2007 Census Test:

Summary Evaluation Report

CHAPTER 1 Executive Summary

1 Introduction

During May and June 2007, the Office for National Statistics (ONS) conducted a major field test as part of the planning and preparation for the 2011 Census in England and Wales in 2011.

This report summarises the evaluation of the 2007 Census Test in England and Wales. It includes recommendations that will be considered when developing the procedures for the Census Rehearsal in 2009 and the full Census in 2011. More detailed evaluation reports on specific aspects of the Test, for example the questionnaire, and other research explaining the 2011 design, are available on the ONS website at http://www.ons.gov.uk/census/2011-census/2011-census-questionnaire-content/index.html

Similar Tests were conducted by the Census Offices in Scotland and in Northern Ireland. The General Register Office for Scotland held a Test in 2006 and its report can be found here http://www.gro-scotland.gov.uk/files1/the-census/2006-census-test-evaluation/j8567.pdf The Northern Ireland Statistics and Research Agency conducted a joint Test with ONS in 2007 and the report of that Test can be found here http://www.nisranew.nisra.gov.uk/census/pdf/Ctes.pdf

2 Purpose of the Test

The 2007 Census Test was a large scale test covering approximately 100,000 households in five local authorities (LAs). These were selected to reflect a range of geographic conditions and social characteristics. Within England the Test covered parts of Bath and North East Somerset, Camden, Liverpool and Stoke on Trent. In Wales the Test took place in Carmarthenshire.

The main objectives of the Test were to assess:

- the effect on response of the use of post-out to deliver questionnaires
- the effect on response of the inclusion of a question on income
- the feasibility of major innovations in operational procedures, such as the outsourcing of recruitment, pay and training

As part of the Test, a Census Test Evaluation Survey (CTES) was conducted. The CTES sought to assess the public's views on the Census in relation to specific questions and the quality of responses given during the Test. The CTES interviewed about 1,200 households who had responded to the Test and about 250 non-responding households.

3 Summary of outcomes

This section summarises the main outcomes from the key operational or statistical aspects that the Test covered. A more detailed breakdown for all aspects of the Test is included in the main body of the report.

Delivery method

One of the key objectives of the 2007 Test was to assess the effect on response of the use of post-out to deliver questionnaires. The move to deliver questionnaires by post, rather than by hand, was considered to reduce the serious risks experienced in 2001 (in particular the failure to recruit a large number of enumerators), to provide savings to invest in improving response from hard to count groups through targeted follow-up and support processes and because of the limited success of making contact at delivery.

The conclusions from the Test are:

- Post-out impacts on response rates. The difference is small and recoverable
- The Enumeration Targeting Category (ETC) distribution is not a significant factor in the choice of delivery method
- Improvements identified for the address registers and current follow-up procedures suggest that under-coverage will be small and manageable
- A post-out strategy releases resources for targeted follow-up and community liaison

ONS has concluded that a post-out methodology is the best strategic option for delivery of the 2011 Census. ONS will be delivering about 95 per cent of questionnaires in 2011 via the post. The Test identified a number of areas where further research and development is required in order for the full benefits of post-out to be realised:

- Developing an address register to maximise coverage (and quality) for questionnaire delivery, follow-up and the production of outputs.
- Developing an approach to publicity and messages in support of post-out.
- Working with postal service providers to ensure that ONS's requirements can be met, particularly for delivery, accuracy, volumes and timings.

Inclusion of questions on income

The inclusion of questions on the sources and level of each usual resident's income in the 2007 Census Test was successful in providing data to help decide whether to include such questions in the 2011 Census. The role of the income sources question was to encourage individuals to reflect on their various sources of income before answering the income level question which was of primary interest.

Four key findings support the case for including a question on income level in the 2011 Census:

- Around 91% of individuals who submitted valid 2007 Test responses (i.e. passed the 'two-of-four rule') also completed the income level question.
- The inclusion of income questions did not affect the response rates to the other questions asked.
- The inclusion of income questions did not result in more people calling the contact centre.
- The inclusion of income questions did not have a negative impact on the coverage of individuals within households.

On the other hand, five key findings support the case for not including a question on income level:

- The overall response rate for questionnaires with no income questions was 53.3% whereas the overall response rate for income questionnaires was 50.6% - a statistically significant difference of 2.7 percentage points.
- Individuals who were unemployed, from ethnic minority backgrounds, less qualified or over 65 years of age had lower response rates to the income level question.
- 404 individuals who completed the 2007 Test income level question also took part in the Census Test Evaluation Survey (CTES), in which they were asked this question again. Answers between the 2007 Test and CTES matched in only 67% of cases.
- There was evidence that individuals who submitted valid 2007 Test responses had concerns about the income questions: more than half of those that did not answer the income level question did answer the ethnic identity or qualifications questions.
- **Many national newspapers took a negative stance in their reporting of the inclusion of income questions in the 2007 Test and proposals to include them in the 2011 Census.**

If income questions were included in the 2011 Census, further research would be needed to ascertain how to make the questions clearer, more acceptable to the public and provide more reliable data. The fact that the questions are difficult to answer and that at least some income data would be collected by proxy, indicate that the Census may not be the best method to collect this information. The Integrated Household Survey (IHS) or model-based income estimates should be able to meet at least some Census users' requirements for data on income.

Taking full account of these findings, their limitations, users' requirements for income data and the availability of alternative sources, it is recommended that questions on income should not be included in the 2011 Census for England and Wales.

Recruitment, pay and training

A major element of the Test was the recruitment, payroll and training activities of the Census field staff. The key outcomes and recommendations are:

Outsourcing

The 2007 Test provided evidence that outsourcing of recruitment, pay and training was feasible and provided significant benefits. ONS has decided that these services should be outsourced for the 2011 Census.

Recruitment

- Local Authorities provided good candidates for field staff positions but the take-up was less than expected. More should be done in 2011 to encourage LA staff to consider field staff positions.
- Clearer communication as to the roles and responsibilities of the positions is required when advertising and interviewing for positions. This will help with the retention of staff during the initial employment stages.

Training

- The blended approach to training, mixing e-learning and classroom, was successful. It provided consistent information to all levels of field staff.
- The focus of the training should be reviewed, in particular the doorstep routine and avoiding refusal. Consideration will be given to further use of role play scenarios.

Pay

- The use of hourly pay worked very well and supported the flexible hours that the field staff worked.
- The level of pay was a fair rate for the job.
- The management and control of pay was very successful and the expected hours worked per week / per area proved a useful tool for monitoring and approving pay.
- The bonus was well received and well administered. However, the criteria for awarding the bonus could have been clearer.
- The payment of expenses was cumbersome and refinement is recommended for 2011.

Address checking

The design of the 2011 Census requires an accurate and up to date list of household addresses. Therefore the Census design also includes a separate address checking exercise ahead of Census day to identify missing or incorrect addresses and households from the address list. The key conclusions from the Test are:

- The quantity of additional addresses found is evidence of the need for address checking.
- The main type of additional addresses found were multi-occupancy sub-divisions. The majority of these are likely to be long-standing deficiencies in address products.
- The keying and quality assuring of the information recorded in the field was more time-consuming and difficult than anticipated.

The need to undertake a separate address checking exercise depends upon the quality of the address products nearer the 2011 Census. ONS has implemented a strategy to develop an Address Register that will meet the Census requirements for coverage and quality. A key element of this strategy is to conduct an address checking exercise. An assessment of the amount of address checking needed for 2011, and the areas where it will be most beneficial, is required.

The address checking method developed and employed for the Test is, in principle, considered appropriate. Further work is recommended to review the timescales and resources allocated for both keying and geographical matching of addresses after the field exercise, and conducting the address check over a longer period (e.g. six months).

Field work

During the Test the application of follow-up procedures was applied equally across all areas to preserve statistical integrity. This constraint meant that the field procedures employed in the Test were necessarily different than those designed for the 2011 Census. The key conclusions drawn are:

- Organisation and management of field staff worked well, but continued development of doorstep interaction is recommended to convince prospective respondents.
- It is important to get a good start to follow-up. The procedures for starting follow-up (and the associated timings) should be reviewed to ensure that field staff hit the ground running.
- There needs to be a shift in enumerator culture away from 'ownership' of an area to maximising response in the assigned area.
- The use of Management Information needs to be improved in order to fully utilise field staff resources (particularly in areas with the lowest response). A review of the field procedures, training and position profiles is required ahead of the Rehearsal.
- Although the deployment of IT equipment was hampered in the Test, the take-up and use of the systems provided was variable. Recruitment and training should be reviewed to ensure Census managers have applicable IT skills.

ONS recognises that follow-up is crucial to maximising response rates and as a result further development of the follow-up procedures is required.
In particular ONS will be looking to develop and improve methods for persuading households to respond; and reviewing methods for allocating and moving field staff during the operation.

Local authority liaison

There were differences in ways of working between LAs in the Test. The principles and benefits of LA Liaison were clearly proven. This is evidenced by the overall commitment shown by LAs in supporting the Census Test (including the provision of supporting information and assistance). It is, however, clear that the LA Liaison approach used for 2007 Test could not be replicated across all of England & Wales for 2011.

ONS must continue to work with the LAs to develop a process for seeking their assistance across a number of key activities. These include areas such as Address register development, local intelligence and community contact, recruitment of LA staff, and logistical support and publicity. ONS should consider whether additional support is required in LAs with particular demographic and geographic challenges.

Questionnaire tracking

Questionnaire tracking (QT) is new for the 2011 Census. Each questionnaire is uniquely linked to an address within the QT. The QT then logs subsequent activities associated with a questionnaire, such as replacement questionnaires and recording questionnaires received at the processing site. It provides up to date information on response levels, enabling field resources to be targeted to the poorest responding areas.

For the 2007 Test, information recorded on the QT reflected status changes associated with:

- Addresses
- Questionnaires
- Requests for further information or support

The information held on the QT system gave Census Management a far better picture of the progress of field activities. It effectively supported the principles of a flexible field force. QT provided a clear picture of where response rates were below expectations, enabling targeted follow-up through either the use of extra staff or by extension of the follow-up window.

In order to make QT scaleable for 2011, the amount of information collected, and the method of collection, should be reviewed.

4 Conclusion

The 2007 Test provided valuable information that enabled ONS to answer the key questions for which the Test was designed, specifically the impact on response of post-out and the inclusion of a question on income.

ONS has already acted on the recommendations in developing and refining the Census design ahead of the Rehearsal in October 2009 and the full Census in March 2011. The main recommendations that ONS has implemented are:

- ONS is to proceed with post-out delivery of questionnaires as the primary delivery method to the majority of households in England & Wales.

- ONS has decided not to proceed with a question on income.

- ONS has decided to outsource recruitment, pay and training. (ONS has acknowledged that it does not possess the capacity to undertake the large scale recruitment exercise to hire, train and pay the field staff require for the Census.)

- E-Learning will play a central role in the delivery of training, augmented by instructions and classroom-based sessions.

- A comprehensive address register is being developed by ONS to facilitate the delivery of questionnaires. ONS has decided that conducting a full address check everywhere is an unnecessary use of resources and is considering a 30% address check.

- Local Authority (LA) Liaison will play a central role in the delivery of the 2011 Census. ONS will work to develop its local authority engagement strategy and identify where additional LA engagement is required. Areas for additional support will consider factors, such as expected overall response and response amongst particular population groups; the quality of the local land and property gazetteers; and the level of community engagement required.

- Questionnaire tracking will play an integral role in the delivery, collection and follow-up stages of the 2011 Census. This is currently being developed and the Test provided valuable information to help refine the specification and the field procedures to ensure that the system delivers essential information to manage the field operation.

5 Acknowledgements

The ONS Census Team would like to thank all its partners who provided invaluable assistance and contributions in helping to deliver a successful Test; and to all those residents living in the Test areas for their patience and participation through doorstep discussions and in returning Census questionnaires.

CHAPTER 2 Introduction

On 13 May 2007, the Office for National Statistics (ONS) conducted the first major field test for the next Census. The purpose of conducting the voluntary test was to assess a wide range of different aspects in planning, testing and evaluating the Census operation to inform the design and development of procedures for the 2011 Census.

This evaluation report is divided into a number of sections which address the key objectives of the Test and the key operational areas undertaken as part of the Test. Each of the chapters provides a brief description of the process undertaken along with the findings, conclusions and recommendations.

PURPOSE OF THE TEST

The 2007 Census Test was a large scale test covering approximately 100,000 households in five local authorities (LAs) selected to reflect a range of geographic conditions and social characteristics. Within England the Test covered parts of Bath and North East Somerset, Camden, Liverpool and Stoke on Trent. In Wales the Test took place in Carmarthenshire. The selected LAs were chosen to provide a varied cross section of both the population and types of housing, reflecting a full census. More information on the selection of areas for the Test is available in Pop Trends < insert reference >

The main objectives of the Test were to assess:

- the effect on response of the use of post-out to deliver questionnaires;
- the effect on response of the inclusion of a question on income; and
- the feasibility of major innovations in operational procedures, such as the outsourcing of recruitment, training and pay.

TEST DESIGN

The Test was designed to enable a statistical comparison between response rates for the main objectives (post-out / hand delivery and income / no income). The sample of 100,000 households selected from within the five LAs was divided into five equal strata (approximately 20,000 households), according to an enumeration targeting categorisation (ETC) which assigns a difficulty level of 1-5 (where level five represents the very hardest households to enumerate) to each Enumeration District (ED). The EDs used were 2001 Census EDs which contain between 100 and 300 households. The ETC for the Test was developed using factors identified from the 2001 Census found to be most associated with household non-response.

As a result of an equal apportionment of the Test sample to the five ETCs, the hardest to count areas, ETC four and five, accounted for about 40 per cent of the Test areas compared with only 10 per cent in England and Wales as a whole. This oversampling in the hardest to count areas was done to allow statistical comparison of the Test treatments between ETCs and to ensure that the operational procedures were sufficiently tested.
Within each ETC or stratum:

- half the population received a questionnaire by post, half by hand
- half the population received a questionnaire including the income question, half excluding

As part of the Test, a Census Test Evaluation Survey (CTES) was conducted. The CTES sought to assess the public's views of the Census in relation to specific questions and the quality of responses given during the Test. The CTES interviewed about 1200 households who had responded to the Test and about 250 non-responding households. Results from the CTES are given in the relevant chapters of the evaluation report.

OPERATION OF THE TEST

Each questionnaire was individually addressed and assigned a unique identification number and tracked through the questionnaire tracking (QT) system. The QT underpinned the new design of posting out questionnaires. These were posted back to a single location where questionnaires were automatically receipted. Returned questionnaire notification was immediately provided to the field to ensure follow-up visits were directed to non-responding households.

As the 2011 Census design relies heavily on an accurate and up to date address list, a separate address check exercise was conducted in September and October 2006. 26 Address checkers managed by five Address check team managers checked 100,000 addresses in the five test LAs. Address checkers were given extracts from the Ordnance Survey MasterMap Address Layer 2 product (extract May 2006). Address checkers validated the list by checking the existence of each address, recording additional addresses found (and those not found), and addresses which had changed status (residential to commercial) or were demolished. These changes were updated on the list and supplied to the printers for pre-addressing the questionnaires.

In EDs selected for hand delivery enumerators delivered the questionnaires over a 15 day period before Census Test Day (13 May 2007). This delivery schedule was coordinated with the timing of the postal delivery. Up to three attempts at making contact to deliver the Questionnaire packs were made at each address. Delivery Enumerators were asked to ultimately put the pack through the letter-box if no contact was achieved during the third visit. Properties that appeared vacant, derelict, or demolished were recorded and excluded from the follow-up for non-response list. New addresses that were identified received a questionnaire. Enumerators were asked to record the new address that the questionnaire was issued at.

In EDs selected for postal delivery, questionnaire packs were packaged in clear polywrap with a Census logo and were pre-sorted into postmen's walks. Delivery started on Wednesday 2 May and lasted for a few days. This gave an additional seven days before Census Test Day as a contingency to resolve any delivery issues.

The field follow-up activity was aimed at non-response. The purpose was to ensure that every active (delivered to household) address which did not return a questionnaire (within ten days after Census Test Day) was visited and, if possible, persuaded to return a questionnaire. Follow-up lists of addresses where a questionnaire was still outstanding were produced and sent to follow-up enumerators. Follow-up started on 23 May. Follow-up enumerators were instructed to provide assistance with completing the questionnaire or to persuade the householders of the importance of responding. They were also told to try to make contact with non-responding households at different times of the day on each of their follow-up visits.

To support the fieldwork and provide assistance to householders a contact centre was in operation from the start of delivery of questionnaires to the end of follow-up. Its specific objective was to provide assistance to householders in completing their questionnaire. This included answering questions about the questionnaire and the purpose of the Test; providing new, replacement or additional questionnaires where required; and providing interpretation services for householders who did not speak English.

LIMITATIONS OF THE TEST

The field design for the 2007 Test was not a small scale replica of the 2011 Census. Numerous initiatives or supporting processes were excluded from the Test and / or moderately changed to support the Test design. This may have affected some aspects of the results, for example response rates. The main points to note are:

- Test design – some elements of the operation were changed so as not to impact on the ability to interpret results from the Test. For example, an equal number of follow-up visits was conducted everywhere to ensure that the comparison of return rates between delivery methods was not significantly influenced by more resources. In 2011 the number of follow-up visits will depend on the level of response
- Publicity – due to the wide dispersal of Test areas, publicity was limited to an advanced leaflet to all households in the Test areas. This is considerably less than the publicity planned for 2011
- The Test was voluntary – due to its voluntary nature, field follow up visits were limited to three

CHAPTER 3 Delivery Method – Post-out Versus Hand Delivery

PURPOSE

Posting questionnaires, rather than the traditional hand delivery approach, is being considered for the 2011 Census for the following reasons:

- To reduce serious risks experienced in the 2001 Census, in particular the failure to recruit a large number of enumerators
- To provide savings for investment in improving responses from target population groups and areas through more targeted follow-up and support processes
- The limited success of making contact at delivery

The move to postal delivery (post-out) follows a key recommendation from the evaluation of the 2001 Census and the Treasury Select Committee that more must be done to improve coverage among target population groups.

Although postal delivery has not been applied on a large scale in previous Censuses in England and Wales, it is used in other countries. In particular, it was used successfully in the 2006 Canadian Census, which is closest to the England and Wales Census in terms of design. It is also used in the US Census.

DESCRIPTION

An assessment of postal delivery considers the results for two key questions from the Test:

- Can an address list of sufficient quality to support post-out be obtained?
- Does post-out have an impact on return rates?

In addition, ONS assessed costs for post-out and hand delivery for the same overall response. This included the additional follow-up costs necessary to recover from a lower initial response resulting from delivering by post.

ASSESSMENT

Response rates

The Test was designed to assess whether people are less likely to respond in areas where they received their questionnaire through the post rather than by hand from an Enumerator. Based on the likelihood that the delivery method would impact on people's behaviour, the Test assessed whether the decline in responses could be recovered with a more intensive follow-up by looking at the

success rates between the two delivery methods at follow-up stage. The section on costs (below) assesses whether any requisite follow-up is affordable.

To assess the propensity to respond between hand delivery and post-out, the Test was designed so that each of the delivery methods had a maximum of three attempts at follow-up. As a result, more contact was made in areas where the questionnaire was delivered by hand, resulting in a higher response than in post-out areas.

A one-sided t-test was used to assess whether the differences in response rates between post-out and hand delivery areas were statistically significant across each ETC category. Table 3.1 shows the household response rates after follow-up by ETC and LA, allied to the associated p-values.

Table 3.1 Response rates and differences in response by delivery method, 2007 Census Test, England and Wales

	HAND DELIVERY	POST-OUT	DIFFE-RENCE	STD ERROR (Diff)	T-VALUE	P-VALUE	DF
All cases	53.4%	50.6%	2.8%	1.0%	2.89	<1%	249
ETC							
1	66.9%	63.4%	3.6%	1.5%	2.41	1%	46
2	55.7%	51.2%	4.5%	2.5%	1.77	4%	45
3	47.8%	44.7%	3.1%	2.2%	1.38	9%	46
4	36.8%	37.0%	-0.2%	1.7%	-0.11	54%	58
5	33.8%	29.3%	4.5%	2.0%	2.24	1%	58
Camden	35.7%	34.6%	1.2%	1.7%	0.69	25%	77
Liverpool	50.8%	46.6%	4.2%	1.4%	3.03	<1%	101
Stoke	59.6%	56.1%	3.5%	2.3%	1.51	7%	37
Bath	62.3%	61.0%	1.3%	2.9%	0.45	33%	24
Carmarthenshire	67.5%	62.5%	5.1%	2.9%	1.73	5%	23

From this analysis it can be concluded that there is a clear, statistically significant difference in the response rates between post-out and hand delivery methods. This represents an overall statistically significant difference in the Test areas of 2.8%. However, the differences between post-out and hand delivery do not differ noticeably across ETC categories, apart from ETC category 4. This suggests that, although post-out has an impact on response rates, the difference between the two methods is not affected by the target population characteristics of an area.

Can a difference in initial response rates (the rates at the start of follow-up) be redressed by more intensive methods of follow up? Table 3.2 shows the success of follow-up in each ETC category by delivery method, for the initial non-responders who were converted to responders. Some 25.8% of the initial non-responders in post-out areas were ‘converted’ by field follow-up into responders.

Overall there was a small and statistically not significant difference of 0.2% in follow-up effectiveness when broadly equal levels of follow-up were applied to both post-out and hand delivery areas. As the differences are very small, the results support the assumption that the success of follow-up is not affected by the delivery method.

A small reduction in response rates associated with posting out questionnaires could potentially be recoverable with more follow-up, although this would increase costs. The section below summarises a cost-comparison between the two delivery methods, including the cost of an increase in follow-up for delivery by post.

ONS believes that targeted publicity, using some of the saved resources from a post-out strategy, will mitigate against the reduced initial response anticipated from delivering questionnaires by post.

Table 3.2 Improvement in return rates due to follow-up, by initial delivery method and Enumeration Target Category, 2007 Census Test, England and Wales

	ALL NON-RETURNS		
ETC	HAND DELIVERY	POST-OUT DELIVERY	DIFFERENCE (H-P)
1	37.1%	35.4%	1.8%
2	27.0%	26.9%	0.1%
3	23.6%	22.2%	1.5%
4	16.5%	17.6%	-1.0%
5	14.9%	13.6%	1.3%
All cases	**26.0%**	**25.8%**	**0.2%**

Costs

Post delivery is being considered because the potential savings it offers could be used elsewhere. A model was developed to estimate the costs for different mixes of delivery method. It uses the initial response rates to estimate the number of follow-up visits required to achieve an overall response of 94%, the same rate as in the 2001 Census when the questionnaires were hand delivered.

The estimated savings are due to the significant reduction in the number of field staff required to recruit, train, equip and pay. Hidden within these, however, is an increased follow-up cost resulting from the expected small increase of non-responders.

