For Completion by NILS-RSU only	Project Number:

NILS/NIMS APPLICATION FORM

The Northern Ireland Statistics and Research Agency (NISRA) is responsible for the Northern Ireland Longitudinal Study (NILS) and the Northern Ireland Mortality Study (NIMS).

Please refer to the NILS-RSU website for the RAG Applications Criteria which are used to assess a research proposal. See link here

PART A: USER AND STUDY DETAILS

SECTION A1   APPLICATION DETAILS

Study Title
This should be a brief informative summary of the research proposal.

'The Housing Gap Between Natives and Immigrants: Investigating the Variation in Housing Tenure Between Areas in Northern Ireland, Including Comparisons with Ireland and Great Britain'

Proposed Start Date (DD/MM/YY)
Proposed End Date (DD/MM/YY)

Please ensure that you propose a realistic end date. This can only be amended at a later stage in exceptional circumstances.

Contact Details of the Chief Researcher

Title	
Name	
Position	
Organisation	
Address	
Telephone	
Email Address	
Date of last Safe Researcher Training (SRT)	

Contact Details of Other Applicant(s)
Please provide details of all other researchers who will be using the data.

Name	Organisation	Email Address	Date of last SRT

☒ **I agree to protect the confidentiality of the NILS/NIMS data.**

☒ **I will follow all the 'Dos and Don'ts' as published by the NILS team.**

☒ **I will read and sign the NILS Licence Agreement, NILS Disclosure Control Policy and NILS Security Policy upon approval of this application.**

Signature: **Date:**

SECTION A2   BACKGROUND AND AIMS OF THE STUDY

Project Summary/Abstract
This will be published on the NILS-RSU website if the research proposal is approved (circa 250 words).See current projects

Northern Ireland is a small open economy which has undergone a major transformation in migration flows. The accession of eight Eastern European countries to the EU in 2004 resulted in increased migration to Northern Ireland, with a peak net migration of 10,900 in 2007 (NISRA, 2013). In January 2014, Romanian and Bulgarian EU restrictions were removed, and many more migrants are expected to arrive in Northern Ireland. Research indicates that the new migrants are not following traditional patterns of settlement into cities, but are settling in rural towns and villages that do not have experience with the processes of immigration (Jarman, 2006). This raises concerns that additional or differential pressure on housing might affect the net fiscal contribution of immigrants. Migrants are not uniformly distributed and any public policy response must first have knowledge of the internal processes of migrant settlement. The extent to which people can satisfy their housing needs and preferences is then determined by a range of socio-economic characteristics, such as employment status, income, education and marriage. This project will analyse how these factors differ between households. The main focus of this project is on how housing tenure differs between native and immigrant households. This project applies econometric methods to Census data for 2001 and 2011, and the associated migration events for this period.

Public policy debate relating to this study will be complicated by the fact that immigration policy is determined centrally by the British Government, rather than a devolved administration. It is possible that the needs and demands of Northern Ireland and the Republic of Ireland will have more similarities, than Northern Ireland and Great Britain. In an attempt to construct empirically applicable research, this project will review the relevant policy documents and academic literature detailing migration processes in the Republic of Ireland and Great Britain. These findings will be compared against the econometric results obtained for Northern Ireland, and conclusions will be derived.

Relevance of Research Proposal to NILS/NIMS

Please provide evidence of the longitudinal aspect to the research [see guidance here] and explain how the NILS/NIMS data is uniquely placed to contribute to the study.

