

Address Check Exercise – Summary Report July 2007

Introduction

In May 2007 a Census Test was undertaken within 5 Local Government Districts (LGDs) in Northern Ireland (Belfast, Coleraine, Craigavon, Magherafelt and Fermanagh). It incorporated an operational test of proposed procedures, processes, and associated systems in addition to statistical testing of the effect that delivery method¹ and form content have on the level of response.

Following detailed analysis based on 2001 Census information at Output Area level, target areas were chosen because they exhibit specific socio-economic characteristics that are known to provide difficulties with the enumeration process. The desire to test the factors across a balanced set of socio-economic strata led to the selection of 96 Output Areas for the test and 4 treatment combinations. In addition, in line with arrangements across the rest of the UK, it was agreed that the main design variables should be delivery method (i.e. enumerator delivery versus post-out) and income (i.e. include versus not include).

In order to arrive at the 96 OAs, all of the OAs across the five chosen LGDs were categorised into 12 strata (urban / rural², deprived / non-deprived, Protestant / Roman Catholic / Mixed). OAs were classified as:-

- Urban if their population weighted centroid (i.e. average grid reference) fell within any settlement in bands A-E (i.e. with a population of 4,500 persons or more); and
- Rural if their population weighted centroid fell within any settlement in bands F or G (i.e. with a population of less than 4,500 persons) or in open countryside, a small village or hamlet.



¹ An Assessment of Enumeration Options for the 2011 Census In Northern Ireland

² OAs were classified as urban/ rural in accordance with the Statistical Classification and Delineation of Settlements that was produced by NISRA's Inter-Departmental Urban-Rural Definition Group in February 2005.

OAs were categorised as deprived / non-deprived using the economic deprivation measure from the Northern Ireland Multiple Deprivation Measure 2005, using the median rank (2,511 out of 5,022 OAs) as the break-point. For Community Background, OAs were classified (using 2001 Census data) as predominantly Protestant if over 80% of the population were Protestant (including other Christian and Christian related), predominantly Roman Catholic if over 80% of the population were Roman Catholic and Mixed for all other areas. Eight OAs were then chosen at random from within each of the 12 stratum to give 96 OAs in total.

The primary purpose of the 2007 Census Test was to examine how the proposed processes and developments might a) promote high response rates, b) produce high quality data, and c) ensure value for money. As such, one new development to be tested was the option of posting out the Test Questionnaire using over-printed addresses. This was underpinned by full address checking in all Census Test Areas in October 2006.

The purpose of the Address Check was to examine the accuracy of address information extracted from the September 2006 POINTER address database for each of the 96 Test Output Areas within each of the 5 LGDs. POINTER is a comprehensive and standardised address database that aims to hold address information for every property in Northern Ireland. The database was created following a complex data matching exercise and “intense ground validation” on the address datasets maintained by Ordnance Survey of Northern Ireland (OSNI), Royal Mail, and the Valuation and Lands Agency (VLA).

- The role of the Address Checker was to visually identify each property in their designated area and to record any omissions, errors, or duplicates; and to reflect these updates in the Address Check Workbook provided.
- Within this context, this evaluation provides an assessment of the effectiveness of the exercise in achieving the following aims:

Aims

- **To produce a Finalised Address Register for use in the 2007 Census Test.**
- **To evaluate the POINTER database as a source of address information in subsequent census operations.**

Methodology

The methodology for collating the information and data required to inform this evaluation included the following:

- Documentary Review
- Monitoring Data Review
- Consultation with key stakeholders
- Process Documentation and Assessment
- Statistical Analyses
- Comparison of the September 2006 POINTER extract with the results of the Address Check Exercise through matching in order to assess the accuracy of POINTER.
- Comparison of the December 2006 POINTER extract with the results of the Address Check to assess the extent to which any additions/removals made to POINTER can be quantified.

