



Northern Ireland  
**Statistics &  
Research  
Agency**

# 2001 Census Review and Evaluation

## Data Collection Development Evaluation Report: Executive Summary

A detailed Review and Evaluation of the 2001 Census is underway, and information on projects within the 2001 Census is gradually being released.

Census Data Collection was designed to contribute to the strategic aims of the Census as laid out in the 2001 Census of Population White Paper (1999).

Each report is written in isolation and is subject to amendments as processing progresses and further information comes to light.

Reports will be released on the NISRA website in the form of a high level Executive Summary and a more detailed Evaluation Report.

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# Data Collection Development Evaluation Report

## Executive Summary

### Project Objective

To conduct the enumeration of the population of Northern Ireland by delivering census forms to every household and securely collecting them for processing.

### Background

Census Data Collection was designed to contribute to the strategic aims of the Census as laid out in the 2001 Census of Population White Paper (1999) including “to ensure all aspects of the census data collection operation.....are acceptable to the public and comply with Data Protection law”. To this end the primary goals included:-

- To attempt to achieve completeness of coverage of the population by delivering appropriate census forms to every household and communal establishment with an efficient use of resources;
- To maximise the overall level of quality of incoming data;
- To enable respondents to post back their census forms or have them collected for processing in a secure manner;
- To provide assistance and help to the public where and when needed;
- To ensure the field force was instructed, trained and managed to meet project objectives;
- To maintain confidentiality and security of information collected from the public
- To manage the census operation in a cost effective and efficient manner to achieve Census enumeration on 29th April 2001.

This data collection evaluation summary is based on current information and will be updated as further information from other sources such as results from the data processing exercise becomes available.

### Methodology

A key change in 2001 was the opportunity for members of the public to return their forms by post. The introduction of postback was designed to help reduce unit costs and enable resources to be targeted on difficult to enumerate areas.

The Census was carried out by some 2,980 field staff which included a 30% reduction in the number of Enumerators compared to 1991. The field staff was comprised of 6 Census Area Managers (CAMs), 97 Census District Managers (CDMs), 281 Census Team Leaders (CTLs) and around 2,590 Enumerators (CEs). CTLs had not been used in Northern Ireland in the 1991 Census and their introduction was designed to strengthen the quality management role of the supervisory field staff grade and to allow greater control of the supply and collection of forms. In the 1991 Census the equivalent management tier to that of CDM was Census Officer (CO).

There was close collaboration between the Census Offices in the methodology applied to ensure printing, logistics, supply of materials, training and response to public enquiries and liaison with service providers were successfully achieved, while taking into account necessary variations in the design of Northern Ireland forms and materials.

### Enumeration

Enumerators were given a computer generated map and a pre-printed list of addresses (within the Enumeration Record Book – ERB) as well as their instructional material. Unique to Northern Ireland an

information leaflet on the Census was posted to all households just prior to Enumerators commencing their visits. Enumerators delivered forms to all households in two phases during the three weeks before Census day (Sunday 29th April). The public was asked to complete the form and post it back in a distinctive yellow pre-addressed envelope. If additional census forms were required they could be requested via a Census Helpline. Local census management teams received and checked the forms. A period after Census day was allowed for the forms to reach the local field management teams and for them to record and check the returns. Flexibility was allowed as to when enumerators could begin the Follow-up phase to collect non-returns and resolve queries, and managers were able to re-assign enumerators between areas. Follow-up (9th – 18th May) consisted of at least two visits by Enumerators, and a Mop-up phase carried out by Census Team Leaders and Census District Managers. A Non-compliance routine was then followed where necessary. Completed census forms were collected under secure conditions from 281 Census Team Leaders (CDMs in England) and transported to the processing centre.

Staff in Census Office in Northern Ireland made local arrangements with representative organisations to ensure the enumeration of Armed Forces, prisoners, students in halls of residence, shipping personnel, persons sleeping rough and Irish Travellers.

An additional initiative was undertaken in Northern Ireland whereby postal reminders, census forms and pre-paid envelopes were issued to householders from whom a Census return had not been received at the end of the fieldwork period.

### Field checks

New or streamlined checks were introduced:

- For reconciling the numbers and types of forms received;

- For a focused geography check of districts prior to enumeration which helped identify potential problems during the enumeration and assisted with the allocation and support for enumerators;
- For coverage and quality.

### Field staff learning

As in Great Britain, a greater emphasis was placed on enabling field staff to work as a team, recognizing the skills of the workforce and the need to be flexible to target more difficult to enumerate areas. The most senior field staff (Census Area Managers – CAMs) were directly trained by Census Office. Because of the relatively smaller scale of operations some direct training by Census Office was provided to CDMs in Northern Ireland and a series of training sessions were held in different regional locations. Field managers then trained their own managers who in turn trained their own teams. The detailed instruction manuals, guides, videos, special pocket guides and workbooks for Enumerators used throughout the UK were adapted to reflect any Northern Ireland variations.