The NILS is uniquely placed for use in this project because the project will focus on Census data in 2001 and 2011, and the migration events in between. The inclusion of housing information in the census micro-data makes it possible to conduct a detailed analysis of specific groups in specific areas. Borjas (2002) points to detailed country of origin data and detailed information on where immigrants decide to locate within a country as being key elements in explaining the change in the housing ownership status of immigrants. Before the 21st century, emigration characterised migration flows in Northern Ireland. The 2001 and 2011 Censuses therefore, provide a before and after picture, alongside the migration transformation happening in between. I will compare census variables in 2001 with census variables in 2011. For example, in very general terms, suppose an area that has few immigrants enumerated in 2001 is shown to have a mix of home-ownership, private sector rental and social sector rental. In 2011, this changes and the area experiences an increase in the population of migrants, it is then possible to see what housing tenure they obtain after their arrival, and compare it to the area's population in 2001. Time series econometrics will be applied using STATA, and I will take the necessary steps to control for the effect of the economic recession, and other possible events, on housing supply and demand. I will model

the data using a probit regression model, for instance housing tenure may be the dependent variable and the socio-economic/demographic characteristics are the independent variables. The final model, in terms of the variables used, will be the result of numerous statistical tests, e.g. endogenity tests, in order to form a coherent model with explanatory power.

Please provide a brief summary of what is known to date about your chosen topic and how the proposed research would contribute.

Research conducted by the UK's Community Relations Council, indicates that the new migrants are not following traditional patterns of settlement into major cities, but are settling in rural towns and villages that do not have experience with the processes of immigration (Jarman, 2006). Additional research suggests that immigration into NI is responding to local patterns of need and to the demand forces within the private sector (Gilpin et al, 2006). These factors alter the patterns of demography, service use and social diversity in Northern Ireland. At present, there is no Northern Irish approach to immigration. Thus, there is a need for research to explore the dynamics of local demand.

Trends in migration are changing in Great Britain also. Once, migrants from the same country tended to cluster in areas where they had relatives or friends. However, new maps of England and Wales reveal that this is no longer the case for more recent migrants (BBC, 2013). Available evidence suggests that, the residential clusters of new immigrants in the UK break down as the population disperses overtime. Johnston et al (2002) map ethnic segregation in 18 towns and cities in England, and reveal an association between the length of time a group has been resident in the UK and the degree to which it is residentially assimilated. Furthermore, recent migrants to the UK are less likely than the UK-native population to live in the social housing sector, and also that the number of migrants living in social housing increases over time (Migration Observatory, 2011). This is most likely because migrants acquire access to social housing over time, as they become eligible for state benefits.

Research has found that in the UK generally: The foreign born population has lower home ownership rates than the UK born population (46% compared to 71% in 2010, respectively); The foreign born population is three times more likely to be in the private rented sector than the UK born population (36% compared to 12%); Migrants who have lived in the UK for five years or less, are more than twice as likely as all migrants to be in rented housing (75% of migrants in private rented housing in 2010) (Silva, 2011).

Duffy's (2007) analysis of Irish immigrants, using data from the Labour Force Survey and the Census, finds that immigrant households have a much lower owner-occupancy rate than native households, and that the gap has widened substantially over the last decade.

There has been an extensive analysis of immigrants and native households in the USA, primarily because the immigrant and native population is very large. Wilson and Taub (2006) emphasise fluctuations in the competition for housing, in the presence of increasing numbers of immigrants, as a key factor in explaining the in-group dynamics and trajectories of neighbourhood change. Borjas's (2002) econometric analysis, incorporating census data in the USA, illustrates that ethnic enclaves play a significant role in predicting homeownership. The analysis shows that immigrants have a lower homeownership rate than natives and that the gap can vary depending on the ethnic group. Clark and Blue (2004) argue that high levels of segregation in cities in the USA, reflect the preferences of immigrants to cluster with immigrants of similar ethnicities.

Relevance of Research Proposal to Health & Social Care
Please indicate how the research proposal relates to Health & Social Care research
[see guidance here].