The cost model indicates that:

- To achieve an overall response rate of 94%, opting for 100% post-out rather than 100% hand delivery would save between £28 - £35 million, depending on

the success of follow-up. This assumes a difference in initial response rates of 5%.
- A difference in initial response rates of more than 10% is needed before the cost of post-out starts to equal, or exceed the cost of hand delivery.

Quality of the address register in the 2007 Test

An address list of both high coverage and high quality is vital to the proposed Census design:

- To underpin a QT system which will track every Census questionnaire and provide the necessary control to manage and target field operations most effectively.
- To support a post-out strategy, since there is less opportunity at the onset of the Census period to identify new households.

The address list used in the Test was developed from an address register product updated with an address check during September and October 2006 in the Test areas. Address Checkers were given extracts from the Ordnance Survey MasterMap Layer 2 for each Enumeration District (ED) and were required to validate the list by verifying the existence and accuracy of each address, as well as recording any additional addresses found.

The number of additional households found was a key indicator of the quality of the address register. Households found in the hand delivery areas can be used to estimate the numbers that might be identified as missing if postal delivery were used and would therefore not have received a questionnaire.

Table 3.3 shows the number and percentage of additional households that were found in hand delivery areas during the Test. The table highlights that:

- The proportion of additional addresses found during hand delivery was 1.1%. It is estimated that 1.3% of households would be missed off the address register in the 2011 Census given the same levels of hand delivery coverage across England and Wales.
- One-sixth of the additional addresses found in hand delivery areas were found at follow-up, suggesting that Delivery Enumerators would still miss some addresses.

Table 3.3 New addresses found during the Test in hand delivery areas by ETC and by enumeration phase (delivery or follow-up), 2007 Census Test, England and Wales

ENUMERATION PHASE	ETC 1	ETC 2	ETC 3	ETC 4	ETC 5	TOTAL
Found During Delivery	1.0% (88)	0.5% (48)	1.3% (125)	1.2% (138)	1.5% (165)	1.1% (564)
Found During Follow-up	0.3% (26)	0.2% (22)	0.2% (17)	0.3% (36)	0.1% (15)	0.2% (116)
Total	**1.3% (114)**	**0.7% (70)**	**1.5% (142)**	**1.5% (174)**	**1.6% (180)**	**1.3% (680)**

To understand the quality of the register used during enumeration, ONS looked at a sample of just over half of the additional addresses found:

- Of the 540 new addresses examined, 68% were sub-premise addresses. It is likely that most of these addresses were present at the time of address checking and should have been identified earlier.
- 20% of the addresses found during enumeration were actually included in a subsequent version of the Ordnance Survey address list. Some reduction in the number of additional addresses found could be achieved in the 2011 Census by carrying out an update from the address register list before Census day.

This suggests that improvements to the coverage of the address register used for the 2011 Census need to be made. ONS is confident improvements are achievable through intelligence gathering and collaborative work with addressing experts, including:

- Developing a process to enable a late update to the address register shortly before Census day to reduce the number of missed addresses.
- Working with address register suppliers to improve their coverage and accuracy.

CONCLUSIONS & RECOMMENDATIONS

Based on the evidence from the Test, and cost modelling, the following conclusions were drawn in relation to the assessment of the delivery method:

- Posting out the questionnaires impacts on response rates. However, the difference is small and recoverable.
- The ETC distribution is, by itself, not a significant factor in the choice of delivery method.
- Improvements identified for the address registers and current follow-up procedures suggest that under-coverage will be small and manageable.
- A post-out strategy releases resources for targeted follow-up and community liaison.

On balance, the evidence suggests that a post-out strategy would bring advantages and savings. However, whatever the delivery method, follow-up is crucial to maximise response rates. Consequently, ONS has decided that post-out will be the primary method of delivering questionnaires in 2011.

As a planning assumption, 95% of households will receive their questionnaire through the post. The amount and location of hand delivery will be confirmed after further research considering the types of areas most likely to benefit from hand delivery.

REFERENCES

Office for National Statistics (2006) The 2007 Census Test: A Major Step Towards the 2011 Census. Population Trends 126, pp16-28.

Office for National Statistics (2007) 2007 Census Test: www.statistics.gov.uk/census/2011Census/2011project/2007Test.asp

Office for National Statistics (2007), Census Advisory Group Papers: www.statistics.gov.uk/census/2011Census/Consultations/agpapers.asp

Office for National Statistics (2007), Enumeration Targeting Categorisation to be used in the 2007 Census Test: www.statistics.gov.uk/census/pdfs/EnumerationTargetingCategorisation.pdf

Office for National Statistics (2008) The 2007 Census Test: Evaluation of key objectives. Population Trends 132, pp26-33.

CHAPTER 4 Inclusion of Questions on Income

PURPOSE

The decision to include income questions in the 2007 Census Test arose from demands from some data users for such questions to be included in the 2011 Census. This was driven by a widely held belief that asking about income is the best method for identifying areas of deprivation and affluence at various levels of geography. For this purpose, previous Censuses have used questions such as accommodation type, condition and ownership; occupation; and car ownership. However, this method will not sufficiently meet users' requirements in the 2011 Census.

Census user requirements must be carefully weighed against the effects of including income questions on response rates and Census field operations, the public view of the Census and the coverage of individuals within households. In addition, the quality of the income data obtained and the availability of alternative sources of information about income must also be taken into account. This chapter summarises the evaluation of the effects of including a question on income level in the 2007 Test. For a more comprehensive evaluation of this topic, **please see the report: *'2007 Census Test: The effects of including questions on income'*.**

The 2007 Test had a split-sample of just over 100,000 households: around half received Census questionnaires that included income questions. The inclusion of income questions was balanced across the questionnaire delivery method, LA and ETC. Income question inclusion was assigned at the Enumeration District (ED) level. For more detail on the 2007 Test design, see the papers: *'2007 Census Test Design and Sample Size. Recommendations: England and Wales' and '2007 Census Test Household Sample: England and Wales. Sampling Criteria and Method'*.

The questions asked for details of the sources and level of each individual's (usual resident's) income. They were designed to encourage individuals to reflect on their various sources of income before answering the income level question, which was of primary interest.

DESCRIPTION

A summary and rationale for the analysis of six evaluation questions are presented here. For more detail, please see the paper: *'2007 Census Test: The effects of including questions on income'*.

Do income questions result in a significant drop in response rates?

Two sets of analysis will be presented:

- Overall response rates in ETCs when the income questions are included
- Overall response rates by delivery method when income questions are included.

The response rate refers to the number of questionnaires returned that passed the two-of-four rule from the number successfully delivered. For a household to pass the two-of-four rule, at least one individual on the questionnaire must have answered two out of four key demographic questions: name, sex, date of birth and marital status. The rationale for this rule was to provide a benchmark for what qualified as a valid response and thus exclude questionnaires that were returned blank or contained spurious data.

This analysis will give an indication of public acceptability of the income questions and of how much additional follow-up would be needed if they were included in the 2011 Census. It will also show whether there is any relationship between response rates and the inclusion of income questions in hard to count households or by delivery method.

2. What is the impact of income questions on the quality of response?

Four sets of analysis will be presented:

- Response rates to the income level question and non-response bias.
- Comparison of responses to the income level question for the 2007 Test and Census Test Evaluation Survey (CTES).
- Responses to other questions as a result of income question inclusion
- Direct comparison of responses to the income level, ethnic identity and qualifications questions.

Responses to the income level question will give an indication of its acceptability and clarity. The analysis of response rates from different population groups, such as the unemployed, will measure the reliability of the income data obtained as a measure of deprivation.

A sample of households who returned valid 2007 Test questionnaires (respondents) and a sample of those who did not return a questionnaire (non-respondents) were asked to participate in the CTES. One person from each household that agreed to participate was interviewed. Respondents were asked a number of questions including one on income level equivalent to that asked in the Test. The comparison of responses to the Test and CTES income question will measure its test-retest reliability.

The analysis of response rates to the other questions when income is included will show whether it impacts on the quality of the overall data.

3. What are the views of the public on income questions?

Four sets of analysis will be presented:

- Analysis of CTES data from 2007 Test respondents.
- Analysis of CTES data from 2007 Test non-respondents.
- Summary of the publicity regarding the income questions.
- The number of calls made to the contact centre regarding the income questions.

In the CTES, respondents were asked what they thought about the 2007 Test questions. Non-respondents were asked why they were unable to return their questionnaire. The analysis of CTES data will ascertain whether 2007 Test respondents identified the income level question as being difficult to answer and/or whether they were unhappy about answering it. The CTES analysis will also show whether non-respondents cited the income level question as a reason for them choosing not to participate in the 2007 Test.

The public view of the Census has a reciprocal relationship with the views expressed in the media. Media reaction to the inclusion of the income questions in the 2007 Test will provide some indication of how they would be received if included in the 2011 Census.

This analysis of contact centre calls will ascertain whether the inclusion of income questions in the 2011 Census would result in a greater number of calls made to the contact centre and thereby incur increased cost.

4. Do income questions result in more people being missed from households that have returned a questionnaire?

The inclusion of income questions may have negatively affected the number of individuals within households that had returned questionnaires. To determine whether this is the case, the analysis presented in this summary compares the number and names of individuals in the 2007 Test questionnaire with the number and names of individuals in the CTES interviews who received questionnaires with income questions.

5. What alternative sources of data on income are there?

The degree to which the Integrated Household Survey (IHS) and M odelled Income Data produced by ONS can satisfy Census users' requirements for data on income is summarised.

ASSESSMENT

The analyses for each evaluation question are presented in turn.

1. Do income questions result in a significant drop in overall response rates?

Using one-sided t-tests, values of t in excess of 1.65 in Table 4.1 and 4.2 below are significant at the 5% level.

Table 4.1 Response rate differences by income question inclusion and ETC

ETC	NO INCOME QUESTIONS	INCOME QUESTIONS	DIFFERENCE	SE (DIFF)	T-TEST
1 – very easy	66.0%	64.2%	1.8%	1.8%	1.02
2	54.9%	51.9%	3.0%	2.4%	1.27
3	48.2%	43.9%	4.3%	2.0%	2.14
4	37.9%	35.9%	2.0%	1.9%	1.01
5 – very difficult	32.8%	30.3%	2.5%	2.1%	1.16
All cases	**53.3%**	**50.6%**	**2.7%**	**1.0%**	**2.81**

Table 4.1 shows that there was a statistically significant overall drop of 2.7 percentage points in response rates in those areas that received income questionnaires. At the ETC level, the difference in response is only statistically significant for ETC3 which represents 10% of the country.

Table 4.2 Response rate differences by income question inclusion and delivery method

ETC	NO INCOME QUESTIONS	INCOME QUESTIONS	DIFFERENCE	SE (DIFF)	T-TEST
Post-out	52.3%	49.0%	3.3%	1.3%	2.45
Hand delivery	54.5%	52.3%	2.2%	1.4%	1.59
All cases	**53.3%**	**50.6%**	**2.7%**	**1.0%**	**2.81**

The inclusion of income questions and using post-out delivery has a greater statistically significant drop in response of 3.3 percentage points. However, this effect was not confirmed by logistic modelling analysis and may therefore be unreliable. For more detail, see the paper: *'The 2007 England and Wales Census Test: the effect of delivery method and the inclusion of an income question on response'*. Nevertheless, this finding is of significance given the recommendation in Chapter 3 of this paper that 95% of households in England and Wales should receive their 2011 Census forms through the post.

2. What is the impact of income questions on the quality of response?

Income question response rates and non-response bias

Around 91% of individuals who returned a questionnaire that passed the two-of-four rule also completed the income level question.

This response rate appears to be acceptably high given that this question was the last question asked on a voluntary Census Test questionnaire.

However, the income level question did have one of the lowest response rates of all the questions asked. Moreover, there was evidence that certain population groups who tend to have low income were less likely to answer the question:

- 10% of unemployed individuals did not answer compared to only 3% of employed individuals.
- Between 11% and 15% of ethnic minority groups did not answer compared to only 8% of individuals who identified themselves as white.
- People over 65 years of age were less likely to answer than other age groups.
- People not qualified to at least A-level, NVQ level 3 or Apprenticeship level were less likely to answer.

All of the differences above are statistically significant. These non-response biases reduce the effectiveness of the income level question as a measure of deprivation.

Comparison of the 2007 Census Test and CTES income level question answers

Of 404 individuals' 2007 Test and CTES income level question responses, 67% matched. The test-retest reliability of the income level question, though statistically significant, was relatively poor, $r(402) = .8$, $p<.001$. This indicates that individuals found the income level question difficult to answer.

There are some limitations with this comparison. The sample was relatively small, and because only one adult from each household participated in the CTES, individuals from large households will be under-represented. Moreover, all individuals in the analysis had completed their own individual section of the 2007 Test questionnaire. The test-re-test reliability coefficient is therefore an overestimation of the reliability of an income level question used in the 2011 Census, since at least some of the data will be collected by proxy.

Response rates to other questions as a function of income question inclusion

There was no evidence that the inclusion of income questions impacted on response rates to the other questions asked. 97% of income questionnaires passed the two-of-four rule compared to 97% of no income questionnaires. Similarly, for income and no income questionnaires, the response rates were 97% to the ethnic identity question and 91% to the qualifications question. (Note: these rates are only for individuals who were supposed to answer the income questions).

However, it appears that individuals did have concerns about answering the income level question.
Of individuals that did not answer the income level question, 90% answered the ethnic identity question and 57% answered the qualifications question.

3. What are the views of the public on income questions?

Analysis of CTES data

For the CTES, 2007 Test respondents were asked if they found any questions difficult to answer and, if they did, which? They were also asked if they were unhappy about answering any questions, and, if they were, which questions?

From individuals who returned an income questionnaire, 12% said that they found at least one question difficult to answer; of these, 19% mentioned the income level question. 15% said that they were unhappy about answering at least one question; of these, 58% mentioned the income level question.

From individuals who received an income questionnaire but did not return it, when asked why, 52% said that it was because they were too busy, they forgot or they did not feel it was important; only 5% said it was because the income questions were intrusive.

Summary of publicity regarding the income questions

Most newspapers expressed at least a slightly negative view of the income questions, stating that they are too intrusive and that the information may be used in the calculation of tax rises. For example, the Daily Mail (09/08/06; see also 09/03/05, 01/11/06, and 02/11/06) stated that: 'Questions on income and wealth will be included for the first time in the most intrusive survey of the population ever carried out by the state'.

Given these negative comments, if income questions were included in the 2011 Census, there would need to be a sustained nationwide publicity campaign to clarify how the information collected would be beneficial and exactly how it would be used. Justification for the wording of the questions would also need to be included to prevent misconceptions arising such as, '[The wording of the income questions]…suggests that anybody earning more than £37,000 a year will be considered 'wealthy' when the Census results are assessed' (Daily Mail, 01/11/06). This publicity campaign would substantially add to the cost of delivering a successful 2011 Census.

Analysis of the contact centre call log

The contact centre dealt with 4,898 questions from the public regarding the 2007 Test (note that a householder could ask more than question in a single call), of which 2,094 (43%) were from householders who had received an income questionnaire, 2,160 (44%) were from householders who had received a no income questionnaire and 644 were from householders for which the questionnaire type they received could not be established.
Only 26 (around 1%) of these questions were regarding the income questions. The implication is that including questions on income in the 2011 Census should not incur increased cost to provide a contact centre.

4. Do income questions result in more people being missed from households that have returned a questionnaire?

For the CTES, 2007 Test respondents were asked the names of the usual residents of their household and this was compared to those recorded on their questionnaire.

It was assumed that the 'true' residents in the household were those named in the CTES. It is likely that this approach will underestimate the undercount of the 2007 Test (since not all missed individuals will be in the CTES). For income questionnaires, 2% of usual residents identified in the CTES were not recorded on the 2007 Test Questionnaire, whereas for no income questionnaires, 3% of usual residents identified in the CTES were not recorded. There was therefore no evidence that the income questions negatively affected the coverage of individuals within households.

5. What alternative sources of data on income are there?

Integrated Household Survey

The IHS may be a potential alternative source to collecting income from the Census. On the one hand, it would enable the collection of data from a large sample size (approximately 200,000 households across Great Britain), available to a low level of geography, and on a much more frequent basis than the Census could provide. As the IHS survey comprises mainly face-to-face interviews and some telephone interviews, more detailed questions can be asked. Asking questions on a one-to-one basis will be considered more appropriate than asking the entire UK population for what may be deemed personal sensitive data.

On the other hand, since the data is collected from a survey, it will be subject to sampling errors and non-response bias. Moreover, only one resident from a sampled household will be asked questions on income. Therefore, for a relatively high proportion of usual residents, particularly young adults, income data will be collected by proxy. In most of these cases, the respondent will be asked to estimate total household income only.

Modelled income data

Another possible alternative data source is the model-based estimates of income. The principle reason for using model-based small area estimation is that surveys are not typically designed to produce direct estimates for all small areas. There is also the problem of sample design. Most national household surveys have clustered designs, but the problem with this for small area estimation is that the vast majority of areas of sizes like wards will contain no sample respondents at all, and hence no direct survey estimate would be possible.

A modelling technique is used which combines data from the Family Resources Survey (FRS) with data from a variety of other sources, such as the Department for Work and Pensions (DWP), Inland Revenue, 2001 Census data on car ownership and housing tenure and country / regional indicators. Although

individually none of these sources is good enough to produce small area income information, they can be combined using model-based small area estimation techniques to derive estimates that are substantially better than any single source.

However, these estimates assume that certain relationships between income and other variables are constant (or nearly constant) over all or part of the country, and so the estimates do not capture the extent of variability at local level. In addition, although the model can be used to rank wards by income, they cannot be used to make any conclusions about the distribution of income level over the wards.

Although the approach has some limitations, it still represents a substantial advance in data availability, and is currently the best alternative source of income data to the Census. The data can be produced for small areas, updated regularly and provide several different measures of income. However, the estimates currently do not meet all of the user requirements for income data and are not likely to do so by 2011. The main reasons for this are that the results are at ward level as opposed to output area level, and are not suitable for cross-classification with other variables.

CONCLUSIONS & RECOMMENDATIONS

The inclusion of income questions in the 2007 Census Test was successful in providing data to help decide whether to include such questions in the 2011 Census.

Four key findings support the case for including a question on income level in the 2011 Census:

- Around 91% of individuals who submitted valid 2007 Test responses (i.e. passed the 'two-of-four rule') also completed the income level question
- The inclusion of income questions did not affect the response rates to the other questions asked
- The inclusion of income questions did not result in more people calling the contact centre
- The inclusion of the income questions did not have a negative impact on the coverage of individuals within households

On the other hand, five key findings support the case for not including a question on income level:

- The overall response rate for questionnaires with no income questions was 53.3% whereas the overall response rate for income questionnaires was 50.6% - a statistically significant difference of 2.7 percentage points. This indicates that more households would need to be followed-up for non-return of questionnaires if income questions were included in the 2011 Census

- Individuals who were unemployed, from ethnic minority backgrounds, less qualified or over 65 years of age had lower response rates to the income level question. This indicates that if the question was included in the 2011 Census it may not actually prove a reliable measure of deprivation at various levels of geography, which is the main rationale for including it
- 404 individuals who completed the 2007 Test income level question also took part in the CTES, in which they were asked this question again. Answers between the 2007 Test and CTES matched in only 67% of cases. This indicates that the question was difficult to answer and if it was included the resultant data may not be reliable
- There was evidence that individuals who submitted valid 2007 Test responses had concerns about the income questions: more than half of those that did not answer the income level question did answer the ethnic identity or qualifications questions
- Many national newspapers took a negative stance in their reporting of the inclusion of income questions in the 2007 Test and proposals to include such questions in the 2011 Census

Overall, there is strong evidence that some individuals were unhappy about answering Census income questions and found them difficult to answer. One explanation for why certain population groups, such as the unemployed, were less likely to answer the income level question is that individuals with no income may be more prevalent in these groups. Such individuals may not have answered the income level question because they assumed that the question was not applicable to them, even though on close inspection there is a 'Nil or loss' response option. Another possibility is that it was more difficult for individuals with low income to calculate their income since it tends to be more variable, because of periods of temporary employment for example.

The 2007 Test was a voluntary sample survey of some EDs in five LAs in England and Wales, whereas the 2011 Census will be a compulsory survey of the entire UK population. This fact impinges on the extent to which reliable and valid implications for the 2011 Census can be drawn from the findings reported here. Nevertheless, the clear implication of a number of findings is that income questions in the 2011 Census would have a negative impact.

If income questions were included, further research would be needed on how to make the questions clearer, more acceptable to the public and provide more reliable data. The fact that the questions are difficult to answer and, that at least some income data would be collected by proxy, indicate that the Census may not be the best method to collect this information.
The IHS or model-based income estimates should be able to meet at least some of Census users' requirements for data on income. Additionally, these sources could provide information on a more frequent basis than the Census and, like the Census, data would be available at various levels of geography.

Taking full account of these findings, their limitations, users' requirements for income data and the availability of alternative sources, it is recommended that questions on income should not be included in the 2011 Census for England and Wales.

REFERENCES

2007 Census Test: The effects of including questions on income and implications for the 2011 Census. http://www.ons.gov.uk/census/2011-census/2011-census-project/2007-test/income-evaluation/index.html

Daily Mail (09/03/06). Census will ask how much you earn. Steve Doughty.

Daily Mail (09/08/06). Census will demand to know your income. Steve Doughty.

Daily Mail (01/11/06). Snooping at your salary. Steve Doughty.

Daily Mail (02/11/06). Outrageous intrusion of the sinister snoopers. A. N. Wilson.

Design of the 2007 Test and Sample Size. http://www.ons.gov.uk/census/2011-census/2011-census-project/2007-test/2007-test-design/index.html

The 2007 England and Wales Census Test: the effect of delivery method and the inclusion of an income question on response. In preparation.

The 2011 Census: Assessment of initial user requirements on content for England and Wales (Mar. 2006). ONS Information Paper. Crown Copyright.

The 2011 Census: Development of a questionnaire for the 2007 Census Test (Oct. 2006). ONS Information Paper. Crown Copyright.

The 2011 Census: Initial view on content for England and Wales (Sept. 2005). ONS Consultation Document. Crown Copyright.

CHAPTER 5 Outsourcing Recruitment, Pay & Training

PURPOSE

A major element of the 2007 Census Test was to outsource recruitment, payroll and training. Recruitment and training had previously been conducted though a cascade system. Census personnel recruited and trained Area Managers, who in turn recruited and trained the next level of field staff.

For recruitment and payroll, the key areas of interest were:

- Whether outsourcing the services through a lead contractor would work and to identify any issues that may arise from such an approach
- Whether or not the use of a supplier would provide access to a 'pool' of ready applicants, thus enabling quicker recruitment of field staff
- Whether or not using a supplier makes the team manager job easier and improves the quality of enumeration, allowing them to focus almost entirely on performance
- Transfer of risk regarding employment law and health and safety requirements to an external supplier
- Whether the public raised any issues about confidentiality if the field staff were not ONS employees

For training, the key areas of interest were;

- To test a combined approach using e-learning to support classroom based training
- Providing a consistent approach across all areas and to inform any decision on the use of e-learning for 2011
- To identify any key lessons to improve the quality and effectiveness of training for 2011

For recruitment, pay and training as a whole, the key areas of interest were:

- How well a supplier's infrastructure would serve ONS with office space already in place around the country

More detailed analysis of the recruitment, pay and training processes, rather than the outsourcing of these services, is provided in Chapters 8, 9 and 10.

