Profiling the Irish language in Northern Ireland

Publication Date: 29 July 2022

Contents

Note: To ease readability, percentages and percentage changes have been presented to one decimal place. However, percentages included in the charts may not add up to 100 per cent precisely due to rounding. In Section 2, odds ratios are centred around 1 with ratios R and 1/R equal and opposite in effect size (for example, 0.1 and 10). Therefore, to avoid over-rounding of smaller ratios and improve precision, odds ratios are presented to two decimal places and associated percentages are rounded to the nearest whole numbers (e.g. odds ratio of 1.15 – 15% more likely to have Irish language knowledge).

Introduction

There is considerable political, media and policy interest in the use of the Irish and Ulster-Scots[A] languages in Northern Ireland. The New Decade New Approach (NDNA) Deal[1] was agreed by political parties in Northern Ireland and was published in January 2020. The Deal includes a range of identity and language measures and the requirement to develop an Irish language strategy and an Ulster-Scots Language, Heritage and Culture Strategy. Furthermore, the Identity and Language (NI) Bill[2] was introduced in Westminster in May 2022. This will also provide for the Irish Language to be granted official status in Northern Ireland. Key sources[B] of information on levels of Irish language knowledge in Northern Ireland are the annual Continuous Household Survey (CHS)[3] for the adult population (16 years and over) and the ten-yearly Census of Population[4-6] (3 years and over).

The overarching aim of this research is to present a detailed picture of Irish language knowledge in Northern Ireland, over and above currently published official statistics. The research assists with addressing key knowledge gaps and boosts the evidence base on Irish language knowledge in Northern Ireland.

The key objectives are:

- To assess the socio-demographic, household and health associations of Irish language knowledge in 2011;
- To examine (model) the associations of socio-demographic, health, and area characteristics with self-reported Irish language knowledge in Northern Ireland in 2011;
- To examine change in self-reported Irish language knowledge between the 2001 and 2011 Censuses; and
- To track younger cohorts (3-19 years) of the population, with a focus on the 2001 cohort, and examine the correlates of change in self-reported Irish language knowledge after a ten-year period.

Policy setting

This report and an accompanying report published on the Ulster-Scots language[7] will be helpful to the development of the Irish language Strategy[8] and the Strategy for Ulster-Scots Language, Heritage and Culture, led by the Department for Communities[8]. The DfC aims to promote the use of the Irish and Ulster-Scots languages, and to encourage all Departments and their Agencies to meet their obligations under the European Charter for Regional or Minority Languages.

Report structure

Section 1 of this report presents socio-demographic, health and area associations with Irish language knowledge in 2011. Section 2 uses regression methods to assess the relative impacts of individual, household, and area characteristics on the likelihood of having Irish language knowledge in 2011. Section 3 uses a longitudinal dataset, the Northern Ireland Longitudinal Study (NILS), to examine transitions of NILS members who reported Irish language knowledge in either 2001 or 2011. An analysis over time provides key insights into the individual, household and area correlates impacting language loss, retention, and acquisition.

[A] See separate report 'Profiling the Ulster-Scots language in Northern Ireland[7]'

[B] Caution should be taken when comparing information on levels of Irish language knowledge from different data sources (see Annex 2 - Data and definitions for further information).

The study used high-quality Census data via the Northern Ireland Longitudinal Study (NILS[9]), a large sample (28%) of the Northern Ireland population, adding new evidence on key socio-demographic, household, and health factors in relation to Irish language knowledge. This novel analysis assessed some drivers of language change over a ten-year period with a specific focus on younger persons 3-19 years, a key age-group with respect to language gain and loss. These groups are not typically captured in population-level surveys.

Key findings

Of those with Irish language knowledge, nearly two-thirds (62.6%) reported living with others who had knowledge of Irish (26.5% with 1 other, 15.5% with 2 others and 20.6% with 3 or more others) (Table 2).

Main factors linked to having Irish language knowledge: 2011

(Figures 4 and 5)

After taking account of other factors

- Age 11-15 years
- Born in the Republic of Ireland
- Catholic religion/religion of upbringing
- Other/no religion of upbringing
- Irish national identity
- Degree-level qualification
- Others with Irish language knowledge in the household

People living in the 20% most deprived areas and those living in the West and South of Northern Ireland (former NUTS III areas) were more likely to have Irish language knowledge. However, the impact of area deprivation and area of residence lessened after accounting for religion/religion of upbringing, national identity and co-residence with others with Irish language knowledge (Figures 3-5).

Health factors and Irish language knowledge: 2011
(Table 1)

After taking account of other factors

- Good health was positively associated with Irish language
- Having a communication difficulty reduced the likelihood of indicating a knowledge of Irish by 49% for persons aged 3-74 years.

Linked NILS sample (2001-2011)

Of NILS members enumerated in both the 2001 and 2011 Censuses, 15.5% indicated ever having Irish language knowledge. Of those who indicated having Irish language knowledge in either 2001 or 2011, similar proportions retained (31.6%), lost (32.7%) or gained (35.7%) knowledge between the two Censuses (Figure 11).

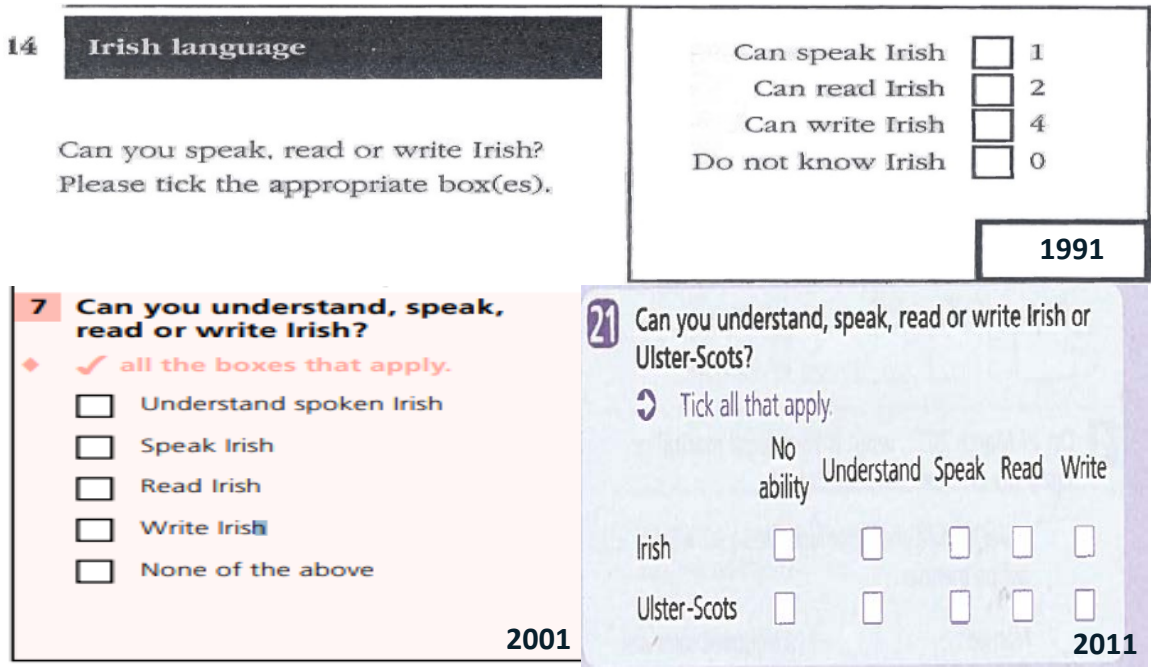
When assessing Irish language change between 2001 and 2011 (n=350,418), the highest proportion of persons gaining Irish was for those aged 3-10 years (13.6%) in 2001, while the highest proportion of persons losing Irish was seen in persons aged 11-15 years in 2001 (13.3%) (Figure 10).

For those who knew Irish in either 2001 and/or 2011 (n=54,335), 45.7% of those self-reporting as Catholic in 2001 but not in 2011 lost Irish; while 43.5% of those who were not Catholic in 2001, but who were in 2011 gained Irish (Table 4).

For the younger age cohort (3-19 years in 2001), higher proportions of those NILS members who did not report Irish language knowledge in 2011 but had knowledge in 2001 (i.e. those who 'lost' Irish) were in households where there was a decline in numbers with Irish language knowledge, whereas 'gainers' tended to be in households where the number of 'knowers' remained the same or grew (Figure 14).

Figure 1 shows the nature of the main language questions asked in in the Northern Ireland Censuses of population in 1991[4], 2001[5] and 2011[6].

Figure 1: Irish language questions: Northern Ireland Censuses 1991-2001



The main metric of interest in this report is **knowledge** of the Irish language, where a respondent selected at least one of the categories understand, speak, read or write. Full **proficiency** in the Irish language, where a respondent selected all four categories, is also reported on in the analysis. The 2021 Census, which took place on 21 March 2021, included a new question on how often people speak Irish. Results of the 2021 Census will be published on a phased basis with initial results on the Irish and Ulster-Scots language planned[10] for publication from Autumn 2022.

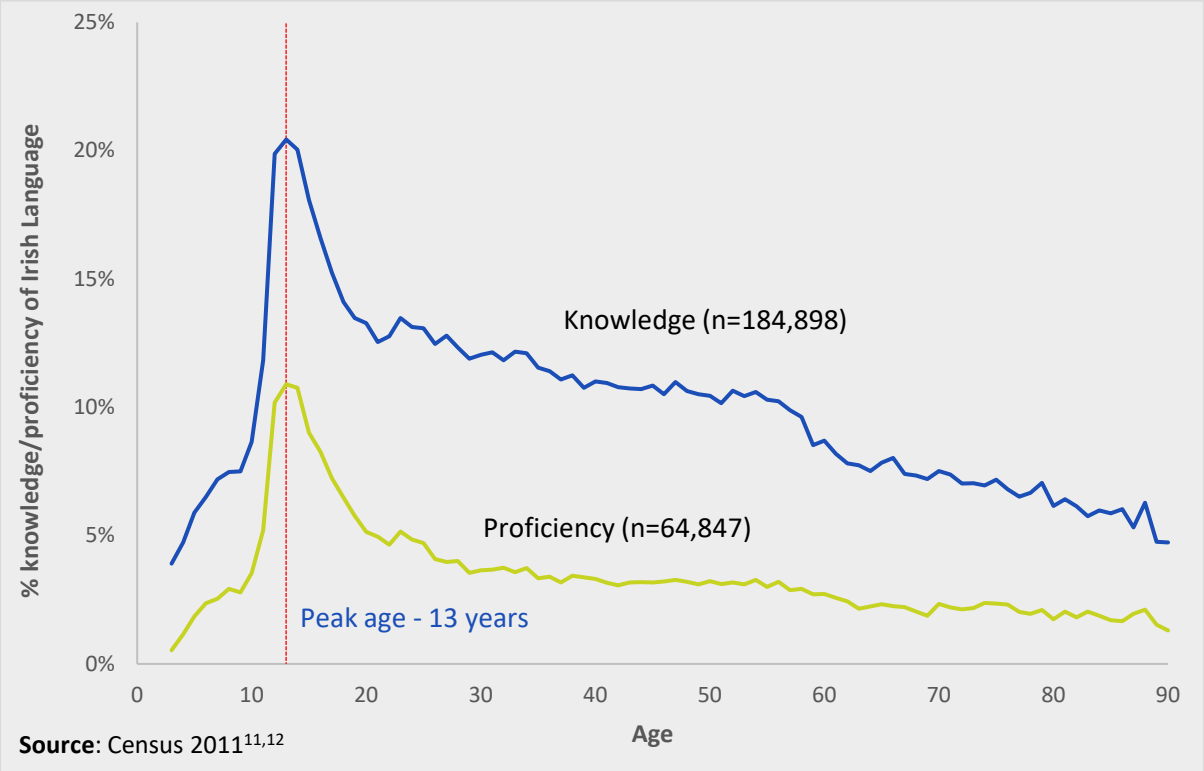
Section 1 Socio-demographic profile: 2011

Background

Figure 2 shows the number of people with (i) knowledge of, and (ii) proficiency in Irish language by single year of age according to the 2011 Census. There were 184,898 people (10.7% of the population aged three and over) who had some knowledge of Irish language in 2011[10]. By comparison, 140,204 of the population aged three and over in 2011 (8.1%) had some knowledge of the Ulster-Scots language[6]. According to the 2011 Census, 64,847 (3.7%) usual residents in Northern Ireland aged three and over were proficient in Irish. By comparison, 16,373 of the population aged three and over in 2011 (0.9%) were proficient in the Ulster-Scots language[7].

Figure 2 demonstrates that in 2011, the propensity to self-report Irish language knowledge peaked at age 13 years (20.4%) and then decreased sharply to around the ages at the end of post-primary level education. There is a general and steady decline in Irish language knowledge with increasing age (4.7% for persons aged 90 years and over). For proficiency in the Irish language, there is a similar pattern with a peak age of 13 years (10.9%). There is then a decrease in proficiency levels with age until 20 years (5.1%). Proficiency in Irish then decreases by 3.9 percentage points between age 23 years (5.2%) and ages 90 years and over (1.3%).

