



A Socioeconomic Profile of Childhood Disability in Ireland: Evidence from the Growing Up in Ireland Survey

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Content overview

- Context**
- Background**
- Literature**
- Research Questions**
- Methodology**
- Results**
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- Concluding Remarks**



Context

Essay One

A Socioeconomic Profile of Childhood Disability in Ireland



Essay Two

Estimating Healthcare Utilization Costs using Waves 1 & 2 of GUI Data



Essay Three

Estimating Costs Associated with Raising a Child with Autism



Background

Prevalence Rates

- ❑ 5.4% of children under the age of 14 have a disability
- ❑ 8% of teenagers aged between 15-19 years have a disability (Census, 2011)
- ❑ The top five limiting conditions of children in the past few years have been behavioural or developmental (*The Future of Children, 2012*)
- ❑ Intangible costs to the child, family and society

Economic Costs

- Estimated annual average cost of \$30,500 per family in the US (Stabile & Allin, 2012)
- Costs up to three times more to raise a child with a disability – Dobson & Middleton, 2001 (UK); Petrenchik, 2008 (Canada)

Current Financial Support

- Domiciliary care payment - €309 per month
- Respite care grant - €1,700
- Carer's Allowance - €204 P/W & free household benefits (carers on low income)
- Carer's Benefit - €205 P/W



Immediate and Long-term Economic Costs

Direct out-of-pocket costs

- Medical costs
- Therapeutic, behavioural, or educational services
- Special needs services
- Transport costs
- Accommodation
- Childcare
- Equipment
- Special diets & clothing
- Extra phone & heating costs

Indirect costs

- Opportunity costs
- Work forgone in terms of reduced working hours
- Turning down a promotion
- Increased unemployment
- Clustering of adult & child disability
- Family relationships

Long-term costs

- Economic well-being in adulthood
- Accumulation of education, skills & other human capital may be affected as a result of childhood disability
- Poorer labour market outcomes as a result of lower levels of human capital

(Stabile & Allin, 2012)



Literature

❑ Evidence on Childhood Disability and Socioeconomic Outcomes from Other Countries

- Social disadvantage (Blackburn *et al.*, 2012 - UK)
- Extra cost & standard of living (Burchardt and Zaidi, 2008 -UK; Gordon *et al.* 2000 - UK)
- Hardship & debt (Emerson and Hatton, 2007 – UK; Harrison and Woolley, 2004 -UK)
- Maternal labour supply (Power, 2001-US; Lu and Zuo, 2010 – Australia)
- Financial costs (Fitzgerald, 2004 – Ireland; Normand and Revill, 2010 - Ireland)
- Family well-being (Dowling and Dolan, 2001 – UK; Gallimore *et al.*, 2010 –US)
- Economic well-being in adulthood (Case *et al.* 2005 –US; Palloni and Milesi, 2006- US; Smith, 2009 – US)



Research Questions

□ To consider the socioeconomic circumstances of families caring for a nine year old child with a disability in Ireland

➤ In particular, what is the association between a range of socioeconomic outcomes (listed below) and the childhood disability status of households when controlling for other household level characteristics ?

- **Primary Carer's Labour Force Participation**
- **Turn Down Work Activities Because of Family Responsibilities**
- **Household's Degree of Ease or Difficulty of Making Ends Meet**
- **Experiencing Lifestyle Deprivation**
- **Household's Social Class**
- **Primary Carer has a Third Level Qualification**
- **Primary Carer has a Disability**
- **Annual Household Income**



Measure of Childhood Disability

Based on the primary carer's response to the following questions:

- *Does the Study Child have any on-going chronic physical or mental health problem, illness or disability ? Yes/No*
- *Is the Study Child hampered in his/her daily activities by this problem, illness or disability ? (1) Yes, severely, (2) yes, to some extent or (3) no.*

(Consistent with measure of disability constructed from the Living in Ireland Survey)



Prevalence Rates

Prevalence of Chronic Illness or Child Disability

| Gender | All | Household with a non-disabled child | Household with a child with a disability |
|--------------|--------------|-------------------------------------|--|
| Boys | 4,163 | 3,671 | 492 |
| Girls | 4,405 | 4,027 | 378 |
| Total | 8,568 | 7,698 | 870 |

Source: Analysis of Growing up in Ireland National Longitudinal study of Children dataset, 2008.

