)	26		46	
Total		29		47	

Source: Significance tests are conducted to check whether a group differs significantly from the reference group. *** p≤ .01; ** p ≤ .05; * p ≤ .1. Base for percentage at work is people with a disability age 18-64, excluding students under age 30 (N=6,314). Base for percentage interested in work is people with a disability age 18-64, not at work, excluding students under age 30 (N=4,352).

Note: National Disability survey, 2006; analysis by authors.

There is a high level of interest in work if the circumstances were right among those with learning disability, EPMH and pain disability (52 to 61 per cent). Those with the other types of disability who are not currently at work do not differ significantly from those with mobility and dexterity disability in terms of interest in employment.

As expected, the level of difficulty connected with the disability is significantly associated both with being in employment and with interest in employment. Of those with a moderate level of difficulty, 43 per cent are in employment, compared to 22 per cent of those with a lot of difficulty and 16 per cent of those who cannot do certain things. In addition, among those outside employment, the greater the level of difficulty, the lower the proportion of people interested in employment.

Being in employment is associated with level of education. Over half of those with third-level education are in employment, compared to 37 per cent of those with upper second-level education and 22 per cent of those with lower second-level education. A lack of interest in employment is higher among those with lower second-level education or less.

Those who were affected by their disability while in school or college are more likely to be in employment (37 per cent) than those whose disability has a later onset (26 per cent). This counterintuitive pattern may be linked to a difficulty in re-orienting their skills among those whose disability means that they can no longer continue in their former occupation. Among those outside employment, there is no difference in the extent of interest in work among those affected while in education and those affected later.

These variables are interrelated and may also be associated with present health and stamina status. We model labour market situation and interest in employment to disentangle these effects. As well as adding health and stamina, we examine marital status separately for men and women. We know from statistics on the general population that there is a large difference in labour market participation for married men and women but a smaller difference between single men and women. Examining the influence of marital status separately for men and women allows us to ask to what extent this pattern also holds for people with a disability.

The full model being in employment is shown in Appendix Table A3.1. Here we present the adjusted percentage in employment (Table 3.2), controlling for other characteristics. The adjusted percentages are the percentage of people we would expect to see in employment for each group, with other factors held constant.

TABLE 3.2 Adjusted Percentage of Working-age people with a Disability in Employment

		At work %	
Gender	Married men (Ref.)	38	(Ref.)
	Single men	29	***
	Formerly married men	31	**
	Married women	23	***
	Single women	29	***
	Formerly married women	26	***
Age	18-34	37	***
	35-44	36	***
	45 and over (Ref.)	24	(Ref.)
Type disability	Seeing	37	***
	Hearing	43	***
	Speech	29	
	Mobility and Dexterity (Ref.)	28	(Ref.)
	Remembering and Concentrating	33	
	Learning	40	***
	Intellectual	27	
	Emotional, Psychological and Mental Health	22	***
	Pain	31	
	Breathing	34	**
Level of Difficulty	Moderate/little (Ref.)	37	(Ref.)
	A lot	25	***
	Cannot do	21	***
General Health	Very good or good	35	(Ref.)
	Fair	26	***
	Bad or very bad	15	***
Stamina	Very good or good	35	(Ref.)
	Fair	26	***
	Bad or very bad	22	***
Affected in school	Not affected (Ref.)	28	(Ref.)
	Yes	32	***
Education	Lower second level or less (Ref)	24	(Ref.)
	Upper second level	34	***
	Third Level	48	***
Region	Border, Midlands and West	28	
	Dublin	34	***
	South and East	27	(Ref.)

Source: National Disability survey, 2006; analysis by authors.

Note: Base = people with a disability age 18-64, excluding students under age 30 (N=6,314). Adjusted percentages are calculated from the results of a logistic regression model (see Appendix Table A3.1). Asterix shows whether the level of a group differs significantly from the reference group 'Ref'; *** p≤ .01; ** p ≤ .05; * p ≤ .1.

With other characteristics controlled, the differences remain statistically significant by gender, age group, type of disability, level of difficulty, health, stamina, whether affected during the school years, level of education completed and region. Compared to the figures in Table 3.1, when other factors are controlled, the differences between groups are generally somewhat reduced. Some of the differences between types of disability are no longer statistically significant. For instance, compared to people with mobility and dexterity disability, we no longer see a significantly different probability of being in employment among those with remembering and concentrating disability or people with intellectual disability. On the other hand, when we control for other characteristics, the employment rate of people with emotional, psychological and mental health disability is significantly lower than that of people with mobility and dexterity disability.

There are differences by both gender and marital status. The gender difference is driven by the pattern for married men and women, with an estimated 38 per cent of married men at work compared to 23 per cent of married women. Single and formerly married (separated, divorced or widowed) men are less likely than married men to be at work and the gap between these groups and their female counterparts is small.

We also find significant differences in the adjusted percentage at work by level of difficulty associated with the disability, by general health and by stamina. Those with third-level education remain about twice as likely to be at work as those with lower second-level education or less.

People whose disability first affected them while at school are more likely to be in employment than those who were not affected until later in life, even with type of disability, health, stamina and level of difficulty associated with the disability controlled. A possible explanation for this pattern is that people who acquire a disability later may face barriers associated with a need to 'change direction' in terms of the type of work they do. Other research has suggested that in the case of people with EPMH disability, later onset is associated with reduced participation in social activities and reduced orientation to work. The findings here suggest that this pattern may be more general. It could be linked to the disruptive impact of the onset of disability on established social and employment networks.

Table 3.2 also shows a significant regional difference, with those living in Dublin more likely to be at work that those living elsewhere. As noted in the previous chapter, this refers to where the person is living at the time of the interview and it may reflect a migration to Dublin in order to take up employment.

We could think of the group who are not currently at work, but who would be interested in work if the circumstances are right, as those with an unmet demand for work. The adjusted size of this group, as a percentage of people with a disability not in employment, is shown in Table 3.3. Again, the adjusted figures show the percentage we would expect to see in each group if other characteristics were held constant. The full model is shown in Appendix Table A3.2.

When we control for other characteristics, some of the differences between groups are somewhat larger than before the controls (see Table 3.1). For instance, the gender difference between married people is larger and is statistically significant with other characteristics controlled. The adjusted percentage interested in work is 51 per cent for married men and 41 per cent for married women. The differences are smaller between single and formerly married people. The differences by age group are also somewhat larger, with the youngest age group showing a stronger orientation to work (73 per cent among those aged 18 to 34 compared to 37 per cent of those over 45).

The group with the highest level of interest in work is young adults with a disability between age 18 and 34 (73 per cent). The level of interest is also relatively high among adults aged 35 to 44 (65 per cent) and people with pain disability (55 per cent).

There is a significant difference by region, with those living in Dublin more likely than those living in the other regions to express an interest in work.

It is worth noting that when we control for the level of difficulty associated with the disability, the differences according to the person's general health and stamina are not statistically significant. Those affected by their disability while in school do not differ from those not affected until later in their lives in terms of interest in work.

TABLE 3.3 Adjusted Percentage of Working-age people with a Disability Interested in Work if Circumstances were Right

		% Not at work but interested in work %	
Gender	Married men (Ref.)	51	(Ref.)
	Single men	48	
	Formerly married men	55	
	Married women	41	***
	Single women	46	*
	Formerly married women	51	
Age	18-34	73	***
	35-44	65	***
	45 and over (Ref.)	37	(Ref.)
Type disability	Seeing	46	
	Hearing	52	
	Speech	31	**
	Mobility and Dexterity (Ref.)	45	(Ref.)
	Remembering and Concentrating	42	
	Learning	52	
	Intellectual	26	***
	Emotional, Psychol. and Mental Health	50	*
	Pain	56	***
	Breathing	44	
Level of Difficulty	Moderate/little (Ref.)	52	(Ref.)
	A lot	47	***
	Cannot do	40	***
General Health	Very good or good	48	(Ref.)
	Fair	48	
	Bad or very bad	43	
Stamina	Very good or good	49	(Ref.)
	Fair	46	
	Bad or very bad	48	
Affected in school	Not affected (Ref.)	48	(Ref.)
	Yes	47	
Education	Lower second level or less (Ref)	44	(Ref.)
	Upper second level	56	***
	Third level	58	***
Region	Border, Midlands and West	44	*
	Dublin	52	**
	South and East	47	(Ref.)

Source: National Disability survey, 2006; analysis by authors.

Note: N Base = people with a disability age 18-64 who are not in employment, excluding students under age 30 (N=4,352). See Appendix Table A3.2 for the full model. Asterix shows whether the level of a group differs significantly from the reference group 'Ref'; *** p≤ .01; ** p ≤ .05; * p ≤ .1.

3.3 LEAVING EMPLOYMENT BECAUSE OF DISABILITY

An important consideration is the extent to which people with a disability may have left work because of their disability. Table 3.4 shows the percentage of people with a disability who are in employment, left employment because of their disability and the percentage who never worked by age group, gender, main disability and level of education.

Men and women with a disability are equally likely to have worked at some stage and are also about equally likely to have left work because of their disability. However, women are more likely to have left for other reasons, so that fewer of them are currently at work.

TABLE 3.4 Percentage of People with a Disability Who Never Worked, Left Work or are Currently at Work

		Never Worked %	Left Because of Disability %	Left, Other Reason %	Currently At Work %
Gender	Male	15	42	11	32
	Female	15	41	19	25
Age	18-34	34	20	8	39
	35-44	11	39	13	36
	45-54	9	47	16	28
	55-64	7	56	21	16
Main	Seeing	14	28	14	43
Disability	Hearing	8	19	14	58
	Speech	55	9	7	29
	Mobility and Dexterity	12	48	18	22
	Remembering and Concentrating	15	31	15	39
	Learning	25	11	12	53
	Intellectual	58	3	5	33
	EPMH	13	49	14	24
	Pain	5	53	17	24
	Breathing	9	44	16	30
Education	Primary or less	22	44	18	17
	Lower second level	11	46	15	28
	Upper second level	13	39	13	35
	Third Level	7	30	6	56
Affected?	Affected in school years	35	21	9	35
	Not affected during school years	6	50	18	26
Total		15	41	15	29

Source: National Disability survey, 2006; analysis by authors. Base = people with a disability age 18-64, excluding students under age 30.

Younger people with a disability are more likely to have never worked: about one-third of those aged 18-34 compared to only 7 per cent of those aged 55 to

64. On the other hand, older people with a disability are more likely to have left work because of their disability: over half of those aged 55 to 64. Older people with a disability are also more likely to have left work for other reasons, but the proportions are smaller ranging from 8 per cent for those aged 18-34 to 21 per cent of those aged 55 to 64. Because of the large number of older people with a disability who left work because of their disability, the percentages currently at work are higher among younger than older workers. It seems, then, that the labour market challenges faced by younger and older people with a disability are different. For younger people with a disability, the problem is likely to be difficulty in getting the first job. For older people with a disability, the challenge is to maintain links with the employer after the onset of disability.