Figure 2: Knowledge of and proficiency in Irish language by age: 2011

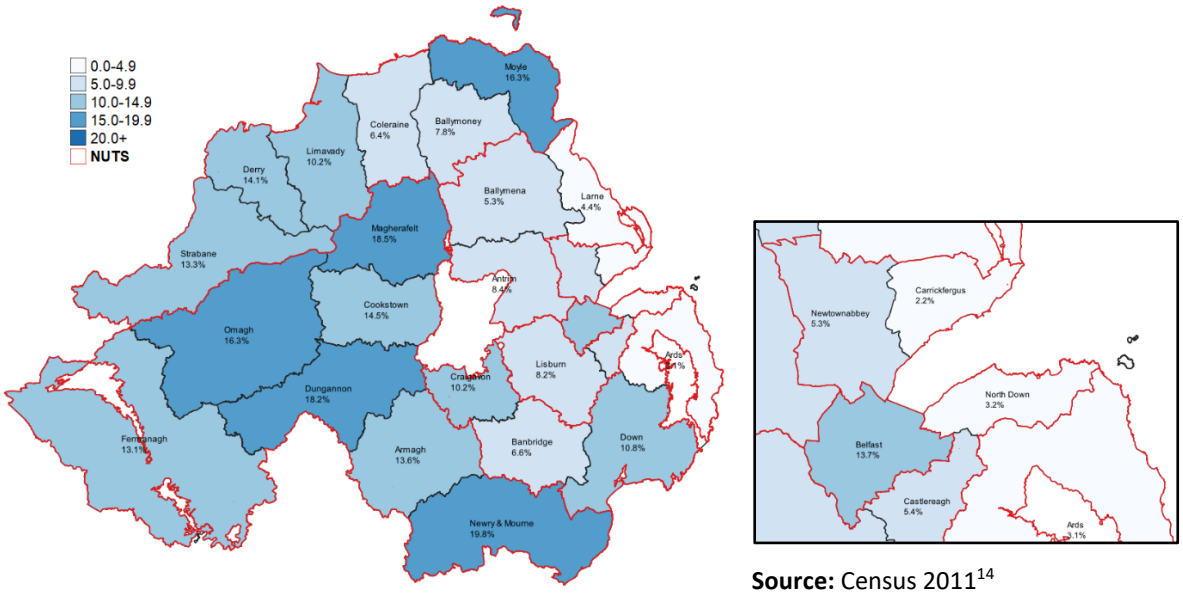


Source: Census 2011[11,12]

Figure 3 shows the **prevalence** of Irish language knowledge in 2011 by the former 26 Local Government Districts (LGDs)[C]. For analytical purposes, the former 26 LGDs[13] are often aggregated in this report into five larger NUTS III areas[D]. There were notable regional differences. Five of the six LGDs with the highest prevalence of Irish language knowledge in 2011 were based in the West & South of Northern Ireland: Newry & Mourne (19.8%), Magherafelt (18.5%,) Dungannon (18.2%), Omagh (16.3%) and Cookstown (14.5%). Districts with the lowest proportions of Irish language knowledge were found in Outer Belfast (Carrickfergus 2.2% and North Down 3.2%) or in the East of Northern Ireland (Ards 3.1% and Larne 4.4%).

However, the LGDs with the largest **numbers of persons** reporting having Irish language knowledge in 2011 were Belfast (36,837), Newry & Mourne (18,816) and Derry (14,605). In 2011, the Districts with the smallest numbers of persons reporting having Irish language knowledge were Carrickfergus (841), Larne (1,365) and Ballymoney (2,326), see Annex 3 – Figure 17.

Figure 3: Irish language knowledge by former Local Government District: 2011



Source: Census 2011[14]

[C] Irish language knowledge broken down by the current Local Government Districts (LGD2014) is shown in Annex 3, Figure 18.
[D] See Annex 2, Table 5.

Socio-demographic and health characteristics: 2011

Design and setting – Northern Ireland Longitudinal Study (NILS)

The NILS[9], a representative 28% sample of the Northern Ireland population, was used to undertake the cross-sectional analysis and the longitudinal analysis[E]. NILS members are resident in Northern Ireland and are selected for inclusion in the sample if they are born on any of 104 undisclosed dates. The NILS links data from the Census with health card registrations. It therefore has information on vital events and address changes, as well as the material collected by the census. Further details about the NILS are available online[F]. Analysis was undertaken on anonymised NILS members within the secure setting in NISRA and research outputs were released only after statistical disclosure checks had taken place.

The study population for the 2011 cross-sectional analyses comprised 463,909 NILS members aged three years and older at the time of Census 2011. Within this group, 48,370 (10.4%) self-reported knowledge of the Irish language. Annex 2 provides further details on definitions and study variables. Data on socio-demographic, household and area factors can provide useful insights into the drivers behind Irish language knowledge. For our NILS sample[G], Table 1 presents a descriptive summary of the socio-demographic and health characteristics among those self-reporting Irish language knowledge in 2011, compared to proportions for the overall NILS sample.

Socio-demographic factors

- Compared to the NILS sample as a whole, higher proportions of Irish language knowledge were evident among persons aged below 50 years (73.0% compared with 65.7% in the NILS sample) and lower proportions were evident for persons aged 50 years and over (26.9% compared with 34.3% of the NILS sample).
- Over half (52.4%) of those with Irish language knowledge indicated their marital status as single (compared with 46.0% in the NILS sample). Compared to the NILS sample, higher proportions of Irish language knowledge were evident for those with Catholic religion/religion[H] of upbringing (91.2% versus 44.7%), those born in the Republic of Ireland (8.8% versus 2.1%) and those indicating Irish as a national identity (72.4% versus 27.9%).

School and employment

- There was a higher prevalence of Irish language knowledge compared to the study population overall for those with a degree level qualification (35.9% compared to 23.7%) and for those in education-related occupations (7.8% versus 4.1%).

Health

- Good health was associated with higher prevalence of Irish language knowledge. There was a lower prevalence self-reporting that their activities were limited 'a little' or limited 'a lot' in those with Irish language knowledge (17.6%) compared to the study population (22.1%). In addition, there was a higher proportion indicating very good or good health (83.2%) amongst those with Irish language knowledge, compared to the study population (78.2%). There were no marked differences when comparing prevalence levels of long-term health conditions for persons with Irish language knowledge compared to the overall study population.

[E] The Office for Research Ethics Committees Northern Ireland (ORECNI[15]) has ratified the usage of NILS for approved research.
[F] https://www.nisra.gov.uk/support/research-support/northern-ireland-longitudinal-study-nils and https://www.nils-rsu.co.uk/
[G] Proportions of Irish language knowledge for socio-demographic factors in the NILS sample are representative of the 2011 Census.
[H] There were two religion-based questions asked in the 2011 Census. Information based solely on responses to a self-reported religion of belonging are also shown in Table 1 (NISRA uses the approach set out in the Fair Employment (Monitoring) Regulations (Northern Ireland) 1999[16] , see Annex 2 for more information.

Table 1: Socio-demographic and health characteristics for (i) the NILS sample, and (ii) those self-reporting Irish language knowledge in the NILS sample: March 2011, three years and over

Characteristics	Category	NILS sample (%) (n=463,909)	Irish language knowledge (%) in NILS sample (n=48,370)
Sex	Male	48.4	46.8
Sex	Female	51.6	53.2
Age group	3-10	10.5	6.2
Age group	11-15	7.1	12.3
Age group	16-19	5.6	7.9
Age group	20-24	6.6	8.1
Age group	25-49	35.9	38.5
Age group	50+	34.3	26.9
Marital status	Single	46.0	52.4
Marital status	Married[I]	40.4	36.8
Marital status	Separated/Divorced	7.8	7.1
Marital status	Widowed	5.8	3.7
Religion belong to	Catholic	40.5	83.1
Religion belong to	Protestant and other Christian	42.8	5.7
Religion belong to	Other/none	16.6	11.3
Religion/religion of upbringing	Catholic	44.7	91.2
Religion/religion of upbringing	Protestant and other Christian	49.7	6.8
Religion/religion of upbringing	Other/none	5.6	2.0
Country of birth	Northern Ireland	89.0	85.1
Country of birth	Republic of Ireland	2.1	8.8
Country of birth	Other	8.9	6.1
National identity[J]	Any Northern Irish	29.4	21.4
National identity	Any Irish	27.9	72.4
National identity	Any British	49.3	9.4
National identity	Any Scottish	0.5	0.3
Education (16-74 years)	No qualifications	29.6	17.5
Education (16-74 years)	School level or other[K]	46.8	46.6
Education (16-74 years)	Degree level or higher	23.7	35.9
Economic activity (16-74 years)	Inactive	39.2	34.2
Economic activity (16-74 years)	Unemployed	4.4	4.8
Economic activity (16-74 years)	Employed	53.3	56.1
Economic activity (16-74 years)	Economically active full-time student	3.1	4.9
Occupation[L] (16-74 years)	Education-related occupations	4.1	7.8
Occupation (16-74 years)	Agriculture-related occupations	1.9	1.1
Activity limitation	No activity limitation	77.9	82.4
Activity limitation	Limited a little/ a lot	22.1	17.6
Self-rated health	Very good/good	78.2	83.2
Self-rated health	Fair	15.8	12.1
Self-rated health	Bad/very bad	6.0	4.8
Health condition	Communication difficulty	1.7	0.9
Health condition	Shortness of breath or difficulty breathing	1.8	1.4
Health condition	Deafness or partial hearing loss	5.5	4.0
Health condition	An emotional, psychological or mental health condition	6.1	5.7

[I] Includes those in a civil partnership, divorced includes in dissolved civil partnerships, widowed includes surviving partner of civil partnership.
[J] A new question on national identity, which allowed multiple responses, was introduced in the 2011 Census. Respondents were therefore not limited to one national identity and were given the option of declaring themselves as British, Irish, Northern Irish, English, Scottish, Welsh or other.
[K] School level qualification or other vocational qualification or apprenticeship.
[L] Based on sub-major groups of the Standard Occupational Classification[17] (SOC) 2010: 23 – 'Teaching and educational professionals' and 51 – 'Skilled agricultural and related trades'.

Household and area characteristics: 2011

Table 2 presents a descriptive summary of household and area-level characteristics of both the full NILS sample and among those indicating Irish language knowledge. Only individuals identified as living in households in Census 2011 were considered in this section to allow assessment of household-level variables, such as tenure, household composition and access to a car. Individuals living in communal establishments in Census 2011 such as care homes, homeless hostels, hospitals, and prisons, were therefore excluded.

- A higher proportion of persons with Irish language knowledge lived with friends or family (49.0%), compared to the NILS sample overall (43.4%).
- Living with others with Irish language knowledge was a key factor. Of those with Irish language knowledge, nearly two-thirds (62.6%) reported living with others who had knowledge of Irish (26.5% with 1 other, 15.5% with 2 others and 20.6% with 3 or more others).
- There were higher proportions of persons with Irish language knowledge in the West and South of Northern Ireland (35.7% compared to 22.6% of the whole NILS sample). The lowest proportion of those with Irish language knowledge was in Outer Belfast (11.2% compared to 21.9% of the study population).
- There was a higher proportion of Irish language knowledge (28.2%) among individuals living in the top 20% most deprived areas compared to the study population as a whole (18.8%).

Table 2: Household characteristics among (i) the study population, and (ii) those self-reporting Irish language knowledge in the NILS sample: March 2011, three years and over

Characteristics	Category	NILS sample (%) (n=458,543)	Irish language knowledge in NILS sample (%) (n=47,913)
Living arrangements	Live alone	11.9	10.3
Living arrangements	Live in couple	44.7	40.7
Living arrangements	Other living arrangements[M]	43.4	49.0
Housing tenure	Owner occupied	73.9	75.9
Housing tenure	Private rental	12.3	12.3
Housing tenure	Social rental	13.8	11.8
Others in household with Irish[N]	None	84.7	37.4
Others in household with Irish	One	9.0	26.5
Others in household with Irish	Two	3.3	15.5
Others in household with Irish	Three or more	2.9	20.6
NUTS III area[O]	Belfast	15.0	19.2
NUTS III area	Outer Belfast	21.9	11.2
NUTS III area	East of NI	24.7	17.0
NUTS III area	North of NI	15.8	16.8
NUTS III area	West & South of NI	22.6	35.7
Area deprivation[P]	Quintile 1 (most deprived)	18.8	28.2
Area deprivation	Quintile 2	20.1	23.3
Area deprivation	Quintile 3	21.0	22.5
Area deprivation	Quintile 4	20.7	16.3
Area deprivation	Quintile 5 (least deprived)	19.3	9.7

[M] Includes cohabiting individuals not part of a couple, for example, living with friends or other family members (e.g. as part of a multi-generational household).
[N] Irish language knowledge
[O] For analytical purposes, the former 26 Local Government Districts (See Figure 3 and Table 5, Annex 2) are often aggregated into five larger NUTS III areas[13].
[P] A measure of area disadvantage taken from the Multiple Deprivation Measure (NIMDM 2010[18])

Section 2 Assessing the impact of individual, household and area factors: 2011

The previous section examining descriptive statistics showed variation in Irish language knowledge by a range of socio-demographic, household, health and area factors. To explore this further, logistic regression methods[19] are used in this section to examine individual, household and area factors (known to be) associated with Irish language knowledge. Regression analyses go beyond descriptive analyses and take account of relationships between variables. Logistic regression modelling[19] is used to quantify the strength of associations between a binary outcome (having Irish language knowledge or not) and a characteristic of interest (e.g. age), while at the same time "adjusting" or "controlling" for other characteristics, which may be related to both the outcome and the characteristic of interest.

Statistical models

Statistical modelling was based on people who were enumerated in the 2011 Census. Only individuals living in households at the time of the Census 2011 were considered to examine the role of household-level variables, such as tenure, location and co-residency with others with Irish language knowledge. Individuals in communal establishments such as care homes, homeless hostels, hospitals and prisons were therefore excluded.

Odds ratios

In the logistic regression models, the dependent variable is a binary variable equal to one if the individual indicated having Irish language knowledge in 2011, otherwise it is equal to zero. Logistic regression models compare different categories against a reference category, which will always have an odds ratio (OR) of 1. The OR indicates the size of the effect relative to the reference. The further above 1 that the odds ratio is, the greater the increase in likelihood of having Irish language knowledge, the further below 1, the less the likelihood.

- An OR of 1 for the comparison group indicates no difference between the reference category and the comparison group.
- An OR of greater than 1 indicates that the comparison group is more likely to have Irish language knowledge than the reference category.
- An OR of less than 1 indicates that the comparison group is less likely to have Irish language knowledge compared to the reference category.

ORs in Figures 4 and 5 are presented on a logarithmic (log) scale, a recommended way[20] to visually present both positive (OR>1) and negative (OR<1) associations. For example, an OR of 1 (no difference between a comparison group and the reference category) is halfway between an OR of 0.5 (half as likely to have Irish language knowledge) and an OR of 2 (twice as likely to have Irish language knowledge).

Model 1 included all persons aged 3-74 years, while Model 2 included all persons aged 16-74 years. An upper age limit of 74 years was included, as responses to education and occupation questions were not processed for persons over 74 years. Full modelling estimates and confidence intervals are presented in Annex 5 (Table 6) and Annex 6 (Table 7)[Q]. The results do not imply causality[R].