Child Hampered on a Daily Basis

| Gender | Severely | Some extent | Not |
|--------------|------------|--------------|--------------|
| Boys | 29 (5.89%) | 167 (33.94%) | 296 (60.16%) |
| Girls | 19 (5.03%) | 141 (37.30%) | 218 (57.67%) |
| Total | 48 | 308 | 514 |

Source: Analysis of Growing up in Ireland National Longitudinal study of Children dataset, 2008.

| ICD 10 | Male | Female | Total |
|--|------------|------------|------------|
| Diseases of the Respiratory system | 232 | 175 | 407 |
| Diseases of the Nervous system | 21 | 17 | 38 |
| Congenital malformations, deformations | 13 | 17 | 30 |
| Diseases of the skin & subcutaneous | 14 | 18 | 32 |
| Endocrine, nutritional & metabolic disease | 13 | 11 | 24 |
| Diseases of the genitourinary system | 9 | 23 | 32 |
| Diseases of the digestive digestive system | 13 | 22 | 35 |
| Diseases of the musculoskeletal system | 14 | 10 | 24 |
| Diseases of the ear and mastoid process | 12 | 14 | 26 |
| Diseases of the Eye & adnexa | 23 | 14 | 37 |
| Neoplasms | 10 | 5 | 15 |
| Other diseases not classified elsewhere | 3 | 0 | 3 |
| Certain infectious & parasitic issues | 4 | 9 | 13 |
| Mental, behavioural disorders | 3 | 1 | 4 |
| Disease of blood & blood forming organisms | 104 | 36 | 140 |
| Disease of the circulatory system | 1 | 3 | 4 |
| Total | 489 | 375 | 864 |



Econometric Modelling

❑ 4 Binary Logit Models

Dependent variables

- Labour Force Participation
- Third Level Qualifications
- Primary Carer's Disability Status
- Experiencing Lifestyle Deprivation

❑ 3 Ordered Logit Models

Dependent variables

- Household's Social Class
- Turn Down Work Opportunities
- Making Ends Meet

❑ 1 OLS Regression Model

Dependent variables

- Annual Household Income



Independent Variables

- Child's disability status
- Maternal factors: age, education, disability status, ethnicity, labour force status
- Paternal factors: education, disability status, labour force status
- Family environment: household number, housing tenure, access to regular transport, rural area, equivalised household income



Primary Carer's Labour Force Participation

| Table 1 | No Controls OR (95% CI) | With Controls OR (95% CI) |
|------------------------------------|----------------------------|------------------------------|
| Child with a disability | 0.78 *** (0.67, 0.89) | 0.84** (0.72, 0.98) |
| Age | | 1.00 (0.99, 1.01) |
| Single parent 1 or 2 Children | | 1.66*** (1.35, 2.04) |
| Single parent 3 or more Children | | 0.73*** (0.57, 0.94) |
| Couple 3 or more Children | | 0.50*** (0.45, 0.56) |
| Ethnicity | | 0.78*** (0.65, 0.93) |
| Primary carer has a disability | | 0.58*** (0.50, 0.66) |
| Secondary education | | 2.22*** (1.67, 2.96) |
| Third level education | | 5.39*** (4.00, 7.26) |
| Rural | | 0.99 (0.87, 1.11) |
| Access to regular public transport | | 0.84*** (0.75, 0.95) |
| Equivalised household income | | 1.00*** (1.00, 1.00) |
| AIC | 11565.26 | 9840.153 |
| N observations | 8558 | 7912 |