People with an intellectual disability or a speech disability are most likely to have never worked (58 per cent and 55 per cent, respectively). Those with pain disability, breathing disability and hearing disability are least likely to have never worked (over 90 per cent have worked at some stage). The groups most likely to have left work because of their disability are people with pain disability (53 per cent), EPMH disability (49 per cent), mobility and dexterity disability (48 per cent) and breathing disability (44 per cent). Leaving work for other reasons is not strongly differentiated by type of disability but is somewhat less common among those most likely to have never worked (people with intellectual or learning disability or speech disability).

Work experience is associated with education. Among those with third-level education, only seven per cent were never in employment and 56 per cent are currently at work compared to 22 per cent and 17 per cent, respectively, of those with primary education only. Leaving work because of disability and also leaving work for other reasons are most common among those with lower levels of education.

Being affected by the disability while in education is associated with never having been in employment (35 per cent). Those not affected during the school years are very likely to have worked at some stage (only 6 per cent were never in employment), but are also most likely to have left work because of their disability (50 per cent, compared to 21 per cent of those affected during their school years). Those not affected during the school years are also more likely to have left work for other reasons. As a result, they are less likely to be currently at work (26 per cent, compared to 35 per cent of those affected while in education).

Table 3.5 shows the association between being interested in work and having worked in the past. The level of interest in work is higher among those who worked in the past and left the job because of their disability (51 per cent) than

among those who never worked (30 per cent) and it is also higher than among those who left the job for other reasons (46 per cent).

TABLE 3.5 Interest in Work by Whether Never Worked, Left Job because of Disability or Left Job for Another Reason

	Interested in Work%
Never worked	30 ***
Worked in the past, left because of disability	51 (Ref.)
Worked in the past, left for another reason	46 **
Total	46

Source: National Disability survey, 2006; analysis by authors.

Note: Base = people with a disability aged 18-64, not currently in employment, excl. students under age 30. Asterix shows whether the level of a group differs significantly from the reference group 'Ref'; *** p≤ .01; ** p ≤ .05; * p ≤ .1.

We saw above that the person's work history differed by several of their characteristics. To what extent do these patterns persist when we control for other factors? We present the results of a statistical model designed to answer this question. Table 3.6 shows the adjusted percentage of working-age people with a disability who were never in employment and the percentage who left work because of their disability. Not shown are those currently at work and those who left work for other reasons. The percentages in Table 3.6 are based on the model shown in Appendix Table A3.3 and represent the percentages we would except to see for each group with other characteristics held constant. The model controls for gender by marital status, age group, type of disability, level of difficulty associated with the disability, general health, stamina, level of education, and whether affected by the disability during the school years and region.

Table 3.6 shows the percentages we would expect to see if the groups were similar in respect of all the other characteristics shown in the table. In the case of gender by marital status, for instance, the figure shows the expected percentage of married men who were never in employment and who left a job because of a disability, if married men were similar to other groups in terms of distribution by age, main type of disability, region, whether they were affected during the school years, level of education completed and general health and stamina. Note, in particular, that the control for education will account for much of the contrast between the figures in Table 3.6 and those in Table 3.4. For instance, in Table 3.4 we saw that 58 per cent of people with intellectual disability had never worked. Much of this disadvantage is linked to their lower levels of education. When we control for level of education, the adjusted percentage who never worked falls to 29 per cent for this group.

TABLE 3.6 Adjusted Percentage who Never Worked and who Left Work Because of Disability

		A. Never worked %	B. Left because of disability %	Sum A+B %
Gender, marital status	Married men (Ref.)	3	46	49
	Single men	15	42	58
	Formerly married men	4	47	51
	Married women	11	45	56
	Single women	16	38	54
	Formerly married women	12	40	52
Age group	18-34	15	32	47
	35-44	11	40	51
	45 and over	12	46	58
Main Disability	Seeing	13	33	46
	Hearing	7	29	36
	Speech	30	18	48
	Mobility and Dexterity	11	44	55
	Remembering and Concentrating	10	38	48
	Learning	10	18	28
	Intellectual	29	15	43
	Emot., Psychol. and Mental Health	11	54	64
	Pain	7	47	54
	Breathing	9	40	49
Level of Difficulty	Moderate/a little	10	38	48
	A lot	12	46	58
	Cannot so some things	17	47	64
General health	Very good or good	11	38	50
	Fair	12	45	57
	Bad or very bad	15	53	68
Stamina	Very good or good	11	38	49
	Fair	12	47	59
	Bad or very bad	15	46	61
Affected - school years?	No	8	45	53
	Yes	18	36	54
Education	Lower second level or less	14	44	58
	Upper second level	8	43	51
	Third level	7	37	44
Region	Border, Midlands and West	12	44	56
	Dublin	10	40	50
	South and East	13	44	57

Source: National Disability survey, 2006; analysis by authors.

Note: Base = people with a disability age 18-64, excluding students under age 30. Adjusted percentages based on the multinomial logistic regression model shown in Appendix Table A3.3.

We could think of the groups who were never in employment and those who left work because of a disability as experiencing labour market exclusion. The last column in the table shows the adjusted percentage in each group experiencing labour market exclusion. Those experiencing the greatest level of disadvantage in this respect are those with bad health or stamina, people who cannot do certain things because of their disability, and those with EPMH disability (61 to 68 per cent). At the other end of the scale, the overall extent of labour market disadvantage is relatively low for those with a learning disability (28 per cent), hearing disability (36 per cent) and people with third-level education (44 per cent). The levels are also lower than the 55 per cent average for younger adults (47 per cent for the 18 to 34 age group), and those with seeing disability (46 per cent) or intellectual disability (43 per cent). Of course, there are other forms of labour market disadvantage, such as low earnings and discrimination, which are not captured by this indicator.

For several of the groups, there are differences in the relative contributions of having never worked and having left work because of the disability. The comparison between those with an intellectual disability, on the one hand, and those with hearing disability, on the other, illustrates this difference. The overall level of labour market disadvantage for both groups is below average when other factors are controlled, at 43 per cent and 36 per cent, respectively. However, the paths leading to disadvantage differ between the two groups. A relatively high proportion of people with intellectual disability have never worked (29 per cent compared to an adjusted figure of about 12 per cent overall), but they are unlikely to have left a job because of a disability (15 per cent). On the other hand, those with hearing disability are very unlikely to have never worked (7 per cent) but are closer to average in terms of having left work because of a disability (29 per cent).

The groups most likely to have left a job because of disability are older workers (46 per cent among those aged 45 to 64), people with EPMH disability (54 per cent), those with pain disability (47 per cent), those who cannot do certain things because of their disability (47 per cent), those with bad health (53 per cent) or fair to bad stamina (46-47 per cent).

Looking at the gender pattern we see that married and formerly married women are somewhat more likely to have never been in employment (11 per cent versus 3 per cent for the married group and 12 per cent versus 4 per cent for the formerly married group). The differences in terms of leaving work because of a disability are smaller, but the figure is slightly higher for men, especially among those who are single (42 per cent versus 38 per cent).

For some groups, the main challenge appears to be getting the first job, as the estimated percentage who were never in employment is higher than average. This includes younger people with a disability (15 per cent), those with speech disability (30 per cent) or intellectual disability (29 per cent). The estimated percentage who never worked is also relatively high among those affected while in school (18 per cent).

There are some differences by region. Dublin shows a lower level of labour market disadvantage, mainly due to a lower level of leaving work because of disability (40 per cent compared to 44 per cent in other broad regions). This could be a function of regional differences in the distribution of professional and other occupations, which may influence the capacity of people with a disability to remain in employment.

Those not affected during the school years, i.e. whose disability began later, have a higher risk of leaving employment because of disability than those affected while in school (45 per cent vs. 36 per cent). It seems, then, that disability that develops in adulthood, possibly after the person has already started employment, presents challenges of its own in terms of the labour market. These may well be linked to the need for additional supports in order to remain in employment.

3.4 SUMMARY

In this chapter we focused on the labour market situation of working-age people with a disability. In line with existing Irish research (Watson et al., 2013) and findings internationally (Greve, 2009) we found that, in general, the level of current employment was low. Among working-age people with a disability, only 29 per cent were in employment. However, the detail available on the National Disability Survey allowed us to establish that the level of labour market orientation was high. Nearly half (47 per cent) of those not in employment would be interested in work if the circumstances were right. The analysis also revealed that men and women with a disability were equally likely to have been in employment at some point in the past (85 per cent) and were equally likely to have left employment because of a disability (41-42 per cent) but women were more likely to have left for other reasons (19 per cent vs. 11 per cent) so that fewer were currently in employment (25 per cent vs. 32 per cent).

As well as the gender difference, we found that older people with a disability, those with mobility and dexterity disability, those with emotional, psychological and mental health (EPMH) disability, those with greater levels of difficulty in everyday life, those with health or stamina problems and lower levels of education, were less likely to be in employment. Several of these findings are broadly in line with international evidence that suggests higher levels of non-

employment among women, and older disabled workers in addition to those with mental health difficulties (Greve, 2009). Greve's finding of a lower level of employment among those with intellectual impairments was not replicated here. People with intellectual disability are more likely to have never worked, but few of them have left a job because of their disability. The net result is that they are close to the average for people with a disability in terms of the percentage who are currently in employment.

An unmet demand for employment (i.e. interest in employment among those not in a job) was particularly high among younger adults, with an adjusted rate of 73 per cent among those aged 18 to 34 compared to 37 per cent among those aged 45 and over. It was also increased among adults with higher levels of education and lower levels of difficulty associated with their disability, and it was higher among men than women, particularly among those who were married (51 per cent of married men compared to 41 per cent of married women).

We could think of the groups who were never in employment and those who left work because of a disability as experiencing labour market exclusion. Based on a statistical model that takes account of other characteristics, we estimated the greatest level of disadvantage in this respect was among those with bad health, EPMH disability and those who cannot do some things because of their disability (64 to 68 per cent). On the other hand, the level of exclusion was lowest among those with a learning disability, a hearing disability, those with third-level education, and people with a learning disability (all under 45 per cent). Of course, exclusion is not the only form of labour market disadvantage, as those at work may experience unequal treatment when it comes to promotion or their earnings may be low (McGinnity et al., 2013; Watson et al., 2013; Gannon and Nolan, 2005).

In terms of barriers to participation in employment, there were some groups for whom the main issue appeared to centre on getting the first job (younger adults, people with intellectual or speech disability, people affected during their school years). On the other hand, there are those whose main disability-related labour market disadvantage is associated with having left work because of their disability; older adults with a disability, people with an EPMH disability and those with health problems.

Chapter 4

Facilitating Participation

4.1 INTRODUCTION

In this chapter we consider the factors that facilitate or would facilitate people with a disability in participating in employment. As noted in Chapter 1, previous research has indicated that people with a disability may face economic costs associated with the disability. This may be because they require specific aids to participate in activities including work, or it may be that they have reduced productivity associated with limitations arising from their disability, level of education or past labour market experience. Costs or productivity disadvantages associated with disability may drive a wedge between the level of wages offered by the labour market and the level that would induce or permit people to take up employment. Such disadvantages might in principle be offset by payments such as a wage subsidy and/or by a variety of practical supports. The data available to us allow both of these potential channels of assistance to be explored, because there are questions in the survey both on the self-reported need for a wage subsidy and on needs (met and unmet) for a range of specific aids.