[Q] Age and sex adjusted estimates are also shown in Tables 6 and 7.

[R] Regression analysis can identify statistical relationships between factors; however, it cannot imply causation.

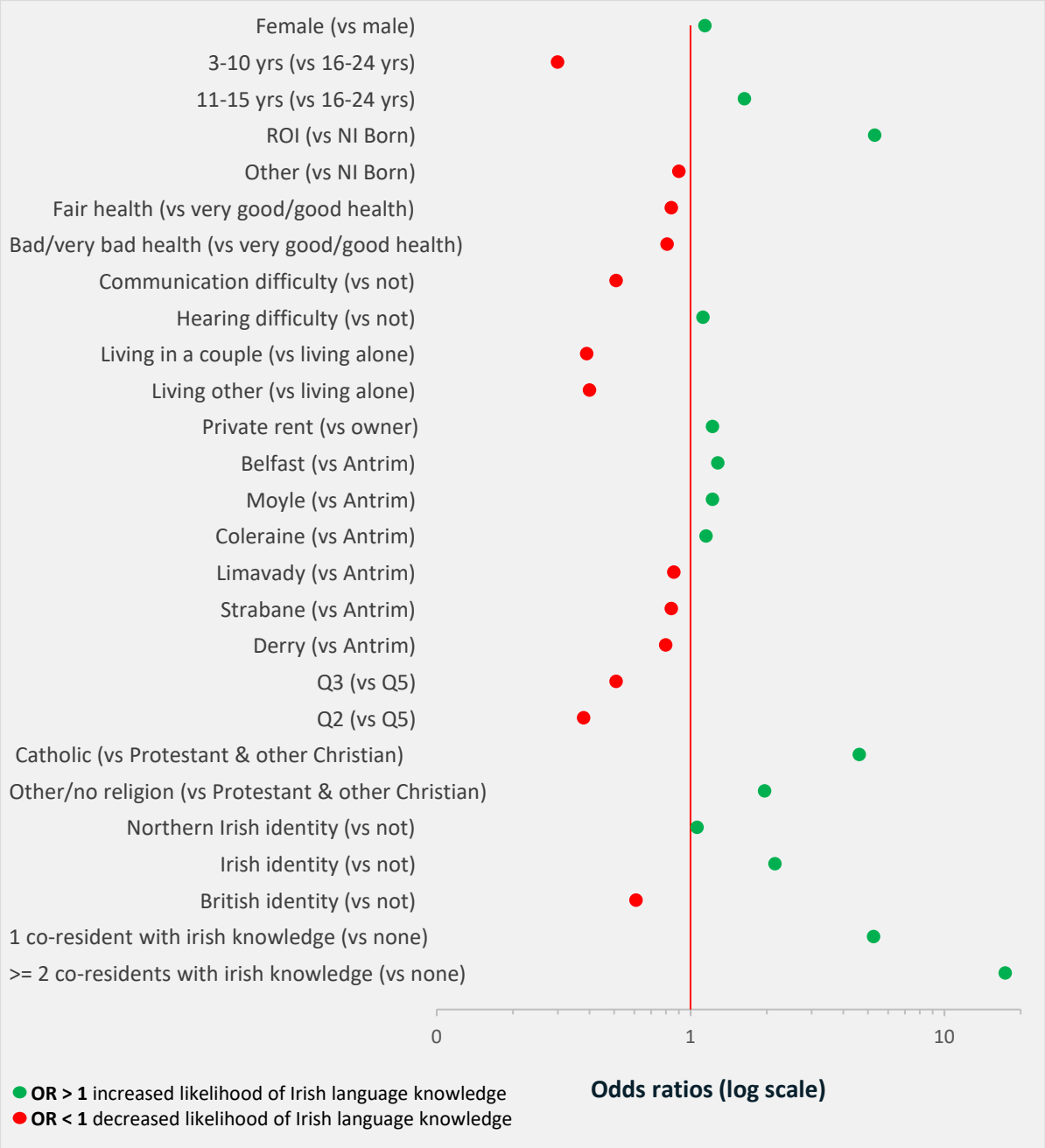
Explanatory variables included in models	
Model 1 (3-74 years)	
Individual level:	Age, sex, country of birth, self-reported general health, hearing difficulty and communication difficulty
Household or area level:	living arrangements, housing tenure, area deprivation and Local Government District.
Key variables linked with Irish language:	co-resident knowledge of the Irish language, national identity, and religion/religion of upbringing.
Model 2 (16-74 years)	
All variables included in Model 1, plus additional working-age variables: Education, economic activity, education-related and agriculture-related occupations.	

Results

Significant predictors from **Model 1** are summarised in Figure 4, with full results presented in tabular form in Table 6 (Annex 5). After adjusting for the effect of other study variables in the model, we found for persons aged 3-74 years that:

- Females had a greater likelihood (OR:1.14) of Irish language knowledge compared to males.
- Compared with persons aged 16-24 years, there was a greater likelihood of Irish language knowledge for persons aged 11-15 (OR:1.63, 63% more likely) and a lesser likelihood of Irish language knowledge for persons aged 3-10 (OR:0.30, 70% less likely).
- Relative to being born in Northern Ireland, there was over a five-fold (OR:5.32) greater likelihood of Irish language knowledge for persons born in the Republic of Ireland and a 10% lesser likelihood for person born in other countries (OR:0.90).
- Compared to having (very) good health, there was a decreased likelihood of Irish language knowledge for those indicating fair health (OR:0.84, 16% less likely) or (very) bad health (OR 0.81, 19% less likely). Having a communication difficulty also reduced the likelihood of indicating Irish language knowledge (OR:0.51, 49% less likely), while having a hearing difficulty increased the likelihood of indicating Irish language knowledge by 12% (OR:1.12).
- Compared to living in owner-occupied accommodation, there was a 22% increased likelihood of Irish language knowledge for those living in private-rented accommodation (OR:1.22).
- Compared to living in Antrim LGD (reference category), the LGDs with the greatest likelihood to have Irish language knowledge were Belfast (OR:1.28, 28% more likely), Moyle (OR:1.22, 22% more likely) and Coleraine (OR:1.15, 15% more likely). Compared to living in Antrim LGD, the LGDs least likely to be associated with Irish language knowledge were Derry (OR:0.80, 20% less likely), Strabane (OR: 0.84, 16% less likely) and Limavady (OR:0.86, 14% less likely). For further detail, see Irish language knowledge and area section and Figure 6.
- Compared to Protestant religion/religion of upbringing, there was over a four-fold increased likelihood of having Irish language knowledge for Catholic religion/religion of upbringing (OR:4.62) and a two-fold greater likelihood for persons with religion/religion of other religion/ no religion (OR:1.96).
- There was over a two-fold increased likelihood of having Irish language knowledge associated with Irish national identity (OR:2.15) while a Northern Irish identity also increased the likelihood of having Irish language knowledge (OR:1.06, 6% more likely). Indicating a British identity reduced the likelihood of having Irish language knowledge (OR:0.61, 39% less likely).
- Co-residence with others with Irish language knowledge markedly increased the likelihood of indicating Irish language knowledge (living with 1 other, OR:5.26 and living with 2 or more others, OR:17.37).

Figure 4: Odds ratios for Irish language knowledge 2011: ages 3-74 years



Note: Figure 4 includes LGDs most (OR>1) and least likely (OR<1) to have Irish language knowledge. Odds ratios for all LGDs are shown in Annex 5, Table 6.

Significant predictors from **Model 2** (16-74 years old) are summarised in Figure 5, with full results presented in tabular form in Table 7 (Annex 6). After adjusting for the effect of other study variables in the model, we found for persons aged 16-74 years that:

- Females had an increased likelihood (OR:1.03, 3% more likely) of Irish language knowledge compared to males.
- Relative to being born in Northern Ireland, there was over a five-fold (OR:5.53) greater likelihood of Irish language knowledge for persons born in the Republic of Ireland and a 19% lesser likelihood for persons born in other countries (OR:0.81).
- Having a communication difficulty reduced the likelihood of indicating Irish language knowledge (OR:0.69: 31% less likely), while having a hearing difficulty increased the likelihood of indicating Irish language knowledge by 13% (OR:1.13).
- Compared with having no educational qualifications, people with secondary-level education (OR:1.69) and degree level education (OR:2.90) were more likely to indicate Irish language knowledge. Compared to being economically inactive, people were less likely to have Irish language knowledge if they were unemployed (OR:0.87, 13% less likely) or employed (OR:0.90: 10% less likely). People who were economically active full-time students were 11% (OR:1.11) more likely to have Irish language knowledge. There was also a higher likelihood of having Irish language knowledge for people in education-related occupations (OR:1.53, 53% more likely) while there was a lower likelihood for people working in agriculture-related occupations (OR:0.82, 18% less likely).
- Compared to living in owner occupied accommodation, there was an increased likelihood of Irish language knowledge for those living in private-rented (OR:1.28, 28% more likely) and social-rented accommodation (OR:1.10, 10% more likely).
- Compared to living in the former Antrim LGD, the LGDs with the greatest likelihood of Irish language knowledge were Belfast (OR:1.15, 15% more likely) and Ballymena (OR:1.14, 14% more likely). Compared to living in Antrim LGD, the LGD's least likely to be associated with Irish language knowledge were Derry (OR:0.75, 25% less likely), Limavady (OR:0.80, 20% less likely) and Newry (OR:0.82, 18% less likely). For further detail, see Irish language knowledge and area section and Figure 6.
- There was a greater likelihood (OR:1.12, 12% more likely) of having Irish language knowledge for individuals living in the 20% most deprived areas compared to individuals living in the 20% least deprived areas.
- Compared to Protestants, there was over a four-fold increased likelihood of having Irish language knowledge for Catholics (OR:4.52) and a two-fold greater likelihood for persons indicating other religion /no religion (OR:1.96).
- There was over a two-fold increased likelihood to have Irish language knowledge associated with indicating an Irish national identity (OR:2.17). Indicating a British identity reduced the likelihood of having Irish language knowledge (OR:0.57, 43% less likely).
- Co-residence with others with Irish language knowledge markedly increased likelihood of indicating Irish language knowledge (living with 1 other, OR: 5.16 and living with 2 or more others, OR: 15.58).

Figure 5: Odds ratios for Irish language knowledge 2011: ages 16-74 years

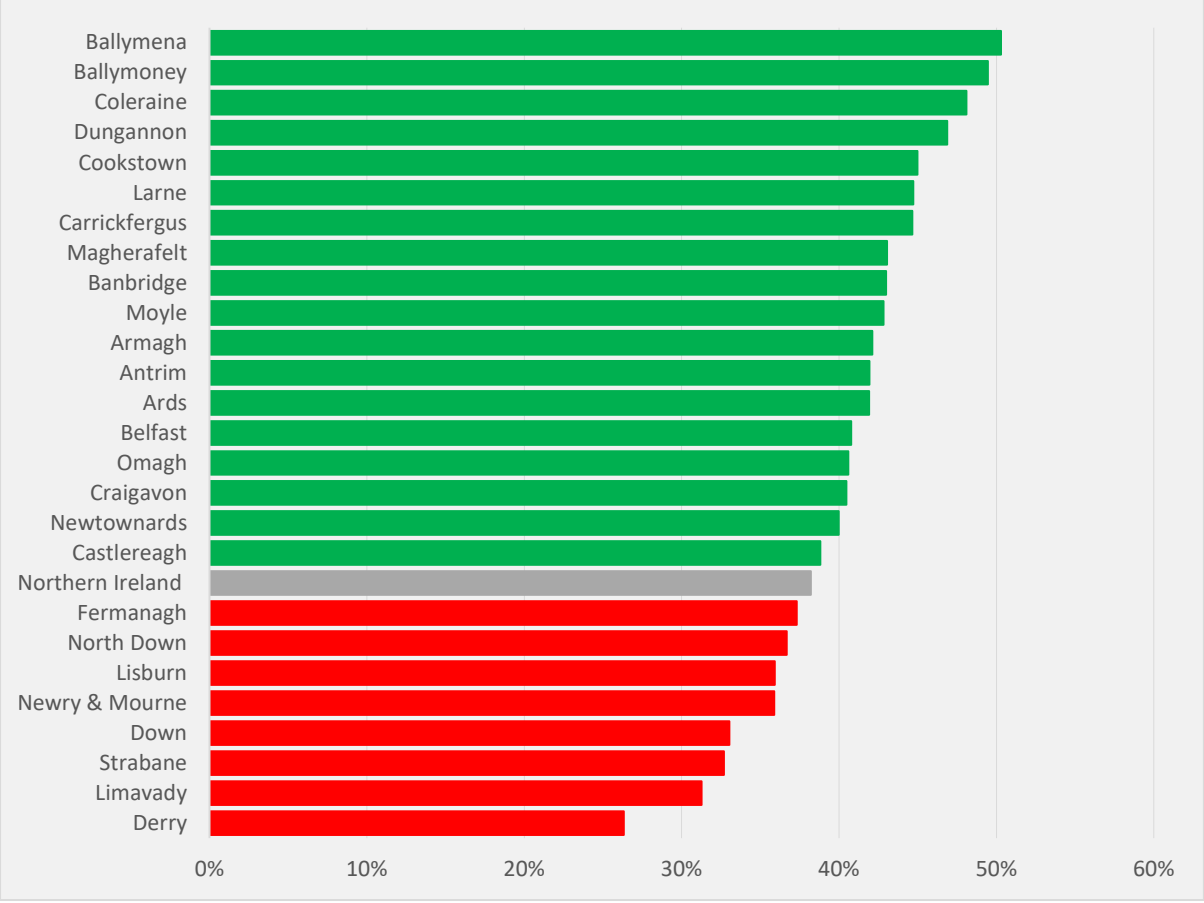
Note: Figure 5 includes LGDs most (OR>1) and least likely (OR<1) to have Irish language knowledge. Odds ratios for all LGDs are shown in Annex 5, Table 6.