According to the Joseph Rowntree Foundation (JRF), 'housing provides one of the key physical structures to living' (Hickman et al, 2008). In general, the quality of housing impacts on health, education and employment, as well as the life cycle of families and the possibilities of social mobilities (Phillips, 2006). If immigrants fare as well as the natives, then they are economically assimilated. On the other hand, if they are disadvantaged they can become segregated. Homeownership by immigrants can provide another indicator of the assimilation of immigrants, in addition to employment and earnings which are commonly used. A Northern Ireland Assembly report showed that during 2009–2010, there were: 1,368 applications for social housing from migrants; 256 allocations; and 517 households which applied for housing under the homelessness legislation (Russell, 2012). The Marmot review encourages greater support for vulnerable people and communities and to reduce the health inequalities experienced by vulnerable people within NI including migrant populations living in areas of deprivation. If migrants cluster in areas of deprivation, there is an increased likelihood of new immigrants experiencing ongoing disadvantage long after their arrival (JRF, 2008). The Council of Europe (2007) has argued that housing is one of the most important factors in encouraging the integration of migrants. As such the type of accommodation a person lives in, where they live, and the condition of housing they obtain can have an impact upon their life chances. In the short term, the wealth accumulation associated with owning a home improves access to neighbourhoods with health promoting assets e.g. supermarkets, exercise facilities, high quality schools and high quality housing (Sundquist and Johansson, 1997). Research from the USA indicates that relative to renters, homeowners have better physical health outcomes, such as: lower child injury rates, higher self-esteem, lower levels of stress, and more positive mental health, which are all associated with lower blood pressure (Macintyre et al, 1998). Consequently, the benefits of homeownership accumulate such that poor homeowners have better health outcomes than poor renters (Cairney and Boyle, 2004).

Please indicate how the research may support the development/delivery of public policy, public service delivery or serve the public good. Please reference any local or national policies where possible.

To date much of the migrant policy interest in Northern Ireland has been in relation to their status as minority communities and limiting racial discrimination between natives and immigrants (Northern Ireland Executive, 2008; 2011). Indeed, it is vital to manage the increasing mismatch between supply and demand in a 'tight' housing market, where the presence of increasing competition for scarce housing, can plummet housing conditions and fuel hostility towards any new immigrants (JRF, 2011). The issue of migrant housing does not directly appear in the 2011-15 Programme for Government. This is not evidence of its relative unimportance in terms of other priorities, but perhaps it illustrates that knowledge about the internal processes of housing quality and homeowner status in relation to immigrants is limited, because it is a new phenomenon. Although migrant housing is not a direct priority, it is indirectly contained in the Programme for Government under the priority of providing more social housing to meet the demand on the Housing Executive waiting list. Due to a lack of suitable houses in certain locations and depending on the duration of residence, more and more migrants are joining the Housing Executives waiting list. Housing also acts as a barrier to entry into the labour market. Immigrants in Northern Ireland are seen as contributing positively to the economy, it is important that the Government accommodates for the increase in population, to discourage emigration to Great Britain or out of the UK. Many Romanians and Bulgarians are expected to enter Northern Ireland in the coming years, thus it is important to assess the current situation, to be able to predict future

housing needs. In addition, there is discussion at the European Union level about an EU wide approach to managing migration (European Commission, 2012). This project will conclude by comparing the results for Northern Ireland with Great Britain and the Republic of Ireland. This will aid research fields which aim at improving North-South relations by economic means. If there are similarities between Northern Ireland and Ireland, this may provide rationale for cross-border cooperation in the provision of housing for migrants.

Prior Experience of Researcher

Please provide detail of your experience or understanding of using longitudinal data and of handling potentially disclosive microdata.

- In final year at university, I was selected to take part in an Internship as an alternative to the dissertation. Alongside the internship, I produced a 12,000 word research and was allowed to access unpublished data from NISRA in the construction of this project. I also helped produce a report that was published in 2013. On a daily basis I contacted appropriate departments to obtain longitudinal data. This often involved constructing a data set on Excel. At all times I took my role as an intern very seriously and I never did anything to jeopardise my position.
- As I was constructing my research idea and proposal, I read in depth the cohort profile for the NILS. The construction of this dataset is highly complex, so it was imperative that I familiarise myself with the datasets intricacies. I understand that the data is highly sensitive, and obtaining data for a population is a very serious matter, as there are many laws governing confidentiality and privacy that I must adhere to. I also reviewed the 1.0 introduction to the NILS, to gain knowledge of what is contained in the data set and to make sure that this data source was the appropriate one for my proposed project
- University: I took 2 week courses on mathematics for social scientists, statistics and STATA (a statistical software package). In class we used either cross-sectional or longitudinal data, in applying statistical techniques.
- MA Economics: in my econometrics module, I have regular homework and problem sets using time series data.