The goal in this chapter is twofold: (a) to assess the extent to which individual resources (such as education) are associated with being able to obtain the required aids or services and (b) to assess the extent to which non-employment is associated with unmet needs for aids. We also consider the link between the need for services and aids and the requirement for a wage subsidy to enable the person to take up employment.

The focus in this chapter is on working-age adults with a disability who are in employment or would be interested in employment. As in the last chapter, we exclude students under 30 years old. Since the services and aids are specific to disability type, we focus on the four largest groups of people with a disability in the working-age group: mobility and dexterity, emotional psychological and mental health (EPMH), pain and intellectual disability. Among working-age people with a disability, nearly nine out of ten have one of these four main types of disability and one of these types is identified as the main disability by 77 per cent (Table 2.1). In previous chapters, we focused on the person's main disability. In this chapter, for each group, we consider all of those who have that type of disability, not just those for whom that disability is the main type. The number of cases available for analysis is 3,059 for mobility and dexterity disability, 2,650 for EPMH disability, 3,276 for pain disability and 925 for intellectual disability. As in

previous chapters, we do not include people with learning disability only (i.e. who do not also have an intellectual disability) in the 'intellectual disability' category.

In this chapter, we begin by presenting descriptive results on the need for devices or services specific to each type of disability. We then examine how unmet needs are linked to characteristics of the individual with a disability. We then proceed to examine whether unmet needs are linked to being actually in employment among those who are interested in employment. Finally, we examine the extent to which the use of services and devices and unmet need for services/devices influence the need for a wage subsidy in order to be able to work.

4.2 DEVICES AND SERVICES USED OR NEEDED

We begin by presenting overall descriptive results on the proportion of working-age adults with a disability who report that they use or need (but lack) different types of services or devices. For each type of disability, the person was presented with a list of services or aids specific to that type of disability. They were asked to identify which they used to help with their disability or difficulty and which they needed but did not have. The form of the latter question is 'Are there any of the following aids that you are aware that you need but do not have?' This means that people may answer 'no' to the 'need' item in two circumstances: (a) they know about the device or service and know that it is something they do not need or (b) they are not familiar enough with the device or service to know whether it would be of benefit to them. 'Need', therefore, is partly a function of information which the person may receive from family, from friends, from a General Practitioner or through their own search for information.

The tables include all of those who report having each type of disability, not just those for whom that type of disability is the main one. Because multiple disabilities are so common, excluding people for whom a particular disability was not the main type would yield unrepresentative results, since it risks under-representing those with multiple disabilities. We focus on people with each kind of disability in the working-age group (18 to 64), who are at work or interested in work, excluding students under the age of 30.

Table 4.1 shows the specific devices that are used by working-age people with mobility and dexterity disability and the proportion reporting that they need but do not have each of these. Both devices and services are used by people with a mobility and dexterity disability. Over one-third (36 per cent) use physiotherapy and 12 per cent use occupational therapy. Over one quarter use walking aids such as a stick, frame or 'rollator' (28 per cent); 17 per cent use grab bars or bathroom aids and 13 per cent use assistive devices such as braces, supportive devices or

reach extending tools. Smaller numbers use a manual or electric wheelchair (7 per cent), portable ramps (3 per cent), and a hoist (2 per cent) or lift (2 per cent).

TABLE 4.1 Devices and Services Used or Needed by People with Mobility and Dexterity Disability

	Use	Lack	Not needed
Physiotherapy	36%	18%	46%
Walking aids, e.g. Footwear/stick/frame/rollator	28%	7%	65%
Grab bars or bathroom aids	17%	20%	63%
Assistive device (braces/supportive or reaching devices)	13%	8%	79%
Occupational therapy	12%	11%	77%
A manual or electric wheelchair or a scooter	7%	3%	89%
Portable ramps	3%	6%	91%
A lift, a stair-lift	2%	9%	89%
A hoist or other similar device	2%	4%	94%
Average number	1.18	0.84	

Source: National Disability survey, 2006; analysis by authors.

Note: Base = people with a mobility and dexterity disability age 18-64 who are at work or interested in work, excluding students under age 30 (N=3,059).

The second column shows the percentage of people with mobility and dexterity disability who need but do not have each of these services or devices. Both services and devices also feature strongly in this regard. The most commonly-cited are grab bars or bathroom aids (20 per cent), physiotherapy (18 per cent) and occupational therapy (11 per cent).

The table also shows the average number of items used and lacked. For this purpose, the number is coded to 1, 2, 3, 4 and 5 or more items/services. This is done because we anticipate that the main distinctions will be found at the lower numbers. For instance, we anticipate a greater difference between those lacking none and those lacking one than between those lacking six and those lacking seven items. Among people with mobility and dexterity disability, the average number of these services or devices used is 1.18 and the average number needed but not used is 0.84.

In Table 4.2 we turn to people with emotional, psychological or mental health (EPMH) disability.[4] Services rather than devices or aids are relevant to this group. Over one-third use psychiatric services, counselling or relaxation therapies (34 to 36 per cent) and just under one-quarter use drop-in centres.

[4] People with EPMH disability were also asked about use of and need for medical services and medication. These are not included in the analysis here, because they are not specific to EPMH disability but were only asked for this disability type.

When it comes to the services lacked, the most frequently cited are exercise or relaxation therapies (21 per cent), counselling (18 per cent) and a support group/drop-in centre or helpline (17 per cent).

TABLE 4.2 Devices and Services Used or Needed by People with EPMH Disability

	Use	Lack	Not needed
Psychiatrist	36%	8%	56%
Counselling	35%	18%	47%
Exercise / relaxation therapies	34%	21%	45%
Support group/drop-in centre/helpline	23%	17%	60%
Psychologist	16%	13%	71%
Social services, such as social worker	13%	13%	74%
Physiotherapy	12%	10%	77%
Psychotherapist	11%	12%	77%
Occupational therapist	9%	14%	77%
Addiction services	7%	4%	90%
Average number	1.86	1.19	

Source: National Disability survey, 2006; analysis by authors.
Note: Base = people with an EPMH disability age 18-64 who are at work or interested in work, excluding students under age 30 (N=2,650).

Again, the count of services used and lacked is coded from 1 to 5, with 6 or more coded to 5. The average number of services used is 1.86 for people with EPMH disability while the average number lacked is 1.19.

In Table 4.3, we turn to the services and devices used or lacked by people with pain disability. The most commonly used services or therapies are pain management (48 per cent) and massage (28 per cent), while 19 per cent use alternative medicine approaches, such as reflexology. The most commonly-used devices are heated pads or muscle stimulator (39 per cent). TENS devices are used by 12 per cent of people with pain disability.

The devices or services that are needed but that people with pain disability do not have follow a slightly different pattern, with massage (20 per cent) and alternative medicine (19 per cent) mentioned most frequently. Acupuncture is listed by 17 per cent of people with pain disability as something they need but do not have and devices such as heated pads or muscle stimulator are identified by 14 per cent.

The average person with a pain disability uses 1.73 of these services or devices, and needs but does not have an average of 1.10.

TABLE 4.3 Devices and Services Used or Needed by People with Pain Disability

	Use	Lack	Not needed
Pain management	48%	13%	40%
Heated pads or muscle stimulator	39%	14%	47%
Massage	28%	20%	52%
Alternative medicine, such as reflexology	19%	19%	62%
Acupuncture	15%	17%	68%
Chiropractic	14%	9%	77%
Transcutaneous electrical nerve stimulation (TENS)	12%	11%	77%
Acupressure	5%	14%	81%
Average number	1.73	1.10	

Source: National Disability survey, 2006; analysis by authors.

Note: Base = people with a pain disability age 18-64 who are at work or interested in work, excluding students under age 30 (N=3,276).

Table 4.4 shows the services and devices used or needed by people with intellectual disability. This group includes people who have intellectual disability or an autistic spectrum disorder, but it only includes people with a learning disability if they also have one of these two disability types. The majority (over nine out of ten) have an intellectual disability, with only a small proportion having ASD only.

One quarter of people with an intellectual disability (25 per cent) use psychology services, 17 per cent use occupational therapy and 14 per cent use general products and technology for education. Devices and aids feature strongly among the things that people with this type of disability need, but to which they do not have access, including general products and technology for education (14 per cent), screen reading or learning support software (16 per cent). Therapies are also mentioned in this regard, including occupational therapy (15 per cent), speech and language therapy (15 per cent), psychology services and physiotherapy (both 11 per cent).

TABLE 4.4 Devices and Services Used or Needed by People with Intellectual Disability

	Use	Lack	Not needed
Psychology service	25%	11%	64%
Occupational therapy	17%	15%	68%
General products and technology for education	14%	14%	72%
Speech and language therapy	11%	15%	74%
Screen reading software, learning support software	10%	16%	74%
Physiotherapy, instructor or educator	9%	11%	80%
Average number	0.83	0.81	

Source: National Disability survey, 2006; analysis by authors.

Note: Base = people with an intellectual or learning disability age 18-64 who are at work or interested in work, excluding students under age 30 (N=925).

4.3 CHARACTERISTICS ASSOCIATED WITH UNMET NEEDS

At this point we ask what factors are associated with unmet needs among people with the different types of disability. This is addressed by estimating regression models for the number of unmet needs within the working-age group of people with each of the four types of disability. For this purpose, we include those who report that they are not interested in work because a lack of interest in work may be linked to an inability to obtain needed devices or therapies.

Since the number of devices and services differs across disability types, ranging from 6 for intellectual or learning disability to 12 for EPMH disability, we again code the number of items lacked to 1, 2, 3, 4 and 5 or more. This facilitates a comparison across disability types. Further, we anticipate that the main distinctions will be found at the lower numbers, such as between those lacking none and those lacking one of the items rather than between those lacking five and those lacking six. The models include gender, age group, level of difficulty associated with disability, whether affected in the school years, education and region. For people who have more than one type of disability, the level of difficulty is taken as the highest level across disabilities.

Table 4.5 shows the coefficients from the regression models of the number of disability-specific items lacked.[5]

For all types of disability, unmet needs are higher among those with a greater level of difficulty associated with disability. For instance, among people with mobility and dexterity disability, those with a lot of difficulty lack almost 0.3 items more than those with a moderate/little difficulty while those who cannot do certain things at all lack 0.6 items more. The direction of causation is not entirely clear here. On the one hand, a greater level of difficulty may create barriers to obtaining the required services or aids, or may be associated with requiring a greater number of aids or services. On the other hand, it is also possible that the level of difficulty experienced by the individual is greater when they lack the services or devices they need. In fact, the latter assumption is a cornerstone of the social model of disability which emphasises the extent to which the environment (including barriers to accessing required resources) is important to understanding how people become 'disabled' from doing certain things.

The association with level of difficulty is the only one that is general across types of disability. The other common pattern is the absence of an expected association with education or with whether the person was affected during the school years. We anticipated at the outset that people with higher levels of education may be more likely to be able to access the required resources, but this does not appear

[5] Earlier models had included health and stamina but these were not associated with the number of items lacked.

to be the case. In fact, the only education coefficient significant at the conventional 0.05 level is found for the contrast between those with higher and lower second-level education in the case of EPMH disability, and this coefficient is in the opposite direction to that expected. People with EPMH disability with upper second-level education lack 0.25 more of the services specific to this type of disability than those with lower second-level education.