Irish language knowledge and area

The final regression estimates for models 1 and 2 show geographical effects that are at first sight surprising. After adjusting for the effects of other study variables in the model including religion/religion of upbringing, co-resident knowledge of the Irish language and national identity, NILS members in some LGDs e.g. Derry and Newry and Mourne (model 2) have a *lower* likelihood of having Irish language knowledge than NILS members in the Antrim LGD reference category. These LGDs have higher crude rates of the Irish language knowledge (Figure 3 – Derry LGD 14.1%, Newry and Mourne LGD 19.8% and Antrim LGD 8.4%) as would be expected given their greater Catholic population shares. The model results therefore indicate that fewer NILS members have Irish knowledge in Derry LGD and Newry and Mourne LGD than would be **expected** given their population make-up in religion and national identity[21].

Another perspective on this is provided in Figure 6 below, using NILS data. This chart shows the relationship for the 26 LGDs between Irish language knowledge and (any) Irish national identity. LGDs below the Northern Ireland average (red bars) have lower proportions of Irish language knowledge than would be expected given their Irish identity share, those in green bars have higher proportions of Irish language knowledge than would be expected (given their Irish identity share). Derry, Limavady and Newry & Mourne, for example, are below the Northern Ireland average with lower proportions of Irish language knowledge but other LGDs like Belfast and Ballymena are above the Northern Ireland average. These results match closely to those detected in the modelling. Future work will undertake multilevel modelling[22] to consider further how the effects of religion and national identity vary spatially in relation to Irish language knowledge.

Figure 6: Irish language knowledge as a proportion of (any) Irish national identity 2011: by LGD: ages 16-74 years



Section 3 Change in Irish language knowledge over time

When assessing change in Irish language knowledge over time, consideration should be given to corresponding demographic changes in the population. Table 3 summarises the age structure of the population in each Census year, as well as numbers and proportions of Irish language knowledge by age group across three Census years, (1991, 2001 & 2011). In each Census year, Irish language knowledge varied according to age, being highest for those aged 11-15 and steadily decreasing with age. This likely reflects the influence of the education system on the Irish linguistic skills of school-aged children. According to the 2011 Census, 18.1% of 11-15 year olds had Irish language knowledge, decreasing to 8.3% for persons aged 50 years and over. Compared to 2011 (18.1%), there were higher proportions of school-aged children aged 11-15 years with Irish language knowledge in both 1991 (20.9%) and 2001 (21.3%). From 2004 it was no longer mandatory to study a second language (i.e. a language other than English) to GCSE level in Northern Ireland[23] and this may have influenced school-age levels of Irish language knowledge. However, for all persons aged 25 years and over, there was a greater prevalence of Irish language knowledge in 2011 compared to 1991 and 2001, perhaps a result of the ageing of younger age cohorts from 1991 and 2011 into older ages in 2011.

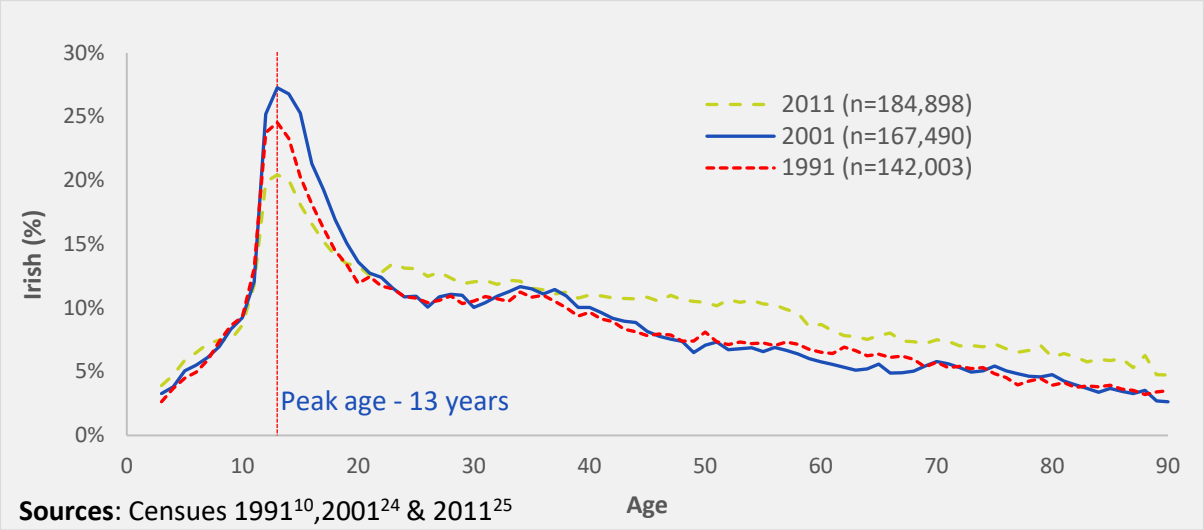
Table 3: Population and Irish language knowledge by age 1991, 2001 and 2011

Age	All Usual Residents			% Change	Irish language		
	1991	2001	2011	01-11	1991[S]	2001	2011
3-10	208,654	197,167	182,663	-7.4%	11,842 (5.9%)	10,898 (5.5%)	11,721 (6.4%)
11-15	125,793	133,579	121,508	-9.0%	25,551 (20.9%)	28,474 (21.3%)	22,012 (18.1%)
16-19	102,958	102,097	101,621	-0.5%	15,604 (15.5%)	18,482 (18.1%)	15,111 (14.9%)
20-24	126,120	109,385	126,013	15.2%	14,390 (11.7%)	15,392 (14.1%)	16,436 (13.0%)
25-49	522,841	591,659	629,691	6.4%	50,008 (9.8%)	61,944 (10.5%)	72,042 (11.4%)
50+	416,019	484,070	574,215	18.6%	24,608 (6.1%)	32,300 (6.7%)	47,576 (8.3%)
All	**1,502,385**	**1,617,957**	**1,735,711**	**+7.3%**	**142,003 (9.7%)**	**167,490 (10.4%)**	**184,898 (10.7%)**

Analysing Irish language knowledge by single year of age shows that Irish language knowledge peaked at age 13 in 1991, 2001, and 2011 (Figure 7). The youth peak in 2011 is lower than in either 1991 or 2001 but with a slower age-related decline thereafter. This might reflect the higher youth peaks of 1991 and 2001 ageing through the population by 2011.

[S] For 1991, non-response records (n=39,725) were removed

Figure 7: Irish language knowledge by age: 1991, 2001 & 2011



Sources: Censues 1991[10],2001[24] & 2011[25]

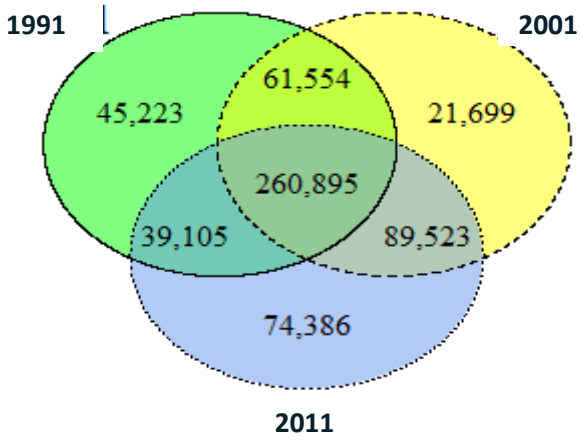
Description of linked NILS dataset

The first two Sections of this report focused on trends in Irish language knowledge and estimated the relative effects of socio-demographic, area, socio-economic and household factors. However, little is known about the processes that impact change in Irish language knowledge over time. The NILS, a longitudinal study representative of the population, is an ideal resource to gain an understanding of the individual level and household factors associated with retention, loss and gain of the Irish language.

The study samples for analysis, based on NILS members aged 3 and over with a Census record in at least one of the years 1991, 2001 and 2011, are shown in Figure 8. Before linkage, there were 406,777 NILS members in the 1991 Census, 433,671 NILS members in the 2001 Census and 463,909 NILS members in the 2011 Census. A key focus of this report is examining linked NILS records containing information from different Census years, and thereby facilitating an analysis of Irish language knowledge change over time.

There were 260,895 NILS members enumerated in all years, 1991, 2001 & 2011. A further 89,523 NILS members were enumerated in both 2001 and 2011 Census. For simplification and to limit possible permutations of the analyses, the examination of Irish language change over time is restricted to 2001 and 2011, the two most recent Census years in the study. The key NILS linked dataset of analytical interest in the remainder of this report therefore includes NILS members enumerated in both 2001 and 2011 (260,895 + 89,523 = 350,418).

Figure 8: NILS: 28% of NI population - sample Sizes 1991, 2001 and 2011



Change in Irish language knowledge: 2001-2011

Figure 9 shows, for ages three and over, the numbers of NILS members and levels of Irish language knowledge in the 2001 (N= 433,671) and 2011 (N=463,909) datasets and for the 2001-2011 linked dataset (N= 350,418). Records for those who were present in 2001 but not in 2011 (categories e and f) can be explained by deaths, emigration from Northern Ireland after the 2001 Census and non-enumeration in the 2011 Census. Records for those present in 2011 but not in 2001 (categories g and h) could be related to immigration into Northern Ireland after 2001 or non-enumeration in the 2001 Census (including those born after the 2001 Census and those aged under three years).

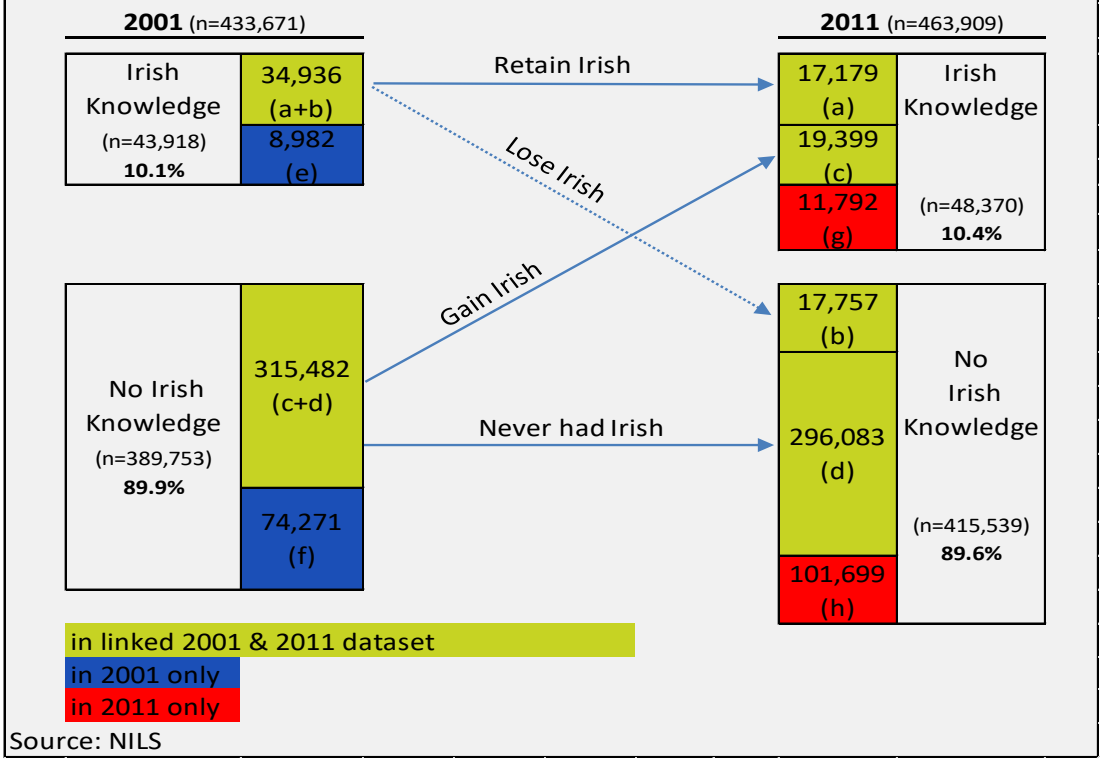
There were 54,335 NILS members indicating **'ever'** having Irish language knowledge (i.e. respondents who indicated knowledge of Irish in 2001 and/or 2011). This number is determined by totalling those retaining Irish between 2001 and 2011 (category a), those indicating knowledge of Irish in 2001 but not in 2011 (category b) and those indicating Irish language knowledge in 2011 but not in 2001 (category c).

Ever had Irish language knowledge: 17,179 (retain) + 17,757 (lost) + 19,399 (gain) = **54,335**

The total number of NILS members ever having Irish language knowledge in 2001 and/or 2011 when taken over the total number in the 2001-2011 linked dataset (350,418) resulted in 15.5% ever having Irish language knowledge. The remaining number in the linked dataset includes 296,083 (category d) having Irish in neither 2001 or 2011.

Ever (%) had Irish language knowledge (a+b+c)/ (a+b+c+d) = 54,335 / 350,418 = **15.5%**

Figure 9 Change in Irish language knowledge 2001-2011



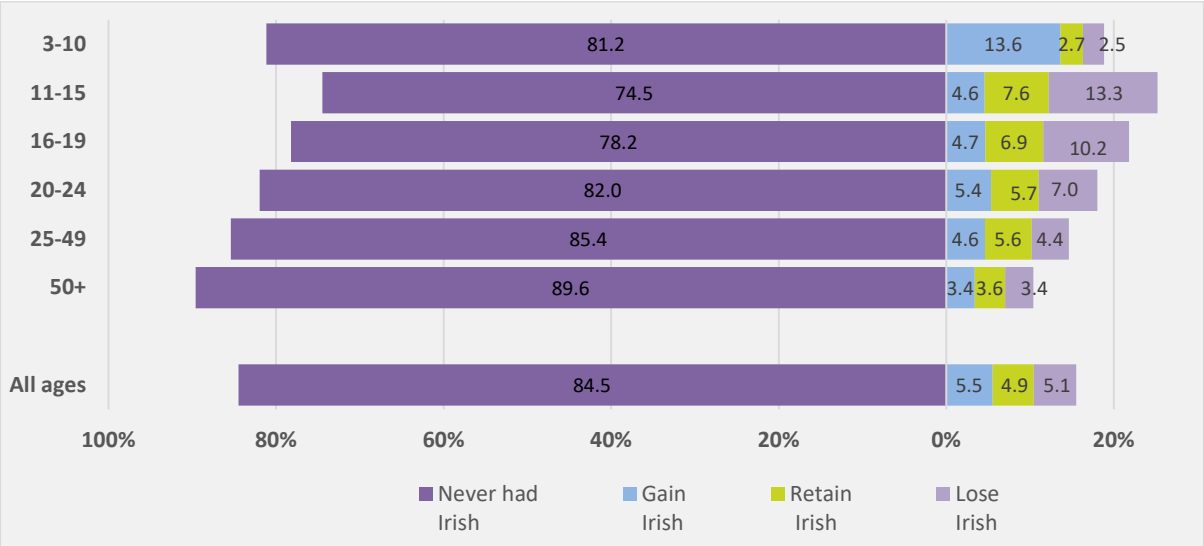
Source: NILS

When linking NILS members included on the 1991, 2001 and 2011 Census, 47,248 (18.1% of the 260,895 people in all three Censuses) indicated having Irish language knowledge in at least one of the three Census returns (See Annex 4, Figure 19).