Planned Publication and Dissemination of Findings

Please provide detail on the relevant stakeholders for the research.

☐	Health bodies such as Department of Health, Social Services and Public Safety, Public Health Agency, Health and Social Care Board, Department of Health (England); please specify:
☒	Other Government Department; please specify: This project may be relevant to the Office for the First and Deputy First Minister. Although pressures on social housing are contained in the Programme for Government, they do not specify the impacts immigration has. The department may wish to consider this project, among the others that are developing and add the impact immigrants have on housing to their agenda, so that an appropriate working group can be established in order to probe the issue further, and incorporate the research into an appropriate policy framework. Although housing is an important public service and aspect of society to be affected, there are others such as education, policing and the NHS to be considered as well. This project may highlight the importance of exploring the changing trends in these services. Current targets in the 2011-15 agenda, may prove to be ineffective when the effects of migration are considered. In addition, this project may prove useful to the Department of Enterprise, Trade and Investment, because migrant clustering in housing-deprived areas may be an important facet of neighbourhood renewal schemes, the identification of potential problem areas at the SOA level would be helpful.
☒	Research Council, Charitable Foundation; please specify: The Joseph Rowntree Foundation has published a series of reports as part of its 'poverty and social exclusion project' and literature on migrants and social cohesion. Although, I cannot say with certainty what future migration trends will be in Northern Ireland, it is doubtful that in the immediate future we will return to a position of emigration, given that the EU economy has experienced an inherent change, both legally and economically. Thus, migrants can be seen as an important part of NI society, and important contributors to that society. How NI receives immigrants is important for social cohesion, the very fabric which underlies any society. Immigrants are also an important source of growth for the NI regional economy, and as such, assimilation and integration are vital for harnessing the value they can add to the economy. A better understanding of migrant housing tenure can help in understanding how migrants interact with their locations and identifying any divide between natives and immigrants, which may signal segregation not integration.
☐	NISRA; please specify:
☐	Other; please specify:

Indicate how you plan to publicise and disseminate the findings of the study.

☐	Refereed journals
☒	Report for Government Department, Research Councils or other sponsors In the event that the findings of this project are found useful for the previously mentioned Government Departments or the Joseph Rowntree Foundation, they may wish to cite them in future reports or other research pieces. I will ask the relevant agencies to feature the research project in their newsletters & websites.
☐	Internal NISRA reports
☒	Presentations (conferences, workshops, seminars)

	On the NILS website, I noticed that occasionally there are presentations about research findings from the survey by members of academia and Civil Servants. Given that the Census data for 2011 has only been added to the data set, this project might be cited for any future presentations about the 2011 Census findings.
☒	Other; please specify: I plan on creating a research summary document, because some readers may not be familiar with the intensity of the statistics involved in econometrics. This summary will highlight the key findings in less of a statistical language. I will then distribute this summary document to the relevant agencies, alongside the project itself. I was awarded a postgraduate scholarship to study. The topic of the essay was how my research in another jurisdiction will help North-South relations. I plan on comparing the findings to GB and ROI in this project. I will send my research to the awarding body, alongside the end of year report that is compulsory for the scholarship. The preliminary descriptive statistics will be shown as part of a compulsory class presentation to the members of my course and the course director in February/March. On occasion, a thesis is published in the University's working paper series. I plan on carrying out similar research at PhD level. The findings of this project will give me a research foundation to build upon with more thorough research.

You will be required to periodically provide updates on any policy relevance, impact or dissemination activities. This will be throughout the life of the project and for a period afterwards.