### Technology

New applications were:

- The use of software to design census forms, and the latest print and barcoding technology for printing of forms;
- The design process that took account of the use of scanning technology for processing whilst recognising the important aspect of public acceptability of the form;
- Email and a Field Management Information System (FMIS) for communications between the Census Area Managers and Census HQ and Touchphone Data Entry (TDE) for Census District Managers to report progress with the field operations;

- Call Centre technology for the public Census helplines;
- On-line stock control information for logistics management purposes.

### **Outsourcing**

Northern Ireland closely followed Great Britain in the degree of outsourcing used following recommendations made after the 1991 Census. After assessment of the appropriateness of this route in the Census Test (1997) and Rehearsal (1999) outsourcing included handling postback; telephone helplines; designing and printing forms, distribution and collection of forms, printing of other documents and other materials and their subsequent disposal. Planning and producing field staff videos were also outsourced.

### **Foot and Mouth Disease Outbreak**

Modified enumeration procedures were quickly developed to conduct the Census during the Foot and Mouth Disease outbreak. Close liaison was maintained throughout with other agencies such as the Department of Agriculture and Rural Development to ensure that the Census would not compromise the work being done to manage the outbreak. Special methods for delivery and collection were arranged to ensure that as complete an enumeration as possible was achieved.

### **Assessment and Lessons Learned**

#### **Initial Assessment**

The Census Office has estimated that around 98% of forms delivered to dwellings from which a response was expected have been returned. An exact figure for the number of people counted in the 2001 Census will be available in late summer 2002 when all the information, including the results of an independent Census Coverage Survey to assess the extent of any under-enumeration, has been analysed. An examination of the Enumerator Record

Books conducted after fieldwork estimated that of those forms returned just over 92 per cent were returned by post. It is estimated that approximately 19% of forms were posted before Census day. Over 4 per cent were collected by field staff in the follow-up exercise and the remainder as a result of a postal reminder exercise that was conducted by Census Office.

### **Enumeration**

A survey of CDMs indicated that the use of pre-printed address lists were regarded as generally accurate and well ordered and the maps of Enumeration Districts provided were welcomed by field staff, though the pre enumeration field check was still regarded as worthwhile. Virtually all CDMs felt the two phase delivery procedures were good though the number of calls to the Helpline requesting forms pre census day suggesting more publicity explaining that delivery continued up to Census day. The pre census day delivery was successfully accomplished but inevitably there were households that did not receive their forms before Census day and approximately x thousand calls were received on or in the week after Census day to this effect.

While the postal response rate was high, some CDM's reported that the resulting flow of envelopes was uneven and that they experienced some missorted envelopes in their returns. This feedback combined with the FMIS information led to a decision to delay the start of follow-up until 11th May and to extend the collection by an equivalent period. As the collection phase continued there were also reports from fieldstaff that some members of the public were claiming that they had already posted their form back. The postal flow issues and the effect on follow-up also resulted in many calls to the Helpline. The postal methodology allowed greater targeting of non-returns and strengthening the monitoring of postal flows would further enhance future operations of this type.

Current information derived from a sample of ERBs indicate that checks on data quality were undertaken and about 5% of cases are estimated to have failed the prescribed checks and resulted in further information being obtained.

### **Field Staff**

In general CDMs thought the Census 2001 was well planned and were for the most part positive about Census Office's role. The majority of CDMs surveyed responded very favourably to the training with particular reference to the quality of the videos. Virtually all the CDMs felt the exercise books were well structured and about the same thought the role playing exercises worthwhile. Some CDMs and CTLs felt that they could have been given more detail earlier in the process. Others remarked that the number of forms was too high leaving an impression of bureaucracy and providing too much information to absorb. A consensus emerged that CTLs played an important role in being able to manage closely and quality assure the work of their teams. Some CAMs felt that the CDM:CTL ratio could have been increased slightly.

About 4% of Enumerators had to double up as a result of either a shortfall of candidates or resignations. As in Great Britain, some CDMs and CTLs also had to cope with heavier than anticipated workloads particularly when responding to revised enumeration procedures as a result of Foot and Mouth and the high postal response. The standardized procedures are felt to have worked well in conveying the same message to everybody. It was felt that the Census Office training to CDMs helped reduce the communication gaps and that in any future operation such direct training should cover the CTLs to a greater extent. The instructions and training programme were considered successful, though the opportunity to further simplify some of the materials (e.g. payroll forms) should be examined.

### **Regional Management**

The relatively small scale of field operations in Northern Ireland facilitated good communication between CAMs, CDMs and Census Office. This enabled generally fast response times and Census Office and CAMS worked collectively to issue numerous written communications to CDMs to respond to issues in a dynamic fieldwork environment. The Field Management Information System generally worked well in Northern Ireland although several malfunctions were experienced and there was an overhead in following up field staff who were unable to deliver reports on time. CDMs generally welcomed the FMIS, though there were mixed views on the number of reports required. Most welcomed the information it brought, though some thought the reporting time window too narrow.

