Data Explained

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Using the Earnings and Employees Study (2011) to analyse the association between unpaid caring and employment and earnings in Northern Ireland

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Currently it is estimated that one in five adults in Northern Ireland (NI) have caring responsibilities.

For people with long-term physical/psychological problems, disabilities, or problems related to old age, there are many benefits associated with being cared for at home by a family member or friend. There are also benefits associated with being a care giver: research has shown that providing care can increase confidence in the caregivers, develop resilience, strengthen emotional bonds with the care recipient, and provide reassurance that the care recipient is being well-cared for.

However, care giving also comes with many costs to the care giver. This project aimed to assess the degree to which providing unpaid care in NI negatively impacts on employment and earnings.

Initial research questions

The research project aimed to:

1. develop the most comprehensive socio-demographic profile of unpaid carers in Northern Ireland
2. estimate the association between carer status and a broad range of employment and income indicators
3. identify 'high-risk' group(s) of carers that have poorest employment and income outcomes
4. estimate the effect of carer status on employment and income, controlling for other potentially confounding variables.

Dataset and variables used

The Earnings and Employees Study (EES) 2011 links variables from the Annual Survey of Hours and Earnings (ASHE) 2011 to variables from the Northern Ireland Census of Population and Housing 2011, as well as Capital Value data from the Land and Property Services.

ASHE 2011 is a UK wide survey that provides a wide range of information on earnings and hours worked. It is carried out by the Office for National Statistics (ONS) in Great Britain and the Northern Ireland Statistics and Research Agency (NISRA) in Northern Ireland. The sample used comprises approximately 1% of all employees in Northern Ireland who were covered by Pay As You Earn (PAYE) schemes.

Table 1. Person and household variables and data source

Person variables	Data Source
Sex	ASHE 2011
Age	ASHE 2011
Marital and Same Sex Civil Partnership Status	CENSUSP_2011
Student Indicator	CENSUSP_2011
Country of Birth - Five Cat	CENSUSP_2011
Country of Previous Residence	CENSUSP_2011
Country of Migrant Origin	CENSUSP_2011
Passports	CENSUSP_2011
Northern Irish National Identity	CENSUSP_2011
British National identity	CENSUSP_2011
Irish National identity	CENSUSP_2012
Other National identities	CENSUSP_2011
Ethnicity	CENSUSP_2011
Current Religion	CENSUSP_2011
Religion – Brought Up In	CENSUSP_2011

Aggregation of Main Language	CENSUSP_2011
Irish Language Ability	CENSUSP_2011
Ulster-Scots Language Ability	CENSUSP_2011
Disability	CENSUSP_2011
Health Conditions Indicator	CENSUSP_2011
Health	CENSUSP_2011
Highest Level of Qualifications	CENSUSP_2011
Voluntary Work	CENSUSP_2011
Household variables	
Household Size	CENSUSHH_2011
Household Composition	CENSUSHH_2011
Adaptation of Accommodation	CENSUSHH_2011
Tenure, Dwelling	CENSUSHH_2011
Number of Cars or Vans Available in Household	CENSUSHH_2011
Number of Adults in Household	CENSUSHH_2011
Household Dependent Children	CENSUSHH_2011
Number of Carers in Household	CENSUSHH_2011
Deprivation - Education	CENSUSHH_2011
Deprivation - Health and Disability	CENSUSHH_2011
Deprivation - Housing	CENSUSHH_2011
Deprivation - Tenure	CENSUSHH_2011

Table 2. Employment, earnings and pension variables

Employment	Pay/Earnings
Full/part time marker	Basic Pay
Permanent/temporary marker	Basic Pay including Other Pay
Loss of pay marker	Other pay
Same job marker	Gross pay - weekly
Double job marker	Gross pay excluding overtime - weekly
Main job marker	Overtime pay
Collective agreement	Hourly earnings
Industry type	Hourly earnings excluding overtime
Occupation type	Stated total pay
Pay period	Stated hourly rate of pay
Hours worked	**Pension**

Basic paid hours	Pensionable pay
Paid overtime hours	Employee contributions
Total paid hours	
Employer contributions	
Employee's percentage pension contributions	
Employer's percentage pension contribution	

Data limitations encountered

There were no major limitations with the data – the dataset was complete and well structured. The Census 2011 variables were coded appropriately and amenable to further recoding. However, the structure of some variables could be changed to be more amenable for research purposes.

The categories of the 'Unpaid Caring' hours per week variable were very coarse (No unpaid care, 1–19 hours, 20–49 hours, 50 or more hours of unpaid care).

Different versions of the Industry and Occupational Type variables with fewer categories would be useful when stratifying with other variables with small cell sizes.

Necessary modifications to initial research questions or research design

There were no necessary modifications to the initial research questions or research design.

Necessary modifications to the data

It was not necessary to make any modifications to the data.

Recommendations to data owners

The EES 2011 dataset allowed the main research questions to be addressed. However, the 'cross-sectional' nature of the data limited the research questions that could be asked about the associations between unpaid caring, employment, and earnings. Longitudinal ASHE data and the addition of data from the Census 2021 would permit the dynamic nature of these associations to be modelled.

Additional data which would help to further develop the research

Access to longitudinal ASHE data would enable more complex and important research questions to be addressed. More complex dynamic relationships between caring and employment could be tested. For example, it could be determined if annual changes in pay are different for carers compared to non-carers.

Linking the data to other data sources would broaden the research questions that could be addressed. Linkage with the Enhanced Prescribing Database would allow variables representing physical and mental health to be added to the analyses. Questions about how caring and health interact in predicting variability in employment and income could be addressed.

Indicators of employment status and income at the household, rather than just individual level, would be useful. We would have liked to test if other household members are compromised by caring needs of other family members.

Linkage with data on benefits would allow research on how different types of financial support act as facilitators or barriers to employment.

Please include code files used in your analysis

Please contact NISRA Research Support Unit: rsu@nisra.gov.uk for code files.

Feedback on metadata, synthetic data and other documentation provided

The documentation provided all necessary information for the data analysis.

Acknowledgements

About ADR UK

ADR UK (Administrative Data Research UK) is a partnership transforming the way researchers access the UK's wealth of public sector data, to enable better informed policy decisions that improve people's lives. By linking together data held by different parts of government and facilitating safe and secure access for accredited researchers to these newly joined-up and de-identified data sets, ADR UK is creating a sustainable body of knowledge about how our society and economy function – tailored to give decision makers the answers they need to solve important policy questions. ADR UK is funded by the Economic and Social Research Council (ESRC), part of UK Research and Innovation.

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