Primary Carer's Labour Force Participation

| Table 2 | No Controls OR (95% CI) | | With Controls OR (95% CI) | |
|---|----------------------------|--------------|------------------------------|--------------|
| Child disabled with severe limitation in daily activities | 0.70 | (0.39, 1.28) | 0.68 | (0.35, 1.33) |
| Child disabled with some limitation | 0.74*** | (0.59, 0.92) | 0.84 | (0.66, 1.06) |
| Child disabled with no limitation | 0.81** | (0.67, 0.98) | 0.86 | (0.70, 1.05) |
| Age | | | 1.00 | (0.99, 1.01) |
| Single parent 1 or 2 Children | | | 1.66*** | (1.35, 2.04) |
| Single parent 3 or more Children | | | 0.73*** | (0.57, 0.94) |
| Couple 3 or more Children | | | 0.50*** | (0.45, 0.56) |
| Ethnicity | | | 0.78*** | (0.65, 0.93) |
| Primary carer has a disability | | | 0.58*** | (0.50, 0.67) |
| Secondary education | | | 2.22*** | (1.66, 2.96) |
| Third level education | | | 5.39*** | (4.00, 7.26) |
| Rural | | | 0.98 | (0.87, 1.11) |
| Access to regular public transport | | | 0.84*** | (0.75, 0.95) |
| Equivalent household income | | | 1.00*** | (1.00, 1.00) |
| AIC | | 11568.68 | | 9843.663 |
| N observations | | 8558 | | 7912 |



Turn Down Work Activities Because of Family Responsibilities

| Table 3 | No Controls OR (95% CI) | With Controls OR (95% CI) |
|--------------------------------|------------------------------------|--------------------------------------|
| Child with a disability | 1.21*** (1.06, 1.37) | 1.09 (0.95, 1.24) |
| AIC | 27571.49 | 25337.32 |
| N Observations | 8439 | 7809 |

| Table 4 | No Controls OR (95% CI) | With Controls OR (95% CI) |
|--|------------------------------------|--------------------------------------|
| Child disabled with severe limitation in daily activities | 1.57* (0.94, 2.62) | 1.44 (0.83, 2.51) |
| Child disabled with some limitation | 1.38*** (1.13, 1.69) | 1.26** (1.02, 1.54) |
| Child disabled with no limitation | 1.08 (0.92, 1.28) | 0.97 (0.82, 1.14) |
| AIC | 27570.94 | 25336.44 |
| N observations | 8439 | 7809 |

Source: Analysis of Growing up in Ireland National Longitudinal study of Children dataset, 2008.

***denotes significant at 1%, ** denotes significant at 5%, * denotes significant at 10%

Adjusted by age, single parent 1 or 2 children, single parent 3 or more children, couple with 3 or more children, primary carer's - ethnicity, disability status, secondary education, third level education, household rural, access to regular public transport, equivalised income



Household's Degree of Ease or Difficulty of Making Ends Meet

| Table 5 | No Controls OR (95% CI) | With Controls OR (95% CI) |
|--|------------------------------------|--------------------------------------|
| Child with a disability | 0.71*** (0.62, 0.82) | 0.85** (0.73, 0.99) |
| AIC | 25199.23 | 17206.83 |
| N observations | 8556 | 6576 |
| Table 6 | No Controls OR (95% CI) | With Controls OR (95% CI) |
| Child disabled with severe limitation in daily activities | 0.58* (0.27, 1.24) | 0.62* (0.36, 1.07) |
| Child disabled with some limitation | 0.54*** (0.44, 0.66) | 0.65*** (0.51, 0.82) |
| Child disabled with no limitation | 0.86* (0.72, 1.03) | 1.01 (0.83, 1.23) |
| AIC | 25189.66 | 17202.03 |
| N observations | 8556 | 6576 |

Source: Analysis of Growing up in Ireland National Longitudinal study of Children dataset, 2008.