DESCRIPTION

It was decided that, as recruitment, pay and training are not constituents of ONS's core business, outsourcing should be considered. Consequently, for the 2007 Test, all functions were fully outsourced in line with the Census procurement strategy.

Recruitment process

For recruitment, the contractor had five consultants (one based in each Test area) who were responsible for local recruitment. There were two managers for central operations who were the key liaison people with ONS. The contractor used a range of methods to advertise the posts. The adverts in Welsh were bi-lingual, with the contractor arranging the translation.

The contractor was responsible for the complete recruitment process, including verifying references. The team managers were responsible for the work of the field staff and the contractor dealt with ongoing staff management issues, such as absences and HR-related issues in general. Field staff were classed as self employed and worked for the contractor.

Payroll process

The payroll for the temporary workers proved straightforward as online timesheets have been used by the contractor for a number of years. The process proved simple – temporary workers completed an online timesheet for the hours worked and, once submitted, the team manager authorised payment. As soon as a timesheet was authorised, the contractor's payroll system was notified and processed payment. The contractor conducted payment runs daily, and, if the timesheet did not generate a query, the temporary worker was paid within 48 hours. The contractor assessed that this part of the process ran fairly smoothly.

Training process

The contractor subcontracted e-learning to a specialist agency.

ASSESSMENT

Limitations of the Test

The Test only provided information about how well the supplier managed recruitment, pay and training in relation to a small field force. It is important to acknowledge that it was not feasible to test the high volumes of staff associated with an actual Census. For the actual Census, there will be significantly increased publicity and awareness which may help in attracting people to apply for field jobs.

Overall assessment

- The contract came in under budget and under the original contract value with little of the contingency being used, despite the contractor's awareness of it
- The contractor proved to be a good partner and worked well with ONS
- The contractor did not provide sufficient consultants to cope with the management information (MI) requirements of the contract. The consultants had to carry on their usual roles in addition to the Test work, which was sometimes the source of direct conflict
- The contractor did not fully appreciate the complexity of the MI or the need for it to be produced weekly
- The contractor did not fully appreciate the time involved in the implementation and management of the contract
- It was agreed that bundling recruitment, payroll and training together through a single provider was successful
- In general, outsourcing was considered by all evaluators to be a success

Recruitment

- ONS concluded that the risks relating to employment law and managing staff were managed successfully
- ONS modelling of expected hours proved realistic with the work being done largely as expected
- The perception that specialist recruitment firms would have a significant volume of potential candidates on their existing database was incorrect. Only a limited amount of candidates were recruited from this source across all areas
- Excluding Liverpool and London, a full complement of Field Staff was never achieved. However, this did not inhibit the complete delivery of the 2007 Test due to the proactive, motivated consultants and team managers / enumerators
- In its evaluation report, the contractor stated that 'the current buoyant job market means that there are [fewer] candidates available on the job market than in times of high unemployment'. However, there is no evidence that ONS would have fared better if it had conducted the recruitment itself. Indeed, the supplier was viewed as better placed to react quicker
- No geographical location within the Test managed to build or maintain a reserve pool of staff. This did not inhibit the success of the Test but did make it harder for the recruiting consultants and trainers
- Attrition rates were higher than ONS expected in certain places but, across all areas, they far exceeded the contractor's expectations. The result was resource shortages as unexpected and additional work was required to constantly recruit replacement enumerators
- From an area perspective, Stoke proved a significant issue. Early on the area manager expressed concern that the number of field staff allocated seemed too low and this subsequently proved to be the case. Consequently, Stoke suffered from a series of issues
- Some field staff disliked being given a team and a number of the team managers wanted to be involved in recruiting their enumerators. The contractor highlighted that involving team managers could lead to a loss of consistency across the recruitment process but suggested that they could be included during the group session stage. To ensure greater buy-in from the team managers, the contractor suggested they should be responsible for contacting all successful candidates and to explain the next steps in the process. Such an

approach would automatically assist in building a rapport between the enumerators and the team managers

Payroll

- Field staff salaries were paid quickly, generally on time and accurately. The turnaround was quick with claims paid within a week
- Expenses proved extremely difficult to manage owing to the use of three different forms and the dependence on both electronic and hard copy submissions
- Owing to difficulties involving expenses, invoices caused a significant issue with many incorrect ones being received by ONS. A 5-10% sample check by ONS had been anticipated but 100% was actually carried out
- In the 2007 Test, the linking of payroll and recruitment was very successful and an improvement to the 2001 Census when the two areas were separate functions and the managing of resignations, expenses and salary payments was difficult

Training

- It was assumed that the training provider would have sufficient in-house facilities but this was not the case and some venues proved inadequate
- Linking recruitment and training worked well and met the short-timescales between employment and the start of training
- The communication between ONS, the contractor and the e-learning specialist agency could have been improved

CONCLUSIONS & RECOMMENDATIONS

The high level conclusions and recommendations are:

- Recruitment, pay and training was outsourced for the first time for the Test. This was successful with both the contractor and ONS performing well
- Combining recruitment and payroll removed a significant amount of risk and workload from the ONS team
- Linking recruitment and training, whilst not essential, added significant benefits to managing the recruitment and training timetable
- All the areas where issues emerged, such as communication and MI, can be resolved a by refining the Statement of Requirements and enhancing operating procedures within ONS. All of these are manageable, achievable and primed for any proposed procurement process
- The recommendation on the basis of the Test and further analysis of options is that recruitment, pay and training should be bundled together as one outsourcing package for the 2009 Rehearsal, 2011 Census and Census Coverage Survey

CHAPTER 6 Address Checking

PURPOSE

Address checking was included in the 2007 Census Test because the design of the 2011 Census requires an accurate and up-to-date list of household addresses. Such a requirement was, in part, to facilitate delivery by post with a unique link between pre-printed questionnaires and addresses. Address products currently available do not fully meet Census requirements, so the intention is to check and update address lists in the field prior to the 2011 Census.

The key areas of interest from the Test were:

- What was the level of error in the address lists?
- How effectively were errors identified?
- What is the cost of address checking?

DESCRIPTION

The address checking exercise in September and October 2006 was conducted in all five of the local authorities selected for the Test. A total of 140,000 addresses were checked consisting of 100,000 addresses selected to be enumerated and an additional 40,000 addresses added for the purpose of enhancing operational learning.

In total, 26 address checkers and five Address Check Team Managers were recruited through a contract with Hays Specialist Recruitment.

Address checkers were given extracts from the Ordnance Survey MasterMap May extract for each ED to validate the list by checking the existence of each address, recording additional addresses found and those that were not found or were demolished. Address checkers also recorded supplementary information such as occupancy status, for example whether it was derelict or a second home.

Two methods of address checking were used. In some EDs checkers were required to make contact at every address listed and establish the address of the household(s) within. In the remaining EDs, they were only required to make contact where the address was unclear or where they thought there may be more than one household unit living there.

It is important to note that the design of the 2007 Test over sampled areas where the address list was likely to be poor, such as inner city areas. Consequently, some of the findings would not be replicated if the exercise was conducted nationwide.

ASSESSMENT

This section is broken down into ten sub-sections, each concerning different aspects of the exercise.

How many and what type of address were found and deleted?

The following table presents a summary of the number of addresses added and removed from the list during the check. Addresses are displayed by the ETC for both methods of checking and in total. The ETC was designed to highlight areas assessed as more difficult to achieve a response, with 5 denoting the most difficult areas and 1 denoting the easiest.

Table 6.1 Percentage of addresses added and deleted during the address check

METHOD OF ADDRESS CHECK	ETC	PERCENTAGE OF ADDRESSES ADDED DURING ADDRESS CHECK	PERCENTAGE OF ADDRESSES DELETED DURING ADDRESS CHECK
Full Contact	1	20.5%	10.3%
	2	4.8%	5.8%
	3	13.4%	4.8%
	4	20.3%	9.7%
	5	17.3%	9.5%
Sub Total		**17.5%**	**8.8%**
Discretionary Contact	1	0.8%	0.4%
	2	1.0%	0.6%
	3	1.8%	1.2%
	4	1.8%	2.3%
	5	1.0%	3.4%
Sub Total		**1.2%**	**0.9%**
Grand Total		**8.5%**	**4.5%**

The highest percentages of new addresses found were located in full contact areas, an average of 17.5%. These were largely in ETC groups 4 and 5 and within areas such as Camden and Liverpool. In addition, there were also a large number of addresses deleted in these areas (8.8%). With overall changes in the region of 25% an address check was considered of great value in these areas.

The vast majority of new addresses were sub-premise type addresses such as flats within a larger converted property. This type of address tends to have existed for some time, and therefore their omission is not due to a delay in updating the source list.

How well did the address checkers carry out the task?

A small proportion of addresses were removed from the lists so managers could see whether their checkers had identified them and recorded them correctly. Overall, 72% of these controlled errors were detected. Such a level was viewed as reasonable, especially as some controlled errors no longer existed by the time of checking. The fact that some controlled errors were missed, implies that other addresses which exist but were not on the list are also likely to have been missed.

The following table shows the percentage of new addresses and the percentage of those that were not delivered to during the enumeration stage. This provides some indication as to the quality of the list prepared by address checkers together with supplier updates.

Table 6.2 Percentage of addresses added and percentage of addresses undelivered to during enumeration

METHOD OF ADDRESS CHECK	ETC	PERCENTAGE OF ADDRESSES ADDED DURING ENUMERATION	PERCENTAGE OF ADDRESSES UNDELIVERED TO DURING ENUMERATION
Full Contact	**1**	0.4%	4.2%
	2	1.4%	5.9%
	3	1.6%	3.7%
	4	1.3%	5.8%
	5	2.3%	6.5%
Sub Total		**1.8%**	**5.8%**
Discretionary Contact	**1**	1.0%	1.9%
	2	0.4%	2.4%
	3	0.7%	3.7%
	4	0.5%	6.7%
	5	0.1%	10.4%
Sub Total		**0.7%**	**3.0%**
Grand Total		**1.2%**	**4.3%**

The table shows that the majority of additions and deletions during enumeration occurred in Full Contact Method areas where checkers contacted every address listed. This reflects both the underlying level of change, as well as the difficulty of address checking in such areas.

The percentage of addresses that the address checkers potentially missed is concerning and could be due a number of reasons. It is clear, however that many addresses were likely to have been missed during the address checking phase.

Many addresses were also undelivered to during enumeration, which is less concerning in terms of coverage, but does represent a possible waste of resource.

How accurate was the Household Address Checking Categorisation (HACC) in assigning methods to an area? Were the methods appropriate in terms of cost and quality?

Two methods of address checking were adopted depending on the expected levels of multiple occupancy in an area as defined by the HACC. High levels of multiple occupancy were thought to be the main reason for deficiencies in the address register product used to support the address checking task.

Table 6.3 Percentage of new addresses found by address check method

	PERCENT OF EDs BY ADDRESS CHECKING METHOD			
PERCENTAGE OF NEW ADDRESSES FOUND	FULL CONTACT		DISCRETIONARY CONTACT	
No New Addresses	12.6%	(30)	46.0%	(128)
0%-5%	23.5%	(56)	47.8%	(133)
5%-10%	13.0%	(31)	5.0%	(14)
10%-15%	10.1%	(24)	0.0%	(0)
15%-30%	18.1%	(43)	0.7%	(2)
30%-50%	11.3%	(27)	0.4%	(1)
> 50%	11.3%	(27)	0.0%	(0)
Total	**100.0%**	**(238)**	**100.0%**	**(278)**

The previous table shows that in the majority of cases the address checking method was correctly assigned to an ED. In full contact method areas, an average of 17.5% addresses was identified, as opposed to 1.2% in discretionary areas. This analysis, together with debrief and management observations, suggests that the HACC was largely successful in identifying areas with high levels of multiple occupancy with a poorer quality address register.

How accurate were the workload projections?

Table 6.4 compares the volume of addresses checked against the workload predictions upon which staffing levels were based.

Table 6.4 Time spent on task relative to expected

LOCAL AUTHORITY	ACTUAL WORK RATE COMPARED TO EXPECTED (%) – FULL CONTACT ADDRESS CHECKING	ACTUAL WORK RATE COMPARED TO EXPECTED (%) - DISCRETIONARY ADDRESS CHECKING
Bath & NES	+40%	-14%
Camden	+38%	..
Carmarthen	+15%	-37%
Liverpool	+16%	+4%
Stoke	..	+2%
Total	+27%	-7%

The workload predictions may be incorrect for two reasons – either because the speed of address checking was different to expected or the number of addresses were different to what was expected. In Camden, for example, an extra 6,000 addresses were checked (i.e. new addresses identified).

In Carmarthen and Bath it became apparent early on that the workload predictions were significantly too high. The addresses within the Test sample were therefore prioritised at the expense of those within the extra 40,000 included for operational learning.

The following cautions should be noted in the interpretation of this data:

- Full contact address checking was not done as per the procedure in some cases in Camden
- In some cases the scattered nature of the EDs and the use of two methods means the exercise will have been done less efficiently than if address checking large, continuous areas

Typically, the hours worked were less than planned. This was attributable to sickness and resignations resulting in some hours not being worked. Due to this and workload issues, a number of hours had to be delivered after the exercise was intended to have finished in order for all the addresses to be checked.

How much did the exercise cost per address and per contact?

The following table shows the cost of the checking in terms of total addresses checked and new ones found by both methods.

Table 6.5 Cost of address checking

LOCAL AUTHORITY	COST – FULL CONTACT PER ADDRESS CHECKED (£)	COST – FULL CONTACT PER NEW ADDRESS (£)	COST – DISCRETIONARY CONTACT PER ADDRESS CHECKED (£)	COST – DISCRETIONARY CONTACT PER NEW ADDRESS (£)
Bath & NES	0.58	2.57	0.36	20.99
Camden	0.62	2.79		
Carmarthen	1.13	113.24	0.69	15.79
Liverpool	0.57	4.52	0.16	6.01
Stoke			0.14	3.92
Average	**0.62**	**3.34**	**0.27**	**9.08**

The following caveats should be noted in the interpretation of the above figures:

- The design of the Test with sampled EDs, rather than continuous areas, means that these costs may be reduced in a real Census situation if the whole country or large geographical areas were being checked
- Camden address checkers did not follow the prescribed procedure of attempting to make contact at each household. Furthermore, the contact levels were very high compared to other areas and other exercises conducted, suggesting caution be taken in relying on these results

Analysis of calling patterns from the address checking phase of the 2007 Test

In order to maximise contact rates, address checkers were told to make their repeat calls at different times of the day. For many address checkers, the contact rates were unrealistically high. About 78% of addresses were contacted on the first call, 63% of the remaining addresses on the second and 67% of the remaining addresses on the third. This equated to 91% contact overall.

There are strong concerns regarding the reliability of the data. Previous research into calling patterns for the 2001 Census Coverage Survey showed that it took an average of 2.5 calls to contact a household. This implies an expected first contact rate of roughly 40 per cent, or possibly lower, as the address checking concentrated on areas that were more difficult to count. Where a second call was necessary, 86% were made in a different two-hour category to the first call. For third calls, 73% were made in a different time category to both the first and second calls. Due to the concerns about data quality, conclusions cannot reliably be drawn as to whether the instructions were followed correctly.
For second calls, there was no difference in contact rates between those who did, or did not, use a different time category to the first. For third calls, the contact rate was in fact lower where a different time category was used.

Management arrangements

The management arrangements worked well in terms of:

- The task was delivered to budget
- Broadly speaking the address checkers and the Address Check Team Managers followed the procedures
- The Team Managers supported their staff well
- The Team Managers dealt appropriately with the difficult issues they faced, for example health and safety issues encountered by the address checkers and the management (and dismissal) of poor performers

Aspects that went less well were:

- The amount of time between Address Check Team Managers coming into post and their teams starting was too brief and resulted in too little time to find out about an area, raise queries from training/instructions or gain confidence in use of IT equipment
- Some team managers were inclined to over-manage their team with a resulting increase in hours worked and expenses claimed
- Team managers did not use the controlled errors as a management tool properly.
- The laptops supplied to team managers either did not work properly or they were unable to make them work properly due to the complexity of logging in, variability of dial-up access and lack of training
- The availability of some team managers was limited due to other work commitments which meant they were unable to provide sufficient support to their teams
- Getting progress reports on time from team managers was not always possible
- Progress reporting on the basis of completed EDs (the only practical method, given the procedures and lack of automated MI system) meant there was inevitably a delay

There was no agreed approach or timescales for reporting progress upwards to the HQ management team.

The following need to be borne in mind when interpreting the above results:

- The comparatively small scale of the exercise means that the strengths and weaknesses of the few people involved will have had a disproportionately large impact on the results
- The management arrangements and supporting information flow were not meant to replicate those on a larger exercise/full Census as they represented a best fit in relation to the Test design and budget
- The management arrangements were not put under serious pressure in terms of a major problem such as the resignation of the majority of address checkers in an area, resignation of one team manager, a serious health and safety incident or breach of confidentiality
- There was also no pre-agreed delegation of authority to make certain decisions

What information would have made management of the field operation easier?

Possessing a system, as intended, with electronic address capture in the field would have removed the need for staff to physically report progress and ensure that information was more up-to-date and accurate. The ability to report at the address and attempt level would have enabled more accurate progress monitoring but this was not possible due to the lack of systems.

Can we update the register with feedback from field information within our required timescales?

After the field exercise was completed, the address check record books were keyed into a database by temporary staff managed through Census. This process was successful as the addresses were keyed in time for the later matching work to take place. However, a number of issues were encountered, namely:

- The quality of the handwriting in the books made the keying task difficult
- (Inevitably) mistakes were made in the keying
- The volume of data, both in terms of new addresses and changes to addresses, made the task time-consuming
- Some books were initially missed meaning deadlines were not met and time had to be made up during later stages of the process

CONCLUSIONS & RECOMMENDATIONS

The following key conclusions can be drawn from the address checking exercise:

- The quantity of addresses found, especially in the full contact areas demonstrate the need for address checking
- The address check did not produce a high enough quality address list, however, the method employed in the 2007 Test is considered appropriate for address checking in principle
- The main type of addresses found were multi-occupancy sub-divisions, the majority of which would have been long-standing. An address check will pick these up but there will be further subsequent change between the check and Census
- The address checkers did not follow the procedures for full contact address checking in many cases – contact levels recorded were far higher than in any other similar activities conducted by Census or other parts of ONS
- The keying and quality assurance (QA) of the addresses found was more time-consuming and difficult than anticipated

The main recommendations to be considered for the future are:

- Based on the 2007 Test, address checking is likely to be required ahead of the 2011 Census. Further research is needed to identify the amount and location

of address checking required to provide an address register of sufficient coverage and quality for the 2011 Census

- The main aim of this address check should be to deal with long-standing deficiencies in the address list. It would be sensible to conduct an address check over a longer period of six months. Such an approach would present many operational advantages
- Controlled errors should be used again in 2011. This provides a useful tool for team managers to monitor their staff and helps ensure a higher quality address check. These do need to be used as a management tool during the operation
- Progress reporting arrangements from field to managers and from managers to headquarters (HQ) need to be revised to ensure that they satisfy the information requirements of both the field and Census HQ
- Timescales and resources allocated for both keying and geographical matching of addresses after the field exercise need to be properly planned

REFERENCES

Coverage of Address Registers for 2007 Census Test – Phase 1 (ONS external report):
http://nswebcopy/census/pdfs/crr_phase1.pdf.

CHAPTER 7 Follow-up

PURPOSE

It was prerequisite to follow-up non-responding addresses in the 2007 Census Test. A new design was used as Enumerators were no longer responsible for a fixed area for both delivering and collecting questionnaires. The key areas of interest were:

- Management of staff and flexibility.
- Workload estimates.
- Was the timing of the follow-up right?
- Was the calling strategy effective?
- What information would have made the management of the field staff at all levels easier?
- What aspects of the reporting process worked well / could be improved?

DESCRIPTION

The follow-up process employed in the Test involved visits to non-responding households by follow-up enumerators. Enumerators visited each address up to four times (the original design was for three visits, but lower than expected response rates and a financial underspend meant the design was amended to incorporate a fourth visit).

Enumerators were allocated multiples of EDs to follow-up. These were supposed to be allocated so each follow-up enumerator had a roughly even workload.

Enumerators were instructed to try to make contact with non-responding households at different times of the day on each of their three contact attempts and to try to encourage completion of a form by:

- Assisting the householder with any queries they may have, supplying supplementary questionnaires and information and helping them complete the questionnaire
- Emphasising the importance of participation and answering public concerns about issues such as confidentiality and the time the questionnaire would take to complete

ASSESSMENT

Management of staff and flexibility

The management of field staff flexibility was not consistent with the original design outlined for the Test. The initial allocation of areas was done fairly well, ensuring workloads were even.

However, areas were very rarely re-assigned between follow-up enumerators due to differing patterns of response. This usually only happened when staff left or were unavailable for a period. There were a number of reasons for this:

- The comparatively high volumes of initial follow-up in the Test and low levels of success meant that relative workloads did not change over the operation
- Lack of access to, and understanding of, the questionnaire tracking (QT) information meant changes were not made
- Enumerators were reluctant to take on extra EDs (especially those who had been Delivery Enumerators) and preferred to see the EDs they had started through to the end
- The design was to achieve even amounts of follow-up in each area (to avoid influencing the analysis of the impact of post-out and an income question) rather than even response rates, meaning less movement was necessary. This will not apply in a real Census situation

Workload estimates

To plan the follow-up operation, staffing workload estimates were calculated for each of the Test areas. These were based on a combination of factors: number of addresses, estimated response rates, geographical scarcity and the ETC (how difficult the area was to count).