TABLE 4.5 Factors Associated with Unmet Needs for Devices or Services Among Working-age People with Different Disability Types (OLS Regression Coefficients)

		Mobility and Dexterity	EPMH	Pain	Intellectual
Gender	Female vs. Male	0.095*	0.069	0.168**	0.141
Age	Age 18-29 vs. 45+	-0.288***	0.260*	0.052	0.183
	Age 30-34 vs. 45+	-0.177***	0.039	0.022	0.045
Difficulty	A lot of difficulty vs. moderate/little	0.295***	0.314***	0.247***	0.413***
	'Cannot do' vs. moderate/little difficulty	0.604***	0.477***	0.401***	0.459***
Affected in school years	Affected in school years vs. not affected	0.109	0.114	0.052	-0.012
Education	Upper second level educ. vs. lower second	-0.078	0.248**	0.002	0.051
	Third level educ. vs. lower second	0.046	0.252*	0.086	0.117
Region	BMW vs. South and east	-0.171***	-0.097	-0.123	-0.205*
	Dublin vs. South and East	-0.109	-0.067	-0.367***	-0.081
Constant		0.591***	0.647***	0.869***	0.350**
Observations		3,059	2,650	3,276	925
R-squared		0.039	0.021	0.020	0.030

Source: National Disability survey, 2006; analysis by authors.

Note: Dependent variable=number of services/devices specific to each type of disability that are needed but lacking (coded from 0 to 5, where 5= 5 or more). Base= working-age people with each of the four types of disability, excluding students under age 30. *** p<0.01, ** p<0.05, * p<0.1.

There are some significant differences by gender, age group and region but these are found for some types of disability and not for others. The only significant gender difference is for pain disability, where women are more likely than men to lack access to some needed devices or therapies. The only significant age difference is for mobility and dexterity disability. Younger adults with this type of disability are less likely than those aged 45 and over to lack required devices or services. The difference is significant for those aged 18-29 and for those aged 30-44.

There are some variations by region. Those in the BMW region tend to lack fewer items than those in the South and East but the pattern is statistically significant only for mobility and dexterity disability. Those in the Dublin region tend to lack fewer items than those in the South and East among those with pain disability. While the differences between Dublin and the other regions might be understood in terms of proximity to services, the contrast between the BMW and the South and East is more difficult to understand.

The patterns by region (especially the lower level of unmet needs in the BMW region) and the absence of a pattern by level of education may be linked to regional differences in expectation. If people with higher levels of education had higher expectations regarding access to services, then perhaps their greater capacity to access services was being partly counteracted by their higher expectations so that they would not differ from those with lower education in terms of the reported number of devices or services lacked. A similar situation might be true in the more deprived BMW region where lower expectations may make it appear that people have fewer unmet needs.

One way to test this is to investigate whether the average number of items the person uses is higher among those with higher levels of education and lower among those in the BMW region. Table 4.6 shows the results of a model where the dependent variable is the number of devices and services the person uses for each of the four groups.

We see the expected relationship with education here: those with higher levels of education are likely to use more of the services and aids specific to the type of disability in the case of three of the disability types. The exception is intellectual disability, where the proportion of people with higher levels of education is very low. For this type of disability, there is no association between service usage and level of education.

There is no significant difference by region, however. There is no support here, then, for the notion that people living in the Dublin region use more services or aids than those living elsewhere.

With the exception of EPMH disability, those with a greater level of difficulty are likely to use more of the disability-specific services. This is as expected, because the need for services will tend to be greater among those with a higher level of difficulty. The absence of a relationship in the case of EPMH disability may reflect a difference in the nature of the need among those seriously affected: it may be that those with greater difficulty as a result of EPMH disability require more

intensive access to particular services rather than access to a large number of different services.

TABLE 4.6 Factors Associated with Use of Devices or Services Among Working-Age People with Different Disability Types (Regression Coefficients)

		Mobility and Dexterity	EPMH	Pain	Intellectual
Gender	Female vs Male	0.182***	0.005	0.500***	0.307***
Age	Age 18-29 vs. 45+	-0.007	-0.105	-0.072	0.494***
	Age 30-44 vs. 45+	-0.117*	0.209**	0.092	0.295***
Difficulty	A lot vs. moderate/little	0.445***	0.158*	0.339***	0.425***
	'Cannot do' vs. moderate/little	1.270***	0.141	0.272***	0.253*
Affected - school	Affected in school years vs. not affected	-0.034	0.346***	-0.271***	-0.064
Education	Upper second level vs. lower second	0.203***	0.457***	0.489***	-0.011
	Third level educ. vs. lower second	0.445***	0.526***	0.793***	-0.01
Region	BMW vs. South and east	0.101	0.108	0.014	-0.021
	Dublin vs. South and East	-0.054	-0.131	0.047	0.062
Constant		0.541***	1.346***	0.937***	0.299**
Observations		3,059	2,650	3,276	925
R-squared		0.114	0.035	0.078	0.055

Source: National Disability survey, 2006; analysis by authors.

Note: Dependent variable=number of services/devices specific to each type of disability that are used (coded from 0 to 5, where 5= 5 or more). Base= working-age people with each of the four types of disability, excluding students under age 30. *** p<0.01, ** p<0.05, * p<0.1.

There is a significant association with gender, whereby women use a greater number of services or aids than men with the same disability. This is true in the case of mobility and dexterity disability, pain disability and intellectual disability but it is not true of EPMH disability. This is consistent with a general finding that men are less likely than women to make use of health services (CSO, 2012, p. 50, Table 5.7; Morgan et al., 2008, Figure 5, p. 38).

There is a significant association with age for EPMH disability and intellectual or learning disability. In the case of EPMH disability, people in the 30 to 44 age group use slightly more services than those aged 45 and over. In the case of intellectual or learning disability, younger adults also use more of the services or devices specific to this type of disability.

There is a significant association with being affected by the disability in the school years in the case of pain disability and EPMH disability, but the patterns are in the opposite direction. Among those with EPMH disability, people affected by the

disability during their school years are likely to use more services. In the case of pain disability, those who were affected by their disability during their school years use fewer services, on average, than those who were not affected until later. The reasons for these patterns are not clear, but may reflect differences between early onset and later onset conditions leading to EPMH and pain disabilities.

4.4 UNMET NEEDS AND EMPLOYMENT

At this point, we turn our attention to the association between access to disability-specific services or aids and the capacity to make the transition from being interested in work to being at work. We focus on the working-age population with a current orientation to work, that is, those aged 18 to 64 who are either in employment or who would be interested in employment if the circumstances were right. As before, we exclude students under the age of 30.

The analysis is conducted separately for people with the four different types of disability. For those with each of the disability type, we take the group that is in employment or who would be interested in employment if the circumstances were right. We estimate a statistical model to identify the factors associated with being 'interested in employment' as opposed to being actually 'in employment'. We are particularly concerned with whether unmet needs for services or aids would constitute a significant barrier to making the transition from being 'interested' to being in employment.

Table 4.7 shows the odds ratios for being 'interested' versus 'at work'. Since we know that married and single women differ in their labour market orientation in the general population, we distinguish between men and women in different marital statuses. The model also controls for age group, having poor health or stamina, being affected in the school years, level of education and region, as well as both number of unmet needs and number of services/devices used. As before, these numbers are capped at 5.

In terms of the central question, the number of disability-specific aids or services lacked is associated with being interested in work rather than being in employment for two of the four types of disability examined here. The association is significant and in the expected direction for mobility and dexterity and pain disability. This is consistent with a lack of access to these different aids and services being associated with difficulty in making the transition from 'interest' in employment into actually being in a job. The pattern is not found for EPMH or intellectual or learning disability however: the coefficients are in the expected direction but do not reach statistical significance.

TABLE 4.7 Odds of Being Outside Employment vs. in Employment Among People with Different Types Of Disability Oriented To Work

		Mobility and Dexterity	EPMH	Pain	Intellectual
Gender by marital status	Single men vs. married men	1.058	1.719***	1.463**	1.084
	Formerly married men vs. married men	1.303	1.074	1.511	1.43
	Married women vs. married men	1.580**	1.796**	1.834***	2.01
	Single women vs. married men	1.069	1.345	1.225	1.092
	Formerly married women vs. married men	2.176***	2.160***	1.446*	1.626
Age	Age 18-29 vs. 45+	1.222	0.867	0.827	0.787
	Age 30-34 vs. 45+	1.078	0.845	0.957	0.696
Difficulty	A lot of difficulty vs. moderate/little	1.759***	1.901***	2.021***	1.612*
Health/stamina	Bad health or stamina vs. good	2.680***	2.469***	2.346***	2.234**
Affected in school years	Affected in school years vs. not affected	0.703**	0.637***	0.670**	0.609
Education	Upper second level educ. vs. lower second	0.653***	0.715**	0.699***	1.302
	Third level educ. vs. lower second	0.272***	0.342***	0.341***	0.540
Region	BMW vs. South and east	0.927	0.838	0.918	1.078
	Dublin vs. South and East	0.620***	0.800	0.678**	0.736
Aids and services (specific)	Number aids/services lacking	1.140**	1.064	1.079**	1.114
	Number aids/services used	1.086	1.089**	0.930*	0.951
Constant		1.079	1.154	1.195	1.002
Observations		1,721	1,613	2,015	531

Source: National Disability survey, 2006; analysis by authors.

Note: Base= working-age people with each of the four main disability types in employment or interested in employment, excluding students under age 30. *** p<0.01, ** p<0.05, * p<0.1.

On the other hand, for EPMH disability, using a larger number of services is associated with being interested in employment rather than in employment (odds ratio 1.089 for each service used). This may be a function of the complexity of the person's condition, as indicated by using a larger number of services, over and above what is captured by the item on the level of difficulty.

Those in the Dublin region with mobility and dexterity or pain disability are less likely to be interested in work than actually at work. This could indicate that living in the capital makes it easier for people with these kinds of disability to make the move into employment. On the other hand, it could also reflect the greater concentration of professional and public sector jobs in Dublin. These are jobs where, for reasons related to human capital (professional jobs) or policies to promote opportunities for people with a disability (the public sector), a greater effort is made to recruit or retain people with disability.

The human capital explanation is consistent with the pattern observed for education, whereby those with higher levels of education are much less likely to be interested in work without actually being in work. Those with higher levels of education also have a higher earnings capacity and so can better afford any additional expenses associated with being in employment. This is the case for three of the four types of disability but not for intellectual disability. In the case of people with intellectual disability, as we saw in Chapter 3, very few would have completed higher levels of education.

Those who were affected by the disability in their school years have a lower probability of being outside of work (odds ratio about 0.6 to 0.7) for three of the four types of disability, but not intellectual disability. The fact that those whose disability emerged after their school years are more likely to be outside of employment may reflect a particular barrier faced by people who acquire a disability later in life. If the disability interferes with their capacity to continue in their employment, there may be particular barriers associated with the need to 'change direction' in occupational terms. In the case of intellectual disability, most would have been affected in the school years.