Change in Irish language knowledge 2001-2011: by age

Figure 10 shows Irish language knowledge change over time, by age group, between 2001 and 2011 (N= 350,418). After the age of ten, the proportion of people never having Irish language knowledge over the time period 2001-2011 increased with age from 74.5% for persons aged 11-15 years to 89.6% of persons aged over 50 years. The propensity to lose Irish language knowledge fell with increasing age from 13.3% of persons aged 11-15 years to 3.4% of persons over 50 years. The highest proportion of persons gaining Irish language knowledge was observed in persons aged 3-10 years in 2001 (13.6%). This coincides with either attending or having recently left post-primary education, which for some includes compulsory Irish language classes.

Figure 10: Irish language knowledge change (%) between 2001 and 2011: by age in 2001

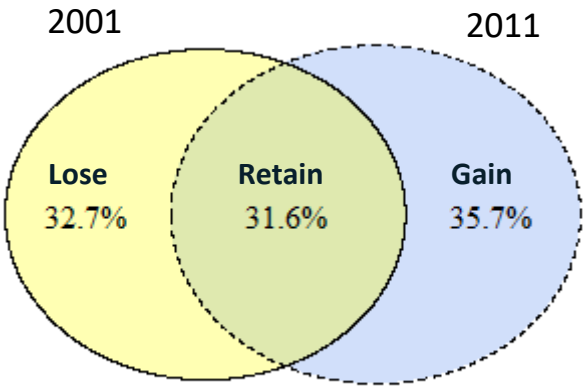


Irish language transition: 2001-2011

When considering NILS members (54,335) that had Irish language knowledge in the 2001 and/or 2011 Census years (Figure 11), there were roughly equal proportions of those:

- Losing knowledge of the Irish language from 2001 to 2011 (32.7%),
- Retaining knowledge of the Irish language from 2001 to 2011 (31.6%), and
- Gaining knowledge of the Irish language from 2001 to 2011 (35.7%).

Figure 11: 'Ever' having Irish language knowledge in 2001 and 2011



Source: NILS

Change in Irish language knowledge by religion

Table 4 presents information on transitions between 2001 and 2011 in self-reported religion for those ever having Irish language knowledge (n=54,335) and how these relate to changes in self-reported Irish language knowledge.

On the base of those who knew Irish in either 2001 or 2011 (n=54,335),

- 45.7% of those self-reporting as Catholic in 2001 but not in 2011 lost Irish;
- 43.5% of those self-reporting as not Catholic in 2001 and as Catholic in 2011 gained Irish;
- 62.7% of those self-reporting as Protestant in 2001 but not in 2011 gained Irish; and
- 57.4% of those self-reporting as not Protestant in 2001 but as Protestant in 2011 lost knowledge of Irish.

Table 4: Irish language knowledge transitions change in 'religion belong to' between 2001 and 2011 for persons ever having Irish

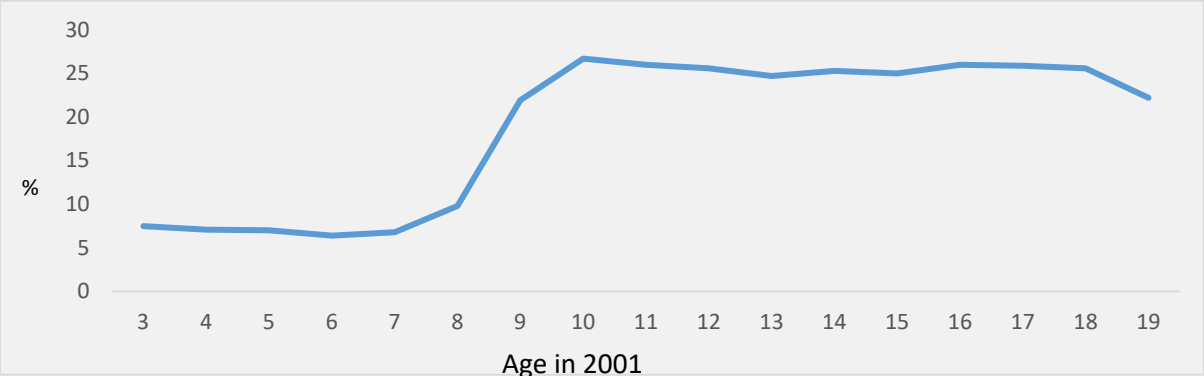
Self-reported religion	Never had Irish	Ever had Irish	Of those that 'ever' had Irish (n=54,335) Irish language change		
			Gain	Retain (%)	Lose (%)
Catholic in 2001 and 2011	86,507	42,594	34.3	35.1	30.6
Catholic in 2001 but not 2011	7,744	3,626	30.9	23.3	45.7
No religion in 2001 and Catholic in 2011	5,325	2,030	43.5	22.6	33.9
Protestant in 2001 and 2011	143,575	2,917	50.2	12.1	37.7
Protestant in 2001 but not 2011	18,792	834	62.7	7.6	29.7
No religion in 2001 and Protestant in 2011	15,400	704	34.7	8.0	57.4
No religion both years	18,740	1,630	35.1	27.5	37.4
Total	**296,083**	**54,335**	**35.7**	**31.6**	**32.7**

Section 4 Younger age cohorts

Figure 7 showed that the peak age for knowledge of Irish in 2001 and 2011 was 13. After that age, self-reported Irish language knowledge decreased with age with the largest fall amongst those aged in the late teens and early twenties. This section of the analysis concentrates on the important school-aged group (3-19 years) to understand more about the processes and patterns that are associated with this decline. It uses the longitudinal features of the NILS by taking the analysis beyond population cross-sections at one point in time. It does this by analysing NILS members aged 3-19 in 2001 in the 2011 Census (when they will be aged 13-29). These years are very important for young people because they see a number of possible transitions: entry to and exit from schooling, entry to and exit from higher education, leaving the parental home, relationship formation, and entry to the labour market. This is a highly formative life stage that shapes later life experiences and is therefore of fundamental importance.

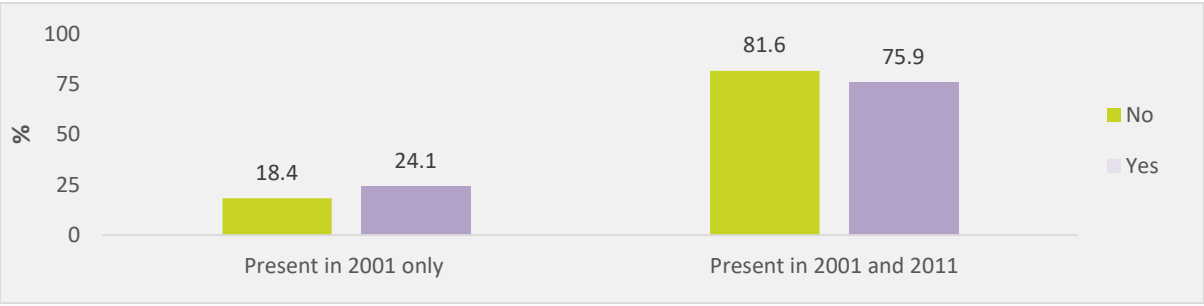
The majority of NILS members aged 3-19 in 2001 were also present in Northern Ireland in 2011 and were captured in both Censuses. However, a smaller group were only present in 2001. There are three possible causes for this; some might have died, some will have left Northern Ireland, and some may have remained in Northern Ireland but were not enumerated in the 2011 Census. Given that relatively few young people die, and the Census is a high-quality resource that captures over 95% of the resident population, it is very probable that most of the loss for this age group is through emigration. This is one route through which young people in the 3-19 age group who knew Irish in 2001 were no longer captured. This is shown in Figure 12 by a steep increase in the proportion of NILS members present in the 2001 Census (but not in 2011) from age 8 in 2001 (18 in 2011) and remaining high all the way through to age 19 in 2001 (29 in 2011).

Figure 12: NILS members aged 3-19 years in 2001 not enumerated in the 2011 Census



Another perspective on the loss to follow-up is presented in Figure 13 which breaks down Irish language knowledge, for ages 3-19 years, by enumeration in the 2001 and 2011 Censuses. It shows that those who reported Irish language knowledge in 2001 were less likely to be enumerated in the 2011 Census than those who did not report Irish language knowledge.

Figure 13: Irish language knowledge, 3-19 years in 2001, by enumeration in 2001 and 2011 Censuses

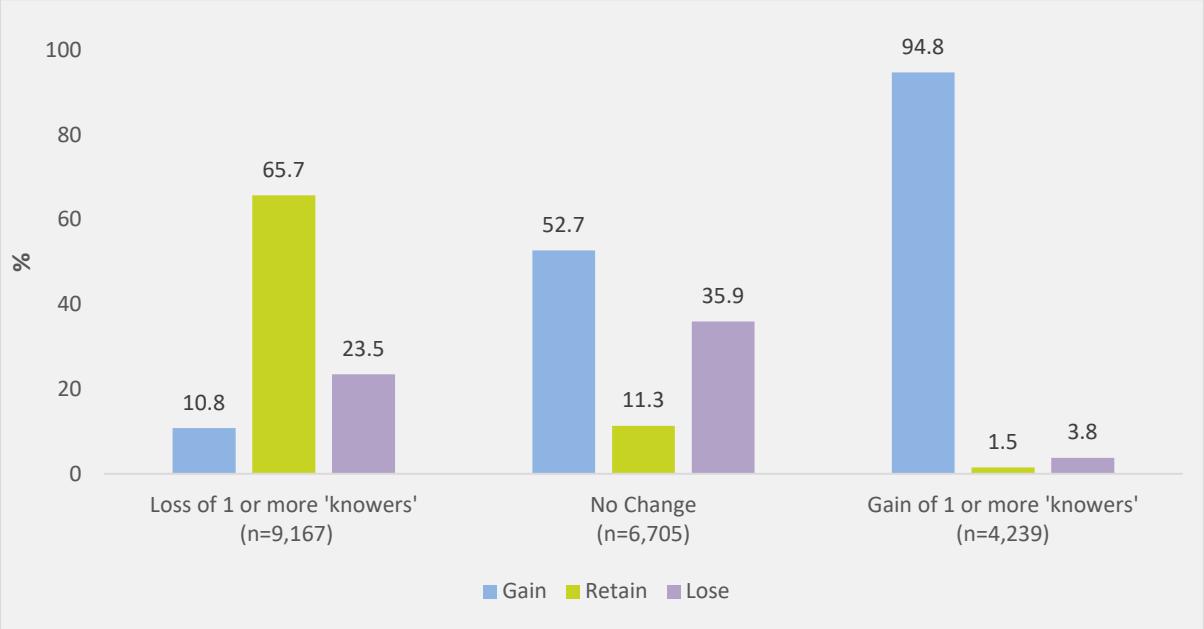


Change in Irish language knowledge 2001-2011: by change in co-resident knowledge

Cross-sectional 2011 analysis showed that the number of co-residents with Irish language knowledge was very important (Table 2, Figures 4-5). Figure 14 shows how, for the younger age cohort (3-19 years) who remained in Northern Ireland, self-reported Irish language knowledge change (gain, retain or lose Irish) was related to changes in co-residence knowledge of the Irish language between 2001 and 2011. The change in co-resident 'knowers' is coded as a gain of one or more, no change, and a loss of one or more. We found:

- Higher proportions of NILS members who do not report Irish language knowledge in 2011 (i.e. those who 'lost' Irish) are in households where there has been a decline in persons with Irish language knowledge
- Irish language 'gainers' tended to be in households where the number of 'knowers' remained the same or grew.
- There also appears to be a resilient group of 'retainers' who have reported Irish language knowledge in 2001 and 2011 in contexts of household Irish decrease.

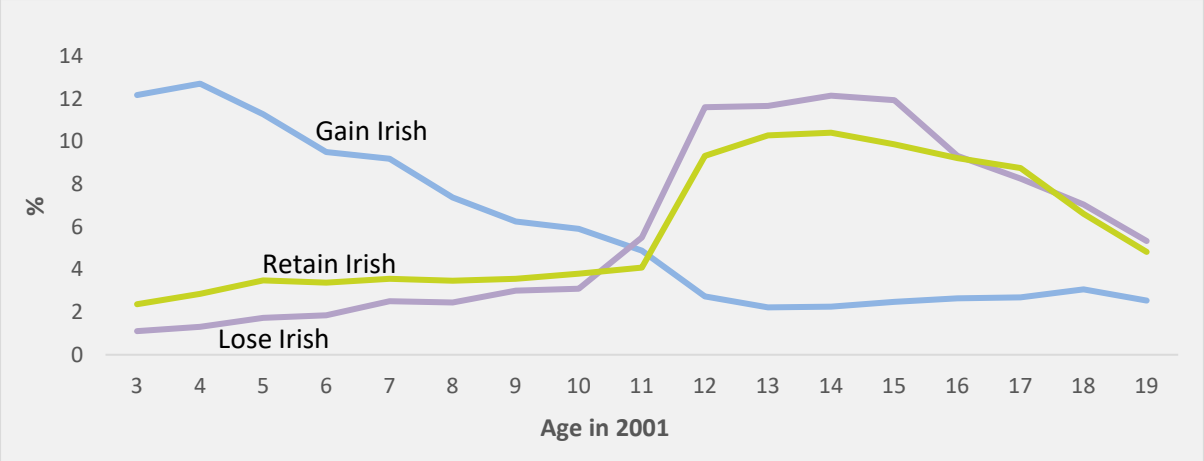
Figure 14: Gain, retain, and lose Irish language knowledge 2001-11, by co-residence knowledge change: ages 3-19 in 2001



Change in Irish language knowledge 2001-2011: by single year of age

Persons of school-age have been shown to be a key group impacted by changes in Irish language knowledge (Figure 10) over time. Figure 15 explores patterns of gaining, retaining, and losing Irish language knowledge by single year of age for this school-age cohort (3-19 years). There are large differences within this cohort. Gainers are concentrated amongst those aged 3-10 in 2001 (13-20 in 2011) whilst those who lost Irish and retainers dominate the older age groups peaking for those aged 12-16 in 2001 and 22-26 in 2011. This suggests that experience in the school system is an important influence on self-reported knowledge of the Irish language, as is the transition from school into other types of education or to employment. What happens to older teenagers (given the age fall-off in Irish language knowledge) is clearly significant but more work is needed to understand which transitions and processes are the most important drivers of Irish language knowledge.