The workload estimates for follow-up were fairly accurate as the following table (7.1) shows:

Table 7.1 Workload estimates, by area

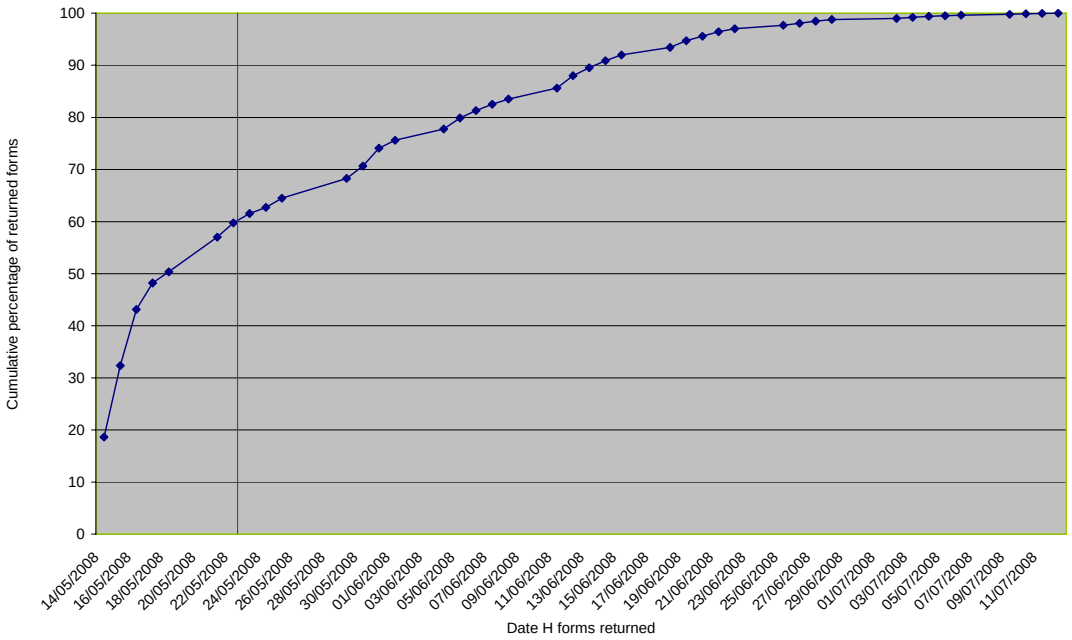
AREA	EXPECTED FOLLOW-UP VISITS PER HOUR	ACTUAL FOLLOW-UP VISITS PER HOUR
Liverpool	17.9	15.7
Camden	16.0	17.6
Bath	15.9	13.9
Carmarthen	11	9.4
Stoke	19.5	16.6

This shows predictions were accurate in terms of the number of addresses that could be visited per hour. This meant sufficient resources were in place to meet the expected amount of work. However, these figures do mask an issue in Stoke where the response rates were much lower than expected and therefore field staff struggled to achieve all the follow-up visits required.

Was the timing of the follow-up right?

The follow-up started ten days after Census Test Day (Wednesday 23 May 2007). At this point, we had received nearly 60% of the total number of questionnaires that would be returned. This is illustrated by the following graph (Figure 7.1) which shows that follow-up started at around the right time.

Figure 7.1 Graph of responses over time



An interesting finding was that responses were slow to tail off during the follow-up period suggesting that follow-up was still being successful a month and more after Census Test Day. The numbers of returns only really tailed off after the end of follow-up on 22 June 2007 – five weeks after Census Test Day.

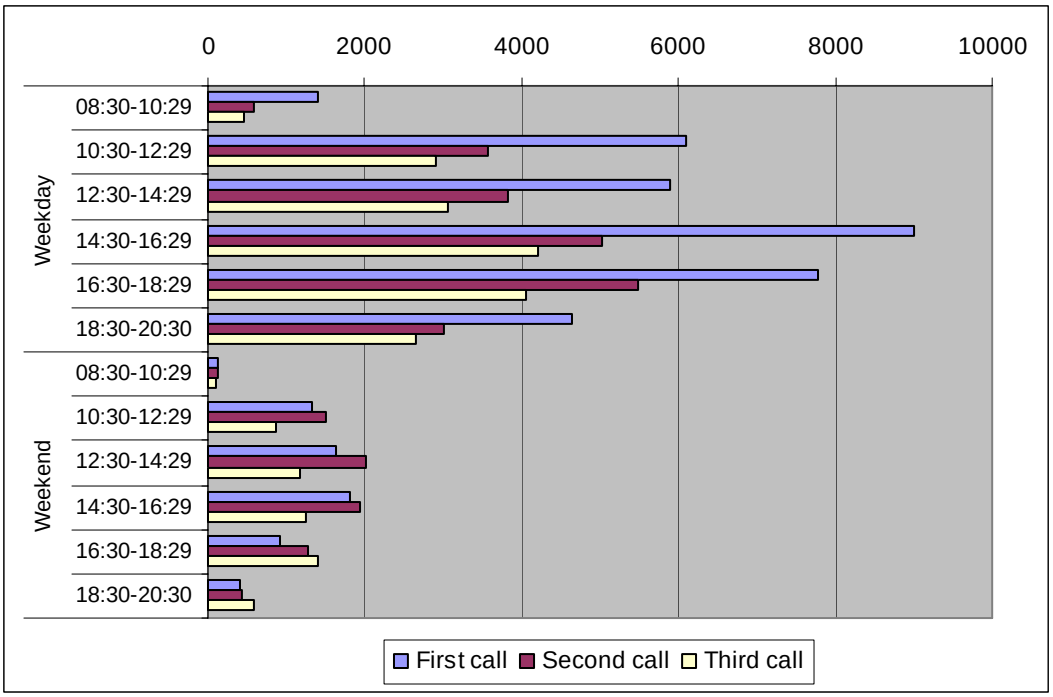
Fol

Was the calling strategy effective?

When an address was not contacted at the first follow-up attempt, enumerators were instructed to make up to two additional calls at different times to the preceding one(s).

Figure 7.2 shows the distribution of follow-up calls by day and time, highlighting that the majority of calls were made in the late afternoon on weekdays.

Figure 7.2 Distribution of follow-up calls, by day and time



The following table (7.2) shows the prevalence of repeated calling times when the enumerators called during follow-up.

Table 7.2 Extent of repetition in timing of follow-up calls

TIMING	ADDRESSES ATTEMPTED		TIMING OF CALLS (%)	
	SECOND CALL	THIRD CALL	SECOND CALL	THIRD CALL
Repeated time	4,894	6,568	17.2	30.3
Different time	23,573	15,080	82.8	69.7
Total	**28,467**	**21,648**	**100.0**	**100.0**

This shows that Follow-up Enumerators did largely follow the calling strategy and try different times of day at later visits. The tendency to select new calling times decreased but remained fairly high. This resulted in overall contact rates as set out in the table 7.3.

Table 7.3 Contact rates for follow-up calls

	ADDRESSES ATTEMPTED	CONTACT
First call	38,673	40.8
Second call	30,012	36.9
Third call	22,563	32.3
Overall	**35,203**	**68.8**

These are lower levels of contact than those recorded in other studies. However, the people being targeted at follow-up were non-responders whose demographics usually make them harder than average to contact, for example single person households and young people.

What information would have made the management of the field staff at all levels easier?

In principle there were not many information gaps, the issues were that systems did not work or people did not understand them fully. The greatest issue in this respect was the delayed roll out of the QT system. As the field managers were not initially trained on the system when it was rolled out, they did not know how to use it or, more fundamentally, what it was for. This meant that it was not used pro-actively in the field and some managers only received the information when HQ sent out reports.

One issue that did become apparent was the differences between field staff and supplier MI reporting, in particular the differences in the staffing numbers in post between the two sources. Field managers were claiming to be short of staff but the information at HQ suggested they had a full complement. This anomaly was largely due to field managers counting those actually out working whereas the supplier included new starters undergoing training but not yet working and / or people who had stopped working but had yet to formally resign or be dismissed.

What aspects of the reporting process worked well / could be improved?

Team managers were required to send in a progress report on follow-up visits at the ED level. Three reporting times were required with a contingency of extra reports in the last week where necessary.

For each report team managers were required to state whether a follow-up visit for all addresses in that ED had been attempted and, if not, how many addresses were outstanding. The information submitted was generally what was required and was accurate. However there were several problems with the process:

- Due to managers' lack of ability in Excel and problems using their laptops, most of the information was gathered over the telephone culminating in more work at HQ
- The timeliness of the reports was poor. This was due in part to communication/IT issues but also because managers had difficulty getting information from their staff. There was also a reluctance to submit reports that

contained missing or poor information and general low prioritisation of the task by Team Managers
- There was a great deal of missing information in the reports which meant it was hard to get an accurate position on progress. It quickly became apparent that there was usually a correlation between lack of progress and lack of reporting

The consequences of this were:

- Almost all HQ time was spent chasing MI and making assumptions about missing data. Consequently, not enough time was spent analysing MI which resulted in HQ not identifying that parts of Stoke had received no follow-up until after the stage where two attempts should have been made
- The reports upwards to the Census Management Team were inconsistent; whilst some reports showed good progress others demonstrated minimal progress

CONCLUSIONS & RECOMMENDATIONS

- The concept of the flexible field force was not effectively implemented
- The workload estimates were broadly accurate
- The timing of the follow-up was correct although the operation was slow to get going
- The calling strategy was effective: field staff generally called at different times of day/week if the initial attempt(s) did not achieve contact
- Greater understanding of the QT system, greater IT skills and more reliable, simple hardware would have made managing the operation easier
- The timeliness and quality of management information reporting from the field was poor
- The concept and benefits of a flexible field force needs to be understood by the field staff
- The IT systems supporting the follow-up need to be fully explained, easier to use, and more reliable

REFERENCES

Zoe Phillips Calling pattern evaluation reports - delivery and follow-up - 2007 Test, Census 2011 Database\WP Enumeration Intelligence\Research & Correspondence\ Calling Patterns.

Heather Yates/Lynda Houghton Follow Up - Working Level Evaluation, 2011Census on Tdata8/Data Collection/Data Collection/FFO2/Enumeration and Compliance/2007 Test/Evaluation.

CHAPTER 8 Recruitment

PURPOSE

Census recruitment has previously been carried out in-house, but for the 2007 Census Test it was outsourced to a recruitment agency, together with pay and training. The reason for this was that it is getting increasingly difficult to recruit staff, particularly the volumes required for a Census operation, and to keep abreast of associated legislative changes. Chapter 5 presents the evaluation of the outsourcing process of recruitment, pay and training.

DESCRIPTION

The contractor was required to recruit field staff for each grade, each with its own start date. Service Level Agreements (SLAs) were put into the Contract with the supplier which required certain recruitment targets to be met ahead of the start dates. These targets were percentages of the total required figure and are outlined in Table 8.1 below:

Table 8.1 Recruitment targets

% STAFF REQUIRED	DAYS BEFORE START
50	14*
80	10
100	7

Note:
* The SLA stated 21 days but it had actually been agreed at 14 and this target was what was worked to.

ASSESSMENT

Ability to meet targets

It was expected that the contractor would be able to fill the majority of posts from its own database. Whilst nearly 25% of team managers were recruited from this source, only 3% of both Delivery Enumerators and Follow-up Enumerators originated from the contractor's database. The short-term and part-time nature of the jobs proved unattractive to the majority of candidates registered with the contractor. Even those prepared to take up the role would leave should a better offer come along. This happened frequently and often very close to the start date.

Local authorities provided good candidates but their involvement across the five Test areas varied greatly; Camden and Carmarthenshire were particularly helpful and got very involved, whilst others were not able to commit any resources.

When local authority involvement was forthcoming, the contractor did not always progress the candidates submitted.

The contractor was unable to achieve all of the required percentage targets set for all of the grades, across all of the areas. Although it should be noted that Camden and Liverpool had problems retaining sufficient numbers of staff, with large numbers dropping out before actually starting work. In both areas, shortfalls of staff were covered by the work being spread around amongst the field staff already recruited. In Carmarthenshire, the contractor had great difficulty recruiting sufficient numbers of enumerators and this had to be covered by other field staff taking on extra work.

Pool of staff

As a consequence of the difficulties encountered in actually recruiting and retaining staff a reserve pool was never consistently maintained across all the Test areas. Even in those areas that did successfully manage to build a reserve of staff, these were rarely used as recruits had often found other jobs by the time they were required.

Rather than a pool of reserves, it might be better to recruit more staff than needed, with them all starting employment and work re-allocated if people drop out.

Attrition rates

In 2001, the resignation rate for all staff was just over 4%. The expectation was that a more volatile workforce, less attracted to Census work, would result in the resignation rate being higher for the 2007 Test. This was confirmed by the address check resignation rate of 17% and non-starter rate of 32% (making an overall drop-out rate of 49%).

The enumeration phase of the Test resulted in a resignation rate[1] of just 5%, much lower than the 15-20% expected. However, the non-starter rate (32%) was much higher, contributing to an overall drop-out rate of 37%. In terms of the 2007 Test as a whole, including address checking, the resignation rate was 6%, with a non-starter rate of 33% and an overall drop-out rate of 39%. Such a relatively low level of resignations suggests that once they start, field staff tend to see the job through.

This high dropout rate was caused by a variety of reasons; the main ones were:

- Other, more attractive jobs coming up
- Change of circumstances
- Ill health
- Discomfort with the requirement to knock on doors (for address checkers)

[1] The only attrition rate comparable to 2001 as no non-starter figures are available from then.

- Computer work – either not expected or problems accessing the e-learning or payment and expenses system

Raising pay rates or increasing hours could mitigate against people leaving. Similarly, more focussed recruiting, such as using people who have worked for ONS before and LA staff, may also help. Contingency plans for extra workers or hours could help mitigate against the impact of people dropping out due to ill health or a change in personal circumstances.

176 Delivery Enumerators (70%) carried on to become Follow-up Enumerators (FEs). It was anticipated this would help alleviate the problems of recruiting follow-up enumerators but there is evidence that some enumerators only wanted to do delivery, whist others were put off working on the follow-up role and subsequently dropped out.

The May 2007 half-term holiday also had an effect in some areas. This period coincided with the first and most important phase of follow-up and some applicants were not available due to prior commitments.

Skills

The telephone pre-screening questions helped the contractor to concentrate on candidates with the right skills. The competence-based interview questions were also useful as they helped the interviewers focus on the relevant skills for the job and promoted a consistent approach across the Test areas. However, some consultants used them more than others.

As the actual field work was not expected to require computer skills, it was not mentioned in the advertisements or the job descriptions. Some people were put off, however, by the requirement for computer access to submit pay and expense claims and to complete the e-learning. In particular, the e-learning programme required Internet access and PC software which was not as widely available as necessary. Such requirements resulted in numerous problems with completion of the e-learning.

Timing of recruitment

The contractor felt that ONS wanted to start the recruitment process too long before the start date, especially in terms of the Enumerators. The high number of people who dropped out because another job came along supports this to some extent, although non-starters giving this reason were not exclusively recruited far in advance.

Management information

The lack of MI was due to the team being very busy getting the field staff onto the system, so that they could work and get paid. The team in question also lacked expertise in Excel which would have helped them complete the forms much more efficiently. Consequently, the MI system was slow and may not have been as accurate as required because of the delay.

CONCLUSIONS & RECOMMENDATIONS

In several areas the experience of outsourcing fell short of expectations. Some of these issues could be resolved by better communication including how suppliers will provide more useful information and thorough testing of procedures. Other issues require a different approach; however, open, honest communication between parties should help to resolve them.

The following key conclusions can be drawn from the outsourcing of recruitment:

- The contractor's database was not as good a source of candidates as expected.
- Local authorities were not as involved as they could have been but, when they were, they provided good candidates
- Recruiting a pool of reserves did not work very well
- Not all the candidates for address checking realised that the job involved knocking on doors
- Some candidates were put off by the computer work involved and the amount of effort required to complete the e-learning
- MI was not supplied as scheduled

The main recommendations for the future are:

- Advertise in as many places and as creatively as possible
- Requirements should be specified at the start of the contract and changes during the operation should be avoided
- Support from local authorities should be sought as early as possible
- All job information (adverts, job descriptions, screening and interview questions. working instructions) must accurately describe the role
- Research should be conducted into different approaches, such as recruiting more staff than needed to accommodate for drop-outs. Pay rates and hours should also be looked at

- Documents must mention any technical requirements and the amount of computer work involved
- All technical solutions must be fully tested
- Ensure that any information required is understood by both sides, that forms are clear and easy to complete and that the team responsible for the task is both adequately resourced and trained
- Communication needs to be two-way and open so that expectations are realistic and achievable

CHAPTER 9 Training (Delivery and Follow-up)

PURPOSE

To develop and ensure that e-learning and classroom-based training were provided to all levels of the field force for the 2007 Census Test.

For training, the key areas of interest were:

- To assess e-learning to inform any decision on its use for the 2011 Census.
- To identify any key lessons learned which will improve the quality and effectiveness of training for 2011.

Training has not been outsourced previously and has always been conducted by a cascade method. This has led to varying standards of training and an inconsistent level of knowledge within the workforce throughout England and Wales. An evaluation of the outsourcing is presented in Chapter 5.

The purpose of contracting out training for the 2007 Census Test was to test whether it could be centrally delivered to ensure that all field staff were trained to a good and consistent standard.

Part of the approach was to test the feasibility of incorporating both E-learning and classroom-based training sessions. E-learning had not been tried previously but was thought to be an innovative method of getting consistent training and information delivered to all field staff.

DESCRIPTION

E-learning covered enumeration methods and definitions of who should be enumerated; the classroom sessions covered both the practical application and the social skills required for doorstep calling.

Training for the managers was done via two-day residential classroom sessions in Liverpool and London. This training was a blend of guidance, practical exercises and presentations by speakers from relevant areas across ONS. There was also a session on the use of computers, including how to gain access to necessary ONS programmes. Managers were required to complete the e-learning prior to attending the classroom sessions.

E-learning was developed in a modular format to cover the work required by different groups of the field staff. Some modules covered general information

about the Census and others were task specific, relating to activities required at all stages of the enumeration procedure but specifically delivery and follow-up.
The e-learning was pitched at a very basic level, to ensure that all the required information was included. The format was user friendly, and easy to use and understand. Development also had to be directed at a low access specification, enabling all staff to access the sessions, even if they had early versions of software or did not have broadband capability.

On completion, field staff were required to attend a classroom-based session which ensured that the e-learning was consolidated. This was an opportunity to confirm that they understood what was required of them and also provided the chance to ask any questions. Some practical sessions on completion of record books, etc, were also included. In addition, the classroom sessions provided an opportunity to give practical help and advice on the social skills needed for knocking on doors and persuasion aspects of the work.

ASSESSMENT

This approach to training worked very well and was generally well received. There were a few access problems for the field staff but these were dealt with quickly. These problems arose from the contractor basing the e-learning on a commercial platform rather than a domestic system. Feedback from the field staff was positive with the e-learning being shown to be easy to use and understand.

The classroom sessions worked well, although longer sessions would have allowed for more practical application of the social skills training. This was reflected in the feedback received from field staff and will be addressed for the next stage of Census testing.

CONCLUSIONS & RECOMMENDATIONS

The combined approach to training proved to be popular and successful with consistent information being disseminated to all levels of field staff. It was popular with those being trained, with the e-learning providing the basics together with the instructions, whilst the class-room sessions facilitated that information being consolidated.

Recommendations for training are:

- To outsource the training function for the 2009 Census Rehearsal and the 2011 Census
- To develop combined training with e-learning and classroom back-up for the 2009 Census Rehearsal and 2011 Census
- To consider longer training sessions to allow more time for practical exercises when developing training for the Census
- The possibility of producing a DVD or CD Rom to consolidate some of the social skills training

CHAPTER 10 Pay

PURPOSE

In previous Censuses, the field force has been paid a fixed fee at set dates during the operation. For the 2007 Census Test, paying staff an hourly rate accompanied by a terminal bonus was trialled. The paying of a terminal bonus was seen as an encouragement to staff to see the job through to completion.

Such a departure from previous Censuses raised concern that staff costs could escalate out of control. Consequently, the field force development team produced a detailed task analysis for each grade which mapped expected hours against each task. These hours were subsequently quoted in all the job descriptions to ensure that successful candidates were fully aware of what was expected of them from the outset.

DESCRIPTION

In 2001, there were three different pay areas: London, Special Metropolitan and National. The equivalent hourly rate for the 2001 field staff was increased by 5.2% per annum in London and 3% in the other areas and projected forward to obtain the 2007 Test rate.

Both the hourly pay rate and the expected number of hours were included in all field staff job descriptions. During the de-briefing sessions only field staff in Carmarthenshire indicated concern over the hourly rate offered and felt that it was not sufficient for the job required, especially when considering the geography of the area and time spent travelling. However, in the other four areas the hourly rate was deemed entirely appropriate by field staff. The contractor felt that the rates had been pitched at the appropriate levels for the work required and felt that there would be no trouble recruiting for these positions. The number of address checking staff re-applying for enumerator positions confirms this.

ASSESSMENT

Estimated hours worked versus actual hours

Address checking phase

Prior to the address checking phase of the 2007 Test, the amount of hours expected to be worked were calculated. These hours were added to the task analysis and were consistent with the actual hours worked by both sets of field staff.

Of the five address checker team managers, one in Camden came in below the expected hours at 158. The team manager in Stoke actually worked 179 hours. Of the remaining three, all exceeded the expected hours and of these two were over by only a few hours. The last team manager in Liverpool did exceed the expected number by 149.25 hours – almost double that expected. This was due to his dedication and thoroughness. He also had the biggest area to cover and the most staff. The field staff in this area performed very well and the enumeration record books were completed neatly and correctly. Consequently, the Area Manager was happy to pay these additional hours as genuine.

The address checkers in four of the five areas all came in well below their hours, whilst in Stoke they were above by less than five hours (See Table 3).

Enumeration phase

For the enumeration stage, the number of team managers rose to 31 across the five areas with the estimated number of hours of work being 299 each. The only area to come in below these projected hours was Bath where the average hours worked were 271 (9.25% lower than expected). For three of the four remaining areas: Camden, Carmarthenshire and Stoke, the average hours worked were just under 10% more than expected and in the fourth area, Liverpool, it was 30% over.

The Delivery Enumerators were expected to work 51.5 hours. In two areas, Bath and Carmarthenshire the average hours worked were below the estimate, 8.5% and 3% respectively. In Camden, the average was 51.7 hours which was only 0.2% above the expected number. The remaining two areas exceeded the expected hours; the average for Stoke was 17% above and in Liverpool the figure was 33% above.

The follow-up enumerators estimated hours of work were 76. Bath was the only area to come in below this, albeit by less than 1%. All the other areas exceeded this, with Liverpool again being the highest. None of the estimated hours took into account the difficulties associated with an area, although these are reflected in the results.

Monitoring hours

During the enumeration stage of the Test, field force numbers rose to around 300 and the same guidelines on hours were imposed. However, with a large field force this was harder to manage and proved time consuming for the team managers.

Terminal bonus

A terminal bonus to be paid at the end of the operation provided that field staff met certain requirements was trialled in the 2007 Test.

On completion of the two operational phases of the Test, the area manager conducted an appraisal on address check team managers and team managers. If they were found to have completed the job satisfactorily, they were awarded the terminal bonus. All the Address Check Team Managers received the bonus however it was not awarded to all the field team managers.
At the end of the Test both sets of team managers carried out appraisals for their enumeration staff to confirm that they had satisfactorily completed their jobs and could be awarded a bonus. If the terminal bonus, or something similar, is used for the 2009 Rehearsal and 2011 Census, the procedures should ideally be set up electronically within the HR system and agreed prior to the start of the operation.

Expenses for the 2007 Test

The Address Check Team Managers submitted their expenses timesheets via the contractor's workflow system, which were then authorised by HQ. However, the address checkers had to submit paper claims with receipts to their team managers who then authorised them and sent them to the contractor for payment.

The field staff were required to have a business clause in their car insurance for any vehicle used for Census work (although this was never checked). This was incurred at their own expense and any additional charge for this cover was not reimbursed. In addition to these expenses, the address checkers were paid a telephone allowance of £1.60.