***denotes significant at 1%, ** denotes significant at 5%, * denotes significant at 10%

Adjusted by age, primary carer's - ethnicity, disability status, secondary education, third level education, labour force participation, secondary carer's – disability, secondary education, third level education, labour force participation, household – number, rural, equivalised income, access to regular public transport



Experiencing Lifestyle Deprivation

(Lacking One or more of 11 Deprivation Measures)

| Table 7 | No Controls OR (95% CI) | With Controls OR (95% CI) |
|--------------------------------|------------------------------------|--------------------------------------|
| Child with a disability | 1.49*** (1.21, 1.83) | 1.19 (0.88, 1.60) |
| AIC | 5805.942 | 3508.852 |
| N observations | 8558 | 6577 |

| Table 8 | No Controls OR (95% CI) | With Controls OR (95% CI) |
|--|------------------------------------|--------------------------------------|
| Child disabled with severe limitation in daily activities | 1.28 (0.53, 3.12) | 0.36 (0.05, 2.56) |
| Child disabled with some limitation | 1.74*** (1.26, 2.39) | 1.34 (0.87, 2.03) |
| Child disabled with no limitation | 1.36** (1.03, 1.79) | 1.17 (0.79, 1.73) |
| AIC | 5808.319 | 3510.613 |
| N observations | 8558 | 6577 |

Source: Analysis of Growing up in Ireland National Longitudinal study of Children dataset, 2008.

***denotes significant at 1%, ** denotes significant at 5%, * denotes significant at 10%

Adjusted by primary carer's - ethnicity, disability status, secondary education, third level education, labour force participation, parental- disability status, secondary education, third level education, labour force participation, household – number, rural, rented accommodation, access to regular transport, equivalised income



Household's Social Class

| Table 9 | No Controls OR (95% CI) | With Controls OR (95% CI) |
|--------------------------------|------------------------------------|--------------------------------------|
| Child with a disability | 1.10 (0.95, 1.27) | 1.00 (0.85, 1.19) |
| AIC | 14798.26 | 10576.33 |
| N observations | 8101 | 6990 |

| Table 10 | No Controls OR (95% CI) | With Controls OR (95% CI) |
|--|------------------------------------|--------------------------------------|
| Child disabled with severe limitation in daily activities | 2.57*** (1.28, 5.18) | 1.99* (0.98, 4.06) |
| Child disabled with some limitation | 1.15 (0.92, 1.43) | 0.97 (0.74, 1.26) |
| Child disabled with no limitation | 0.99 (0.82, 1.20) | 0.97 (0.78, 1.22) |
| AIC | 14792.68 | 10576.94 |
| N observations | 8101 | 6990 |

Source: Analysis of Growing up in Ireland National Longitudinal study of Children dataset, 2008.

***denotes significant at 1%, ** denotes significant at 5%, * denotes significant at 10%

Adjusted by lone parent status, primary carer's - ethnicity, disability status, secondary education, third level education, secondary carer's - disability, secondary education, third level education, household - number, rural, rented accommodation



Primary Carer has a Third Level Education

| Table 11 | No Controls OR (95% CI) | With Controls OR (95% CI) |
|--------------------------------|------------------------------------|--------------------------------------|
| Child with a disability | 0.77*** (0.67, 0.89) | 0.81*** (0.71, 0.94) |
| AIC | 11851.9 | 11531.16 |
| N observations | 8558 | 8540 |

| Table 12 | No Controls OR (95% CI) | With Controls OR (95% CI) |
|--|------------------------------------|--------------------------------------|
| Child disabled with severe limitation in daily activities | 0.64 (0.34, 1.20) | 0.72 (0.39, 1.32) |
| Child disabled with some limitation | 0.69*** (0.54, 0.87) | 0.74*** (0.58, 0.94) |
| Child disabled with no limitation | 0.84* (0.70, 1.01) | 0.87 (0.72, 1.05) |
| AIC | 11853.45 | 11533.78 |
| N observations | 8558 | 8540 |

Source: Analysis of Growing up in Ireland National Longitudinal study of Children dataset, 2008.