The level of difficulty associated with disability and problems with health and stamina are, not surprisingly, associated with an increased risk of being outside employment.

There are a number of patterns that are statistically significant for men and women of different marital statuses. The odds ratios greater than one indicate a higher risk of being outside or work rather than at work among the group of people with an orientation to work. Compared to married men, this tends to be true of single men and formerly married men, but the difference is statistically significant only in the case of single men with EPMH (1.7) or pain (1.5) disability. Compared to married men, women who are married or formerly married are also more likely to be outside of work for three of the disability types (mobility and dexterity, EPMH and pain). Although women may use a greater number of services, on average, than men (as we saw in the previous table) this does not result in them being more likely to be in employment.

Perhaps the services and devices included in the analysis here are not the kind that would facilitate participation in employment. In fact, the only association with service usage that is statistically significant at conventional levels works in the opposite direction: among those with EPMH disability who have an orientation to work, greater service use is associated with being outside of employment.

4.5 SELF-REPORTED REQUIREMENTS IN ORDER TO BE ABLE TO WORK

We now consider a number of other devices, modifications or services the person needs or would need in order to be able to work. These are based on a question posed to those at work or interested in work: "Because of your disability do/would you require any of the following to be able to work?" The items include those related to accessibility, flexible work arrangements (such as a shorter day or week), modified job tasks, a wage subsidy and other requirements (including human support, technical aids or communication aids). The items related to accessibility are accessible transport or parking, accessible building, handrail or ramps, accessible lift, accessible toilets or a modified work station. As noted in Chapter 1, because of a routing issue on the National Disability Survey Questionnaire, the number of cases is reduced for this analysis, particularly among those who are actually in employment.

Table 4.8 shows the proportion of those with each of the four types of disability and those with any type of disability who need (or would need) each of these. As might be expected, accessibility modifications or devices were (or would be) particularly important to people with mobility and dexterity disability (48 per cent) but also feature strongly for those with pain disability (40 per cent).

TABLE 4.8 Percentage Requiring Services or Modifications in Order to Take Up Employment

	Mobility and Dexterity	EPMH	Pain	Intellectual	All
Those currently at work or interested in work (would need)					
Accessibility devices/modifications	48%	31%	40%	31%	32%
Modified job tasks	37%	31%	34%	41%	29%
Flexible work arrangements	54%	54%	53%	44%	46%
Wage subsidy	30%	29%	28%	31%	24%
Other services/aids	9%	9%	6%	28%	10%
Number of cases	1,579	1,457	1,781	474	3,392

Source: National Disability survey, 2006; analysis by authors.

Note: Base= working-age people with each of the four disability types in employment or interested in employment, excluding students under age 30.

Flexible working arrangements are cited by over one half of those with mobility and dexterity disability, EPMH disability and pain disability and by 44 per cent of

those with intellectual disability. Modified job tasks are, or would be required by between 31 and 41 per cent of respondents with the four main types of disability. The need for a wage subsidy is cited by between 28 and 31 per cent of those with the four main types of disability. Other services and aids are mentioned more often by those with intellectual disability (28 per cent compared to 6 to 9 per cent of the other groups).

4.6 SELF-REPORTED REQUIREMENT FOR A WAGE SUBSIDY

At this point we focus on whether respondents report that they need a wage subsidy, because this casts some light on which types of respondents are more likely to perceive a gap between the market wage and their reservation wage. This is relevant to the issue of whether financial supports could be important to facilitating the labour market participation of people with a disability. Although a wage subsidy was not the most-frequently identified need, there is an association between the different requirements, particularly between the need for flexibility and the need for a wage subsidy (see Appendix Table A4.1), suggesting that the reported need for a wage subsidy arises because the person's labour supply or hours worked are reduced as a result of disability.[6]

It should be noted that since the data analysed here was collected, a social insurance Partial Capacity Benefit scheme was introduced which provides an ongoing social welfare payment for people with a disability returning to work who have moderate, severe or profound restrictions in their capacity to work. The counterpart social assistance arrangement is the tapered disregard of earnings for people on Disability Allowance. In 2015, someone on earnings of €120 could receive a full Disability Allowance, and someone on earnings of up to €350 a week would receive a partial Disability Allowance. Since 2005, there is also a Wage Subsidy Scheme in place for employers of individuals with disabilities whose productivity is under 80% of the norm,

Analysing the self-reported need for a wage subsidy poses some conceptual challenges. Not all of a respondent's need for a wage subsidy is necessarily due to disability alone; there are many reasons why someone may feel the prevailing market wage is not high enough to justify participation in the labour market. These include caring responsibilities, replacement rates after adjustments in taxes and benefit entitlements, the need to cover the cost of transport to work, or the cost of childcare. While respondents have been asked to think of their disability in reporting their requirements, it may be difficult for them to disentangle the disability-related element from any other factors contributing to the gap between actual and reservation wages. In the analysis, therefore, we

[6] These general requirements are also associated with an unmet need for disability-specific aids and services, but the associations are not large (see Appendix Table A4.2).

include a control for other household resources (whether someone else in the household is at work) and for the presence of children in the household (which may be indicative of a requirement for childcare).

Table 4.9 shows the model for needing a wage subsidy for each of the four main disability types. As before, we distinguish between men and women based on marital status. The table shows the odds of reporting a need for a wage subsidy. **TABLE 4.9** Odds Ratios for Self-Report of Needing a Wage Subsidy

		Mobility and Dexterity	EPMH	Pain	Intellectual
Gender by marital status	Single men vs. married men	1.769**	2.079***	1.04	1.178
	Formerly married men vs. married men	1.414	1.461	1.58	1.204
	Married women vs. married men	0.88	0.959	0.651**	0.84
	Single women vs. married men	1.655*	1.687*	1.207	1.15
	Formerly married women vs. married men	1.265	1.370	1.213	0.292
Age	Age 18-29 vs. 45+	0.926	0.763	0.985	0.607
	Age 30-34 vs. 45+	0.884	0.854	0.880	0.782
Children	Persons under age 18 in HH	1.282	1.337	1.051	0.950
Household work	Another adult age 18-59 at work	1.180	1.132	1.071	0.548**
Difficulty	A lot of difficulty vs. moderate/little	1.513**	1.271	1.568***	1.818**
Health/ stamina	Bad health or stamina vs. good	1.213	1.255	1.366**	1.957
Affected in school years	Affected in school years vs. not affected	0.833	0.938	0.909	0.914
Education	Upper second level educ. vs. lower second	0.677**	0.692**	0.833	0.886
	Third level educ. vs. lower second	0.417***	0.445***	0.395***	0.180*
Region	BMW vs. South and east	0.680**	0.743*	0.799	0.808
	Dublin vs. South and East	0.591***	0.618***	0.561***	0.312***
Aids and services	Number lacking	1.276***	1.190***	1.199***	1.157*
	Number used	1.029	1.105**	1.001	1.292**
Constant		0.246***	0.213***	0.287***	0.483
Observations		1,531	1,409	1,731	453

Source: National Disability survey, 2006; analysis by authors.

Note: Base= working-age people with a disability in employment or interested in employment, excluding students under age 30 and excluding cases for whom information on wage subsidy is not available. Odds ratios from a logistic regression model for needing a wage subsidy in order to be able to work. *** p<0.01, ** p<0.05, * p<0.1.

As we might anticipate, the need for a wage subsidy is increased for each needed service or aid the person lacks. This is true for three of the types of disability, but the association does not reach statistical significance for people with intellectual disability. The odds ratio is comparable in sign and magnitude to those for the

other disability types but the coefficient does not reach statistical significance because the sample size is smaller (453 cases).

In general, it is the number of services the person lacks that is associated with the need for a wage subsidy rather than the number of services or devices the person uses. However, for people with intellectual or EPMH disability, the number of services used is associated with a greater need for a wage subsidy. In the case of intellectual disability, the odds of needing a wage subsidy are about 0.29 higher for each additional service or device used. The impact is smaller in the case of EPMH disability, with an increase in the need for a wage subsidy of about one tenth for each additional service used.

With other characteristics in the table controlled, there is no systematic association between gender or age and the requirement for a wage subsidy. However, single men are more likely than married men to need a wage subsidy for two of the types of disability: mobility and dexterity and EPMH. There is some tendency for married women to be less likely to need a wage subsidy than married men, but this reaches statistical significance only in the pain disability (odds ratio 0.65).

The presence of children under age 18 in the household and the presence of another working adult in the household are not generally associated with the need for a wage subsidy. An exception is found in the case of intellectual disability: people with an intellectual disability living in a household where another adult is at work are less likely to need a wage subsidy (0.55).

The need for a wage subsidy is increased where the person has a greater level of difficulty associated with the disability, but this pattern is not statistically significant in the case of EPMH disability. For those with pain disability, the need for a wage subsidy is also increased where the person has health or stamina problems.

As might be expected, people with higher levels of education are less likely to report needing a wage subsidy, which can be understood in terms of their greater earnings capacity or ability to search effectively for employment. This pattern is significant for three of the disability types, but not for intellectual disability where very few have third-level education. There is no association with having been affected by the disability in the school years, however, once we take account of the level of education completed.

Among those with mobility and dexterity disability, those living in the BMW region have a lower self-reported requirement for a wage subsidy than those

living in the South and East. This might be explained in terms of lower housing costs in the BMW region were it not for the fact that those living in Dublin, where housing costs are highest, are less likely to require a wage subsidy across all four disability types. This might be linked to the greater preponderance of public sector and professional occupations in the Dublin region and may reflect a selective migration of people with a disability who have good job prospects to Dublin from other parts of the country.

4.7 SUMMARY

The goal in this chapter was to investigate the importance of aids and services to the labour market situation of people with a disability. The extent to which individual resources (such as education) are associated with being able to obtain the required aids or services was examined, as well as the extent to which non-employment is associated with unmet needs for these. The link between the need for services or aids and the perceived requirement for a wage subsidy was also analysed.

Since the devices and services people need are specific to the type of disability, we focused on people with the four main types of disability: mobility and dexterity, EPMH, pain and intellectual disability. Among people with each of the four types of disability, there was a need for services as well as devices specific to the disability.

For those with mobility and dexterity disability, the main aids used were physiotherapy (36 per cent) and walking aids (28 per cent) and main aids that the person needed but did not have were grab bars or bathroom aids (20 per cent) and physiotherapy (18 per cent). For people with EPMH disability, the aids most used were psychiatric services, counselling services and exercise/relaxation therapies (34 to 36 per cent), while the aids most often lacked were exercise or relaxation therapies (21 per cent) and counselling (18 per cent). People with pain disability most often used pain management (48 per cent) and heated pads or muscle stimulation devices (39 per cent), and they most often lacked massage services (20 per cent) and alternative medicine (19 per cent). People with intellectual disability were most likely to use psychology services (25 per cent) and occupational therapy (17 per cent) and most often lacked screen reading or learning support software (16 per cent).

Using an indicator of the number of unmet needs, with values ranging from 0 to 5 (for 5 or more), we found that the level of unmet needs was associated with the level of difficulty arising from the disability. We anticipated that people with higher levels of education might have fewer unmet needs, but there was no general relationship between the two. We found that, with the exception of

those with intellectual disability, people with higher levels of education use a higher number of services and devices, with other characteristics controlled. It is possible that the absence of a relationship between education and unmet needs reflects a higher level of expectation among people with higher levels of education, which might be linked to having more information on the range of services and devices that are available.

