

Information paper

The 2011 Census: A design for England and Wales

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The 2011 Census: A design for England and Wales

1 Introduction

This document sets out the proposed design for a 2011 Census in England and Wales, as part of the ONS' proposed future population statistics system. The design draws on experiences from the 2001 Census, current world best practice and changes in available technology, and takes account of the several comments received from respondents to the Discussion Paper published in October 2003¹ and of views expressed at the joint ONS/RSS Conference on 11–12 November 2003. The paper highlights the statistical and operational strategic aims that helped to frame the design, the major changes proposed from the 2001 approach, and gives an indication of the benefits and risks.

Detailed requirements of users in terms of topics and questions to be included and outputs are not yet defined, but these are not critical to the 2011 Census design, since the collection methodology as proposed can still be influenced by what information is to be collected and disseminated.

It is important to note that the design remains a proposal at present, the elements of which will be subject to further research, building on comments received during consultation and a detailed testing programme over the coming years.

The design has taken account of a number of important statistical policy issues that have emerged from the discussions surrounding the 2001 Census results, in particular in summary:

1.1 The need to maximise census response rates, particularly in inner cities

In some areas, the response rate to the 2001 Census was lower than anticipated and the need to increase response rates has been recognised. The design proposes moving to post-out of census forms in the majority of areas. This strategy would be dependent on the availability of an up-to-date and comprehensive national address list (this is discussed further below) but would enable targeting of enumerator resources more strongly than ever before on achieving response from hard to count areas and population sub-groups, particularly by minimising differential non-response.

The ONS would aim to do this using multiple enumeration methods, potentially including face-to-face interviews and the Internet. The design aim is

to ensure that we could estimate the population to a common level of defined accuracy across the country. The consequence of this is that substantially more effort would need to go into hardest-to-count areas. The methodology would, however, endeavour to ensure that improvement to response in hard-to-count areas would not be at the expense of any deterioration in those more 'easy-to-count' areas. The ONS recognise that in order to develop a satisfactory methodology to achieve this, research would be needed to address the several risks identified by users in moving to a post-out strategy with its concomitant loss of doorstep contact.

1.2 The need to improve understanding of coverage

The One Number Census approach to the 2001 Census² improved our ability to assess coverage in 2001 and it is proposed that, in 2011, ONS should again make the necessary adjustments for undercoverage, building on the 2001 design and taking account of the lessons learned. There are two other potential developments that may further improve our understanding of coverage, and where more research is needed before final decisions can be made.

The first (and the one that has most potential impact on the census operation) is the possibility of changing the population base for data collection from 'usual residence' (*de jure*) to 'persons present' (*de facto*). It has been suggested that the 'usual residence' definition used in 2001 introduced ambiguity about who should be included and may have resulted in higher non-response amongst certain population groups. But there are a number of operational implications of returning to a persons present basis, primarily affecting the enumeration of large communal establishments such as hospitals, hotels, and holiday parks, where there will be large numbers of non-resident visitors. It would also have a particular impact on coverage survey design. Such a change would mean revisiting past definitions and reviewing user needs to help us define the options. Until further research is complete, it is difficult to establish firmly whether such a definitional switch is practical since the changes could affect the conduct of both the census and coverage survey to such an extent that the valuable experience gained in 2001 may be lost.

The second development is the building of more ways of assessing coverage into the Census question set by introducing further questions on residence

arrangements, particularly multiple residence. Critical to the understanding of coverage will be research into the definitions of households, which must reflect the dynamics of societal change, particularly the increasing tendency towards: group living; weekly commuting; the children of divorced/separated parents having more than one home; second homes; and global living and employment patterns.

These developments are inter-related and further combined research will be undertaken on how best to provide assurance of the quality of the final population count, including the design of the coverage survey, the alternative population bases for data collection (and outputs - see below) and any additional questions on residence arrangements. Final proposals will be the subject of future consultation.

1.3 The need to provide outputs on multiple population bases

In addition to the issue of the population base for *data collection*, there is a need to consider the population base for the production of *outputs*. Particularly in high commuter areas such as Inner London and central Manchester, 'usual residents' may only make up a proportion of the population that draws on public services in an area. A count of the usually resident population is clearly still needed, but, potentially, so are daytime, weekday and 'service' populations, for example. The ONS need to ensure that the right statistical measures are in place to enable the planning of services provided to the country³.