***denotes significant at 1%, ** denotes significant at 5%, * denotes significant at 10%

Adjusted by age, age squared, single parent 1 or 2 children, single parent 3 or more children, couple with 3 or more children, primary carer's - ethnicity, disability status, household rural, rented accommodation



Primary Carer has a Disability

| Table 13 | No Controls OR (95% CI) | With Controls OR (95% CI) |
|-------------------------|----------------------------|------------------------------|
| Child with a disability | 2.29*** (1.92, 2.73) | 2.17*** (1.81, 2.62) |
| AIC | 6579.221 | 6018.34 |
| N observations | 8556 | 7911 |

| Table 14 | No Controls OR (95% CI) | With Controls OR (95% CI) |
|---|----------------------------|------------------------------|
| Child disabled with severe limitation in daily activities | 1.07 (0.36, 3.27) | 0.96 (0.30, 3.09) |
| Child disabled with some limitation | 2.42*** (1.85, 3.15) | 2.30*** (1.74, 3.03) |
| Child disabled with no limitation | 2.34*** (1.89, 2.92) | 2.25*** (1.80, 2.82) |
| AIC | 6579.453 | 6017.904 |
| N observations | 8556 | 7911 |

Source: Analysis of Growing up in Ireland National Longitudinal study of Children dataset, 2008.

***denotes significant at 1%, ** denotes significant at 5%, * denotes significant at 10%

Adjusted by age, single parent 1 or 2 children, single parent 3 or more children, couple with 3 or more children, primary carer's - ethnicity, secondary education, third level education, household rural, access to regular transport, equivalised income



OLS of the Log of Annual Household Income

| Table 15 | OLS Estimates with No Controls | OLS Estimates with Controls |
|-------------------------|--------------------------------|-----------------------------|
| Child with a disability | -.1004*** (.0201) | -.0300** (.0155) |
| AIC | 12425.35 | 6842.682 |
| N observations | 7937 | 6577 |

| Table 16 | OLS Estimates with No Controls | OLS Estimates with Controls |
|---|--------------------------------|-----------------------------|
| Child disabled with severe limitation in daily activities | -.1998** (.1003) | -.0014 (.0979) |
| Child disabled with some limitation | -.1449*** (.0309) | -.0597 (.0269) |
| Child disabled with no limitation | -.0639*** (.0255) | -.0155 (.0183) |
| AIC | 12423.42 | 6844.883 |
| N observations | 7937 | 6577 |

Source: Analysis of Growing up in Ireland National Longitudinal study of Children dataset, 2008.

***denotes significant at 1%, ** denotes significant at 5%, * denotes significant at 10%

Adjusted by lone parent status, primary carer's - ethnicity, disability status, secondary education, third level education, labour force participation, parental disability status, secondary education, third level education, labour force participation, household – number, rural, access to regular transport, rented accommodation



Caveats

- **No consistent definition of childhood disability**
- **Relatively small sample size of children who are severely hampered on a daily basis (N=48)**
- **Controlling for the influence of a sibling having a disability**
- **Issues of endogeneity with household income**



Concluding Remarks

- ❑ **Socioeconomic disadvantage associated with childhood disability even when controlling for household characteristics**
 - **Primary Carer less likely:**
 - to participate in the labour force
 - have a third level qualification
 - More likely:**
 - To turn down work opportunities because of family responsibilities
 - To have a disability themselves
 - **Secondary Carer** – similar findings, but to a lesser extent
 - **Household Level**
 - Face a greater degree of difficulty in making ends meet
 - More likely to experience lifestyle deprivation
 - When controlling for other household level characteristics there is no substantial difference in the annual household income of households that have a child with a disability in comparison to households who do not

- ❑ **Findings suggest that households with a child who has a disability are diverting resources to address unmet needs and extra costs resulting in increased hardship**



Thank you for your time and attention

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