PART B: SPECIFYING DATA EXTRACT

SECTION B1   STUDY POPULATION

Dataset to be Used (Please tick).   NILS ☒   NIMS ☐

Study Population
Please provide a description of the population selected for the study specifying as much detail as possible.   Please consider gender, age group, timeframe and the link to census data.
For example, all male NILS members aged between 15-44 enumerated at the 2001 Census.

- All males and females enumerated at the 2001 Census
- All males and females enumerated at the 2011 Census:
    1) that where enumerated at the 2001 Census;
    2) Those that have immigrated into Northern Ireland; not recorded in the 2001 Census but who were recorded in the 2011 Census.
- Those that have immigrated into Northern Ireland; not recorded in the 2001 or 2011 Census, but who have been recorded as a migration event i.e. immigrated after 2001, and then emigrated before 2011.
- Include all people who live in the house with the NILS members, for example, a house of 3 people including one NILS members in order to get information of the two non-NILS members.

Estimated Sample Size
Please include details of the size of the sample and any subgroups that may be the focus of any analysis. Alternatively provide power calculations [see guidance here].

- In the 2001 Census, 821,449 males and 863,818 females where recorded. A total of 1,684,261 persons. The NILS accounts for 28% of the population, which is approximately 471,593 (rounded to the nearest whole number).
  ***Source: Northern Ireland Census 2001 Population Report (2002)
- In the 2011 Census, 887323 males and 923540 females where recorded. A total of 1,810,863 persons. The NILS accounts for 28% of the population, which is approximately 507,042 (rounded to the nearest whole number).
  *Source: http://www.nisra.gov.uk/Census/pop_2_2011.pdf: contains the final and unrounded population estimates for the Census
- Immigration estimates: 2002-11; 103780 national insurance allocations to non-UK residents. NILS only includes 28% of the population, of which a proportion of this migration estimate will be non-UK residents in the 2011 Census.
  *Source: NINIS, Population: migration, National Insurance No. Allocations to non-UK Residents (administrative   geographies)
- Enumerated at both 2001 and 2011, or have a migration event (even if they have not been enumerated at any Census): 465,000 NILS members have either of these two combinations
  *Source: NILS representative

NILS Core datasets

Census data

1991	☐
2001	☒
2011	☒

Vital events data   Event dates

Births of NILS Member	☐	from	to	
Births to NILS Mothers	☐	from	to	
Births to NILS Fathers	☐	from	to	
Deaths of NILS Member	☐	from	to	

Other NILS data

Internal Migration	☐	from	to
Immigration/Re-entrants	☐	From 2001	to 2011
Emigration	☐	From 2001	to 2011

Variables Required

Please complete this section using the NILS Data Dictionary and, if necessary, in consultation with the NILS-RSU. Please add more rows as necessary.
Please note this dataset can only be updated at a later stage through a project modification form. Weblink to data dictionary

Table Name	Variable Name	Justification for Inclusion (necessary for all Restricted variables)
CENSUSHH_2001	**CENSUSHID0** **HHADEMP_COUNTH0** **HHFAM_COUNTH0** **HHWRKG_COUNTH0** **HHDEPCHLD_COUNTH0** **NS_DEP_EDUH0** **NS_DEP_EMPH0** **NS_DEP_HEAH0** **NS_DEP_HOUSH0** **NS_DEP_TENH0** **PERSPERROOMH0** **SOAENUM** **TENUREH0** **ADEMH1** **ADTH1**	
CENSUSP_2001	**NILSID** **NILS_MEMBERP0** **CENSUSPID0** **CENSUSHID0**	

	COBP0 ECACTP0 EDLEV01P0 EDLEV02P0 EDLEV03P0 EDLEV04P0 EDLEV05P0 EDLEV06P0 EDLEV07P0 EDLEV08P0 EDLEV09P0 EDLEV10P0 EDLEV11P0 EDLEV12P0 EDLEV13P0 OCCUPP0 INDUSTRYP0 EMPSTATP0 YEARLSTWRKDP0 GHEALTHP0 AGEP0 ETHNICITYP0 FRPP0 MARITALP0 NOHOURSP0 SEXP0	**To determine nationality of migrant**
CENSUSHH_2011	CENSUSHID1 DEPEDH1 DEPEMH1 DEPHDH1 DEPHSH1 DEPRIVEDH1 EA_SOA_CODE_2011H1 FAMH1 PPROOMH1 TENH1 DPCH1	