Results

The following provides a summary of the main results obtained from the exercise:

- A Final Address Register (FAR) was compiled and provided to The Office of National Statistics (ONS) Geography Section on the 13th December 2006, to be used to over-print addresses on the Enumerator Record Books and on the 2007 Census Test Questionnaires.
- As a result of the Address Check Exercise, 82.1% of the 16,188 addresses in Census Test Areas were verified as Residential (and requiring a Census Test questionnaire) and 17.9% of addresses were removed from the address list (3.9% because they related to Commercial properties not requiring a Census Test Questionnaire, 4.5% because they were duplicated addresses already included and the remaining 9.4% due to other reasons e.g. derelict etc).
- A total of 777 additional properties were identified as a result of the Address Check, 97% (753) were verified as Residential (and requiring a Census Test questionnaire).
- A total of 632 Commercial addresses were verified and subsequently removed from the database as they would not require Census Test Questionnaires.
- Of the 16,188 addresses in Test Areas on the September 2006 POINTER extract, 667 (4%) could not be found via the address check. Of these, 514 (77%) remained unverified through an initial QA process which involved further examination of the Address Check Workbooks. Out of the 153 that were verified, 140 (92%) were classified as Residential or Both (Residential and Commercial), and were, therefore, retained for the Final Address Register.

Conclusions

- Despite the limited time available for the planning and implementation of the Address Check Exercise, the primary aim was achieved. A Final Address Register based on a combination of field and desk based address validation was developed and supplied to ONS Geography within agreed timescales and budgetary constraints.
- POINTER address coverage was significantly poorer in Rural Test Areas (particularly Fermanagh). This issue is compounded by the level of difficulty that Address Checkers reported whilst endeavouring to conduct the Exercise in Fermanagh. As a result, only 63.2% (12 out of the 19) of Test Areas in Fermanagh were completed in the field.
- The Address Check Exercise provided significantly more information on addresses in Census Test Areas than would have been obtained by taking a POINTER extract 3 months later.
- Whilst the Exercise was completed within both budgetary and time constraints, it must be recognised that this was due largely to the co-operation and good will of volunteers and existing Census staff.

Operational Recommendations

- Address Check Management should recruit Address Checkers with significant up to date local knowledge of the areas that are allocated to them.
- Address Check Management should allow extra time for the completion of an Address Check exercise in areas that are (based on learning generated from both the Pilot Exercise and the 2006 Address Check Exercise) known to be difficult – such as Fermanagh.
- In the interests of personal and householder safety, an Address Check exercise should be completed within normal working hours.
- In the interests of personal and householder safety, and to promote ease of navigation, the Policy relating to Address Checkers working in pairs should be enforced in all rural areas.

- A detailed policy regarding accidents and incidents occurring during the course of the Address Check exercise should be drafted and distributed.
- More in-depth map reading training should be provided to all Address Checkers in order to facilitate efficient navigation around Test areas and to aid the location of properties within areas using topographical information. This should be supplemented by an exploration exercise which seeks to discover ways of improving the utility of the Census Test Area Maps, and increasing the links between Address Check Workbooks and Address Check Maps.

Data Quality Recommendations

- Address Check Management should conduct an extensive consultative exercise with both local and regional organisations that successfully address and deliver post in rural areas in order to ascertain the best possible methodology in compiling an Address Register which will contribute to an accurate and timely delivery of Census Questionnaires.
- If further resources become available, consideration should be given to a follow-up study of all addresses marked for deletion in the FAR to confirm accuracy and, where possible, improve coverage.
- Address Check Management should seek to establish communication with authorities and organisations (such as Local Planning Authorities, The POINTER team, Royal Mail, the Electoral Office and Estate Agencies) in order to fully understand the process of the life cycle of an address, particularly with regard to the updating of address information regarding new and redeveloped properties, gated developments and explore how this might be effected in POINTER.
- Address Check Management should enter into discussions with representatives of POINTER with a view to ascertaining the utility of the POINTER Map Search facility in relation to an Address Check Exercise.
- Consideration should be given to the potential use of a Large Scale Address Check Exercise in 2011 given the high projected costs and resource implications. This should be reviewed within the context of an assessment of delivery outcomes in the 2007 Census Test Evaluation.

- Address Check Management should enter into discussions with representatives of POINTER with a view to investigating addresses more than one year old that were found during the course of the Address Check but were not present on POINTER. Within this context, Census HQ should seek to pursue continuing interaction with POINTER with a view to improving overall data quality.
- The results from the address check and the creation of the 2007 Census Test Finalised Address Register should be considered alongside the results from the 2007 Test, particularly in terms of undeliverable pre-delivery cards and/or Census Test Questionnaires and the number and location of additional addresses identified by Census Test Enumerators.