

NORTHERN IRELAND HOUSE CONDITION SURVEY QUALITY ASSURANCE

High quality data are vital to the delivery of successful outcomes from the Northern Ireland House Condition Survey (NIHCS). Quality assurance (QA) checks are carried out at various stages by the Housing Executive Research Unit, Building Research Establishment (BRE) and by NIHCS supervisors. The key stages of quality assurance are set out below.

1. QA OF ADMINISTRATIVE DATA

The sample for the NIHCS 2023 was made up of two elements. The first element was a resample, consisting of 1918 properties which were surveyed during the 2016 NIHCS. This provides longitudinal analysis of changes in housing stock, including tenure. The second element was a fresh sample of 3077 properties taken from the Northern Ireland Statistics and Research Agency (NISRA) address register (NAR) which is developed within NISRA and is primarily based on the Land and Property Services (LPS) [Pointer](#) database.

Pointer database

Pointer is the address database for Northern Ireland and is maintained by LPS with input from local councils and Royal Mail. This is the common standard address dataset for every property in Northern Ireland. The [Pointer Specification](#) provides detailed information on the fields contained within the Pointer product.

LPS collect, process and manage the land and property information which underpins the collection of rates in Northern Ireland. The Pointer database is the most accurate spatially referenced address dataset for Northern Ireland. The main limitation to the data is that the provision of data and the verification of legacy data is restricted by the available staff resources within Councils.

The data in the Pointer database is created by the 11 Councils in Northern Ireland. Ten of the Councils send the data directly to Pointer electronically via a web service. Belfast City Council sends addresses to the Pointer team who manually create them on the database. If the LPS valuation team identify a property prior to notification from a Council it is sent to the Council for verification. Properties created in Pointer are sent to Royal Mail to be allocated a postcode.

A number of procedures are in place to ensure the quality of the data on the Pointer database.

LPS quality assurance arrangements:

- The Pointer team run monthly queries and create internal reports to review outstanding work packages.

- Any new records being created conform to a list of rules (legacy data may not fully conform with the rules).
- Every record must have the following details: UPRN, unique building ID, USRN, primary thoroughfare, townland, local council, county, X co-ordinate, Y co-ordinate, building status, address status, a valid combination of building status and address status, a town or locality.
- Every address will have either a building name or a building number
- Every multi-occupancy record will have a sub building name.
- Every addressable record will have a postcode¹, post town and UDPRN.
- All records will fall within the following: the NI polygon, the county area they are assigned to, the local council area they are assigned to, the townland area they are assigned to.
- All records with permanent co-ordinates will fall within a building polygon².

NISRA quality assurance arrangements:

NISRA works closely with LPS to make quality improvements to the Pointer Database to ensure that it remains fit for purpose. Improvements to date include:

- Ensuring all Built and Approved properties have complete postcode and address information
- Ensuring that the correct classification is recorded for properties
- Ensuring that all fields are correctly populated. When selecting the NIHCS sample NISRA follows a number of processes to ensure a robust sample is provided to the Housing Executive.
- Addresses with the non-domestic classification are removed from the sampling frame.
- Domestic addresses which are not classified as Built and Approved are removed from the sampling frame.
- Domestic addresses with incomplete address information are removed from the sampling frame.

¹ There are some instances where properties aren't assigned a postcode by Royal Mail e.g. a group of holiday homes.

² This is dependent on a building polygon having been captured by OSNI Fusion

- Domestic addresses with a capital value of less than £25k are removed from the sampling frame.

Housing Executive quality assurance arrangements:

Once the Housing Executive receives the sample from NISRA, the statistics team reviews the sample and follows up any issues with NISRA:

- Total numbers in sample and totals in each council area are checked.
- All cases must have a complete address.
- All cases must have a property ID number.
- All cases must have a capital value.
- All cases must have a dwelling description.