CENSUSP_2011	**NILSID** **NILS_MEMBERP1** **CENSUSPID1** **CENSUSHID1** **AGEP1** **ETHFULLP1** **FRPP1** **HOURSP1** **LRESP1** **MARSTATP1** **SEXP1** **MIGORIGP1** **ECOP1** **HLQP1** **QUALS01P1** **QUALS02P1** **QUALS03P1** **QUALS04P1** **QUALS05P1** **QUALS06P1** **QUALS07P1** **QUALS08P1** **QUALS09P1** **QUALS10P1** **QUALS11P1** **QUALS12P1** **QUALS13P1** **QUALS14P1** **UNEMPHISTP1** **AGGECOP1** **ECOCATP1** **INDP1** **EMPLOYP1** **INDUSTRY_CODEP1** **OCCP1** **LASTYRWRKP1** **LANGPRFP1**	**To determine nationality of migrant**
MIGRATIONEVENTS	**NILSID** **DATEMOVED** **CHANGETYPE** **OUTOF_SOA2001** **INTO_SOA2001**	
CORE NILS DATA	**NILSID** **GENDER** **STATUSHISTORY_FULL**	
XAGES	**AGEATAPR11**	**To provide a consistent age for all NILS members and in particular to determine the age of migrants in the NILS that are not included in either of the Censuses**

Derived Variables

You may need to have new variables included in your project dataset which can be generated by the NILS-RSU using existing NILS/NIMS data (including confidential or restricted variables). Please list the input variables required for the derivation and, where possible, show how the new variable will be derived.

N/A

Additional Information

Please outline any requirements you may have in relation to attaching external data (other than area-based data at SOA level or above) to your project dataset.

N/A

SECTION C1   LINKING INDIVIDUAL LEVEL DATA

A project that involves the linking of individual level data to the NILS is called a Distinct Linkage Project (DLP). DLPs require further steps to be undertaken to comply with legislation and safeguard the confidentiality of the data.

Description of Individual Level Data
Please describe the individual level data and provide information on the Data Custodian and how the data was collected.

N/A

Requirement for Individual Level Data
Please provide evidence of the research need for individual level data to be attached to the NILS and the additional research benefits that could be obtained.

N/A

Feasibility of Linkage
Please describe how you have investigated the feasibility of the linkage (e.g. the coverage of the Health & Care Number), the quality of the data and any experience in using the new data.

N/A

One-Way Encryption Methodology
The method of linking data using one-way encryption is described in Annex 1. Please confirm that it is appropriate for the data to be linked in this way. If the linkage requires any deviation from this methodology please describe it in detail below.

N/A

Legal Basis
Please provide details of any discussions regarding the legal framework for the data and the support of the Data Custodian.

N/A

☐ **I have provided a letter of support from the Data Custodian.**

☐ **I understand I will require ethical approval from ORECNI for a database modification.**

☐ **I will adhere to the DHSSPS Privacy Advisory Committee Code of Practice of Protecting the Confidentiality of Service User Information.**

☐ **I agree to keep NISRA informed of progress and will assist the NILS team in drawing up a Data Transfer Agreement between NISRA and the data supplier.**

Signature: **Date:**
(electronic signatures accepted here)