Due to some expenses exceeding original estimates during the address checking phase, limits were put into place for the enumeration phase. Team managers were given the task of checking expenses and were allowed to approve 10% percent on top of the original estimate. This amended approach seemed to keep expenses in check.

The only concern raised at de-briefing was that the contractor's system did not allow staff to enter mobile phone calls.

Address checking phase

The late claiming of expenses by field staff was one problem that arose during the address checking stage. This meant that the MI sheets received from the contractor were only showing expenses that had actually been claimed. HQ was, therefore unaware of any staff who were saving up their claims for a later date. To address this in the enumeration phase, enumerators were able to enter their expenses on the contractor's workflow system but were set a two week claim deadline. Claims were still not paid until the paper copies had been received to provide HQ with a more realistic view of expenses.

Enumeration phase

The issue of mobile telephone costs did not arise again. HQ issued team managers with mobile telephones and they were encouraged to phone their field staff back to keep down phone costs for enumerators. To cover incidental call

costs, the delivery enumerators were paid an allowance of £2.40 (gross) and follow-up enumerators £8.25 (gross). The allowance was increased from the address checking phase as enumeration field staff were in place for a longer period.

The new procedure implemented for enumerators submitting their expenses online did not work as well as hoped, as it was not possible to get an expenses extract from the contractor's workflow system as had been expected. The contractor had to supply an Excel sheet of the expenses claims each week.

The level of expenses claimed was less than anticipated, with Camden making the least claims. The majority of claims during this phase, again, related to travelling around the Test area.

Staff continued to save up expense claims. As staff were not told when any were rejected, these often got lost within the system. This problem, which was specifically associated with the contractor, only came to light when staff complained that expenses were not being paid promptly. Staff also complained that the procedure for claiming expenses was overly complicated due to the three different forms. However, the contractor did not make HQ aware of this issue until very late in the operation.

Working with the contractor

Management information system – recruitment

During the recruitment stage, the contractor was asked to deliver an Excel MI report each Friday to show how the recruitment drive was progressing and also to give HQ an insight into how and where candidates were finding out about jobs. As nearly all the staff originated from the contractor's database during the address checking stage, these MI system sheets are not a true reflection of a recruitment drive in a real Census. The enumeration phase of the 2007 Test presented a better indication of the contractor's performance as the requisite numbers of jobs filled exceeded 300.

The MI sheets allowed any problems during recruitment to be highlighted. Each sheet contained categories that allowed the contractor to highlight where field staff originated from, for example. local newspaper adverts, the website or LA, and so provided a more significant test of the recruitment MI system and the information it gives HQ.

Management information system – pay

The field staff in the address checking phase were paid weekly in arrears. Each Friday, the hours worked were entered into the contractor's workflow system. This was authorised by a line manager prior to being paid on the following Friday.

Each Monday during the address checking phase, the contractor sent in MI system sheets for payroll. One sheet listed the actual payroll payments paid the previous Friday and the second sheet listed any expenses paid. These MI sheets

were used in conjunction with an extract from the contractor's workflow system to authorise invoices.

During the enumeration phase, the MI system for pay was discontinued as the contractor supplied the information in an Excel sheet direct from their accounts department.

Invoices

Address checking phase

Pay invoices were due weekly and, during the address check, were sent via the contracts management team to authorise field staff pay and expenses. These invoices were generally intermittent and, at the beginning, were inaccurate and required careful checking.

The invoices were sent by area. However, many field staff appeared on the incorrect invoice. This caused major problems, especially if the applicable hourly rate was different. There appeared to be no quality assurance procedure applied by the contractor during the address checking phase. Despite these problems the majority of staff still got paid on time.

As confidence in the accuracy of the invoices was so low, each one was checked against an extract from the contractor's workflow system and the invoice number entered to ensure ONS were not invoiced twice for the same person. This proved to be a very long and onerous task.

Enumeration phase

During enumeration it was requested that invoices were created in Excel to allow more efficient checking against the contractor's workflow extract. This did prove a quicker process but all invoices were still checked. The contractor appointed a dedicated person to oversee this stage and consequently the quality assurance issues were picked up before they were sent out.

For enumeration, the contractor agreed to re-programme its workflow system, thus enabling all staff to input their expenses as well as the hours worked. This allowed an extract to be created straight from the automated system each week, eliminating the need for MI sheets to be sent from the contractor. In theory, this would have enabled HQ to extract real time costs and ensure these remained within specified limits. There were technical difficulties in setting this up, however, and ONS were only able to create an expenses extract on two occasions. A way to work around the problem was developed that was not ideal but provided the requisite information to authorise invoices. It has since been established that the expenses side of the contractor's workflow system had never been used before by any of their clients.

Terminal bonus

There was a problem with the payment of the bonuses as some staff were paid when they had not been awarded it and this resulted in a few outstanding invoices.

CONCLUSIONS & RECOMMENDATIONS

The following key conclusions can be drawn from the field staff pay procedures:

- The operation for pay and expenses worked well with a small workforce but when dealing with in excess of 300 staff it became a full-time task to verify claims and pay invoices
- The contractor's workflow system did not deliver what was promised
- Resignations and replacements were dealt with swiftly, although this was a relatively small workforce compared to those required in the 2011 Census
- There were no problems with staff complaining about hourly rates, although as with all wages, a minority did express a wish they were higher
- The bonus seemed to work although the rules were not strictly enforced. There was confusion around the issue of double bonuses. In the delivery stage, Enumerators that did double workloads were given a double bonus, whilst, Follow-up Enumerators that did more than one workload did not. Follow-up workloads were not defined as well as they were for Delivery Enumerators
- Monitoring hours was manageable in the 2007 Census Test, but concern is expressed about how this would be managed with the huge workforce needed for the 2011 Census
- For enumeration there were some issues relating to expenses and the fact that ONS could not get the reports directly from the contractor's workflow system as promised. This meant ONS was reliant on receiving an extract from the contactor which was supplied as a very big file requiring a lot of editing before it could be used. It was also found that these extracts did not hold all the expected claims. Therefore, on these occasions, paper evidence had to be supplied to enable invoices to be cleared

The main recommendations to be considered for the future are:

- IT systems should be fully tested at Rehearsal stage and well before going operational; a fully workable back-up plan should also be in place
- SLAs, such as MI system requirements, need to be clearly written into the contract and enforced with penalties if not delivered. All communication lines must be fully workable and adhered to
- All possible recruitment avenues and the re-allocation of staff to more challenging areas should be explored at the outset
- The hourly rate offered must be fully researched and supporting research evidence fully documented
- The rules for any terminal bonus should be clearer
- The need for ONS staff to check the hours worked and investigate any major errors or deviances from tolerance levels should be reviewed
- It should be ensured that a fully workable list of field staff available in real time is provided by suppliers

CHAPTER 11 Local Authority Liaison

PURPOSE

The specific focus of Local Authority (LA) Liaison in the 2007 Census Test was to evaluate the effectiveness of the action plan and make recommendations about the scale and scope for 2011. The high level objectives were to research:

- The ability to engage local authorities
- The consistency of approach across local authorities
- Scalability for 2011

The key areas of interest were the role of the local authorities, operational interfaces, scalability and local community engagement.

DESCRIPTION

From experience, it has proved mutually beneficial for local authorities and ONS to work in partnership. ONS seeks to benefit from LA resources and knowledge of their local areas to improve the enumeration process. In particular, local authorities have experience and contacts including:

- Knowledge of the profile of local areas and factors that may make them hard to enumerate, such as language problems
- Experience of similar operations such as electoral registration and postal elections.
- Contacts with a wider range of local organisations, particularly those coming together through Local Strategic Partnerships (or Community First networks in Wales) such as the police, student groups, housing associations and religious groups

In turn, local authorities will benefit from better Census results, primarily in the calculation of their Revenue Support Grant but also for land use planning, population / household projections, transport planning, housing services, education services and training initiatives. The key question for both ONS and Local authorities is how best to manage this engagement, which was the purpose of the LA action plan.

Address registers

Communal establishment information was collated by ONS into a comprehensive list for the Test areas and passed to local authorities in May 2006. Local authorities were asked to comment on the completeness and accuracy of this information and to send back their findings by July 2006.

Responses were received from all local authorities in the timeframe specified. These responses were fed into the final list of communal establishments which were to be validated as part of the address checking exercise.

Counts of university accommodation were also sent to local authorities as part of the validation process. Local authorities were again asked to verify and feedback the results to the Census team. University accommodation represents a particular problem to Census enumeration, particularly in campus universities. Much of the accommodation in Liverpool and Camden is of the non-campus type, whereas in Bath, student accommodation remains heavily campus-focused at the hall of residence.

Following the 2007 Test, discrepancies highlighted as part of address checking were provided to local authorities through Intelligent Addressing. These discrepancies related both to differences found in individual address products and to additions, changes and omissions highlighted as part of the checking exercise. The results were studied by local authorities and the response to them formed part of the evaluation of address products published after the Test.

Area profiles and data sharing

In addition to information collected for the development of the address register, local authorities were asked to supply data for the creation of area profiles These were designed to assist the area and team managers to understand the nuances of their area to achieve improved responses from local communities and target population groups.

Area profile data requested included:

- The five ETCs showing areas by difficulty of getting a response, with 1 being the easiest and 5 the most difficult. Multi-occupancy properties containing more than one household sharing the same address, where more than one form would be required.
- Vacant and second homes (source LA council tax data 2006).
- Gated communities and high rise.
- Ethnicity, religion and language.

Recruitment and logistical support

In the 2001 Census, there were significant difficulties in recruiting large numbers of field staff, particularly in urban areas. To reduce this risk, the LA liaison team sought to encourage local authorities to support the recruitment process by publicising field staff roles and encouraging their staff to participate.

This helped to reduce the risk of not recruiting enough enumerators, while also providing an extra element of quality as many LA and ex-LA staff will have undertaken similar roles and understand the importance of the Census.

Publicity

Owing to the dispersed structure of the 2007 Test areas, ONS decided not to develop blanket publicity. However, a pre-delivery card was delivered to each address included in the Test.

Community liaison programme and Local Strategic Partnerships (Community Networks in Wales)

Local authorities had a role in engaging directly with community groups and also to share their extensive local contacts with Census field managers. Local authorities were asked to prepare a list of local contacts for the key organisations identified by ONS and to add others that they thought would be helpful.

Local authorities were asked to arrange for ONS managers to give presentations at Local Strategic Partnership meetings or other relevant local network forums in summer 2006. Local authorities were asked to identify existing forums such as Neighbourhood Committees for developing community networks

Local Authority support and Service Level Agreement

ONS wrote to LA Chief executives in the Test areas and successfully negotiated formal SLAs setting out the scope and timetable of the partnership arrangements. Following endorsement of the generic SLA by the LA Steering Group, tailored copies were produced for each LA. The SLA underpinned and detailed the ONS / LA partnership agreement and work schedule. It covered the Specification of Requirement, pricing schedule, contact points and extracts from ONS standard terms and conditions, including the Data Protection Act, confidentiality, intellectual property rights, agreement holders status and sub-contracting, and the 2011 Census Local Authority Liaison Action Plan (as an Annex).

ASSESSMENT

Address registers

In general, the information collected by ONS before the 2007 Test was accurate for large communal establishments. Where information was wrong, it was because redevelopment had altered the positions on the ground.

All local authorities were able to confirm the assigned establishment categories. Camden in particular was able to provide detailed information across the full categorisation of communal properties because of the strength of their Local Land and Property Gazetteer (LLPG). The advantage of this was that the data within the Camden LLPG could be easily linked to the ONS sources because of its consistency.

Integration of information from other local authorities proved more problematic. Data about communal establishments tends to be duplicated across a wide range of local sources.

Extracts from up to six different data sources were provided by some local authorities. Where these were not linked to the LLPG, the format of the addresses varied and the address itself did not include a unique identifier to enable efficient matching. This made the process of integrating the data difficult.

For this reason the approach to quality assure communal establishment information in the 2007 Test would not be scalable in a full Census. Integration of information from local authorities would only be possible if it was already integrated at the local level into LLPGs. This is a situation that local authorities themselves are seeking to achieve.

Information requested on the main development areas within local authorities was largely accurate and provided to ONS in map form.

The geographical information systems (GIS) team looked at these addresses and could explain them all as flats being known by alterative names, for example Flat 1/Garden Flat/Basement Flat.

Area profiles and data sharing

Not all local information given to field staff in area profiles was found to be useful; some field staff who felt that they knew their local area well did not use this information.

It took some time for assistant census liaison managers to identify where the data was held and compile the list required by ONS. There was partial use of topic information by team managers across local authorities. Data collection and timeliness was difficult resulting in high production costs in ONS. Initially, data was received in a variety of formats and the effort involved in using it led to the agreement of common formats. Difficulties arose where data sources came from a number of internal LA departments, like corporate, housing, transport or planning.

There were different approaches to data release, with some local authorities risk assessing each one. The majority of data however was provided. Three out of the five local authorities were concerned about releasing health and safety information (for Enumerators walking the streets), partly because of sensitivities around local problem areas. Some local authorities had reservations in releasing council tax data. Local authorities did not have the requisite information on asylum seekers.

Liverpool and Bath and North East Somerset would not provide council tax data and other information which may enable people to be identified. Liverpool's data sharing arrangements seemed to be further complicated when the Census liaison department moved out of the City Council and into Liverpool Direct. Feedback from local authorities is that ONS should be encouraging them to identify the data required and plan well in advance for its collection.

Recruitment and logistical support

All local authorities offered assistance with advertising the field posts to their own staff. Most offered use of their Intranet and job vacancy web sites, one emailed their own staff and other council office locations as well. Another LA also sent the advert to their main community contacts. In all but one case the advertising was late for various reasons, ranging from communication issues between local authorities and the recruitment contractor, the effects of internal restructuring and a clash in timing with local elections. This was reflected in the number of LA staff recruited for the field posts. The local authorities that advertised the posts in good time recruited 44% of the field staff from their employees. The others varied from 12.5% to 2.13%.

ONS tried to recruit LA staff as area managers but there were problems with the clarity of their employment terms as local authorities were expected to pay the individual whilst ONS was responsible for their control and management.

LA or ex-LA employees recruited as Census field staff generally performed to a high standard. LA staff, particularly on the electoral register side, had excellent local knowledge and contacts. Communication issues between one local authority and the recruitment contractor identified the need for clarity of recruitment procedures.

Local authorities provided advice and assistance to field staff managers in response to requests. For instance, accommodation was provided or arranged, and in Camden car park passes were provided. Maps provided by Carmarthenshire LA proved superior to the maps ONS provided to field staff.

Publicity

All the local authorities were willing to publicise material provided by ONS. As ONS decided not to develop any publicity, each LA decided what they would do in terms of promotion. This ranged from:

- Including an article on their website about the Test.
- Inviting the ONS LA and community liaison officer to speak to meetings.
- Providing contact centre and press office support.
- Writing to individual LA officers.
- Publishing articles approved by ONS in their local journals.

Many people on the doorstep, however, were not aware of the importance and uses of the Census Test or how it directly affected them.

Community liaison programme and Local Strategic Partnerships (Community Networks in Wales)

The advisory and steering role to which community groups contributed continues to be valuable, and one-to-one meetings with ONS are of mutual benefit. When meeting on a one-to-one basis, community groups found it useful to know how

the Census is important to them, what it could do to help them meet their aims and how they could assist. These meetings continue.

There were wide variations in the timeliness and provision of information requested for the Test by ONS. Community organisations are limited in their capacity to provide the amount of information initially envisaged (although they are fulfilling a helpful advisory role). Progress against the actions as set out in the Plan was, with one or two exceptions, of limited practical assistance in informing enumeration intelligence.

Local authorities have a statutory requirement to continue developing Local Strategic Partnerships. Presentations on the Test given to Local Strategic Partnerships by the Census LA liaison manager in both Stoke and Bath and North East Somerset were very well received. In Carmarthenshire, a programme of presentations to Community Networks created a lot of interest with very positive feedback.

Part of the senior field manager role is to liaise with community groups, however this was not clear to some of them.

Local Authority Support and Service Level Agreement

Some local authorities were more engaged than others and there were differences in the timeliness and provision of data. Overall, local authorities had significant differences in structure and in the way their day-to-day business is run.

One local authority was reluctant to assume a full formal part in the Test but nevertheless did assist as best it could. There were several reasons for it holding back; local elections which clashed with the Test were its main focus, it did not think it had much to gain from taking part, there was a lack of internal resources due to other priorities, and concerns over data protection and the content of the SLA. This local authority also considered it had a good address list and was subsequently not short-changed from the Revenue Support Grant. However, this view changed markedly when several thousand new addresses were identified by ONS and the potential benefits became clear.

Each of the local authorities in the Test appointed a Census Liaison Manager to act as champion, and Assistant Census Liaison Managers as the main contact point to provide data and local intelligence to Census HQ and liaise with field managers. Continuity was a problem in one local authority as, during the 2007 Test period, both the manager and assistant manager left. Establishing good working relationships with local authorities is critical to meeting the needs of Census, including achieving high participation rates.

Like many large organisations, local authorities sometimes have problems managing internal relationships and breaking down barriers between various departments such as analysts, researchers, executive, corporate, housing, data protection and legal services. The Census liaison manager and assistant Census liaison manager roles offered a good practical solution. Census liaison managers were of a sufficiently high level to give impetus to data requests when conflicting

priorities between LA internal departments arose. The level of the role varied by LA but where their level was high, (for example an Assistant Director in Camden) planning data requests were expedited. On occasions support was needed from LA executive management teams to intervene for direct action to be taken across internal LA departments.

The SLA set out the ONS / LA partnership agreement and work schedule. A generic SLA was endorsed by the LA Steering Group, however, tailored drafts were required for each LA which took a lot of time on both sides. Some LA legal advisors wanted to establish reciprocal rights and responsibilities over some sections of the ONS standard terms and conditions. ONS were able to agree reciprocal rights on data protection and intellectual property rights.

CONCLUSIONS & RECOMMENDATIONS

Although there were differences in ways of working between local authorities, the principles and benefits of liaison were proven. This is demonstrated by the overall commitment to supporting the Census Test shown by local authorities (as laid out in the specific areas for partnership working in the description section above) including the provision of information and assistance. This was confirmed by the evaluation reports produced by each LA. It is important to acknowledge that the LA liaison approach used for the 2007 Test is not scalable for the 2011 Census.

Address registers

LA buy-in and confidence in both the addresses to be used in 2011 and the chosen address product is critical and this has to be managed in a way that is productive for both parties. The approach used to verify the categorisation of communal establishments was successful in the Test but would not be scalable for 2011.

The only approach that can be recommended is to continue to use national sources of information that reliably identify single categories of communal establishment such as Home Office information on prisons. Integration of information from local authorities should only be considered for categories where there is no reliable national source and information has already been incorporated into LLPGs. Any other approach would be too resource intensive for both ONS and local authorities.

Area profiles and data sharing

Producing area profiles for the 2011 Census in the same way as in the Test is neither scalable nor necessary for the following reasons:

Partial use of topic information by team managers across local authorities

The majority of areas do not have issues that seriously effect enumeration and require extra work in the field. If only certain topics, which may not be the same across all local authorities, are going to be used then it would be more worthwhile to produce an area profile that is tailored to the type of LA. This would include only a limited number of topics, therefore saving resources. ONS needs to identify exactly what profile information on the ground, adds value to the enumeration process.

Difficult and timely data collation

Methods for achieving more consistency across LAs are needed, including a common format, such as Excel, for the transfer of data and a decision on whether to source data nationally. These need to be set-up well in advance of the 2011 Census so that local authorities can get used to providing data on a regular basis.

High production costs

Very high levels of resource would be needed to chase and collect missing data, collate and check information and resolve queries for each dataset for all 376 local authorities, in addition to processing and producing the area profiles.

Producing area profiles using multiple sources for single topics for different local authorities will not be practical for the 2011 Census. It is important, therefore that access issues are dealt with, particularly for any sources ONS would find useful beyond area profiles. It is proposed that we assess the following options either alone or in combination.

As much advance notice as possible of the data sets required should be given to local authorities so plans can be put in place for collection.

Positive data-sharing agreements should be encouraged within local authorities, information should be shared unless there is very good reason not to do so, such as legal or data protection issues.

There needs to be an agreed policy of data sharing within local authorities to enable easy access to the wide range of data required and to ensure that it is consistently processed. ONS received a legal view that there are sufficient provisions under existing LA and council tax legislation to enable data sharing for the purposes of the Census and where it is in the interest of or benefit to local authorities.

Recruitment and logistical support

The use of LA or ex-LA employees working as Census team managers and field staff should be developed and encouraged. Their knowledge of local areas and contacts gives them a head start and helps to target resources more effectively.

There is a need to clarify employment terms to enable LA staff to take up the management roles.

Area and team job descriptions should be clear about their relationship with Assistant Census Liaison Managers, their responsibilities (including community liaison) and demarcation. Senior field managers should co-ordinate requests for advice, assistance and information from their team managers and act as a conduit.

Assistant Census Liaison Managers should provide assistance with local accommodation provision and car park passes.

Publicity

A ramped programme is needed to raise public awareness and understanding of the Census well in advance of 2011, particularly with respect to LA staff and local community organisations, who are well placed to exert influence at a local level.

Community liaison programme and Local Strategic Partnerships (Community Networks in Wales)

Senior field managers' job descriptions need to be clear about their responsibility to liaise with community groups, including giving presentations to Local Strategic Partnerships and key local community organisations. This will help to maximise the Census response for target populations.

Local authorities should be encouraged to further develop their list of community groups and key contacts to concentrate on contacting the hardest to reach people. Engagement is needed with a range of interested parties involved in the community sector, including government departments, such as Communities and Local Government, the Office of the Third Sector and, Department of Health, and national and local community organisations.

ONS needs to continue to firmly establish from communities what they want to get from the Census. ONS aims to demonstrate what it is doing to meet requests from community organisations, to reassure them that their concerns and issues are taken seriously and addressed and to determine how they can best help in the Census.

Working with Local Strategic Partnerships is recommended as an effective way to get information to a range of community groups and others.

Local Authority Support and Service Level Agreement

Relationship building and management is key. Working in partnership with local authorities needs to take account of the five types of local authorities in England and Wales and their responsibilities for specific datasets, particularly when requesting information.

It is essential that chief executives understand the need for the Census and its benefits to local authorities and that they support and raise its profile within their areas. This would help to minimise the effect of internal LA re-organisations and budget or staff cuts which had a considerable impact in Stoke and to a lesser

extent in Liverpool during the Test. Local authorities with outsourced services should consider the placing of Census Liaison Managers and Assistant Census Liaison Managers to avoid additional charges as in the case of Liverpool.

Chief Executives should:

- Provide drive and leadership on the Census to their executive management team and staff
- Agree to carry out associated Census activities and provide adequate resources

Key points for effective liaison:

- Good cross-curricular understanding of the local authority by the LA Census Liaison Managers is important to effectively tap in to the range of LA and local resources
- Local authorities should embrace joined-up working, particularly in respect of data providers. For example in Camden, council tax, GIS, electoral services and planning are all tied into the LLPG and use it as the central address list

It is essential to keep Census separate from political issues, especially when near to elections.