Figure 15: Gain, retain and lose Irish language knowledge, 2001-2011, ages 3-19 in 2001

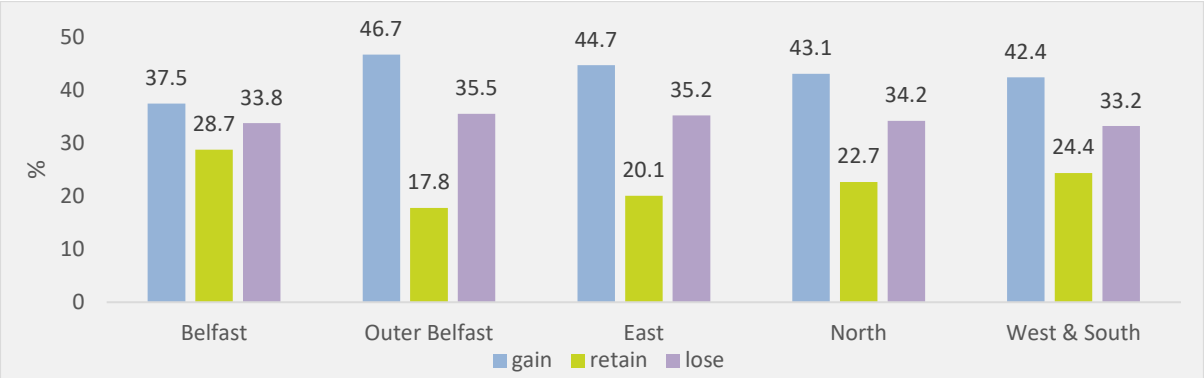


Change in Irish language knowledge 2001-2011: by area

Figure 16 analyses the role of language change (gain, retain or lose Irish) and geography using NUTS III regions. The relative gradients of gaining, retaining, and losing Irish are similar across all areas: in each area there are more who gain compared to lose Irish language knowledge, and in turn more who lose than retain Irish language knowledge. However, between-area differences are notable:

- Gaining Irish language knowledge is highest in Outer Belfast (46.7%) and lowest in Belfast (37.5%).
- Retention of Irish is lower in Outer Belfast (17.8%) compared to the East of Northern Ireland (20.1%) and to the highest of the regions, Belfast (28.7%).
- Losing Irish is similar across all regions (range: 33.2% - 35.5%).

Figure 16: Ever having Irish language knowledge: gain, retain and lose 2001-11 by NUTS region and for ages 3-19 years in 2001



Note: Based on NUTS III area reported in the Census 2001, NILS members could have relocated area by 2011.

Conclusion

The production of high-level official statistics is vital to inform patterns and trends in language knowledge. However, this research study using national level longitudinal data is the first, to our knowledge, to use individual level data to assess determinants of Irish language change in Northern Ireland. The study findings illustrate that, as well as indicating Irish identity and having Catholic religion/religion of upbringing, reporting Irish language knowledge was influenced by a range of factors including being under 50 years old, being single, being born in the Republic of Ireland and having a degree level qualification. In terms of area factors, living in the West and South of Northern Ireland (former NUTS III area) and residing in the 20% most deprived areas were strongly associated with Irish language knowledge. Health was also related to Irish language knowledge as was seen in the negative association between communication difficulties in 2011 and knowledge of Irish. The most notable finding, however, was the strong household concentration of knowledge of Irish. Closer examination of the household context of Irish language knowledge would make an interesting focus for future research to inform policy.

Our longitudinal findings showed that 15.5% of people aged 3 and over (in 2001) enumerated in both the 2001 and 2011 Census (the linked sample) expressed having a knowledge of the Irish language at some point. Of this group, 31.6% retained a knowledge of the Irish language (from 2001 to 2011), 32.7% lost their knowledge of the Irish language (from 2001 to 2011) and 35.7% gained a knowledge of the Irish language (from 2001 to 2011). Concentrating on the cohort aged 3-19 in 2001, it was identified that some – the 2001 sample that was not linked in 2011 – very likely had left Northern Ireland before 2011 and so were lost as Irish 'knowers' but that of those who remained (e.g. present in 2001 and 2011), changes in self-reported religion and co-residents who knew Irish were associated with transitions (e.g. gaining, retaining, or losing knowledge of Irish). Given the age profile of Irish language knowledge, young people of school age and those in their late teens and twenties are a group who are important for policy.

Study strengths and limitations

The study is based on a high-quality longitudinal dataset with a large sample size (28% of the Northern Ireland population) enabling a deep and rich understanding of (a) knowledge of Irish and (b) language transitions. The study uses rich socio-demographic (e.g. religion/religion of upbringing, educational qualifications and health), individual-level and household-level data sourced from the Census where no equivalent administrative or survey data with such large population coverage exists. Selection bias is minimised because Census coverage in 2001 and 2011 was high and a big strength is that linkage of NILS members present in Northern Ireland to the Census exceeded 95%. Another key strength of the study is that individual-level linked records advances knowledge of the determinants of change in Irish language knowledge over a ten-year period. There are, nevertheless, some limitations. By definition, we are only able to examine the resident population in Northern Ireland; those who emigrate cannot by definition be in the Northern Ireland Census so those who leave Northern Ireland, particularly from younger age groups, are missing. Furthermore, some processes and deeper understandings can only be collected by surveys and in-depth interviews about how and why, for instance, households and family relations are significant and how and why changes in religious identities relate to changes in self-reported knowledge of Irish. Using the NILS we can show that these patterns exist, and that they are statistically significant, but to understand causation more information and thought is needed.

Scope for future analyses

Clustering of people who have Irish language knowledge in households

The clustering of people who know Irish within households could be "real" to the extent to which there is substantial self-reported knowledge. However, it may also be partially artefactual and result from the household head completing the census form on behalf of others, particularly younger household members, and ascribing knowledge to them. One way to investigate this topic would be to interview on the experience of completing the Census but before this we can get some solid hints

about what is happening through the deeper analysis of the NILS data. This can be done by comparing patterns of gain, loss, and retention for young people aged 3-15 in 2001 and comparing them with older NILS members aged over 16 in 2001 on the assumption that the 3-15 years olds were far more likely to have had their Census data completed on their behalf by the household head whereas those aged over 16 would have greater voice and independence in how they self-report knowledge. Another perspective can be gained by limiting the analysis to only single people or couples in 2001 and 2011 to focus on patterns of transitions in knowledge in adult-only households. This will enable the household clustering of Irish language knowledge to be investigated and tested for sensitivity.

Knowledge of Irish among Protestants

Although the majority of those who claimed in the 2011 Census to have known Irish had religion/religion of upbringing reported as Catholic there was a small but appreciable minority of Protestants who also reported that they knew the Irish Language. These 3,290 NILS members (reported number in the 2011 Census[26] for the Northern Ireland population was 13,715), differ in some important ways from Catholics who know Irish. The main dimensions of difference include social deprivation and educational qualification. A higher proportion of Catholics (29.3%) who know Irish lived in the most 20% deprived areas (14.4% of Protestants knowing the Irish language lived in the 20% most deprived areas). Furthermore, Protestants knowing Irish (compared to Catholics knowing Irish) had higher concentrations proportionally in Outer Belfast (25.1% vs 10.0%) and in the East (25.8% vs 16.2%) of Northern Ireland. A greater proportion of Protestants (33.9%) have no qualifications compared to Catholics (16.1%) knowing the Irish language. This is merely an exploratory 'first look' and it is something that can be developed further with the addition of 2021 Census data to the NILS in due course.

2021 Census Results

Some avenues for future work using the NILS and the Census relate to Irish language transitions, for instance, in the periods 1991-2001 and 1991-2011, and the factors associated with the Irish language knowledge in 1991 and 2001 (we have not undertaken this work and presented these results here for reasons of space). There will also be a massive increase in research capacity with the release of the 2021 Census data and their linkage to the NILS. The addition of 2021 data will enable understanding of how knowledge of Irish develops over the longer life course since there will soon be NILS data for 30 years and four Census time points (1991, 2001, 2011, 2021) and the more detailed question on frequency of Irish language speaking in 2021 (Figure 16) will add more to the collective understanding about how, where, and amongst whom competence in the language is distributed.

Figure 16: Irish language question: Northern Ireland Census 2021

Acknowledgements

The help provided by the NILS Research Support Unit is acknowledged. The NILS is funded by the Health and Social Care Research and Development Division of the Public Health Agency (HSC R&D Division) and NISRA. The NILS-RSU is funded by the Economic & Social Research Council[27] which is part of the UK Research and Innovation[28] and the Northern Ireland Government. The authors alone are responsible for the interpretation of the data and any views or opinions presented are solely those of the authors and do not necessarily represent those of NISRA/NILS. We also thank colleagues in the Northern Ireland Statistics & Research Agency and Department for Communities who sat on the project steering group and who contributed with comments and knowledge to an earlier version of the report.

About ADR UK[29] and ADR-NI

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. ADR UK is made up of three national partnerships (ADR Scotland, ADR Wales, and ADR NI) and the Office for National Statistics (ONS). It is funded by the Economic & Social Research Council which is part of the UK Research and Innovation. Administrative Data Research Northern Ireland (ADR NI) is a partnership between the Administrative Data Research Centre Northern Ireland (ADRC NI, comprising Queen's University Belfast and Ulster University), and the Northern Ireland Statistics and Research Agency (NISRA). Together they support the acquisition, linking and analysis of administrative data sets, developing cutting-edge research to improve knowledge, policymaking and public service delivery. This research was led by Queens University researcher in collaboration with NISRA researchers working for ADR-NI

Feedback: Your comments and suggestions are welcome and will assist the research team and ADR NI in continuously developing research outputs. Please send your comments to either of the following email addresses: I.shuttleworth@qub.ac.uk or John.Hughes@nisra.gov.uk

Annexes

Annex 1 References

1. New Decade New Approach (NDNA)
2. Identity and Language (Northern Ireland) Bill
3. Knowledge and use of Irish in Northern Ireland 2019/20
4. 1991 Census questionnaire
5. 2001 Census questionnaire
6. 2011 Census questionnaire
7. Profiling the Ulster-Scots language in Northern Ireland
8. Irish Language Strategy and Ulster-Scots Language, Heritage and Culture Strategy
9. Northern Ireland Longitudinal Study (NILS)
10. Release plans for Census 2021 statistics
11. Census 2011: Knowledge of Irish: KS209NI
12. Census 2011: Knowledge of Irish - Full detail: QS216NI
13. Former NUTS III Areas
14. Census 2011: Knowledge of Irish by area: QS214NI
15. Office for Research Ethics Committees Northern Ireland
16. Fair Employment (Monitoring) Regulations (Northern Ireland) 1999
17. SOC2010 volume 1: structure and descriptions of unit groups - Office for National Statistics
18. Deprivation | Northern Ireland Statistics and Research Agency
19. A Review of the Logistic Regression Model
20. Graphing Ratio Measures
21. Census 2011: Knowledge of Irish by National Identity LC2206NI
22. Multilevel Statistical Models
23. The Education (Northern Ireland) Order 2006
24. 1991 Census Irish language report
25. Irish Knowledge 2001: KS24
26. Census 2011:Knowledge of Irish by religion or religion brought up in by Sex: DC2244NI.
27. Economic and Social Research Council (ESRC) – UKRI
28. UKRI – UK Research and Innovation
29. ADR UK - Administrative Data Research UK. Data-driven change
30. Disability Discrimination Act 1995
31. District Council Guidance
32. Multicollinearity and misleading statistical results

Annex 2 Data and definitions

Irish language knowledge

To define Irish language knowledge in this publication we refer to the self-reported questions from the 1991, 2001 and 2011 Censuses (Figure 1). The main metric of interest in this report is Irish language knowledge where a respondent selected at least one of the understand, speak, read or write categories. Full **proficiency** in Irish, where a respondent selected all of the available, understand, speak, read and write categories, is also reported on in the analysis. A new question on how often people speak Irish was included in the most recently undertaken 2021 Census which took place on 21 March 2021. Results of the 2021 Census will be published on a phased basis with results on the Irish and Ulster-Scots languages planned for publication from autumn 2022[10].

Religion /religion of upbringing

The religion question in the 2011 Census in Northern Ireland[6:] was 'What religion, religious denomination or body do you belong to?' A follow-up question was asked for those with no current religion: 'What religion, religious denomination or body were you brought up in?

Two separate religion measures are included are included in Table 1. The 'religion belong to' is based on response to (i) above and the 'Religion/religion of upbringing' is a derived category based on response provided to both religion questions above. The categories used in both measures are in line with the approach set out in the Fair Employment (Monitoring) Regulations (Northern Ireland)[16]. These are (i) Catholic (ii) Protestant and other Christian (iii) other religion, and (iv) no religion or religion not stated. The Protestant category includes persons brought up in or belonging to the Presbyterian Church in Ireland, Church of Ireland, Methodist Church in Ireland and other (non-Catholic) Christian related denominations.