Although users have given support to the importance of providing outputs for different population bases this may be difficult to reconcile at the Output Area level with current disclosure control implementation. The fundamental need remains, however, for the census to provide a base for the ONS mid-year estimates of population.

This issue, however, relates more to the questions asked than to the collection methodology, but will be affected by the decision on the population base to be used for delivering and collecting census forms.

2 Strategic review

In proposing a design for a census in 2011, the ONS is not only taking account of the specific lessons to be learned from the programme of evaluation of the 2001 Census (a series of evaluation reports is available on the National Statistics website⁴), but has also considered the needs of users for census-type information in the future, and the options for the production of such information. The ONS has recently concluded a Strategic Review of the census⁵ in which it considered a number of alternative ways of collecting the type of information traditionally provided by a

census. The results of this research, including reviews of international methodologies and previous UK census studies, have been published⁶⁻⁹.

These alternative approaches to collecting census-type information have also been considered in consultation with users throughout 2003, the key message from which was that the census is still regarded as the key source of information for a wide range of uses. It provides a snapshot of the country, with consistent and comparable information for small areas and sub-populations, and multivariate analyses, which are not available from any other source.

Accordingly, in the absence of any currently viable alternative sources of information, the ONS concluded that, in order to be assured of meeting the wide range of users needs for information of the type that has traditionally only been provided by a census, plans for such a census in 2011 should be taken forward as part of the ONS' proposed future population statistics system¹⁰.

3 Strategic aims

The design for a 2011 Census, proposed in this paper, recognises the comments and recommendations from the Treasury Select Committee (TSC)¹¹, the Public Accounts Committee (PAC)¹², and the experiences from the 2001 Census itself. The key recommendations emerging from these related to:

- increasing response rates from all population groups;
- considering different ranges of question sets;
- meeting the additional needs of people with disabilities;
- tightening the control mechanisms for governing the field operation and its costs; and
- seeking ways to produce faster results.

In addition to recognising these, the 2011 design has been informed by changes in international approaches to census taking and to requirements from the user community. It also recognises opportunities arising from government initiatives for electronic data capture and advances in the addressing infrastructure of England and Wales. A cost-benefit analysis has yet to be completed, but indications are given of where savings can be made and, importantly, where additional funding will be necessary. In this context the following strategic aims for the 2011 Census underpin the approach followed in the proposed design. However, these may well be modified or refined during the course of the testing phase.

3.1 Statistical aims

The broad statistical aims of the 2011 Census would be to:

- provide a robust benchmark for key populations statistics, on a consistent and comparable basis for small areas and small population groups, including:
 - populations units (people, housing, and key demographics - age, sex, ethnicity, etc);
 - population structures (households, families);
 - population characteristics, with multivariate analysis;
- ensure confidentiality of personal information;
- maximise response rates in all areas (particularly inner cities) and from all population sub-groups and minimise differential non-response;
- research and identify hard-to-count groups/ areas and develop robust initiatives and procedures to improve their enumeration;
- provide counts on a number of population bases;
- build more ways of assessing coverage into the collection operation;
- provide measures of reliability that have relevance at national, regional and local authority levels;
- improve delivery of census outputs; and
- provide necessary user confidence in the final results.

3.2 Operational aims

A number of additional, operational aims underlie the design; these are to:

- reduce significantly the problems associated with the recruitment, retention and pay of a large field force;
- develop an effective enumeration methodology making use, where possible, of postal services;
- develop innovative alternative collection methods to facilitate better response from all communities;
- provide rapid accurate information on individual responses to support operational decisions by using the latest available communication technologies to track individual responses;
- encourage a high level of Internet response (which has the potential to reduce costs in other areas);

- integrate responses, effectively and efficiently, from a variety of data collection methods;
- provide better management information for immediate response to problems;
- manage effectively public participation and co-operation through informative publicity;
- liaise effectively with local authorities and others in planning and executing the enumeration, in particular to make best use of their knowledge of local addresses and residence arrangements and ways of contacting hard-to-count groups;
- make better use of the skills of the people employed to conduct the census in the field;
- maintain security in handling confidential information;
- improve timeliness of delivery of results;
- be cost effective; and
- draw on, and integrate with, other sources of information.