Focusing on those with an orientation to work – people who were either currently at work or who would be interested in work if the circumstances were right – we examined the link between unmet needs and being in employment among people with each of the four main types of disability. The analysis indicated that an unmet need for services or devices was associated with non-employment for people with mobility and dexterity disability or pain disability but not for people with EPMH or intellectual disability.

We considered the link between needing specific services and devices and a perceived need for a wage subsidy. Among those with an orientation to work (either at work or who would be interested in work), between 28 and 31 per cent identified a wage subsidy as something they needed (or would need) in order to take up employment. Other requirements included flexible work arrangements such as reduced hours (44 per cent to 54 per cent), modified job tasks (31 to 41 per cent) and accessibility modifications (31 to 48 per cent). These other requirements, particularly the need for flexible working arrangements, were correlated with the need for a wage subsidy. This suggests that part of the reported need for a wage subsidy is linked to reduced labour supply.

We estimated a statistical model to examine the link between the perceived need for a wage subsidy and unmet needs for aids. The results suggested that both the requirements for aids and earning capacity were important to the perceived need for a wage subsidy. People with a disability were more likely to identify a need for a wage subsidy if they had unmet needs for services or devices and they were less likely to identify a need for a wage subsidy if they had higher levels of education. The former is linked to the additional costs associated with having a disability while the latter is linked to earning capacity.

Chapter 5

Conclusions and Policy Implications

5.1 INTRODUCTION

In this chapter of the report we draw together the results to address the research questions and examine the implications for policy. The goal of the project was to investigate the factors that are important as facilitators or barriers to the employment of people with a disability. To accomplish this, we traced the association between disability and the person's education and work history. We began by examining any impact of the disability on the person's education, then proceeded to examine the impact of disability on their work history, bringing us to their current orientation to work and the significance of having access to enabling aids and services.

Focusing on working-age people with a disability, the research questions were as follows:

1. How did disability affect their education? What are the barriers and facilitators to people with a disability remaining in the educational system?
2. How significant is early-onset (during school years) disability in limiting people's participation in employment? Among those whose disability emerges after the school years, what factors are important to people remaining in employment after the onset of disability?
3. What role do the services and aids available to people with a disability play in facilitating participation in employment? How is the availability of aids and services linked to the perceived need for a wage subsidy?

In the following sections, we examine the results on education, employment and access to aids or devices before drawing out the implications of the findings for policy on the employment of people with a disability.

5.2 DISABILITY AND EDUCATION

Because disability is something that is, in most cases, acquired during the life course rather than being present from birth, most people with a disability were not affected by the disability in their school years. This is true even when considering people with a disability in the working-age group, from age 18 to 64. In this age group, 30 per cent of people with a disability were affected by the disability while in education; 17 per cent missed some time in school because of

their disability and 15 per cent left school sooner than they would have liked. People with certain types of disability were more likely to have been affected while in school or college, particularly those whose main disability was intellectual disability, learning disability or speech disability. Overall, 92 per cent of people with intellectual disability and 80 per cent of those with learning disability were affected during their school years, compared to 18 per cent of those with mobility and dexterity disability and 33 per cent of those with EPMH disability.

People who were affected by their disability during their school years were disadvantaged in terms of educational attainment, and this pattern remains significant even after taking account of any differences by main type of disability, age, region and gender. Of those affected during their school years, when other factors are controlled, males were more likely than females to report leaving school sooner than they would have liked (adjusted rates of 53 per cent and 46 per cent, respectively) and the adjusted rate was also high for people with EPMH disability (64 per cent).

In terms of level of education completed, we estimated that, controlling for type and severity of disability, age cohort, gender and region, working-age people with a disability who were affected during the school years were only about three-quarters as likely to complete second-level education compared to people with a disability who were not affected until later in life.

A number of other factors were associated with being more likely to complete second-level or third-level education. These included being female, being younger and having a lower level of difficulty associated with the disability. Younger adults with a disability were more likely than those aged 45 to 64 to complete second-level and third-level education. The odds of completing second level were 4.5 times higher for those under 30 and the odds of completing third level were twice as high compared to adults aged 45 to 64. The differences between the age groups mainly reflect the typical school completion stage for the different cohorts. In more recent times, young people have been staying in school longer and completing higher levels of education than was true in earlier decades. Like the general population, people with a disability were also affected by this trend.

Some of this age pattern undoubtedly reflects a general increase in the levels of education completed in recent decades. There have also been changes that specifically affect children with a disability. From the mid-1990s onwards, there has been significantly increased investment of resources in supporting children with special education needs. This is likely to have led to an improvement in outcomes for children with a disability but also to an increase in the identification of less serious learning disabilities during the school years that might hitherto not

have been detected. As a result, it is difficult to disentangle the effects of the general improvements in education and the detection of less serious learning difficulties from improvements in outcome for children with a given level of disability.

Of course, many other factors are also likely to have played a role in the retention of people with a disability in the school system. These include parental social class and education, level of family financial resources, and parental expectations. We do not have such detailed information on the *National Disability Survey* on the family background of the people with a disability during their childhood years. However, future research on the experiences of children with a disability drawing on sources such as the *Growing Up in Ireland Survey* will begin to address these issues.

5.3 DISABILITY AND EMPLOYMENT

In Chapter 3, the employment situation of working-age people with a disability was examined, including their employment history and their current orientation to work. While only 29 per cent of working-age people with a disability were currently in employment, 85 per cent had worked at some point in the past. In addition, nearly half (47 per cent) of those not currently in employment would be interested in employment if the circumstances were right. These patterns are indicative of a relatively strong orientation to work.

Focusing on current work, we calculated the adjusted percentage in employment: the percentage we would expect to find if other characteristics were held constant. This was higher for people with some types of disability and also differed by other characteristics. In terms of disability type, the adjusted percentage was higher for those with sensory disability (e.g. 43 per cent for those with hearing disability and 37 per cent for those with seeing disability). In terms of other differences, the adjusted percentage in employment was higher for married men than married women (38 vs. 23 per cent), for younger than older adults (37 per cent of the under 30 age group vs. 24 per cent of those aged 45 and over), those with a moderate level of difficulty (37 per cent vs. 25 per cent of those with a lot of difficulty), those with good health or stamina (both 35 per cent). It was also higher among those with higher levels of education (48 per cent of those with third-level education) and those living in Dublin (34 per cent). The regional pattern refers to where the person currently lives and people may have moved to Dublin in order to take up employment.

Paradoxically, with these other characteristics controlled, those who had been affected by their disability during their school years were slightly more likely to be currently at work (32 per cent) than those whose disability had emerged later (28

per cent). Perhaps this is not so surprising when we consider that the impact of early-onset disability on level of educational attainment has been taken into account. What it does suggest is that people whose disability emerges later in life are likely to face particular challenges in remaining in employment or finding more suitable employment.

Being interested in work, among those not at work, was also examined using a statistical model. We might think of this as an unmet demand for employment. This unmet demand was particularly high among younger adults (adjusted rate 73 per cent in the 18 to 34 age group compared to 37 per cent in the 45 to 64 age group). It was also higher among adults with third-level education (58 per cent), lower levels of difficulty associated with their disability (52 per cent) and it was higher among married men than married women (51 per cent compared to 41 per cent). Differences between single men and women or formerly married men and women were smaller.

The level of current interest in work is higher among those who worked in the past. About half of those who worked in the past would be interested in work if the circumstances were right, compared to 30 per cent of those who never worked.

Men and women with a disability were equally likely to have been in employment at some point (85 per cent) and were equally likely to have left employment because of a disability (41-42 per cent) but women were more likely to have left for other reasons (19 per cent vs. 11 per cent), so that fewer were currently in employment (25 per cent vs. 32 per cent).

Those who were never in employment and those who left a job because of a disability could be regarded as experiencing labour market exclusion. Based on a statistical model which takes account of other characteristics, we estimated the greatest level of disadvantage in this respect was among those with bad health, bad stamina or with EPMH disability (all over 60 per cent). On the other hand, the level of exclusion was lowest among those with third-level education (44 per cent) and those with a hearing disability (36 per cent). Overall, people with intellectual disability experience a relatively high level of labour market exclusion (61 per cent either never worked or left because of disability). However, this disadvantage is linked to their lower levels of education so that the adjusted rate, when we control for education, is much lower at 43 per cent.

Within the group experiencing labour market exclusion, we could identify a subgroup for whom the main challenge was in getting the first job (younger adults, people with intellectual or speech disability, people affected during their

school years). Another subgroup consisted of people for whom the main challenge was connected with having left work because of their disability: older adults with a disability, people with an EPMH disability, pain disability and those with health or stamina problems. These challenges will require different policy responses.

5.4 FACTORS FACILITATING EMPLOYMENT

In Chapter 4, the main question centred on the link between services and aids the person might need or use and the probability that they were actually in employment. The focus was on working-age people with a disability with an orientation to employment: people who were currently in employment or who would be interested in a job if the circumstances were right.

In the National Disability Survey, people with each type of disability were presented with a list of services and devices specific to that type of disability and asked to identify which they used and which they needed but did not have. Since the devices and services people need are specific to the type of disability, we focused on people with the four main types of disability: mobility and dexterity, EPMH, pain, and intellectual disability. Nearly nine out of ten working-age people with a disability has one of these types of disability. The services that were most frequently used by people with disability included physiotherapy (mobility and dexterity), psychiatric and counselling services (EPMH disability), pain management (pain) and psychology services (intellectual disability). The devices identified included walking aids (mobility and dexterity), heated massage or muscle stimulation devices (pain) and educational technology (intellectual disability).

An indicator of the number of aids used and an indicator of the number of aids lacked were constructed with values ranging from 0 to 5 (for 5 or more). A statistical model of the association between unmet need and characteristics of the person showed that unmet need was most strongly associated with the level of difficulty arising from the disability. Education also mattered. Contrary to expectations, people with higher levels of education did not have fewer unmet needs. They did, however, use significantly more services and devices than those with lower levels of education. It is likely that the absence of a relationship between education and unmet needs reflects a higher level of expectation among people with higher levels of education, which might be linked to having more information on the range of services and devices available.

Focusing on those with an orientation to work – people who were either currently at work or who would be interested in work if the circumstances were right – a statistical model was used to examine the link between unmet needs

and being in employment. Unmet needs were found to be associated with non-employment for people with mobility and dexterity disability and those with pain disability but not for people with EPMH or intellectual disability. This suggests that unmet needs for services or devices may indeed be a barrier to employment, but that their significance as a barrier may vary by type of disability. This may, in part, reflect the diversity of services and devices by disability type. Some were more clearly the type of service that might enable participation in employment (such as walking aids, physiotherapy) while others may have been more important in improving the person's quality of life (such as grab bars or bathroom aids, relaxation therapies).