Activity limitation and long-term health conditions

This study used self-reported health problem/disability, as collected in the 2011 Census in Northern Ireland. A distinction was made between those reporting that their day-today activities were 'limited a little' or 'limited a lot' due to a health condition or disability which has lasted, or is expected to last at least 12 months. People who reported no limitation to their activities are categorised as having 'no activity limitation'. This definition of disability is broadly consistent with the Government Statistical Service (GSS) harmonised standard and Disability Discrimination Act (DDA) 1995 definition[30]. The self-reported long-term health conditions question, 'Do you have any of the following conditions which have lasted, or are expected to last, at least twelve months?' was used to measure the presence of chronic health problems at the population level.

Following the question above, respondents selected relevant condition/s from categories including the following reported in Table 1:

- Deafness or partial hearing loss;
- Communication difficulty (a difficulty with speaking or making yourself understood);
- Shortness of breath or difficulty breathing (such as asthma); and
- An emotional, psychological or mental health condition (such as depression or schizophrenia).

Local Government District

A geography variable based on the former 26 Local Government Districts in Northern Ireland was included in the modelling analysis. The former 26 Districts were aggregated into five larger geographical NUTS III areas, in use at the time of Census 2011 (Table 5). In 2008, the Northern Ireland Assembly approved the reform of Local Government. The change moved Local Government from 26 former Local Government Districts (LGD1992) to the current 11 Local Government Districts (LGD2014). The 11 new Districts became operational in April 2015[31]. The current NUTS III areas align with the 11 Local Government Districts.

Table 5: Former NUTS III Areas and former Districts in Northern Ireland

NUTS III Area	Districts Included
Belfast	Belfast
Outer Belfast	Carrickfergus, Castlereagh, Lisburn, Newtownabbey and North Down
East	Antrim, Ards, Ballymena, Banbridge, Craigavon, Down and Larne
North	Ballymoney, Coleraine, Derry, Limavady, Moyle and Strabane
South & West	Armagh, Cookstown, Dungannon, Fermanagh, Magherafelt, Newry & Mourne, and Omagh

Area Deprivation:

The Northern Ireland Multiple Deprivation Measure 2005 (NIMDM 2005) is a measure of multiple deprivation at the small area level. The NIMDM 2005 income domain was used to assign individuals into one of five equal groups (or quintiles) ranging from most deprived to least deprived. Further detail can be found from the NISRA Website[18].

Economic Activity:

Economic Activity comprised four groups: employed active full-time student, employed, unemployed and the economically inactive. The economically inactive included those who are retired, the long-term sick, people looking after their family and home and people who are inactive for other reasons such as temporarily sick, injured and discouraged workers.

Logistic Regression:

Logistic regression analysis allows for the relationship between an explanatory variable and the outcome variable to be examined, whilst at the same time taking into consideration other explanatory variables that influence the outcome. Logistic regression models compare different categories against a reference category, which will always have an odds ratio (OR) of 1. The OR indicates the size of the effect. The further above 1 that the odds ratio is, the greater the increase in likelihood of having Irish.

- An OR of 1 for the comparison group indicates no difference between the reference category and the comparison group.
- An OR of greater the 1 indicates that the comparison group is more likely to have Irish language knowledge than the reference category.
- An OR of less than 1 indicates that the comparison group is less likely to have Irish language knowledge compared to the reference category.

Plots of odds ratios (Figures 5 and 6) are reported on a log scale for the x-axis to support the interpretation. For example, an odds ratio of "0.5" is an equivalent departure from "1" as an odds ratio of 2 and this is more easily visualized on log scale t is only by using a log scale that you can visually compare the magnitudes of confidence intervals and standard errors in an odds ratio plot.

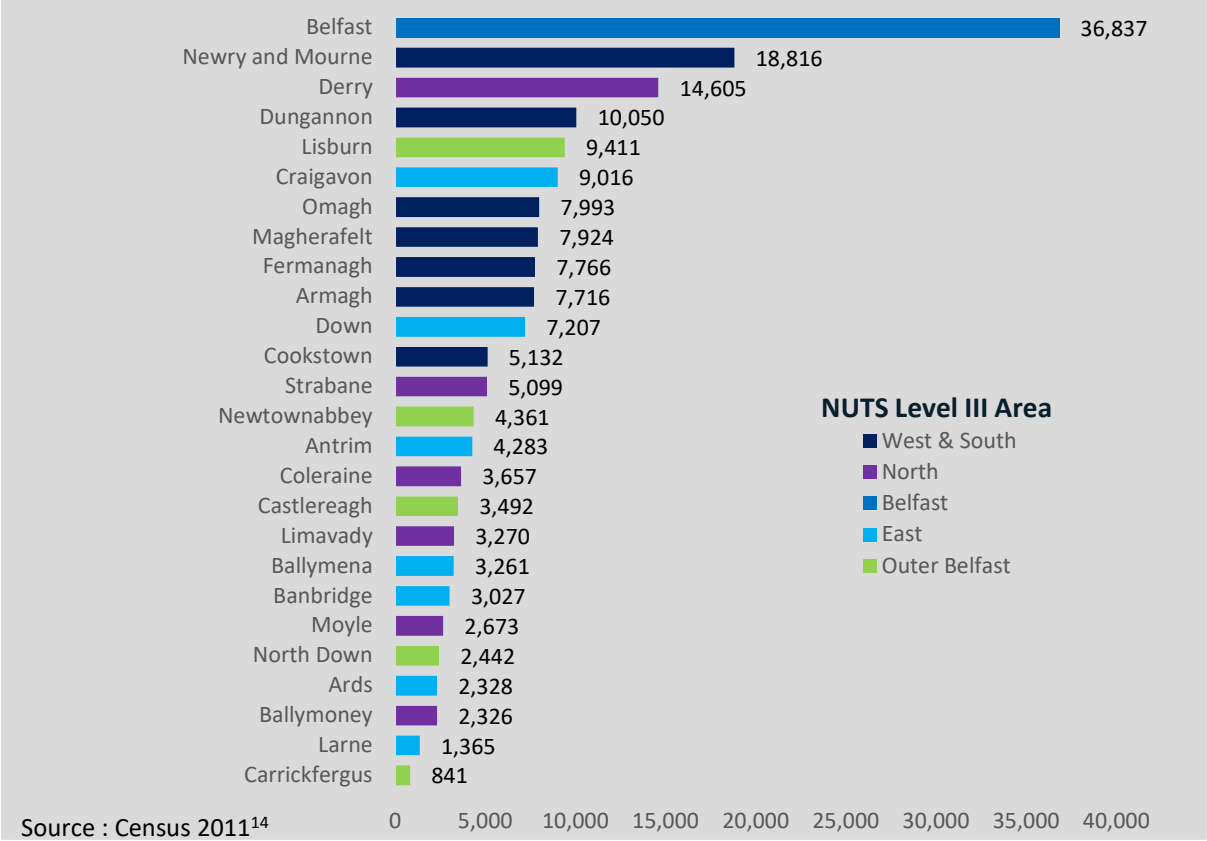
95% Confidence Intervals (CI's) are a range of likely values around the odds ratio. CI's that do not cross 1 are statistically significant while CI's that do cross 1 are not statistically significant.

Comparing Census 2011 and the Continuous Household Survey

Caution should be taken when comparing levels of Irish language knowledge derived from the Census 2011 and the 2011 Continuous Household survey. There are several possible reasons why a Census based figure for Irish language knowledge could be lower than a survey derived estimate. For example, the Census is a statutory self-completion questionnaire, while the Continuous Household Survey is a voluntary survey which used face-to-face interviews.

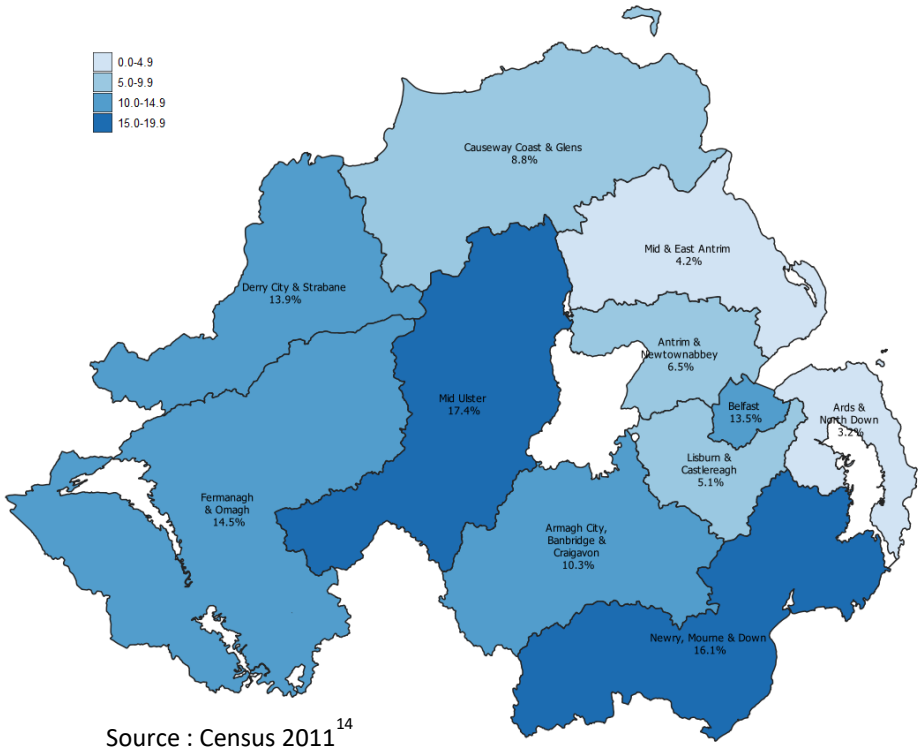
Annex 3 Irish language knowledge by area: 2011

Figure 17: Irish language knowledge (n=184,898) former Local Government District (LGD1992): 2011



Source : Census 2011[14]

Figure 18: Irish language (n=184,898) by Current Local Government District (LGD2014): 2011



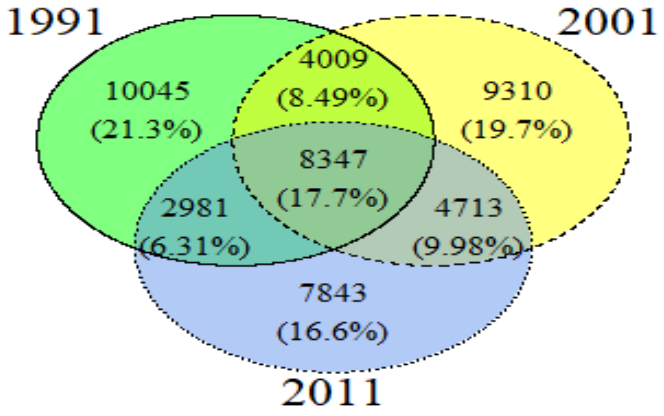
Source : Census 2011[14]

Annex 4 'Ever' having Irish language knowledge: 1991-2001-2011

There were 260,895 NILS members appearing in the 1991, 2001 and 2011 linked datasets. Of these, 47,248 (18.1%) indicated ever having Irish language knowledge. Of those, ever reporting Irish across the three years (n= 47,248):

- Over half (57.6%) (10,045 +9,310 + 7,843= 27,198) indicated Irish language knowledge in one Census.
- A quarter (24.8%) (4,009 + 2,981 +4,713= 11,703) indicated Irish language knowledge in two Censuses.
- 17.7% (n= 8,347) reported Irish language knowledge in all three Censuses.

Figure 19: Ever having Irish language knowledge in 1991/2001/2011



Source: NILS

Annex 5 Results from regression Model 1

Table 6: Logistic regression analysis: odds ratios (ORs) with 95% confidence intervals for factors associated with Irish language knowledge, 3-74 years

Variable	Category	(a) +Age +sex[T]	(b) + Socio-demographic + household	(c) + religion + national identity + co-residency with Irish 'knowers'[UV]
Sex	Males (ref)	1	1	1
	Females	1.10 (1.086, 1.12)	1.08 (1.06, 1.10)	1.14 (1.11, 1.17)
Age	16-24 (ref)	1	1	1
	3-10	0.42 (0.41, 0.44)	0.42 (0.40, 0.44)	0.30 (0.29, 0.32)
	11-15	1.42 (1.37, 1.48)	1.48 (1.43, 1.54)	1.63 (1.56, 1.71)
	25-49	0.80 (0.78, 0.83)	0.85 (0.82, 0.88)	1.02 (0.98, 1.06)
	50-74	0.61 (0.59, 0.63)	0.66 (0.63, 0.69)	0.99 (0.94, 1.04)
County of birth	Northern Ireland (ref)	1	1	1
	Republic of Ireland	7.92 (7.57, 8.29)	7.11 (6.78, 7.45)	5.32 (5.04, 5.62)
	Other	0.67 (0.64, 0.70)	0.67 (0.65, 0.70)	0.90 (0.85, 0.95)
Self-rated health	Very good/good (ref)	1	1	1
	Fair	0.82 (0.80, 0.85)	0.79 (0.76, 0.81)	0.84 (0.81, 0.87)
	Bad/very bad	0.89 (0.85, 0.94)	0.83 (0.79, 0.87)	0.81 (0.77, 0.86)
Communication difficulty	Yes (versus not)	0.58 (0.52, 0.64)	0.59 (0.53, 0.66)	0.51 (0.45, 0.58)
Hearing difficulty	Yes (versus not)	0.89 (0.84, 0.94)	0.96 (0.90, 1.02)	1.12 (1.04, 1.20)
Living arrangements	Alone (ref)	1	1	1
	Couple	0.95 (0.91, 0.98)	0.92 (0.88, 0.95)	0.39 (0.38, 0.41)
	Other living arrangements	1.09 (1.04, 1.13)	0.99 (0.95, 1.03)	0.40 (0.38, 0.42)
Area deprivation	Quintile 5 (least deprived) (ref)	1	1	1
	Quintile 4	1.61 (1.55, 1.67)	1.28 (1.23, 1.33)	1.01 (0.97, 1.07)
	Quintile 3	2.28 (2.20, 2.37)	1.47 (1.41, 1.54)	1.05 (1.00, 1.11)
	Quintile 2	2.48 (2.39, 2.57)	1.72 (1.65, 1.80)	1.06 (0.94, 1.20)
	Quintile 1 (most deprived)	3.31 (3.19, 3.43)	2.18 (2.09, 2.27)	1.03 (0.98, 1.08)
Housing tenure	Owner occupied (ref)	1	1	1
	Private rent	0.92 (0.89, 0.94)	0.86 (0.83, 0.89)	1.22 (1.17, 1.26)
	Social rent	0.83 (0.81, 0.86)	0.66 (0.64, 0.69)	0.99 (0.95, 1.03)
Local Government District	Antrim (ref)	1	1	1
	Ards	0.33 (0.30, 0.37)	0.35 (0.31, 0.39)	1.06 (0.94, 1.20)
	Armagh	1.76 (1.63,1.90)	1.50 (1.38, 1.62)	1.13 (1.03, 1.25)
	Ballymena	0.62 (0.56, 0.68)	0.64 (0.58, 0.70)	1.11 (1.00, 1.25)
	Ballymoney	0.91 (0.82, 1.01)	0.84 (0.76, 0.93)	1.08 (0.97, 1.21)
	Banbridge	0.78 (0.71, 0.86)	0.78 (0.71, 0.86)	1.04 (0.92, 1.16)
	Belfast	1.71 (1.60, 1.83)	1.44 (1.35, 1.54)	1.28 (1.18, 1.39
	Carrickfergus	0.24 (0.21, 0.28)	0.26 (0.22, 0.30)	1.02 (0.87, 1.21)
	Castlereagh	0.62 (0.57, 0.68)	0.67 (0.61, 0.74)	1.08 (0.97, 1.21)
	Coleraine	0.70 (0.64, 0.77)	0.65 (0.59, 0.71)	1.15 (1.03, 1.29)
	Cookstown	1.87 (1.72, 2.04)	1.52 (1.39, 1.66)	1.07 (0.96, 1.19)
	Craigavon	1.26 (1.16, 1.35)	1.18 (1.10, 1.28)	1.07 (0.98, 1.17)

[T] Unadjusted estimates are included to show the independent effect for each predictor variable. Age and sex are likely to influence the impact of each predictor variable and have therefore been taken into account or 'controlled' for.