Annex 1 -One-Way Encryption Process – for Distinct Linkage Projects

As part of the Data Transfer Agreement each Distinct Linkage Project requires encryption of the unique identification field (Health and Care number).
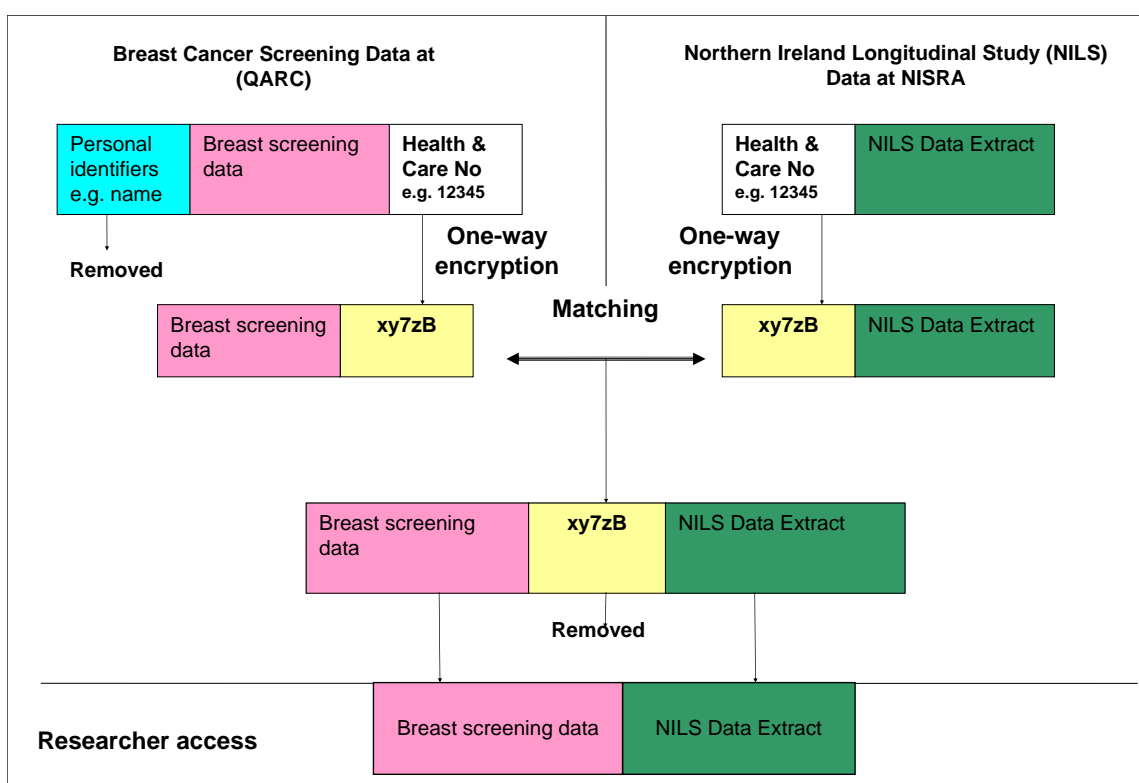
The NILS encryption software uses the Advanced Encryption Standard (AES) 256 algorithm for a one way encryption of the unique identifier and this will be carried out on both datafiles in situ. The software is designed to read in a comma separated text file with column headings where the first 10 characters are the unique identifier. It requires 2 distinct text strings, one is the password which forms the basis for the encryption key and the other is additional text to enhance the security of the encryption. Both these text strings will only be known by the external data provider so that the process cannot be replicated by NILS staff.

The resulting file contains the encrypted unique identifier plus the remaining variables (without the unique identifier) and is sorted in a random order to ensure that the encryption cannot be reversed on record order.

This file is then encrypted using 256 bit AES, for example using WinZip (version 9 or greater), for transport to the NILS secure setting where the NILS data extract undergoes the same process with the same password & key (again input by external data provider).

NILS staff then check both files to ensure fields are as specified in the Data Transfer Agreement. The 2 data files are then matched and merged using the encrypted unique identifier present on both files. This encrypted identifier is then removed from the final datafile. This finalised file is then made available to the approved Researcher(s) in the safe setting for analysis.

Diagram 1: Formation of a dataset for a NILS Distinct Linkage Project

A checklist, with signatures, is used by the relevant parties at each stage of data encryption.