2. TRAINING

A total of 39 professional surveyors were employed to work on the 2023 NIHCS. Surveyors employed were Environmental Health Officers, chartered surveyors, architects or technical Housing Executive staff.

Six experienced supervisors were appointed. Each supervisor was responsible for advising surveyors and ensuring their work was of a consistent and satisfactory quality.

All new surveyors attended a five-day training session in April 2023. The purpose of the training was to introduce the new surveyors to the technical aspects of the survey form and conventions around recording internal and external faults, treatments, disrepair, by room, by fabric as well as by the services and amenities. Guidance and definitions were set out. In addition, the training included the more complex aspects of the form such as the Housing Health and Safety Rating System and the energy sections. Surveyors were also given training on the fieldwork tablets, the e-form and the accompanying website.

Surveyors who had previously worked on the NIHCS attended a 2-day refresher course.

The training was conducted by the Building Research Establishment (BRE), Housing Executive Research Staff and by the NIHCS supervisors. Training included test inspections of selected dwellings.

All surveyors also attended a one-day course in May 2023 on the social survey included training on interviewing techniques, vulnerable households / safeguarding and HMOs.

Prior to commencing fieldwork, surveyors were asked to complete two practice surveys of dwellings on their tablet and any problems encountered by the surveyors with the tablet or the website were reviewed.

3. FIELDWORK (TABLET VALIDATION)

Surveyors collect data using a tablet which allows them to enter data directly into a database. As well as saving time the tablet allows surveyors to validate their forms in the field. BRE developed a validation system within the software which:

- Highlights missing data
- Checks that data are within range
- Checks values against other responses on the survey form to highlight inconsistencies and pick up errors

4. SUPERVISION

Each surveyor is allocated a highly experienced supervisor who is responsible for providing guidance and support, and for checking and approving each survey form before it is sent to BRE.

- During the first few weeks of fieldwork a supervisor will accompany each surveyor for half a day while they complete surveys.
- Throughout the fieldwork period surveyors can contact their supervisors at any point if they need guidance.
- Supervisors carry out quality assurance checks on every survey form once they have been uploaded, aided by the error/warning system built into the software by BRE.
- Supervisors carry out back checks on completed surveys. This involves visiting addresses where a survey was completed and carrying out a number of checks for consistency with the survey form.

5. HOUSING EXECUTIVE FIELDWORK SUPPORT & QUALITY ASSURANCE CHECKS

Throughout the survey Research Unit Staff are available to provide any guidance needed by surveyors e.g. to carry out consistency checks on resample addresses. In addition to this the Research Unit carries out telephone back check surveys for each surveyor. This involves contacting

householders who have completed the survey and asking a number of key questions from the survey.

6. BRE ACCEPTANCE CHECKS

Once survey forms have been checked by a supervisor the data are logged on the BRE server ready for processing:

- A BRE analyst reviews the surveys uploaded to ensure that there are no residual error flags on any of the forms. This process may involve communication with the supervisor or surveyor.
- Once all forms are submitted, the data is translated from the collection database into the format required by the Housing Executive for analysis. This involves translating the data into SPSS files with a pre-defined structure. At this point, each variable is checked to ensure that the correct number of cases exist and that the values are as expected.
- The data are then submitted to the Housing Executive.

7. HOUSING EXECUTIVE QUALITY ASSURANCE

Once the Housing Executive receives the dataset a number of checks and processes are carried out to ensure the quality of the data:

- Validation and imputation procedures are completed on key items including: tenure, year of construction, dwelling type and dwelling location, and of household characteristics including age of the Household Reference Person (HRP) and employment status.
- A weighting and grossing process is carried out on the data to reflect the separate stages of the sampling process and the survey process itself.
- Work is completed for derived variables such as household type and the bedroom standard.
- There is comprehensive validation carried out on the income variable.

Appendix 1 shows the various stages of the NIHCS, and the QA processes that take place at each stage.

Appendix 1

QUALITY ASSURANCE (QA) PROCESSES OF NIHCS