When conflicting priorities between LA internal departments arise, LA executive management team involvement and support is required.

The local authorities in the Test agreed that LLPG custodians or GIS team managers were usually best placed to be Assistant Census Liaison Managers. Census duties were in addition to existing workloads and local authorities should be encouraged to release the Assistant Census Liaison Managers from normal duties as far as possible.

Limited Census resources, and the inherent difficulties in getting 380 or so different LA legal departments to agree to detailed SLAs, means that this is not scalable or achievable for the 2011 Census. There is a need to consider other solutions for both the Rehearsal and the Census.

REFERENCES

The Local Authority Liaison Programme is under Related Links in:
http://www.statistics.gov.uk/census/2011Census/Consultations/2011communities.asp

CHAPTER 12 Coverage

PURPOSE

The Census Test Evaluation Survey (CTES) was an independent follow-up survey consisting of face-to-face interviews conducted on a small sample of both responders and non-responders to the Census Test. Specifically the CTES was constructed to help understand coverage within the Test and the associated impact of both the post-out delivery method and the inclusion of an income question.

This chapter provides a brief summary of the coverage of the 2007 Census Test. This is divided into three parts:

- Analysis of under-coverage and over-coverage of residents within responding households
- Analysis of under-coverage and over-coverage of visitors within responding households
- Provide a summary of the reasons and patterns for household non-response in the 2007 Test.

DESCRIPTION

The 2007 Census Test included approximately 100,000 households within five local authorities - Bath and North East Somerset, Camden, Carmarthenshire, Liverpool and Stoke-on-Trent. These were chosen to provide a diverse cross section of the population and types of housing that would be covered in the full Census. One of the Test's goals was to gather information about the profile of respondents, non-respondents and visitors to determine which characteristics affect response. Around 42,000 questionnaires were returned leading to a response rate of around 46%.

The design of the Test, together with the analysis and evaluation of its main factors (delivery method and income) is described by Elliot (2008), which includes additional background information. However, this concentrates on household response which is the main evaluation measure for the key factors.

This chapter presents the analysis of information on coverage and characteristics of response. It analyses the coverage of residents in responding households to see if there are differences in under-coverage patterns from the 2001 Census and uses the information to estimate the levels of over-coverage of residents. It also examines the coverage of visitors and analyses characteristics of non-responding households to provide evidence for ways to improve coverage in the 2009 Census Rehearsal and the 2011 Census itself. For coverage of residents, the analysis looks into the effect of factors such as:

- Delivery method (hand delivery or post out).
- The presence or not of the income question.
- The new five-level measure of how easy it is to enumerate a particular area, the ETC.

The study has some limitations. The first is the relatively small sample size of the CTES – only 1,430 responding and 667 non-responding households were sampled, and interviews were achieved with 1,223 responding and 247 non-responding households.

The second is that the analysis of characteristics of non-responding households was limited due to the relatively small amount of information that was collected – less than 171 of the 247 non-responding households interviewed provided complete information in the non response section of the CTES.

Finally, 132 responding households (around 10% of the total) had quality issues in their data due to a failure of the software used for the CTES questionnaire to process the name variables. These cases were corrected, but there still may be issues that we have not been able to identify or correct.

ASSESSMENT

Coverage of residents in responding households

This section presents a summary of the analysis of the under-coverage and over-coverage of individuals within 1,223 households following the Test and the CTES.

To account for everyone in the household, it was assumed that the true residents in the household were those named as such in the CTES. Thus, any extra people in the CTES would be considered as undercount, and residents in the Census who do not appear in the CTES would be considered as an overcount. It is likely that this approach will overestimate the overcount (as there will be some recall errors in the CTES) and will underestimate the undercount (as not all missed people will be in the CTES). However, it should give a broad indication of the underlying coverage rates.

Overall undercount

Table 12.1 below shows the summary of the coverage within households. The proportion of people missed within households was 2.7%, which is quite a bit higher than the corresponding estimate of 1.8% in the 2001 Census as measured by the CCS in the 2007 Test local authorities. This is mainly because the CTES was not able to use the data from individual forms that were issued to households larger than five residents. If we exclude households bigger than this, the within household undercount is 1.35%. This is the best estimate of within household coverage, and the rest of the under-coverage analysis will use only households of five people or less.

The 95% confidence interval (0.90%, 1.80%) around the CTES estimate of 1.35% does overlap the corresponding (very approximate) confidence interval for the CCS estimate (1.63%, 2.03%). As both these confidence intervals ignore the clustered design of the CTES and CCS (thereby underestimating the variance) then the comparison is conservative, as a test of the difference between them (which would pool the independent variances) would compensate for the increased variances (as the pooling of variances results in a confidence interval (CI) that is smaller than the sum of the two independent CIs).

We can conclude that there is little evidence to suggest that within household coverage levels are different from the 2001 undercount (and certainly not higher). This is a reasonable conclusion, even though as noted above, the CTES estimate of the undercount is likely to be an underestimate. As an example, undercount within households was 1.1% as observed by the Census Evaluation Survey in the 1997 Census Test (but there was evidence that perhaps 3% of people had given a name but no other data).

Overall overcount

The measurement of overcount in the 2007 Census Test has proved to be problematic, due to the presence of a large number of duplicate records on the database – these were created in the main by the processing systems. Table 12.1 below includes two figures for overcount. The first, listed simply as overcount includes all duplicates, whether they are genuine duplicates due to people filling in their name more than once on the questionnaire or created by errors in recognising the respondents' handwriting during the scanning process, for example Jane becomes Sane.

The second figure excludes all duplicates, reducing the percentage of overcount people within households from 14.12% to 0.86% (with a confidence interval of 0.51% to 1.21%), as seen in the last two rows of the table. 0.86% is more than twice the value estimated for over -coverage within households in 2001 (approximately 0.4% including duplicates, but a confidence interval for this is not available). Therefore we can conclude that the level of overcount was higher in the 2007 Test, despite the likelihood that the estimate was an overestimate. All subsequent analyses in this chapter will use over-coverage excluding duplicates as the analysis variable for overcount.

Table 12.1 Summary of coverage analysis

SUMMARY OF COVERAGE ANALYSIS	
Number of Respondent Households	1223
Number of Residents (CTES)	2663
Number of Residents in households <6	2517
Undercount (All households)	72
Undercount (Households <6)	34
Overcount	376
Number of duplicates (*)	353
All households Under-coverage (%)	2.70%
Households<6 Under-coverage (%)	1.35%
Over-coverage (%) including duplicates	14.12%
Over-coverage (%) excluding duplicates	0.86%

Note:
*These include genuine duplicates – people filling their name more than once and duplicates due to errors reading the respondent's handwriting.

Coverage by the main Test factors

As noted in the introduction, questionnaires were sent by post or delivered by hand and may or may not include the income question. These two variables and their effect on coverage are of paramount importance. The main analysis of household level response reported by Elliot (2008) found that both the post-out delivery method and the presence of an income question on the Census questionnaire led to a significant drop in return and response rates.

Table 12.2 shows the within household coverage summary by delivery method. The total number of residents is used as the over-coverage denominator and the number of residents in households smaller than six people is used for the under-coverage denominator. Table 12.3 shows the same information when the income question is and is not included. Both tables present the total number of residents and the percentages of undercount and overcount excluding duplicates.

The last column shows the p-value of the asymptotic normal test of equality of proportions. At the usual 5% level of significance (the equivalent of a 95% confidence interval) we will reject the equality hypothesis if the p-value is lower than 0.05. As all p-values in both tables are higher than 0.05 we can conclude that there is no significant difference by method, or by content, for both the undercount and overcount. Therefore these factors do not have any impact on within household coverage rates. This is not surprising, since the evaluation is based on households that have responded – there is more likely to be an effect on the household's response.

Table 12.2 Coverage summary by delivery method

	POST OUT	HAND DELIVERY	P-VALUE
Number of residents	1407	1256	-
Number of residents in households <6	1341	1176	-
Under-coverage (%)	1.64%	1.02%	0.172
Over-coverage (%) excluding duplicates	1.14%	0.56%	0.100

Table 12.3 Coverage summary by presence/absence of the income question

	POST OUT	HAND DELIVERY	P-VALUE
Number of residents	1384	1279	-
Number of residents in households <6	1302	1215	-
Under-coverage (%)	1.69%	0.99%	0.124
Over-coverage (%) excluding duplicates	0.58%	1.17%	0.102

Tables 12.4a and 12.4b below show the coverage summary for both the delivery method and the presence or absence of the income question simultaneously. Table 12.4a presents results for under-coverage and Table 12.4b presents the results for over-coverage. It also includes the p-value for the chi-square tests of equal coverage probabilities across the factors. The p-value for these tests is included in the last row of the tables.

The tables show that there was no statistically significant difference in either undercount or overcount, regardless of the delivery method and income classification.

Table 12.4a Undercount by delivery method and presence/absence of the income question

DELIVERY METHOD	INCOME QUESTION	RESIDENTS IN HOUSEHOLD <6	UNDERCOUNT
Post out	No	685	1.90%
Post out	Yes	656	1.37%
Enumerator Delivery	No	617	1.46%
Enumerator Delivery	Yes	559	0.54%
Total		2517	34
p-value			0.229

Table 12.4b Overcount by delivery method and presence/absence of the income question

POST OUT	HAND DELIVERY	P-VALUE	POST OUT
Post out	No	725	0.83%
Post out	Yes	682	1.47%
Enumerator Delivery	No	659	0.30%
Enumerator Delivery	Yes	597	0.84%
Total		2663	23
p-value			0.153

Coverage by difficulty of area

Table 12.5 provides the information on undercount and overcount by ETC. The papers on the analysis of the main test factors note an anomaly in the patterns of response for ETC4 (although there is no plausible reason for the anomaly), and this should be borne in mind when examining patterns by ETC. We would expect that the harder to count areas might have a higher rate of undercount within households.

The results indicate, however that there is no significant difference between the proportions of undercount and overcount excluding duplicates between the ETC levels.

Table 12.5 Coverage summary by ETC

ETC	TOTAL RESIDENTS	RESIDENTS IN HOUSEHOLD <6	UNDERCOUNT	OVERCOUNT
1	608	582	0.86%	0.82%
2	576	551	2.00%	0.52%
3	557	510	0.98%	0.90%
4	469	450	1.78%	1.28%
5	453	424	1.18%	0.88%
Total	2663	2517	34	23
p-value			0.412	0.783

Annex B contains further analyses of coverage by the ETC crossed with the main Test factors, delivery method and presence of an income question).

Coverage by household size

One other possible effect on within household coverage rates is household size – larger households have a greater chance of missing a person, and they may require a second form which may not be asked for. Table 12.6 below shows the summary results by household size. Interpretation of the table is similar to that of

table 12.4. Please note that one of the two eight person households is, in fact, a seven person household where a duplicate was incorrectly listed as a resident.

It is worth mentioning that there are significant differences in the proportion of undercount between the categories, no matter what the level of significance chosen for the test. The reason is that only the first form of each household seems to have been used to create the list of names used in the CTES questionnaire. As a consequence, everyone potentially listed in a second form will be listed as undercount if they are named in the CTES. This has a large impact on households of six or more people and explains the larger undercount values for these households. **Nevertheless, the undercount does increase with households up to six people (which are not affected by the problem above).**

There is no significant difference in the measure of overcount.

Table 12.6 Coverage summary by household (HH) size

HH SIZE	HOUSEHOLDS	RESIDENTS	UNDERCOUNT (%)	OVERCOUNT (%)
1	436	436	0.23%	0.69%
2	439	878	1.14%	0.57%
3	151	453	1.32%	0.44%
4	125	500	1.80%	1.20%
5	50	250	3.20%	2.40%
6	12	72	13.89%	1.39%
7	7	49	38.78%	0%
8	2 (*)	16	31.25%	0%
9	1	9	44.44%	0%
total	1223	2663	72	23
p-value			>0.001	0.243

Note:
*One of these households was declared as a seven person household in the Census form, as confirmed with the questionnaire's images. However, there was some duplication in reading the names and one of the repeat names was identified as resident in the CTES, thus creating an eight person household. Because we have assumed the CTES population to be the true population, we have decided to keep the household size at eight people.

If we consider only households with five or less residents as mentioned above, then the effect of the need for a second form disappears. Table 12.6a shows the results of the revised significance tests. They show significant differences (at 5% level of significance) in the undercount between households of different size, as expected. Overcount also reflects a larger effect of household size – although this overcount is not statistically significant at a level of significance of 5% it is only so by a very small margin which suggests that it should not be ignored.

Table 12.6a Coverage summary by household (HH) with five or less residents

HH	HOUSEHOLDS	RESIDENTS	UNDERCOUNT	OVERCOUNT

SIZE				
Total	1201	2517	34	22
p-value			0.022	0.053

Coverage of visitors in responding households

This section presents a summary of the analysis of the under-coverage and over-coverage of visitors within the 1,223 responding households following the 2007 Census Test and the CTES. Since visitor information was not a high priority for collection in the 2001 Census, we do not have any information on the coverage of visitors. This is the first opportunity to examine this group of the population and find out the likely coverage in the 2011 Census. However, since the CTES was a few weeks after Test day, recall error is likely to be significant.

Of the 1,223 responding households interviewed by the CTES, 59 declared that they had visitors in either the Census Test questionnaire or the CTES, 52 completed the visitors section on the Census questionnaire while 17 declared they had visitors on Census night through the CTES.

As per the analysis of usual residents, the number of visitors named in the CTES will be assumed to be the true count. Therefore a visitor counted in the Test questionnaire but not in the CTES will be classified as an overcount, while a visitor's name present in the CTES but not in the questionnaire will be deemed as undercount.

Table 12.7 below presents the summary for coverage of visitors in responding households. It shows that 20 visitors were named in the CTES across the 1,223 households. The undercount is eight visitors (40% of the total), while the overcount is 54 (270% of the true number). This value drops to 23 (still 115% of the true number) if we take out visitors that were matched to residents in the same household, for example John Smith appears both as a resident and as a visitor in the same form. This considerable difference suggests that there are a proportion of respondents who did not understand the form (about 1.2% of the residents were duplicated), writing their name as both a resident and visitor. It is also possible that due to the time elapsed between the Census test and the CTES; the respondent may have not recalled any visitors from Census test night, resulting in the apparent large overcount.of visitors.

Table 12.7 Coverage summary for visitors within household

CTES VISITORS	UNDER-COVERAGE	OVER-COVERAGE	RESIDENTS DECLARED AS	UNDERCOUNT (%)	OVERCOUNT (INCLUDING RESIDENTS)	OVERCOUNT (EXCLUDING RESIDENTS)

			VISITORS		(%)	(%)
20	8	54	31	40%	270%	115%

The 40% undercount corresponds to eight visitors in seven households. The reasons given for not having included them in the questionnaire were as follows:

- One household wrongly listed their two visitors as residents.
- Three households said that the visitors should have been recorded– although one household actually listed their visitor as resident on the form.
- One household wished to preserve the anonymity of their visitor.
- One household said the visitor was a support worker.
- One household said it was not asked.

Non-respondents

The analysis of non-respondents to the 2007 Census Test is based on only 247 households. A different questionnaire was used and at the start there was a check to confirm that they had not responded. 23 households that said they had responded despite the absence of their questionnaire (these could have been genuine late returns) and also had their CTES interview terminated. The remaining 224 households confirmed that they had not returned the Test questionnaire. It should be noted that 224 is a very small number of cases on which to make inferences and it was decided to simply summarise the data in this section.

Once their status as a non respondent was confirmed, the interviewer asked whether or not the interview could continue or if there was a questionnaire to return. Two households refused to continue, while four returned the questionnaire to the interviewer. In all these cases the interviewed was terminated.

Questionnaire delivery

The next question asked if a Test questionnaire had been received. Table 12.8 summarises the results. Again, when a household said they had not received a questionnaire (17.9% of the cases) or answered other (3.1% of the cases), no more information was collected. The high proportion of respondents who claimed they did not receive a questionnaire could be due to recall effects, but it may also highlight that the Test questionnaire was not memorable or that the delivery mechanism was poor and some households were missed.

Table 12.8 "Did you receive a Census questionnaire?" breakdown table

DID YOU RECEIVE A CENSUS QUESTIONNAIRE?	(%)	COUNT
Yes	67.4%	151*
No (questionnaire stopped)	17.9%	40
Doesn't remember	8.9%	20
Other (no detail available; questionnaire stopped)	3.1%	7**

Refusal to conduct interview	0.9%	2
Questionnaire collected by interviewer	1.8%	4

Notes:
*Some of these households provided no further information.
**For four of these households there were notes from the interviewers: one mentioned an elderly lady living alone; a second a Kurdish speaking family who did not know of the test; a third spoke to the resident over an intercom and was told that no form had been received and a fourth wrote no problems.

Tables 12.9, 12.10 and 12.11 below, break down the information in Table 12.8 by delivery method (Table 12.9), presence/absence of the income question (Table 12.10) and ETC (Table 12.11). Note that the six households in the bottom two rows of Table 12.8, who refused or handed over a questionnaire, are not included (the total adds up to 218 households rather than 224). It is interesting to note that there were higher proportions of households not remembering (or seeing) the Test questionnaire in post-out areas. Although the numbers are small, and so the result is not likely to be statistically significant, it still indicates the difference contact can make with the respondents. Areas with a higher level of ETC also have a much higher proportion of households who said they did not receive the Test. The pattern is not consistent for the presence or absence of an income question, which is probably as expected.

Table 12. 9 "Did you receive a Census form?" breakdown table by delivery method

RECEIVED A CENSUS FORM	POST OUT	(%)	ENUMERATOR DELIVERY	(%)
Yes	74	63.2%	77	76.2%
No	24	20.5%	16	15.8%
Doesn't remember	12	10.3%	8	7.9%
Other (no record available)	3	2.6%	4	4.0%
	113		105	

Table 12.10 "Did you receive a Census form?" breakdown table by presence/absence of the income question

RECEIVED A CENSUS FORM	INCOME QUESTION	(%)	NO INCOME QUESTION	(%)
Yes	83	70.9%	68	67.3%
No	18	15.4%	22	21.8%
Doesn't remember	11	9.4%	9	8.9%
Other (no record available)	5	4.3%	2	2.0%
	117		101	

Table 12.11 "Did you receive a Census form?" breakdown table by ETC

RECEIVED CENSUS FORM	ETC LEVEL 1	ETC LEVEL 2	ETC LEVEL 3	ETC LEVEL 4	ETC LEVEL 5
Yes	82.1%	80.8%	53.7%	72.5%	61.4%
No	10.7%	9.6%	22.0%	15.0%	29.8%
Doesn't remember	7.1%	9.6%	17.1%	7.5%	5.3%
Other (no record available)	0.0%	0.0%	7.3%	5.0%	3.5%
Total	28	52	41	40	57

Reasons for non-response

Table 12.12 below shows a breakdown of the reasons given for not responding to the Test. Each household could give up to three reasons, but many chose to give less. The table therefore represents the number of times that each group of reasons was given, and its total does not add up to the total households considered. Lack of time, apathy and a lack of trust/unwillingness to disclose information are the main reasons given. The responses have been grouped to provide a thematic summary, but because of the wide range of reasons given, it was not possible to break down further the other category.

Examining the less popular reasons for non-response is important. Eleven households damaged or lost the form and nine thought it was junk mail, with some people's comments pointing to the fact that it was not addressed to anyone in particular. It is also worth noticing that two households in London (N6 postcode) gave a newspaper article mentioning the involvement of an American company in the process as a reason for not responding

Table 12.12 Breakdown of reasons for not returning Census Test questionnaire

REASONS	(%)	NUMBER OF TIMES MENTIONED
Too busy	26.6%	54
Apathy	16.3%	33
Question(s) too intrusive / don't want to disclose information / lack of trust in government	11.3%	23
Don't feel is important	6.4%	13
Lost / damaged form	5.4%	11
Thought it was junk mail	4.4%	9
Has returned form	3.4%	7
Cultural / language / literacy barrier	3.0%	6
In hospital/feeling unwell at time of test	3.0%	6
Not compulsory	2.0%	4
Recently moved in / moved back	1.5%	3
Thought American private company was involved	1.0%	2
Don't see relevance / don't understand purpose	1.0%	2
Form collected by interviewer	0.0%	0
Other	13.8%	28
Refusal	0.0%	0
Don't know	1.0%	2

Annex C contains the breakdown of reasons as asked in the CTES form for non-respondents, by delivery method, by presence / absence of income question and by ETC. The classification differs from the one in Table 12.12 in that Table 12.12 has broken down the other category. The tables in Annex C do not show any important differences between the main Test factors or between the different ETCs. Most surprising was that there was no difference between the presence or absence of an income question – in previous Census Tests the income question was cited as a reason for non-response.

Tables 12.13, 12.14 and 12.15 show the breakdown of non-respondents by delivery method content and ETC. The most unexpected figure was a high proportion of missed households in ETC 2 when compared to the figures of ETC 3 and 4.

Table 12.13 Breakdown of responding households to non-response

questionnaire by delivery method

DELIVERY METHOD	% OF NON - RESPONDENTS	COUNT
Post Out	51.3%	115
Enumerator Delivery	48.7%	109

Table 12.14 Breakdown of responding households to non-response questionnaire by content

CONTENT VARIATION	% OF NON-RESPONDENTS	COUNT
No Income	54.0%	121
Income	46.0%	103

Table 12.15 Breakdown of responding households to non-response questionnaire by ETC

ETC	% OF NON-RESPONDENTS	COUNT
1	12.5%	28
2	25.0%	56
3	18.8%	42
4	17.9%	40
5	25.9%	58

Characteristics of non-responding households

Following the 2001 Census, the characteristics of non-responding households were estimated using the CCS. Additional modelling by Rahman and Goldring (2006) established the key factors associated with household non-response – including ethnicity, household size and household type. This section examines whether the 2007 Test indicates that these factors are still relevant for household non-response. Tables 12.16 and 12.17 present a breakdown of non-responding households by ethnicity and household structure. The proportions for the respondents in the Test, excluding the cases with missing information, are included for comparison in tables 12.16a and 12.17a. These tables are meant to give an indication as to whether the distribution of non-responders is different to the responders. If it is different, then this indicates that the variable is likely to be important when analysing coverage patterns. Please note that in Tables 12.17 and 12.17A the age of individuals was interpreted to the best of our ability using the available information, for example 1949 could have been put down as 49, 949 or 1949.

The ethnicity categories in Table 12.16 were collapsed for presentation purposes, as most households belong to the same category (all white). An all Asian household may include, not only people from the Indian subcontinent, but also ethnicities such as Filipino and Korean. Table 12.16a shows that the distributions are different, particularly for all black households and all other ethnicity type households. This is similar to the patterns observed in 2001.

Table 12.16 Breakdown of non-respondents by household ethnicity

HOUSEHOLD ETHNICITY	% OF NON-RESPONDENTS	COUNT
No ethnicity information*	25.0%	56
All white	62.5%	140
All Asian	2.2%	5
All black	2.7%	6
All other possibilities	4.5%	10
Refusal	2.7%	6
Don't Know	0.4%	1
Total		224

Note:
*Includes households where the interview was terminated.