The need for a wage subsidy was one of a set of general requirements identified by 24 per cent of people with a disability as things they would need or actually needed in order to be able to work. Other requirements included flexible work arrangements such as reduced hours (46 per cent), modified job tasks (29 per cent) and accessibility modifications (32 per cent). These other requirements, especially the need for flexible working arrangements, were correlated with the need for a wage subsidy.

We estimated a statistical model to examine the link between unmet needs and a perceived need for a wage subsidy. People were more likely to identify a need for a wage subsidy if they had unmet needs for services or devices and they were less likely to identify a need for a wage subsidy if they had higher levels of education. The link to unmet needs was significant for those with mobility and dexterity disability, EPMH disability and pain disability (odds ratios ranging from 1.2 to 1.3). The association was similar in magnitude for those with intellectual disability, but was not statistically significant, in part because the sample was smaller. Another characteristic associated with a greater likelihood of needing a wage subsidy across all four types of disability was the level of difficulty associated with the disability, with odds ratios ranging from 1.2 to 1.8.

The association between needing a wage subsidy and unmet needs is likely to be due to the additional costs associated with disability. On the other hand, the association with education is likely to reflect the importance of educational qualifications in enabling people to earn enough to compensate for the loss of any social protection payments and secondary benefits.

In this analysis, information on orientation to work, level of difficulty and the nature of the persons need for services and devices all pertain to the same point in time. Our analysis involved controlling for as many as possible of the potentially confounding factors. These include factors which may both increase the need for services and reduce the probability of employment, such as the person's health, stamina and difficulty associated with the disability.

Nevertheless, in the absence of longitudinal data, caution is needed in drawing inferences about the direction of causation.

5.5 POLICY IMPLICATIONS

The results reported here come from the 2006 National Disability Survey, with data collection taking place before the current recession. Research by Watson et al. (2013), comparing the labour market situation of people with a disability in 2004 and 2010, showed that people with a disability experienced a threefold increase in unemployment during the recession, an increase that was similar to that among the general population. The issue of access to employment for people with a disability, then, is even more pressing as Ireland moves into recovery. This is particularly the case given the strong association between joblessness and social exclusion, and the high rates of poverty and deprivation among people with a disability (Watson, Maître and Whelan, 2012; Watson and Maître, 2012; Watson and Nolan, 2011).

There are a number of policy implications arising from the findings in the report. The main ones concern the situation of people affected by their disability during their school years, the different challenges faced by people with early and late onset disability and the need for supports to help with the additional costs of disability.

The results indicate that there are two distinct types of challenges to the labour market participation of people with a disability.

- For those whose disability emerges early in life, the challenges centre on remaining in school or college long enough to maximise educational attainment and then, on leaving, getting the first job.
- For those whose disability emerges later, the challenges centre on retention in employment or retraining for a different kind of work.

Of course the two are not mutually exclusive. Most people with a disability have more than one type of disability and those who have a disability that emerges in the school years may go on to develop another disability later in life.

5.5.1 Implications for Educational Policy

The results indicated that younger people with a disability, like younger adults more generally, are more likely to have completed second level education than their older counterparts. We would expect second level completion to increase further in the future as a result of the increasing investment in supports for students with special educational needs following the 2004 EPSEN Act.

Just under one-third of working-age people with a disability were affected by the disability in their school years and half of these left school sooner than they would have liked. Recent research in Ireland has pointed to the fact that students with a disability in mainstream schools are more likely than their peers to report not liking school (McCoy and Banks, 2012). Since school engagement is crucial to retention in education, this issue clearly needs to be addressed. Greater availability of programmes such as the Junior Cycle Schools Programme and Leaving Certificate Applied may provide improved access to the curriculum for students with disabilities/SEN allowing them to maximise their educational achievement and make the transition to further/higher education or the labour market. Access programmes such as Disability Access Route to Education (DARE) target students with disabilities/SEN and aim to encourage greater numbers of these students pursue education beyond post-primary school.

The availability of large-scale survey data on children and young people from the National Disability Survey (child questionnaire) and the *Growing Up in Ireland* Survey offers an opportunity to investigate the experiences of young people with a disability as they move through the educational system. In particular, it would allow us to assess the relative contribution to early leaving of health and stamina, accessibility (whether within the school or in getting to school), the suitability of the curriculum, the availability of support services and flexibility around school attendance hours. Identification of the relevant factors would be important in informing policies to improve school retention and maximise the educational achievement of young people with a disability.

Another issue affecting young people with a disability is the age at which students with disabilities/SEN receive disability allowance. This means-tested payment is currently available to young people with a disability from age 16, often while still at school. There have been recommendations to raise the age to 18 (e.g. Government of Ireland (1986) *Report of the Commission on Social Welfare*, p. 200). The Value for Money Review (DSP, 2010) argued that 'the case for increasing the minimum age for the disability allowance from 16 to 18 remains compelling' as it may create a dependence on welfare payments from an early age. However, the impact of disability allowance on school retention has not been adequately researched. Data from the 17-year olds from the *Growing Up in Ireland* Survey, which is currently in the planning stages, could prove useful in addressing this question.

5.5.2 Implications for Lifelong Education and Training

Adult education and training are likely to be important to people with a disability, though for reasons that are different depending on whether the disability is early onset or later onset. Adult education is important to people with early-onset

disability because this group tends to have left school with a lower level of qualifications than those whose disability does not emerge until later in life. Among those with later onset disability, the high proportion leaving a job because of their disability suggests that at least a proportion of this group will need retraining for a different line of work. The recent focus by the National Council for Special Education on the needs of adult learners with a disability is likely to be very important in this regard (DES 2012).

5.5.3 Facilitating Employment of People with a Disability

People who were affected by the disability during their school years were more likely to have never worked (about one-third compared to only 6 per cent of those not affected at this stage). This is not fully accounted for by the level of difficulty associated with their disability, the type of disability, health and stamina or gender. The findings reported here from the National Disability Survey were based on data collected in 2006, before the start of the recession. The challenge of finding the first job is likely to be particularly acute for people with a disability, in the context of high youth unemployment. The employment support services which are now the responsibility of the Department of Social Protection are likely to be especially important to this group.

Although only a small proportion of people with a disability identified a need for human support services in order to be able to work, these are likely to be crucial for those whose disability causes most difficulty. This would include services such as those provided by the Department of Social Protection's EmployAbility programme, which includes job coaching.

5.5.4 Role of Employers

For the group whose disability emerges later in life, amounting to 70 per cent of working-age people with a disability, the challenges centre on either retention in employment or, where this is not possible, retraining for a different type of work. If people with a disability are to be retained in employment, the results here suggest a strong need for flexibility, such as reduced hours. Other requirements include accessibility-related modifications or devices for people with mobility and dexterity or pain disability and modified job tasks. There is clearly a role for employers here, and policy makers can facilitate this process by providing information on the range of requirements. However, given the strong association between the perceived need for a wage subsidy and the requirement for flexibility, there is also a role for public policy to act to bridge the gap between the person's required level of income and what they are able to earn. Some form of supplemental income is likely to be particularly important to people with lower levels of education.

Private sector employers have an important role in promoting employment of people with a disability, but policy needs to remove some of the perceived risk and uncertainty involved. For example, the report has shown that a large percentage of people with disability wishing to work would need flexible work arrangements to take employment. The current legislation offers a Wage Subsidy Scheme (WSS) for employers when employees work a minimum of 21 hours per week. This threshold may be too high and demanding for some people with disability. The QNHS contains some information on whether the unemployed or those seeking an alternative job are looking for part-time or full-time work and this information may throw some light on this question.

This report highlights the need to identify models of good practice for the reasonable accommodation of people with disabilities in employment. Evidence from EU research across of range of countries highlights, for example, practical methods being used in supported employment, the outcomes of the supported employment processes and the satisfaction for both the employer and employee (European Commission, 2011). International examples of good practice offer a combination of benefits and employment making it possible and more attractive for people with a disability to work. Supports are needed so that people should have options for partial work without losing their economic security (Greve, 2009). This kind of 'flexicurity' is highlighted in the 2008-2009 EU Disability Action Plan.

5.5.5 Financial Support for the Costs associated with Disability

The need for financial support is also associated with the disability-specific services and aids that are needed. The fact that unmet needs were associated with being outside employment for people with mobility and dexterity or pain disability points to the potential role of these services and aids in enabling people to seek and take up employment. Not all of the unmet needs were clearly of this enabling type. Some might enhance the person's quality of life without necessarily bringing about enough of an improvement in capacity for people to enter the workforce.

The data available to us were not sufficiently detailed to allow analysis on the level of wage subsidy that people with a disability would need in order to be able to take up employment. The perceived need for a wage subsidy is clearly linked to the level of unmet need for services and devices, however, as well as to a reduced earning capacity arising from lower levels of qualifications. In this regard, the Partial Capacity Benefit and the earnings disregard for people on Disability Allowance are likely to be particularly important.

5.5.6 Service Needs of People with a Disability

Whether the issue of unmet needs for services or supports is best addressed through direct provision of these services and devices or through financial support to people with a disability (which may take the form of a wage subsidy) remains an open question. Providing a financial supplement can be enabling, in that it gives people some control and influence over the service provider and it enables them to choose which services are most important. However, this depends on the availability of high quality services and devices in the market at an affordable cost.

At present, a diverse range of service benefits or supplementary financial assistance is available through different schemes and from different authorities. These include tax relief for those who are ill or have a disability, the Long Term Illness Scheme, medical card, GP Visit Card, grants and specific tax reliefs for drivers or passengers with a mobility disability and local authority grants for disability-related modifications to the home. More research is needed in order to understand the extent to which these schemes meet the needs of people with a disability and the extent to which they are useful in promoting participation in work and in society more generally.

5.5.7 Summary of Policy Implications

In summary, a number of policy areas are important to the employment of people with a disability.

- Facilitating retention in education of those whose disability emerges in the school years.
- An emphasis on lifelong learning geared to the needs of people with intellectual or learning disability – the groups most likely to be affected in the school years – and also to the needs of people whose disability emerges later in life.
- Facilitating retention in employment of people whose disability emerges after their working life has already begun. Employers are the key actors here, but there is a role for public policy in providing information, training and, where needed, supplements to income.
- Income supplementation to compensate for the extra costs of services and aids needed by people with a disability and to compensate for the reduced earning capacity linked to low levels of education or to the need for reduced working hours.
- There are two time-points where employment support services are crucial. The first is for people whose disability emerges early at the point where they

are nearing the end of their education and anticipating entry into employment. The second is for people whose disability emerges during their working life. For those who are at the point of leaving work because of a disability, intervention is needed to facilitate either retention or retraining for an alternative job.