4 Scope of the design

For the purpose of this design, a 'census' is defined as the collection of information on a specific date from all persons and residences in England and Wales and the subsequent production of population statistics.

The proposals in this Information Paper do not include a design for a follow-up survey, the content of the questions to be asked or the detail of outputs to be delivered. These will be the subjects of future consultation and discussion.

Furthermore, the design is for a 2011 Census only in England and Wales under the responsibility of the Registrar General for England and Wales and in partnership with the Welsh Assembly Government (WAG). A key goal for ONS is production of consistent UK-wide statistics. ONS is involved in ongoing discussions with the Registrars General for Scotland and Northern Ireland respectively and there is already a clear commitment to this end goal. Further discussions will identify the extent of UK integration for the Census operation itself.

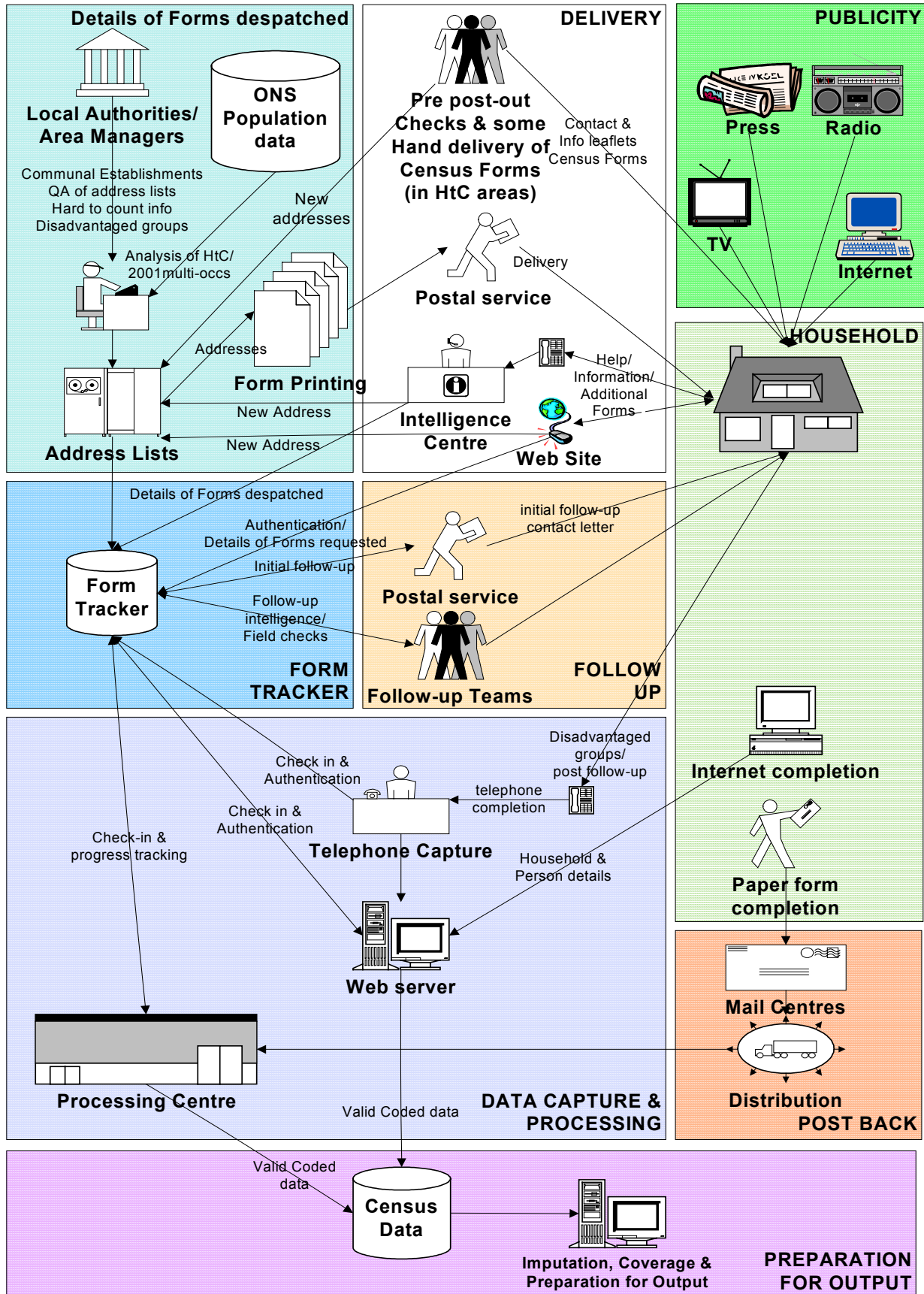
5 Overview of the 2011 Census design

An overview of the proposed design is illustrated in **Figure 1**. The design covers:

5.1 Delivery

It is proposed that pre-addressed forms with a unique identifier and barcode, or possibly an electronic tag, would be posted out to most households using national address lists. Printing and despatch would be recorded on the form tracking system. (Pre post-out checks would be carried out in previously identified hard-to-

Figure 1
Overview of the 2011 Census design



count areas, and areas with a high degree of multi-occupancy to identify additional delivery points).

A variety of enumeration strategies would be adopted and strengthened to address coverage in hard-to-count groups. These include hand-delivery of forms, face-to-face interviews and possibly different enumeration timetables to accommodate students, for example (though this would need careful scrutiny to ensure that there was no double counting). This approach builds on the increased flexibility provided in 2001, when a greater diversity of enumeration methods was used to reach different sections of the population.

The innovative 2001 Census Community Liaison Programme would be further developed and would establish contact with relevant groups and agencies, but would be initiated earlier in the planning cycle. Close co-operation with local authorities and the range of regional, community and neighbourhood institutions with whom ONS do business would continue to provide a prime source for gathering information on local population sub-groups and helping to build more complete and more up-to-date address lists for the conduct of the 2011 enumeration. A greater level of investment and commitment by both ONS and local authorities than that put into the 2001 Census programme would be needed in order to achieve the higher levels of coverage required.