Table 12.16a Comparison of non -respondents and respondents to the 2007 Census Test by household ethnicity (cases with information available only)

HOUSEHOLD ETHNICITY	NON-RESPONDENTS	CENSUS TEST RESPONDENTS
All white	87.0%	90.5%
All Asian	3.1%	3.1%
All black	3.7%	1.6%
All other possibilities	6.2%	4.8%
Total	161	40,655

Table 12.17 shows a very simple household structure variable. It shows that 28.5% or 64 of the total households are single person, the majority of missed households, as expected. Of the remaining, 22.3% are two-person households and 24.6% have three or more residents. There is no information for the remaining 24.6%.Table 12.17A shows clearly that there are differences between responders and non-responders, indicating that, like ethnicity, household structure is still important when measuring household response. Young households (both single person and couples) are particularly different, indicating that these remain hard to count.

Table 12.17 Breakdown of non-respondents by household structure

HOUSEHOLD STRUCTURE	% OF NON-RESPONDENTS	COUNT
Single person, age < 20	0.4%	1
Single person, 20<= age < 30	4.0%	9
Single person, 30 <=age < 40	5.4%	12
Single person, 40 <=age < 80	10.3%	23
Single person, age 80+	8.0%	18
Single person, no age information	0.4%	1
Two persons, mean age < 20	2.7%	6
Two persons, 20< = mean age < 30	4.9%	11
Two persons, 30 <= mean age< 40	5.4%	12
Two persons, 40 <= mean age < 80	6.7%	15
Two persons, mean age 80+	2.7%	6
Households with 3+ residents	24.6%	55
No information (*)	24.6%	55
Total		224

Note:
*Includes households where the interview was terminated.

Table 12.17A Comparison of non-respondents and respondents to the 2007 Census Test by household structure (cases with information available only)

HOUSEHOLD STRUCTURE	NON-RESPONDENTS	CENSUS TEST RESPONDENTS
Single person, age < 20	0.6%	0.2%
Single person, 20<= age < 30	5.3%	2.0%
Single person, 30 <=age < 40	7.1%	3.9%
Single person, 40 <=age < 80	13.6%	24.8%
Single person, age 80+	10.7%	5.9%
Single person, no age information	0.6%	0.6%
Two persons, mean age < 20	3.6%	0.8%
Two persons, 20< = mean age < 30	6.5%	4.1%
Two persons, 30 <= mean age< 40	7.1%	5.0%
Two persons, 40 <= mean age < 80	8.9%	22.5%
Two persons, mean age 80+	3.6%	1.7%
Households with 3+ residents	32.5%	28.5%
Total	169	43,930

CONCLUSION & RECOMMENDATIONS

Quality of the evaluation data

A total of 132 responding households (around 10% of households responding to the CTES) had data quality issues. The majority of these households were affected by the failure of the software used for the CTES questionnaire to properly read the input name list of residents, disregarding names stored in two variables. In nine cases names were accidentally duplicated during the coding stage. While all of these cases were corrected manually, it is felt that the data has still been compromised in its quality, and there may still be other issues that we have not been able to identify or correct. Therefore, the analyses presented in this paper are included with a health warning over the quality of the underlying data.

Coverage

Under-coverage of residents within households was 1.35%, which was not statistically different to the 1.8% that is estimated to have been the 2001 Census corresponding value, and with similar patterns. As they are of the same order of magnitude, this may indicate there is no evidence of a decline in within household response. The corresponding value of overcount, excluding all duplicates, was 0.86%, which is more than twice the value estimated for over-coverage within households in 2001 (approximately 0.4%). This is more of a cause for concern, and justifies the intentions to measure and adjust for overcount in the 2011 Census.

However, the software problems mentioned above may have been responsible for increasing the overcount, as many names in the 2007 Test and that were likely residents were deleted. Often these names were not included again in the lists of CTES residents, possibly because the respondent did not realise they were missing. Stronger tests of questionnaire software are recommended to guarantee that such errors do not occur again. Within household undercount, in particular, may have compromised and overestimated because only one form per household seemed to have been used to create the list of names used to feed into the CTES questionnaire – which is why only those households which had less than six residents were used for the under-coverage analysis.

Characteristics of non-response

When looking at the factors that affect the coverage of residents, the number of residents affects undercount (although this is exacerbated by the CTES not including all residents in large households from the returned questionnaire in its processes), while delivery method, the income question and ETC do not show any significant differences. None of these factors affects overcount (after excluding all duplicates).

The coverage of visitors in responding households was poor with 40% under-coverage and 115% over-coverage. The latter measure already excludes all residents that wrongly completed the visitors' section of the form.

It is likely that CTES respondents did not recall visitors that they had, therefore resulting in the extremely high overcount figure. In general, it would appear that the visitor information is of poor quality in terms of coverage and it appears to confuse many residents, which leads to them incorrectly declaring themselves as visitors as well.

Finally, the analysis of non-responding households showed that 17.9% reported that they did not receive a Census Test questionnaire. For the households that confirmed having received the questionnaire or were unsure of it, the three main reasons given for not responding were being busy, a set of categories that can be classified as apathy and lack of willingness to disclose information.

REFERENCES

Elliot, D. (2008) The 2007 England and Wales Census Test: the effect of delivery method and the inclusion of an income question on response. Office for National Statistics. Available on request.

Rahman, N. and Goldring, S. (2006) Factors associated with household non-response in the 2001 Census. Survey Methodology Bulletin, 59, pp11-24. Available at www.statistics.gov.uk/ssd/ssmb/smb59.pdf

ANNEX A

Names excluded

The list of errors in the Name field excluded from the list of residents/visitors during this phase of the process was (note that they are compressed text):

(PERSON)
AMIC
ASABOVE
E
N/A
NIA
NONE
NOTAPPLICABLE
$$$$$$$$$$$$$$
$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$

ANNEX B

Further analysis of Test factors

Tables B12.1 and B12.2 below show the coverage summary for ETC jointly with delivery method (Table 12.B1) and the presence or absence of the income question (Table 12.B2). Their structure is similar to that of Table 12.4.

In both cases, there is no significant difference between the categories regarding undercount. However, the joint effect of the income question and ETC in the different categories is statistically significant with regards to overcount (excluding duplicates). The difference in overcount is likely to be due to the higher number of households in ETC level 4 which have the income question.

Table 12.B1 Coverage summary by delivery method and ETC

DELIVERY METHOD	ETC	TOTAL RESIDENTS	RESIDENTS IN HOUSEHOLDS <6	UNDERCOUNT (%)	OVERCOUNT (EXCLUDING DUPLICATES) (%)
Post Out	1	360	296	1.0%	1.1%
Post Out	2	272	278	2.2%	0.7%
Post Out	3	294	287	1.0%	1.4%
Post Out	4	275	236	2.1%	1.1%
Post Out	5	206	205	2.4%	1.5%
Enumerator Delivery	1	248	286	0.7%	0.4%
Enumerator Delivery	2	304	273	1.8%	0.3%
Enumerator Delivery	3	263	223	0.9%	0.4%
Enumerator Delivery	4	194	214	1.4%	1.5%
Enumerator Delivery	5	247	219	0.0%	1.1%
Total		2663	2517	34	23
p-value				0.411	0.787

Table 12.B2 Coverage summary by presence/absence of income question and ETC

INCOME QUESTION	ETC	TOTAL RESIDENTS	RESIDENTS IN HOUSEHOLDS <6	UNDERCOUNT (%)	OVERCOUNT (EXCLUDING DUPLICATES) (%)
No	1	309	347	0.86%	1.0%
No	2	290	253	3.16%	0.3%
No	3	309	282	1.06%	0.6%
No	4	242	269	2.23%	0.0%
No	5	234	190	1.05%	0.9%
Yes	1	299	235	0.85%	0.7%
Yes	2	286	298	1.01%	0.7%
Yes	3	248	228	0.88%	1.2%
Yes	4	227	181	1.10%	2.6%
Yes	5	219	234	1.28%	0.9%
		2663	2517	34	23
				0.371	0.006

ANNEX C

Reasons for Census Test non-response

Table 12.C1 Breakdown of reasons for not returning Census Test form (as asked) by delivery method

REASONS	POST OUT	ENUMERATOR DELIVERY	TOTAL
Question(s) too intrusive	3	4	7
Not appropriate language	1	2	3
Did not understand some questions	3	0	3
Too busy	27	21	48
Form too long	0	3	3
Started but then forgot	4	2	6
Thought someone else had done it	5	1	6
Someone usually deals with these things	0	0	0
Don't trust government	0	1	1
Don't want to give information	3	0	3
Don't like to disclose private information	5	7	12
Don't feel is important	4	9	13
Other (not discriminated)	40	49	89
Has returned form	4	3	7
Form collected by interviewer	0	0	0
Refusal	0	0	0
Don't know	2	0	2
	101	102	203

Table 12.C2 Breakdown of reasons for not returning Census Test form (as asked) by presence / absence of income question

REASONS	NO INCOME QUESTION	INCOME QUESTION	TOTAL
Question(s) too intrusive	3	4	7
Not appropriate language	1	2	3
Did not understand some questions	1	2	3
Too busy	31	17	48
Form too long	1	2	3
Started but then forgot	3	3	6
Thought someone else had done it	2	4	6
Someone usually deals with these things	0	0	0
Don't trust government	1	0	1
Don't want to give information	2	1	3
Don't like to disclose private information	6	6	12
Don't feel is important	4	9	13
Other (not discriminated)	50	39	89
Has returned form	4	3	7
Form collected by interviewer	0	0	0
Refusal	0	0	0
Don't know	1	1	2
Total	110	93	203

Table 12.C3 Breakdown of reasons for not returning Census Test form (as asked) by presence/absence of income question

REASONS	ETC LEVEL 1	ETC LEVEL 2	ETC LEVEL 3	ETC LEVEL 4	ETC LEVEL 5	Total
Question(s) too intrusive	2	2	0	3	0	7
Not appropriate language	0	1	1	0	1	3
Did not understand some questions	0	0	1	1	1	3
Too busy	10	12	9	11	6	48
Form too long	0	1	0	1	1	3
Started but then forgot	3	0	1	1	1	6
Thought someone else had done it	0	0	3	2	1	6
Someone usually deals with these things	0	0	0	0	0	0
Don't trust government	0	0	0	0	1	1
Don't want to give information	0	1	0	1	1	3
Don't like to disclose private information	1	2	1	4	4	12
Don't feel is important	2	6	2	2	1	13
Other (not discriminated)	13	24	13	14	25	89
Has returned form	2	3	0	0	2	7
Form collected by interviewer	0	0	0	0	0	0
Refusal	0	0	0	0	0	0
Don't know	0	1	1	0	0	2
	33	53	32	40	45	203

CHAPTER 13 HQ Management of Test

PURPOSE

Two specific HQ Management forums focusing on the use of Management Information (MI) reporting to assess progress were held during the 2007 Test.

HQ MI meetings

- To provide the Census Director with the opportunity to assess the progress of the operation as a whole.
- To address instances where aspects of the Census operation were not progressing as expected.

Census Test progress meetings

- To ensure that the various elements of the Test were properly integrated and that dependencies were managed to ensure its successful delivery.
- To agree outputs, deliverables and to review progress towards objectives.
- To raise risks and issues and identify requests for change.
- To determine and agree recommended solutions for areas requiring escalation to the HQ MI meetings.

For HQ Management, the key areas for evaluation were:

- Was the frequency and attendance of meetings appropriate?
- Was the right information available at the right time?
- Was the information presented in an accessible format?
- Was the escalation and resolution of issues effective?

For the purposes of this chapter, HQ Management is focused on the high level meetings to discuss issues impacting on the operation across areas. It provides no evaluation of the HQ issues managed and resolved within specific operational areas.

DESCRIPTION

HQ MI meetings

Frequency and attendance

During the peak of the Test operation, HQ MI meetings increased from twice weekly to daily. The meetings were 30 minutes long and were attended by:

- Census Director
- Grade 6s (Head of Design Authority, Head of Field Operations and Head of Operational Systems)
- Operational grade 7s as appropriate
- Test Delivery Manager
- A representative from the quality management team to chair and facilitate.
- Remote attendance as appropriate from devolved administrations

Management information presented

A series of high level indicators were presented in the form of a highlights dashboard, with each activity shaded red, amber or green (traffic light or RAG status) on a daily basis to clearly identify areas operating outside the expected tolerance levels. Indicators were grouped under the main headings of cost, progress/quality and timetable.

Supporting data tables and graphs containing a more detailed assessment of actual versus expected values and associated traffic light status were also presented. For example, the number of questionnaires followed-up by geographic area against expected levels or the cumulative field staff costs against predicted values.

Where possible, information was presented in context with additional detail provided by operational leads.

The meetings also addressed risks, issues and confidentiality / reputation breaches escalated by the Test Delivery Manager from Census Test progress meetings and reviewed upcoming activities and key checkpoints.

Census Test progress meetings

Frequency and attendance

Census Test progress meetings were held twice weekly on Mondays and Thursdays during the operation development stage. This increased to daily from mid April 2007. These meetings were chaired by the Test Delivery Manager and were 30 minutes long. The membership consisted of representatives from all work-streams involved in the management, operation and evaluation of the Test. Attendance tended to be delegated to Higher Executive Officer / Senior Executive Officer level and included:

- Test Delivery Manager
- Contract Managers
- Project Support Office Planners
- Devolved administrations
- Evaluation management
- Data collection
- QT
- Data capture/printing
- Address register
- Information management security
- Quality/MI
- Questionnaire design
- Publicity and communications

Management information presented

A document listing the key deliverables and events / milestones month by month was used as the basis for discussion at the Census Test progress meetings. This enabled actions to be agreed and monitored.

Further through the process, an event model was developed, providing a visual timetable of milestones, targets and traffic light (RAG) status for all activities. This was updated and reviewed on a weekly basis and was also presented at the HQ MI meeting.

An issues log was also maintained and regularly reviewed. Issues were either resolved by the group or escalated to the HQ MI meetings.

CONCLUSIONS & RECOMMENDATIONS

The HQ MI meetings provided a forum that was not available during the 2001 Census. As a result, the use and monitoring of MI was significantly improved. The Test provided an excellent learning opportunity, both in using MI and in running a field operation in a live situation. Only by looking at the data in detail could the team determine what was important, how frequently information was needed, what worked well and what additional information was required. Over time, this enabled an effective package of information to be developed. It also improved understanding of how the information could be interpreted and what reliance could be placed on the data that was presented. This will inform the format of future meetings.

The frequency of the HQ MI meetings was appropriate for ensuring timely decisions during the Test. It is difficult to assess the effectiveness of the membership as attendance varied due to conflicting priorities. For some people, a meeting in the middle of the afternoon made it difficult to arrange site visits and manage diary commitments. A slot at the start or end of the day would have been preferred.

The MI presented at those meetings developed over time into a useful package of information in an accessible format. However, some areas, such as pay, worked more effectively than others. The information for pay was available with traffic light status and associated actions. There were other areas where information was not necessarily available upon which to base decisions.
On some occasions, recommendations were not to hand at the HQ MI meetings. Checkpoints were introduced to prompt discussion of actions to be taken if targets were not met. This improved the availability of recommendations over time but meetings would have benefited from checkpoints being agreed and scheduled in advance.

It was important that any quantitative information presented at the HQ MI meetings was supported by qualitative information to give the context or explanations around the figures. In the Census Test, the qualitative information was collected in an informal way. This will not be practical when dealing with the scale of the Census itself so needs to be formalised in the future.

The Census Test progress meetings were productive, focused and positive. The frequency and membership of meetings was appropriate and allowed issues to be addressed and resolved / escalated quickly. Facilitated by the information presented, the meetings enabled attendees to develop a broad knowledge across the Census operation and appreciate the dependencies between areas.

There was a tendency for the Census Test progress meetings to focus on exceptions based on the operational areas' perceptions of how things were progressing. Although effective, it would have been useful if the meetings also reviewed evidence based data / indicators to inform discussions.

The Census operational management plan for the Test outlined the main responsibilities of the two groups. During the Test, the HQ MI meetings tended to consider a level of detail far lower than anticipated. Although this enabled the attendees to familiarise themselves with the data and processes for the Test, it will be impractical for the main Census. Initially, operational areas were unprepared for the level of detail required but this improved over time. It is expected that the experience and learning gained through the Census Test should equip operational teams to anticipate and resolve more issues themselves before the HQ MI meetings become aware of the problems.

There were also instances where issues which should have been raised and resolved at the Census Test progress meetings were taken directly to the HQ MI meetings. Similarly, issues that could have been addressed within a work stream were taken to the Census Test progress meetings.

It was not clear what the relationship between the Census Test progress meetings and HQ MI meetings should be. For some, the two meetings were perceived to operate independently.

During the Census Test there was no clear process for communicating progress externally which sometimes led to inconsistencies in the information provided.

It is recommended that a similar meeting and decision making structure be retained for the Census and therefore trialled in the Rehearsal. The times of day the meetings are held, however should be reviewed.

Clarity is needed as to roles and responsibilities and the expected relationship between the two meetings. All participants should be clear who has the authority to make decisions. This should clarify when it is appropriate for an issue to be taken to the Census progress meeting rather than being resolved within the work stream. The HQ MI meeting should only be used to discuss agreed essential operational management processes at a high level and exceptions.

It is recommended that the HQ MI meetings continue to be chaired and facilitated by a lead from the Census Design Authority to ensure meetings remain focussed at the appropriate level and do not stray into the detail. All attendees need to understand their expected role and those of others. It is not necessary to attend every MI meeting and the chair will advise when attendance is required.

The style, layout and content of the MI reports to be used at meetings should be agreed before the process begins. All attendees need to understand what information to expect, how the reports can be interpreted and how they link to appropriate actions prior to the operation commencing. The use of traffic light status indicators and actuals against expected values proved successful and should be included in future reporting.

The introduction of checkpoints and pre-defined corrective actions was very effective during the Census Test. It is recommended that checkpoints be used in future meetings and a timetable of checkpoints for the senior leadership team be agreed in advance.

Census progress meetings should focus in part on reviewing data indicators and actuals against targets to help identify potential future areas of concern. Any indicators should fit within a hierarchical MI structure, allowing aggregation to a high level to be input and discussed at the HQ MI meetings.

More work is needed to embed MI into operational management plans to ensure the availability of information upon which to base decisions. Teams need to include recommended actions in their early stage planning if targets and milestones are not met. These must be agreed by the Census Delivery Manager.

A more formalised approach to gathering context information to support the quantitative data is needed, for example through regular audio link meetings with team managers. It is recommended that this approach be trialled in the Census Rehearsal.

A clear communications strategy is needed for the Census to ensure that data and information released externally are consistent and that sensitivities are taken into account. It is recommended that all requests for information be provided or approved by the Design Authority lead.

CHAPTER 14 Logistics

PURPOSE

This chapter looks at the warehouse and how it operated during the 2007 Census Test from February to July 2007. This includes:

- Collection
- Delivery
- Staffing
- Security

Warehouse operations continued until November 2007 due to the return of goods from the field staff and a final stock check. Destruction of unwanted documentation and the safe disposal of Census questionnaires have since also been implemented.

DESCRIPTION

A study in 2005 established that it would be more cost effective to have a warehouse on site at Titchfield than to outsource this facility for the 2007 Census Test. The warehouse became available for use in October 2006 and became fully operational in February 2007.

The main functions of the warehouse were to:

- Receive goods in
- Store goods within designated areas
- Pick/pack goods
- Despatch goods
- Maintain warehouse materials and equipment
- Manage floor space
- Follow health and safety procedures

The warehouse was staffed with:

- A manager from ONS staff
- A supervisor from ONS staff
- An operative – from agency staff (from February to July 2007)
- An operative assistant – from ONS casual staff (from February to April 2007)

All the warehouse staff were full-time.

Other team members from Census data collection were called upon if there was a large delivery or collection and more staff were required to help with these operations.

Security procedures

The warehouse was a designated secure area and only authorised personnel could enter. This was controlled by a keypad and a security code.

Interfaces

- Courier services
- Back office
- Field staff
- Reprographics
- Other Census teams
- Security
- Post room

Warehouse operation procedures

Procedures for warehouse tasks were drawn up in advance for receiving and despatching supplies.

ASSESSMENT

Goods in and goods out

The procedures were effective in getting the goods in and out for the needs of the field operations. A number of steps were not carried out, however that would be essential in a larger operation. These were to:

- Assign each item a unique number on arrival in the warehouse.
- Enter on the database what is received and where it is located in the warehouse.
- Print off notice of receipt and pass on supplies to be stored in the warehouse.

Omission of these steps resulted in some inefficiencies. It was not easy to keep track of the actual stock in the warehouse or the stock being returned. An opportunity was also missed to give staff experience in using a recognised stock control system which may be of value when operating warehousing facilities in the future.

The warehouse guidelines were satisfactory but, having experienced their use, it is apparent they will need to be reviewed and updated to reflect best practice.

Staffing

At times the warehouse operative was not fully occupied. The workflow was very erratic. At times the operative was fully loaded and at other periods had very little to do.

No operative was hired for the period when the goods from the field were returned to the warehouse. This would have been useful as we had to depend on the availability and goodwill of other Census staff.

The operative also filled the shelves with questionnaires, fact sheets and translation leaflets for back office staff.

Interfaces

The relationships between internal, external staff and Census teams worked well. Good communication was a key factor.

Storage

The design and layout of the goods stored in the warehouse was very effective. When the materials were returned from the field staff however, some of the heavier boxes were put on the higher shelves when they should have been put lower down.

CONCLUSIONS & RECOMMENDATIONS

The warehouse was successful in achieving its primary objective of delivering goods for field operations and the relationships between the various areas were effective. There are a number of key lessons that should be taken into consideration, however, when planning for future Census warehouse operations and these are highlighted under the following headings:

Procedures and systems required

A recognised stock control system is essential. It is fundamental in controlling stock going in and out, is a security check and can provide a wide range of information.

Some planning is needed for the picking process as this is labour intensive. It would be more efficient if the list was produced in an order that followed where the items are stored on the shelves.

Staffing

The figures relating to the operatives should be used with caution when planning future and larger operations as staff were not always fully occupied. The operatives were probably busy for no more than 50% of the time.

The use of operatives for other ad hoc work during quiet periods and to complete a stock check of goods returned at the end of operations should be explored. Flexibility in how and when operatives are employed should be sought.

It should be investigated whether agency operatives could be employed weekly, monthly or as and when required. The same operatives would need to be available each time due to training, set up on the PC and confidentiality issues.

CHAPTER 15 Operational Printing

PURPOSE

The key areas of interest from the 2007 Census Test relating to printing were as follows:

- To print paper questionnaires for the collection of data from 2007 Test
- To pre-print linked addresses and questionnaire IDs on questionnaires to allow receipt information from returned questionnaires to be used for better targeted follow-up
- To test post-out of questionnaires
- Pre-linking addresses and IDs, and post-out of questionnaires which had not been tried before

DESCRIPTION

Questionnaires were pre-printed with addresses and questionnaire IDs, which had been pre-linked on the address files supplied. Questionnaires were merged with information leaflets and return envelopes for delivery. Half of all questionnaires were packaged for post-out. In England these were packaged in polywrap, in Wales envelopes were used. The other half was packaged in envelopes for field staff hand delivery.