Appendix Tables

TABLE A1.1 Main Relevant Items from National Disability Survey, 2006

Education
6.6 Because of your disability, how much, to date or in total, was your education interrupted by absences?
6.7 Because of your disability, did you stop your education sooner than you wanted to?
6.8 Why did you stop your full-time education sooner than you wanted?
(response options include availability of transport; suitability of building/equipment; availability of learning support, feeling isolated; finding learning difficult; lack of interest; poor health; becoming eligible for social welfare)
Leaving Job Because of Disability
7.8 Did you leave your job for reasons related to your disability?
7.9 What was the main reason you left your previous job?
(response options include inadequate transport; job not accommodated to disability; isolation/discrimination; found job difficult; poor health; other reason)
7.11 Have any of the following reasons discouraged you from looking for work in the last 6 months?
(Responses include loss of current income; loss of secondary benefits; inadequate transport; discouraged by family/friends; family responsibilities; inaccessible information about jobs; concern about isolation; concern about discrimination/bullying; concern about employers' attitudes; feel that training/education is inadequate; no suitable jobs available)
Current Job or Potential Future Job
7.2 Which of the following categories best describes your MAIN activity status at present?
Response options: Working for payment or profit; Looking for first regular job; Unemployed; Retired early (i.e. before normal age); Unable to work due to permanent illness or disability; Looking after family/home; Student or pupil; Retired at normal age; Other).
7.3 Is your present main job in...[Private sector; Public sector; A sheltered workshop; Supported employment (with job-coach); Job scheme-e.g. community employment/job initiative; Other]
7.4 How many hours do you usually work each week, including regular paid and unpaid overtime?
7.5 Have you ever been promoted, moved to better job or advanced your career since you had your disability?
7.10 If the circumstances are right would you be interested in starting employment?
7.15 Because of your disability do/would you require any of the following to be able to work?
(Response options include: Accessible transport; Appropriate parking; Accessible building; Handrails/ramps; Accessible lift; Accessible toilet; Human support, e.g. reader/sign language interpreter/job coach/ personal assistant; Technical aids e.g. voice synthesiser/ minicom/infrared system/portable note-taker; Communication aids e.g. large print/Braille/ recoding equipment; Modified work station; Modified job tasks; Flexible work arrangements e.g. shorter working day/week; Wage subsidy)
Facilitators
For each type of disability, aids the person has and aids they need but do not have. (For example, a voice amplifier for a person with a speech disability; walking aids for a person with a mobility and dexterity disability; psychotherapy for a person with an emotional, psychological and mental health disability.)

Source: National Disability Survey, 2006.

TABLE A2.1 Odds Ratios for Education Models (1) Being Affected by Disability While in School Years and (2) Whether Left School Sooner than Desired, Conditional on Being Affected During School Years

		Model 1 Affected in school years	Model 2 If affected in school years, left sooner than desired
Gender	Male	Ref.	Ref.
	Female	1.050	0.747***
Age	18-29	7.216***	0.520***
	30-44	2.364***	0.834
	45+	Ref.	Ref.
Main disability	Seeing	2.403***	0.692
	Hearing	3.137***	0.955
	Speech	7.428***	0.771
	Mobility and dexterity	Ref.	Ref.
	Remembering and concentrating	3.561***	1.719
	Learning	18.771***	1.616*
	Intellectual	37.686***	1.097
	EPMH	2.503***	2.355***
	Pain	0.615***	0.963
	Breathing	1.456**	0.884
Difficulty	A lot of difficulty vs. moderate	1.383***	1.551***
	'Cannot do' vs. moderate	2.675***	1.466**
Region	Border, Midlands and West	1.105	0.940
	Dublin	1.038	0.716**
	South and East	Ref.	Ref.
Constant		0.074***	1.040
N observations		7,205	2,173

Source: National Disability Survey, 2006; analysis by authors.

Note: Base= people with a disability of working age (18 to 64), excluding students under age 30. The figures are odds ratios from a logistic regression model with being affected during the school years (Model 1) and leaving school sooner than desired (Model 2) as the dependent variables. *** p<0.01, ** p<0.05, * p<0.1.

TABLE A3.1 Odds Ratios for Being in Employment vs. Not in Employment (Logistic Regression)

		Odds Ratio
Gender and marital status	Married men (Ref.)	(Ref.)
	Single men	0.573***
	Formerly married men	0.650**
	Married women	0.384***
	Single women	0.586***
	Formerly married women	0.496***
Age	18-34	2.263***
	35-44	2.184***
	45 and over (Ref.)	(Ref.)
Type disability	Seeing	1.678***
	Hearing	2.368***
	Speech	1.1
	Mobility and Dexterity (Ref.)	(Ref.)
	Remembering and Concentrating	1.323
	Learning	2.049***
	Intellectual	0.934
	Emotional, Psychological and Mental Health	0.673***
	Pain	1.195
	Breathing	1.450**
Level of Difficulty	Moderate/little (Ref.)	(Ref.)
	A lot	0.516***
	Cannot do	0.373***
General health	Good or very good	(Ref.)
	Fair	0.598***
	Bad or very bad	0.276***
Stamina	Good or very good	(Ref.)
	Fair	0.588***
	Bad or very bad	0.462***
Affected in school	Yes	1.286***
	Not affected (Ref.)	(Ref.)
Education	Lower second level or less	(Ref.)
	Upper second level	1.777***
	Third level	3.739***
Region	Border, Midlands and West	1.052
	Dublin	1.517***
	South and East	(Ref.)
Constant		0.724**
N cases		6,314

Source: National Disability Survey, 2006; analysis by authors.

Note: Base= people with a disability of working age (18 to 64), excluding students under age 30. The figures are odds ratios from a logistic regression model with being at work as the dependent variable. *** p<0.01, ** p<0.05, * p<0.1.

TABLE A3.2 Odds Ratios for Being in Interested vs. Not Interested in Employment Among Those Not in Employment

		Odds Ratios
Gender	Married men (Ref.)	(Ref.)
	Single men	0.877
	Formerly married men	1.194
	Married women	0.642***
	Single women	0.787*
	Formerly married women	1.025
Age	18-34	5.241***
	35-44	3.499***
	45 and over (Ref.)	(Ref.)
Type disability	Seeing	1.074
	Hearing	1.387
	Speech	0.504**
	Mobility and Dexterity (Ref.)	(Ref.)
	Remembering and Concentrating	0.89
	Learning	1.409
	Intellectual	0.384***
	Emotional, Psychological and Mental Health	1.241*
	Pain	1.637***
	Breathing	0.94
Level of Difficulty	Moderate/little (Ref.)	(Ref.)
	A lot	0.782***
	Cannot do	0.576***
General Health	Good or very good	(Ref.)
	Fair	0.997
	Bad or very bad	0.788
Stamina	Good or very good	(Ref.)
	Fair	0.886
	Bad or very bad	0.972
Affected in school	Yes	0.974
	Not affected (Ref.)	(Ref.)
Education	Lower second level or less	(Ref.)
	Upper second level	1.693***
	Third level	1.884***
Region	Border, Midlands and West	0.858*
	Dublin	1.232**
	South and East	(Ref.)
Constant		0.679***
N cases		4,352

Source: National Disability Survey, 2006; analysis by authors.

Note: Base= people with a disability of working age (18 to 64), not in employment, excluding students under age 30. The figures are odds ratios from a logistic regression model with being interested in work as the dependent variable. *** p<0.01, ** p<0.05, * p<0.1.

TABLE A3.3 Odds Ratios for Having Never Worked or Having Left Work Because of Disability or for Another Reason (versus Being Currently at Work)

	Never Worked	Left because of disability	Left, other reason
Single man vs. married man	9.112***	1.382**	1.837***
Formerly married man vs. married man	1.648	1.288	1.676*
Married woman vs. married man	8.292***	2.100***	4.213***
Single woman vs. married man	9.502***	1.188	2.367***
Formerly married woman vs. married man	7.215***	1.473**	3.446***
Age 18-29 vs. 45+	0.718**	0.322***	0.339***
Age 30-34 vs. 45+	0.555***	0.490***	0.409***
Seeing vs. mobility and dex.	0.841	0.491***	0.639*
Hearing vs. mobility and dex.	0.307***	0.323***	0.553***
Speech vs. mobility and dex.	2.255**	0.239***	0.483
Rememb. etc. vs. mobility and dex.	0.713	0.684*	0.859
Learning vs. mobility and dex.	0.528	0.217***	0.92
Intellectual vs. mobility and dex.	1.960***	0.173***	0.517**
EPMH vs. mobility and dex.	1.286	1.722***	1.149
Pain vs. mobility and dex.	0.486***	0.909	0.719**
Breathing vs. mobility and dex.	0.597*	0.684**	0.741
A lot of difficulty vs. moderate/little	2.014***	2.105***	1.923***
'Cannot do' vs. moderate/little difficulty	4.149***	2.603***	2.092***
General health fair vs. good	1.523***	1.792***	1.618***
General health bad vs. good	3.396***	3.896***	2.861***
Stamina fair vs. good	1.566***	1.937***	1.441***
Stamina bad vs. good	2.574***	2.329***	2.086***
Affected in school years vs. not affected	2.247***	0.636***	0.616***
Upper second level educ. vs. lower second	0.364***	0.637***	0.549***
Third level educ. vs. lower second	0.193***	0.317***	0.167***
BMW vs. South and east	0.908	0.957	0.976
Dublin vs. South and East	0.551***	0.658***	0.749**
Constant	0.036***	0.864	0.321***
Observations	6,185		

Source: National Disability Survey, 2006; analysis by authors.

Note: Base= people with a disability of working age (18 to 64), excluding students under age 30. The figures are odds ratios from a multinomial (polytomous) regression model with work history (never worked, worked but left because of disability; worked but left for another reason; currently at work) as the dependent variable.

*** p<0.01, ** p<0.05, * p<0.1.

TABLE A4.1 Tetrachoric Correlation Coefficients Among Requirements for Employment

	Accessibility	Modif. Task	Flexibility	Wage sub.	Other
(Would) need accessibility devices	1.000				
(Would) need modified job tasks	0.668	1.000			
(Would) need flexible work arrangements	0.637	0.764	1.000		
(Would) need wage subsidy	0.590	0.609	0.855	1.000	
(Would) need other services/aids	0.481	0.546	0.344	0.394	1.000

Source: National Disability Survey, 2006; analysis by authors.

Note: Base= working-age people with a disability in employment or interested in employment, excluding students under age 30. The tetrachoric correlation coefficient is appropriate when the indicator takes the values 0 or 1, as in this case. The coefficient ranges from 0 (no relationship) to 1 (the items are identical).

TABLE A4.2 Polyserial Correlation Coefficients Among Requirements for Employment and Disability Specific Devices or Services Used and Lacked

	Mobility and Dexterity	EPMH	Pain	Intellect.
Correlation with disability-specific unmet needs				
Accessibility devices/modifications	0.28	0.11	0.13	0.12
Modified job tasks	0.15	0.12	0.08	0.17
Flexible work arrangements	0.20	0.18	0.15	0.11
Wage subsidy	0.20	0.24	0.24	0.13
Other services/aids	0.15	0.17	0.04	0.19
Correlation with disability-specific devices and services used				
Accessibility devices/modifications	0.29	-0.03	0.08	0.21
Modified job tasks	0.07	-0.03	0.02	0.22
Flexible work arrangements	0.07	0.09	0.11	0.22
Wage subsidy	0.07	0.05	0.02	0.19
Other services/aids	0.16	0.02	-0.08	0.27

Source: National Disability Survey, 2006; analysis by authors.

Note: Base= working-age people with a disability in employment or interested in employment, excluding students under age 30. Polyserial correlation coefficients are appropriate when one variable in continuous (number of items lacked) and the other is dichotomous (whether or not flexible working arrangements are needed).

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