### **Foot and Mouth**

Liaison with DARD and the farming agencies was very good. The special arrangements involving the delivery and collection of supplies and completed census forms seems to have worked well. There is no evidence to date that the response was seriously affected by the outbreak. There were a few complaints from members of the farming community about Enumerators transgressing farm boundaries. Not all of these proved justified on examination and written instructions had been issued to CDMs in good time.

### **Public Enquiries**

The Helpline had been planned on the basis that there would be somewhere in the region of 6,000 to 8,000 calls for Northern Ireland. However, in effect, some 47,655 calls were received with 4,866 of these on the busiest day (23rd April). During 1 April to 30 June 2001, 56% or 26,687 calls were dealt with by the Integrated Voice Response (IVR) system and of these 99% or 26,420 callers were successful in getting through. This remained the usual daily success rate, but at the period of peak demand (23-24th April)

this reduced to 91%. After this, the number of call centre operators was increased and a direct line to Census Office in Northern Ireland was opened and advertised. Many of the calls before Census Day were requests for Census forms: some of which might have been avoided if there had been more information indicating that form delivery continued up to Census Day. About, 3,500 calls during the whole census period were requests for field staff assistance which were directed to CDMs. Overall, 1.4% or 381 calls could be regarded as a complaint and most of these related to the Census in general and census field staff. There were 3434 queries about individual questions and of these (177 queries) referred to the question on qualifications.

Response time to the surge in demand approaching Census Day was good. However, an examination of the call profile leading up to and immediately after Census Day should assist in the planning of future Census Helpline operations and resource requirements. The preference of members of the public to speak to an adviser is noted, though the cost implications need to be taken into account.

### **Forms Design and Logistics**

In terms of the design and production of public forms NISRA considers these to have been largely successful but some people did find the Relationship Matrix to be slightly confusing. The quality of the public forms in terms of their design and print were suitable for the automatic processing systems. The organization of supply and distribution programme enabled supplies to reach the field staff efficiently. Timing problems were encountered at times and reprints needed. All completed census forms and materials were collected from around 380 locations and transferred safely to the processing centre or for disposal. Suppliers were felt to be reasonably flexible in delivery times and the supplies delivered matched requests. Most CDMs felt that the system for delivery of ad-hoc supplies worked well. Some

redistribution of supplies between CDMs was anticipated and this was for the most part managed successfully at the local level. NISRA received few reports of difficulties with storage facilities and this was felt to justify the decision to locate forms storage with CTLs rather than with CDMs as in England and Wales.

### **Outsourcing and Contract Management**

Northern Ireland benefited from the economies of scale through working with ONS and GROS colleagues on delivering service through externally contracted providers. NISRA was also required to build and manage partnerships with service providers at the local level to ensure the ability to respond to the dynamics of the census operation and in general this worked well. NISRA also had to deal with the same contract management issues that applied to the larger organizations and while this is much less than if the service was developed in house it nevertheless made considerable demands. In general, relationships with service providers on Data Collection Development were constructive. NISRA concurs with the ONS view that the procurement approach used for this project – i.e. contracting services rather than systems – was appropriate and welcomed by service providers.

### **Conclusion**

Conducting a Census is a complex and challenging logistical exercise. The social and technical issues that the 2001 Census has had to deal with, the large amount of change taken on board, amid an outbreak of Foot and Mouth disease and the prospect of a General Election, made Data Collection more difficult than anticipated.

Preliminary information indicates that 98% of households from which a response could be expected was achieved and this can be regarded as a positive outcome to the Data Collection exercise. More accurate information on the degree of coverage achieved will be known in late Summer 2002

and the extent of any differential under-enumeration.

The flexibility to delay the commencement of follow-up was important and such contingency needs to be built into planning. The difficulty in communicating a standardized message via a number of management levels to the fieldforce should not be underestimated. Predicting the number of calls to the Helpline was a difficult task. While additional publicity might have helped to alleviate calls about non-availability of forms, the awareness and willingness of the public to be involved was reflected in the number of calls.

The Foot and Mouth outbreak presented significant opportunity costs to the overall management of the Census and stretched existing resources. The Republic of Ireland took the decision to suspend their Census and careful co-ordination was required to maintain the effectiveness of the operation in Northern Ireland without posing a risk to the rural community.

The degree of co-operation experienced between the Census Offices and outsourcing was of benefit in enabling a relatively small Census Office conduct an operation of this scale. There nevertheless remain considerable overheads associated with managing such a diverse range of projects. Detailed planning is essential with careful attention given to interdependencies between projects and even then events differ from census to census.

The 2001 Census in Northern Ireland received widespread community support and also managed to avoid any damaging controversy which might have impacted on the overall response rate.