Every household in Welsh Test areas received two questionnaires, an English version and a Welsh version, which were merged together into one package for delivery. The questionnaire IDs for the two questionnaires were pre-linked to the address on the address files supplied by Census.

CONCLUSIONS & RECOMMENDATIONS

Post-out

From an operational perspective, packing, sorting and post-out was successful. Merging pre-linked English and Welsh questionnaires into one package for delivery also worked well. The small volumes of envelopes used for Welsh addresses meant that is was more cost effective for the supplier to manually merge these questionnaires.

Pre-printing addresses and questionnaire IDs

For the Test, we supplied address files which contained records with addresses and questionnaire IDs already pre-linked. This worked well and the links were maintained throughout the processes. For both 2009 and 2011, however this may not be the case. As an alternative, we may ask the supplier to provide questionnaire IDs and link to the addresses. We will need to ensure that we have robust checks in place to ensure that the integrity of the links is maintained and that the information can be successfully provided by the supplier, both to ONS and the Questionnaire Tracking systems.

Envelopes and polywrap

From an operational perspective, using polywrap for post-out questionnaires proved successful. Using polywrap ensured that the questionnaires were well protected throughout the storage and delivery phase and was more effective than envelopes in preventing damp or damage.

The thickness and colour chosen for the polywrap was sufficient to prevent 'show-through', should this be required for 2009/2011 to prevent the Internet access code being visible. Whilst the supplier advised that we could reduce the thickness of the polywrap for 2009/2011, consideration must be given to ensuring that the confidentiality of the Internet access code can be maintained. Such a design alteration, however, would reduce costs.

There was a problem with the size and positioning of the window for envelopes used to return questionnaires. The envelope size allowed the questionnaire to move and in some instances this allowed the delivery address to show through the window. Some of these questionnaires were re-delivered to the households instead of being delivered to the return address pre-printed on the envelopes. For 2009/2011 we will need to ensure that the supplier provides us with templates so envelopes can be designed to overcome such issues.

CHAPTER 16 Public Interface

PURPOSE

The purpose of the contact centre was to offer a range of help to ensure coverage and quality of data in the 2007 Census Test. Its specific objective was to enable all households to participate in the Test and provide them with the necessary tools to complete the questionnaire.

The key areas for evaluation were:

- The overall success of the operation
- To assess the process for recording, updating and amending frequently asked questions (FAQs)
- To assess the effectiveness of advisor scripts, training and debriefing
- Operational aspects such as the escalation process, communication of management information and the third party interpretation service

DESCRIPTION

A telephone helpline facility is always provided to the public during Tests, Rehearsals and the Census itself. It was also intended to provide an online help system via the web self help facility for the 2007 Test. Due to financial constraints, however it was decided that this would not be tested. Consequently, the contact centre became the only source of help available for the householders included in the Test areas.

The importance of this support system was even more critical due to the move to a largely post-out enumeration strategy. As householders would have less direct contact with Enumerators, an efficient and reliable system was required to ensure they had a way of requesting a questionnaire if post-out failed. Furthermore, if householders had difficulties completing the form, then supplementary materials or telephone assistance could be provided.

ASSESSMENT

Contact centre operation

The contact centre went live on 23 April and was very busy from the start. The total number of calls received was nearly double the forecast, but there was sufficient leeway in the shift patterns to enable the advisors to cope with the increased volumes. The pre-delivery leaflets, reminder forms and the extended field activity generated a considerable amount of additional calls from households.

Frequently asked questions

Prior to the live operational phase of the Test, approximately 400 FAQs were identified, with over 70 new ones being added, and over 70 amendments to existing ones being made, after the go-live date.

The process for requesting new FAQ responses from other teams worked efficiently. However, in some instances, the new responses to FAQs were not forthcoming within the required timescale, and it was these occasions where service levels were not met.

The most commonly asked FAQ was whether or not the Test was voluntary. It was a conscious decision not to include the word voluntary on the publicity material. Such calls presented an opportunity for the advisor to persuade callers to take part, and they succeeded in achieving this on numerous occasions.

At the beginning of the live operation, it was not always possible to capture each FAQ against an address as some callers were reluctant to provide their details if they just had a general question. It was important to capture this information to gauge whether the questions asked indicated that the guidelines sent with the questionnaire were inadequate. A new process was, therefore introduced to enable these types of calls to be captured. Where a caller would not provide address details, they were asked to say which Test area they were calling from and these calls were then logged under pseudo postcodes. This gave us a count of the types of calls that were coming in and a general idea of the areas where they were coming from.

One factor highlighted during the advisor de-briefing was that the FAQs were too rigid and not very user-friendly.

Advisor scripts, training and debriefing

Due to financial constraints, the FAQs and advisor scripts were only written in English (with the exception of 19 FAQs which were translated into Welsh for the website and used by the bi-lingual advisor). This created difficulties for the bi-lingual advisor, as he was tasked with translating the majority of FAQs and scripts during live calls. Not only did this appear unprofessional, but it also extended the length of the call time. This was inconvenient not only for the caller, but it also added strain onto the remaining contact centre advisors, especially during high call volume periods.

Although only employed on a short term contract, the advisors were able to demonstrate a good understanding of the subject matter. This was due to excellent training and the provision of materials such as fact sheets and the information leaflet. The advisors also provided some input into the development of the FAQs, which further increased their knowledge prior to the live operation.

Full de-briefings were held with the contact centre employees once the live operation had concluded. This proved to be a valuable exercise providing

important feedback, and many lessons were learned by both the supplier and the ONS team.

Mystery shopping

The public interface team, along with some willing volunteers carried out a series of mystery shopper calls to assess how contact centre staff reacted in a variety of situations. Although the initial intention was to carry out around 70 calls, in reality the number of volunteers decreased and only 30 calls were made. As part of this process, we also engaged some outside help to enable us to test the Welsh language facilities and the Textphone facility for the deaf.

Such an exercise is beneficial, as any problems or issues can be highlighted and acted upon, assuming that the results are fed back immediately.

Escalation process

The rota and on-call duties along with the team's flexibility resulted in an effective escalation process. The escalation team however received much higher volumes of queries than expected. This appeared to be due to the contact centre advisors being over cautious, and sending a lot of queries through for information purposes only. Once it was explained that these types of queries were not required, the level did reduce.

All escalations were dealt with within the agreed service levels, and communications with the back office and the enumeration team worked well. However, the entire escalation process was a very paper intensive exercise and much more of a manual process than we would have liked.

Testing

Two days before going live, simulation tests were carried out to test the advisors in a variety of call situations. The ONS team took part in these tests, carrying out the calls, and as the time elapsed, the increase in advisor confidence was evident.

Management information

The purpose of the MI system reports was to provide a breakdown of contact centre operations. The telephony MI system reports were very useful for monitoring daily activity and ensuring that the contact centre was staffed appropriately. The information enabled ONS to highlight any emerging issues or trends and enabled these to be addressed; a good example is the introduction of the pseudo postcodes mentioned previously.

The MI system reports also displayed call volumes against forecast volumes, totals of call times and a breakdown of calls from Northern Ireland, England and Wales. From the report, we were able to tell how well the operators dealt with the procedure from a statistical perspective.

Time constraints and a lack of understanding of requirements, on both sides, meant that the reports generated from the Questionnaire Tracking system were not adequate for our purposes. A workaround solution was found to put the data into a useable format for evaluation purposes.

Third party interpretation service

It is difficult to evaluate the interpretation service as it was not fully tested because it was requested for only two calls. One of these calls hung up and the other was a genuine call that was dealt with effectively by means of a three-way conversation.

CONCLUSIONS & RECOMMENDATIONS

Contact centre operation

It is imperative that communication between the various ONS units is maintained so that operational teams are aware of any other surveys being conducted at the same time and where that activity is taking place.

Frequently asked questions

For the Rehearsal and onward it would be beneficial to develop a system where all parties agree timescales for supplying and quality assuring responses to the FAQs.

The public interface team are assessing other ways of capturing each FAQ against an address to combat the fact that some callers are reluctant to provide their details if they just had a general question. If a new method is not found, then a similar process to the 2007 Test will be put in place before the Rehearsal in 2009.

The public interface team will also look at getting more input from data collection methodology team to ensure plain language is used in FAQs for both the Rehearsal and the Census.

Advisor scripts, training and debriefing

For the Rehearsal and onwards, all FAQ's and scripts should be translated into Welsh before being added to the FAQ database.

Mystery shopping

A mystery shopping exercise is planned for the Rehearsal and the 2011 Census. More volunteers will be sought to increase the volume of calls and ensure that the advisors thoroughly tested.

Escalation process

In order to reduce the levels of manual input, ONS should have a much clearer view on how the process should work for the Rehearsal, and ensure this is clearly explained to the supplier. Rigorous testing of this process is needed to ensure it meets with requirements and the development and testing of the system should be carried out at a much earlier stage.

Testing

It is imperative that rigorous testing of contact centre processes is performed to ensure that all our requirements are met. A full simulation test of all the processes needs to take place so that we can be assured that all processes and interfaces are cohesive.

Management information

Longer development time and more detailed specifications are required for the Rehearsal and onwards. The MI reports will be developed with the supplier, and should be rigorously tested to ensure they meet ONS specifications and requirements.

Third party interpretation service

ONS should seek to observe and evaluate the operational testing of the third party interpretation service for the Rehearsal and 2011, which will be carried out by the supplier.

CHAPTER 17 Publicity & Communication

PURPOSE

Due to the selection of the areas for inclusion within the 2007 Census Test, the development of publicity to encourage public response was inhibited. The only publicity produced was an advance card which was issued to every household to be included in the Test. The aim of all other publicity materials was to support the enumeration procedures.

DESCRIPTION

The publicity materials were:

Advance card

A postcard was delivered by Royal Mail to every household included in the Test. A card rather than a letter was chosen as a letter may have been perceived as junk mail and not read. A bilingual version was used in Carmarthenshire.

The advance card was printed by an external printer with whom ONS had an existing contract, since the in-house reprographics team were unable to print the addresses according to the Royal Mail walk sort format.

Information leaflet accompanying the questionnaire

The information leaflet provided contact details, including those for language support, explained the uses of Census data, confidentiality and how the Census helps the community. Households in Carmarthenshire received both English and Welsh versions to accompany both versions of the questionnaire.

Fact sheets

A series of five fact sheets were produced with the aim of providing additional information to both the householder and the enumerator when encountering refusals. Subjects covered included the history of Census taking, why it is taken, working with local authorities and community groups, and topics and questions. The fact sheets were available for viewing and downloading from the Census web pages or sent out on request. English and Welsh versions were available.

Multi-lingual card

A laminated card was produced for use by the Enumerators to highlight the languages for which translation booklets / assistance was available. This multi-lingual card was printed in-house.

Translation booklets

The translation booklets consisted of the information leaflet combined with a copy of the questionnaire. Additional text explained how to use the questionnaire as a guide to completing the actual Census Test form. The booklets were translated into the following 12 languages:

Albanian	Polish
Arabic	Portuguese
Bengali	Punjabi
Cantonese	Russian
French	Somali
Mandarin	Urdu

Follow-up cards

The follow-up cards were left by Enumerators as a reminder to the householder to complete and return their questionnaire. English and bi-lingual versions were available. These cards were printed in-house.

Reminder card

The reminder card was developed during the follow-up phase as a result of disappointing return rates. It was sent to all households that had not returned a questionnaire. Once again, it was printed by an external printer due to Royal Mail walk sort' format requirements.

CONCLUSIONS & RECOMMENDATIONS

Analyses of the publicity questions from the 2007 CTES indicated that the advance card encouraged responses. Serious consideration should be given to adopting this for the 2011 Census.

CHAPTER 18 Receipting & Data Capture

PURPOSE

The key areas of interest from the 2007 Census Test with respect to receipting and data capture were:

- To monitor the receipt of all returned questionnaires and provide information to field staff
- To ensure that all data is captured on all questionnaires receipted and images created
- To ensure that all captured data and images meet the agreed quality standards and are delivered to the agreed timescales

DESCRIPTION

Returned questionnaires were delivered to the processing site on a daily basis from the post room, both of which are at Titchfield.

On arrival at the processing site, the following information was automatically captured from each questionnaire through the envelope window:

- Arrival date
- Unique questionnaire identity
- In the case of mail that could not be delivered by Royal Mail, the reasons for non-delivery were also captured

This information was then uploaded onto the Questionnaire Tracking (QT) system to provide management information on response rates and identify potential problems and / or any action that might be required in the field.

The supplier provided a daily batch delivery of data and images to ONS. An integrity check was carried out to verify the batches received and confirmation was provided to the supplier that the checks were passed.

For each batch delivery the data and images on a 2% sample were compared and the results were recorded for analysis, along with a recommendation for acceptance or rejection of the batch.

ASSESSMENT

The processes worked very well which was, in the main, due to the close working relationship between both suppliers and ONS. Any potential issues and problems were identified and addressed at the weekly interface project team meetings.

All questionnaires were receipted on the day they arrived with information provided to the QT system the following morning. There were initially some problems with the upload into the QT system, three out of five transfers failed but the agreed back-up process was followed. Although at times it was difficult to contact a member of the QT supplier to resolve the problem, it did not seem to have any adverse affect on the information being available to the field staff.

Three days after Census Test Day it was noticed that a large number of questionnaires were being returned turned around in the envelope. Some members of the public realised that their address was still visible in the window if the completed questionnaire was inserted correctly and took corrective action. This meant that the questionnaire could not be receipted through the window and had to be taken out of the envelope. This slowed the receipting process down slightly; however, it did not affect the receipting information being available for upload onto the QT. At the end of the Test around 40% of the envelopes returned could not be receipted through the window

A small number of households did have their completed questionnaire returned to them by Royal Mail when the questionnaire was inserted correctly with the barcode showing. This was due to Royal Mail not following the agreed procedures.

A high number of questions were crossed out by respondents as not applicable to them. These had to be sent for analysis to ensure that this was not data that required capturing. This increased the volume being sent for analysis with about 80% due to cross-outs. The questionnaire design team need to consider whether a related instruction to respondents needs to be included on the questionnaire.

The process for the daily delivery of data and images worked well. The batches were delivered within the agreed timescale and passed the quality checks carried out by the data capture team. No batches were rejected, although it was only during reconciliation at the end of processing that it was noticed the data and images for some 667 questionnaires were missing from a particular delivery. The batch had already been accepted by ONS at this stage but because the supplier had not noticed either, they agreed to re-deliver the batch and allow ONS to carry out its quality checks. For 2011, the processes for data delivery will be different and the checks must be tighter, as it will be very costly to ONS if this happens during the live Census.

During the quality checks some red and black lines appeared on the images and had been incorrectly captured as data. This affected 53 out of the total 52,405 captured questionnaires. Of the 42,562 fields only 0.04% of the data was affected and this was felt to be within acceptable tolerances.

Along with each batch delivery, four reports were produced providing daily and cumulative information on each process such as the receipt of questionnaires, each stage of processing, accuracy of capture and QA summary of output data.

These reports provided valuable information for the data capture team to monitor the progress of operations and ensure SLAs were being met. They did not,

however provide information split between ONS for England and Wales and NISRA for Northern Ireland as this had not been specified as a requirement.

A daily count log was developed during operations which provided the split between ONS and NISRA. This also needed manually adapting to enable more accurate MI reporting. When the successful supplier is in place the breakdown of MI needs to be defined with this in mind.

CONCLUSIONS & RECOMMENDATIONS

Due to the de-scoping of requirements for the 2007 Test, the processes for receipting and data capture are not those that will be adopted for the 2011 Census. However, the processes put in place worked very well, mainly due to the close working relationship between the supplier and ONS.

CHAPTER 19 Questionnaire Tracking

PURPOSE

The concept underpinning QT in the 2007 Census Test was quite simple. As questionnaires were associated with addresses, a link was made within the QT database that allowed subsequent activities associated with these to be logged.

DESCRIPTION

The structure of the data underpinning the QT system can be categorised into four main areas:

- A geography model containing information about addresses, enumeration areas and team manager areas
- A database containing information about questionnaires, questionnaire types and statuses
- A database containing information about fulfilment requests
- A user role management database containing information about system users, roles and permissions

Information recorded on the QT system reflected status changes associated with:

- Addresses
- Questionnaires
- Requests

Changes to address statuses were made as a result of new information becoming available. Principally, this reflected change to the use, occupancy status or physical status of an address, for example:

Use

- Communal establishment
- Private residential
- Non residential

Occupancy status

- Absent
- Occupied
- Second home
- Vacant

Physical status

- OK
- Demolished
- Not yet built

Changes to questionnaire status were made as a result of field, back-office and processing. The statuses of a questionnaire were:

- Assigned
- Deactivated
- Receipted
- Unassigned

For each of these there was an associated reason for the status change and its source.

Requests from the contact centre were passed to the field or back office for fulfilment. Request types were categorised as:

- Assistance request
- Supplementary material request
- Escalation
- General question
- Information about previous call
- Large household request for continuation form
- No questionnaire received
- Privacy request for individual form
- Questionnaire already sent back
- Questionnaire lost or damaged
- Advice on how to complete question on questionnaire
- Refusal

With a number of these categories further information was collected in order to enable subsequent fulfilments to be completed, for example the language type required for supplementary material.

ASSESSMENT

QT system in supporting field activities

The information held on the QT system gave Census managers a far better picture of the progress of field activities than had been previously possible. Key to this was the receipting information relating to questionnaires. Such information created a clear picture of where response rates were below expectations and allowed decisions to be taken about where to concentrate follow-up, through use of extra staff or by extension of the follow-up window. This must be considered a success and will be carried forward to the 2011 Census.

Information recorded on the QT system and fulfilment

The workflow system underpinning fulfilment worked extremely well in the Test. There is however, a case to be made for reducing the types of call which generate updates to the QT system. In the Test, all calls, including answers to simple FAQs, were logged. This is not essential from an operational point of view and would create significantly more work in the 2011 Census. Consideration will be given to log only those calls that require fulfilment.

Interfaces between field, contact centre, back office and processing

The online interface from the back office and contact centre to the QT operated effectively. The interface to processing was based upon an overnight file transfer. This effectively updated the system with receipting information the day after it happened. This was adequate for the purposes of the Test and supported essential field processes effectively.

Scalability to a live Census

The processes required to support collection were the source of problems. Information on field activity was phoned through to a field interface team who updated the system online. As well as requiring a large number of staff, the process was vulnerable to errors due to transcription errors and was also reliant upon field staff making contact. This approach would not work in a full Census. However, in order to make it scalable, we will need to collect only essential information for understanding the progress of collection. To reduce the possibility of error, new ways of recording field outcomes, which rely less on verbal communication, will be considered.

CHAPTER 20 Partial Response Follow-Up Small Scale Test

PURPOSE

The purpose of performing a Partial Follow-Up (PRFU) is to improve data quality when respondents have not fully completed their Census questionnaire. In the 2001 Census, questionnaire completeness checks were carried out by Enumerators; in 2011 this will not happen as questionnaires will be returned by central post-back. To address the fact that Enumerator checks will not be routinely performed, a telephone follow-up was tested to collect missing information.

The 2007 Census Test provided an opportunity to carry out a PRFU by telephone for the first time. The principal aims of this small scale test were two-fold, namely:

- To gain experience of the operational issues associated with conducting a telephone follow-up
- To gauge public reaction to being contacted by telephone to complete unanswered questions

The objectives and scope of the 2007 PRFU-Small Scale Test (SST) determined that the findings would not be subject to rigorous statistical analysis or scalable to the 2011 Census. However, it was expected that the findings would provide supporting evidence for decisions regarding high-level requirements for PRFU in the statement of requirements.

DESCRIPTION

The design of the PRFU-SST took account of the associated key constraints, namely, that it was a small scale test carried out in-house and with modest resources. It was therefore designed to provide a suitable number of contacts on which to develop further research priorities and processes. The aim was to achieve 300 completed phone calls/interviews where the respondent answers at least one question from their questionnaire. In addition, where it was operationally feasible, the aims were:

- To split the sample so respondents with different levels of questionnaire completeness were contacted.
- To split contact respondents into those that had provided their telephone number and those that had not, in order to assess any differences in response.
- To speak to the person who filled in the questionnaire or, if unavailable, then interview another resident adult over 16 years.
- To aim to ask the respondent all of the outstanding questions.

Other points of note were:

- Only English language household questionnaires were followed up. Welsh language questionnaires were not included, as no Welsh speakers were available to conduct interviews. There was no publicity associated with the PRFU-SST.

ASSESSMENT

The PRFU-SST ran from 1 to 22 June 2007 and provided the Census 2011 division with valuable experience in conducting a telephone follow-up.

The majority of the key design points were met, for example the target of 300 calls was achieved. Where design points were not fully implemented, it was attributable to a lack of resource and competing divisional priorities, not because they were operationally unfeasible.

The experience of contacting the public by telephone was positive; this was evident in the anecdotal evidence provided by the interviewers. Indeed, the main reaction of respondents the interviewers recorded was apologetic and happy to help.

The majority of respondents were willing to answer all the questions they were asked and the actual level of questionnaire completeness prior to PRFU had no bearing on subsequent response. Out of a total of 444 contacts, there were 431 completed cases. Of these 431 completed cases, 392 answered all questions that were asked, 35 answered more than one question but not all, and four answered one question. In total, there were 12 refusals, whilst one respondent could not participate due to hearing difficulties.

The categories of residents with lower questionnaire completeness rates in the PRFU-SST were discovered by the interviewers to be multi-resident households, the retired respondents where English is not the first language, and parents / guardians omitting under 16-year-olds.

Within both the low and mid-questionnaire completion categories, individuals were added to the questionnaires through PRFU. This was particularly the case for children under 16 years; a finding which supported the interviewers' feedback that respondents were not aware they should be included on the questionnaire.

Just over half of all first contact attempts resulted in a completed case, whilst 96% of PRFU cases took 15 minutes or less to complete by telephone.

Within the PRFU sample, the majority of respondents provided their telephone number. However, the results demonstrated that whether respondents had originally failed to provide a telephone number had no bearing on the provision of further information.

The interviewers' scripts specified that they ask to speak to the person who filled in the Census questionnaire or, if unavailable, another resident adult aged over 16-years-old but not a named individual. This approach proved successful with no significant issues emerging. Indeed, not asking for a named person increased the likelihood of the questionnaire being completed on that contact attempt.

CONCLUSIONS & RECOMMENDATIONS

The PRFU-SST demonstrated that, with the right planning and equipment, PRFU will be possible in the 2011 Census and that, with effective training, it is a task that contact centre staff can do.

In the PRFU-SST the majority of missing information required (including missing persons) was collected and there is no evidence to suggest that this would not be the case in 2011.

Telephone follow-up can provide a consistent alternative to field staff checks in 2011.