[U] The fully adjusted estimates (Table 6 -column c) take into effect all of the additional predictor variables where all variables were entered into the model simultaneously i.e. the estimates show the independent effect for each predictor variable while holding all other variables in the model constant.

[V] Multi-collinearity tests[32] were undertaken for the final model (column c) and no critical thresholds were breached.

Variable	Category	(a) +Age +sex[T]	(b) + Socio-demographic + household	(c) + religion + national identity + co-residency with Irish 'knowers'[UV]
	Derry	1.74 (1.62, 1.87)	1.27 (1.18, 1.36)	0.80 (0.73, 0.87)
	Down	1.30 (1.20, 1.41)	1.21 (1.11, 1.31)	0.93 (0.84, 1.02)
	Dungannon	2.44 (2.26, 2.63)	2.02 (1.87, 2.18)	1.14 (1.04, 1.25)
	Fermanagh	1.63 (1.50, 1.76)	1.14 (1.05, 1.24)	0.88 (0.80, 0.97)
	Larne	0.50 (0.44, 0.57)	0.51 (0.45, 0.58)	1.04 (0.90, 1.21)
	Limavady	1.22 (1.11, 1.34)	1.03 (0.93, 1.13)	0.86 (0.76, 0.96)
	Lisburn	1.00 (0.93, 1.08)	1.02 (0.94, 1.10)	1.07 (0.98, 1.17)
	Magherafelt	2.47 (2.29, 2.68)	2.22 (2.05, 2.41)	1.11 (1.01, 1.23)
	Moyle	2.08 (1.87, 2.31)	1.77 (1.59, 1.97)	1.22 (1.08, 1.39)
	Newry	2.69 (2.50, 2.88)	1.90 (1.77, 2.04)	0.94 (0.86, 1.02)
	Newtownabbey	0.57 (0.53, 0.63)	0.57 (0.53, 0.63)	1.08 (0.97, 1.20)
	North Down	0.35 (0.31, 0.38)	0.38 (0.34, 0.42)	1.03 (0.92, 1.16)
	Omagh	2.12 (1.96, 2.29)	1.70 (1.57, 1.84)	0.98 (0.89, 1.07)
	Strabane	1.67 (1.53, 1.82)	1.09 (0.99, 1.19)	0.84 (0.76, 0.93)
Co-residents with Irish language knowledge	None (ref)	1		1
	One	9.36 (9.11, 9.61)		5.26 (5.11, 5.43)
	Two or more	35.23 (34.91, 36.30)		17.37 (16.80, 17.96)
Religion/religion of upbringing	Protestant[W] (ref)	1		1
	Catholic	19.62 (18.89, 20.40)		4.62 (4.40, 4.85)
	Other/none	2.77 (2.57, 2.99)		1.96 (1.81, 2.13)
National identity	Northern Irish (versus not)	0.61 (0.60,0.63)		1.06 (1.02, 1.11)
	Irish (versus not)	8.98 (8.78, 9.18)		2.15 (2.06, 2.25)
	British (versus not)	0.09 (0.08, 0.09)		0.61 (0.59, 0.64)
	Scottish (versus not)	0.46 (0.39, 0.56)		1.06 (0.86, 1.31)

1 - reference category, **OR <1** decreased likelihood of Irish language knowledge, **OR >1** increased likelihood of Irish language knowledge.
Shaded odds ratios, P<.05

[W] Protestant and other Christian

Annex 6 Results from regression Model 2

Table 7: Logistic regression analysis: odds ratios (ORs) with 95% confidence intervals for factors associated with Irish language knowledge 16-74 years

Variable	Category	(a) +Age +sex [X]	(b) + Socio-demographic + household	(c) + religion + national identity + co-residency with Irish 'knowers' [YZ]
Sex	Males (ref)	1	1	1
	Females	1.09 (1.06, 1.11)	0.97 (0.94, 0.99)	1.03 (1.00, 1.06)
Age	16-24 (ref)	1	1	1
	25-49	0.81 (0.78, 0.83)	0.83 (0.80, 0.86)	0.96 (0.91, 1.00)
	50-74	0.61 (0.59, 0.63)	0.74 (0.71, 0.77)	1.04 (0.99, 1.10)
County of birth	Northern Ireland (ref)	1	1	1
	Republic of Ireland	8.23 (7.86, 8.63)	7.33 (6.98, 7.71)	5.53 (5.22, 5.86)
	Other	0.64 (0.61, 0.67)	0.60 (0.57, 0.63)	0.81 (0.76, 0.85)
Self-rated health	Very good/good (ref)	1	1	1
	Fair	0.82 (0.79, 0.85)	0.92 (0.89, 0.95)	0.99 (0.95, 1.03)
	Bad/very bad	0.89 (0.85, 0.93)	1.02 (0.97, 1.08)	1.00 (0.94, 1.07)
Communication difficulty	Yes (versus not)	0.67 (0.59, 0.75)	0.77 (0.68, 0.87)	0.69 (0.60, 0.79)
Hearing difficulty	Yes (versus not)	0.88 (0.83, 0.94)	0.97 (0.91, 1.03)	1.13 (1.05, 1.21)
Area deprivation	Quintile 5 (least deprived) (ref)	1	1	1
	Quintile 4	1.50 (1.43, 1.56)	1.30 (1.24, 1.36)	1.02 (0.97, 1.08)
	Quintile 3	2.03 (1.95, 2.16)	1.52 (1.45, 1.59)	1.08 (1.02, 1.14)
	Quintile 2	2.21 (2.13, 2.30)	1.85 (1.76, 1.93)	1.12 (1.06, 1.18)
	Quintile 1 (most deprived)	2.95 (2.83, 3.06)	2.42 (2.31, 2.53)	1.12 (1.06, 1.10)
Living arrangements	Alone (ref)	1	1	1
	Couple	0.95 (0.91, 0.98)	0.93 (0.90, 0.97)	0.40 (0.38, 0.42)
	Other living arrangements	1.09 (1.04, 1.13)	0.77 (0.74, 0.80)	0.43 (0.41, 0.45)
Housing tenure	Owner occupied (ref)	1	1	1
	Private rent	0.93 (0.90, 0.96)	0.95 (0.92, 0.98)	1.28 (1.06, 1.10)
	Social rent	0.80 (0.77, 0.82)	1.05 (1.00, 1.09)	1.10 (1.06, 1.10)
Local Government District	Antrim (ref)	1	1	1
	Ards	0.35 (0.31,0.39)	0.36 (0.32, 0.41)	1.06 (0.93, 1.21)
	Armagh	1.70 (1.56, 1.86)	1.45 (1.33, 1.59)	1.05 (0.94, 1.17)
	Ballymena	0.64 (0.58, 0.71)	0.67 (0.60, 0.74)	1.14 (1.01, 1.29)
	Ballymoney	0.88 (0.78, 0.99)	0.84 (0.74, 0.94)	1.09 (0.94, 1.26)
	Banbridge	0.80 (0.72, 0.88)	0.80 (0.72, 0.89)	1.02 (0.90, 1.16)
	Belfast	1.74 (1.62, 1.88)	1.37 (1.27, 1.47)	1.15 (1.05, 1.26)
	Carrickfergus	0.27 (0.23, 0.32)	0.28 (0.24, 0.33)	1.01 (0.85, 1.21)
	Castlereagh	0.67 (0.61, 0.74)	0.67 (0.60, 0.74)	0.99 (0.87, 1.11)
	Coleraine	0.74 (0.67, 0.82)	0.66 (0.59, 0.73)	1.10 (0.97, 1.24)
	Cookstown	1.87 (1.69, 2.05)	1.57 (1.42, 1.73)	1.08 (0.96, 1.21)
	Craigavon	1.23 (1.13, 1.33)	1.16 (1.07, 1.27)	1.03 (0.93, 1.14)
	Derry	1.81 (1.67, 1.96)	1.25 (1.15, 1.35)	0.75 (0.68, 0.82)
	Down	1.29 (1.18, 1.41)	1.15 (1.05,1.26)	0.83 (0.75, 0.93)
	Dungannon	2.35 (2.16, 2.56)	1.95 (1.79,2.13)	1.06 (0.95,1.17)

[X] Unadjusted estimates are included to show the independent effect for each predictor variable. Age and sex are likely to influence the impact of each predictor variable and have therefore been taken into account or 'controlled' for.

[Y] The fully adjusted estimates (Table 7 - column c) takes into effect all of the additional predictor variables where all variables were entered into the model simultaneously i.e. the estimates show the independent effect for each predictor variable while holding all other variables in the model constant.

[Z] Multi-collinearity tests[32] were undertaken for the final model (column c) and no critical thresholds were breached.

Variable	Category	(a) +Age +sex [X]	(b) + Socio-demographic + household	(c) + religion + national identity + co-residency with Irish 'knowers' [YZ]
	Fermanagh	1.66 (1.52, 1.81	1.15 (1.05,1.27)	0.88 (0.79, 0.98)
	Larne	0.52 (0.46, 0.60)	0.53 (0.46,0.61)	1.02 (0.87,1.19)
	Limavady	1.15 (1.03, 1.28)	1.00 (0.89,1.11)	0.80 (0.70, 0.91)
	Lisburn	1.04 (0.95,1.13)	1.01 (0.93,1.10)	1.05 (0.95,1.16)
	Magherafelt	2.39 (2.18, 2.61)	2.20 (2.01,2.41)	1.06 (0.95,1.18)
	Moyle	1.89 (1.68, 2.13)	1.58 (1.39,1.78)	1.02 (0.88,1.18)
	Newry and Mourne	2.55 (2.36, 2.76)	1.76 (1.63,1.91)	0.82 (0.75, 0.91)
	Newtownabbey	0.58 (0.53, 0.64)	0.57 (0.52,0.63)	1.03 (0.92,1.16)
	North Down	0.38 (0.34, 0.43)	0.38 (0.34,0.42)	0.98 (0.86,1.12)
	Omagh	2.11 (1.94, 2.31)	1.67 (1.52,1.82)	0.91 (0.82,1.01)
	Strabane	1.58 (1.43, 1.74)	1.04 (0.94,1.15)	0.77 (0.69,0.87)
Educational attainment	No qualifications (ref)	1	1	1
	School level or other [AA]	1.50 (1.45, 1.54)	1.78 (1.72,1.85)	1.69 (1.62, 1.75)
	Degree level or higher	2.57 (2.48, 2.66)	3.08 (2.96,3.20)	2.90 (2.77, 3.04)
Economic activity	Inactive (ref)	1	1	1
	Unemployed	1.06 (1.00, 1.11)	0.94 (0.89,1.00)	0.87 (0.81,0.93)
	Employed	1.07 (1.04, 1.10)	0.89 (0.86, 0.92)	0.90 (0.87, 0.93)
	Economically active student [BB]	1.36 (1.28, 1.44)	1.25 (1.18, 1.33)	1.11 (1.03, 1.19)
Education-related occupation	Yes (versus not)	2.43 (2.33, 2.53)	1.63 (1.55, 1.71)	1.53 (1.44, 1.62)
Agriculture-related occupation	Yes (versus not)	0.61 (0.55, 0.67)	0.68 (0.62, 0.76)	0.82 (0.73, 0.93)
Co-residents with Irish language knowledge	None (ref)	1		1
	One	9.16 (8.90, 9.43)		5.16 (4.99, 5.34)
	Two or more	29.89 (28.91,30.91)		15.59 (15.00,16.20)
Religion/religion of upbringing	Protestant [CC] (ref)	1		1
	Catholic	17.96 (17.25,18.71)		4.52 (4.28, 4.76)
	Other/none	2.86 (2.63, 3.11)		1.96 (1.79, 2.15)
National identity	Northern Irish (versus not)	0.60 (0.58,0.61)		0.98 (0.94,1.03)
	Irish (versus not)	9.51 (9.28, 9.74)		2.17 (2.07, 2.28)
	British (versus not)	0.09 (0.08, 0.09)		0.57 (0.54, 0.61)
	Scottish (versus not)	0.47 (0.38, 0.57)		1.06 (0.85,1.32)

1 - reference category, **OR <1** decreased likelihood of Irish language knowledge, **OR >1** increased likelihood of Irish language knowledge.
Shaded odds ratios, P<.05

[AA] School level qualification or other vocational qualification or apprenticeship.
[BB] Full-time student
[CC] Protestant and other Christian