Nation-wide publicity would be initially targeted at addressing the lack of face-to-face contact in the delivery phase, giving a clear message about what the public should expect and when, and what to do if it does not happen. This message would need to be supported by clear assurances about confidentiality and security; this would be particularly important in areas where there is likely to be no enumerator.

Dedicated call centres would take details from householders who had not received a form, updating address list information and the form tracking system in the process, and posting out uniquely referenced forms as necessary.

5.2 Collection

A similar degree of flexibility to be applied to the delivery of forms would also be available for their collection, by providing various ways in which the public might respond; for example, form completion might, in some cases, be best achieved by interview for some household groups or respondents.

Call patterns from households that did not receive forms would be analysed to identify areas where form delivery had been patchy or non-existent. Field staff would focus on these areas to assess the situation and capture full address information for the area if necessary.

Forms would be either:

- completed and posted back by 'householders';
- completed and submitted online; or
- completed via a face-to-face or telephone interview. (Telephone capture would be available initially for disadvantaged groups, and later made more widely available during the follow-up).

Call centres would also take details from callers who required continuation or individual forms; form identification and address details would be checked and details added to the address list information and the form tracking system (see below); and appropriately referenced forms would be mailed out. Call centres would also provide advice on form completion.

Posted forms would be returned to a central processing site and logged into a central form tracking system within 24 hours, using the unique identifier and barcode that would be linked with the address details. (The risks attendant on the increased dependency of postal services in this way are discussed below.)

Forms completed on the Internet or by telephone capture would be logged with the form tracking system as part of the authentication process as soon as completion began. Once an acceptably completed form was submitted, the form tracking system would register it as 'received' and could if necessary acknowledge receipt.

5.3 Follow-up

Once the delivery was complete, publicity would concentrate on getting the public to complete and return forms. As follow-up started, the emphasis would shift to the legal requirement to complete a Census return and the penalty for not doing so. Initial follow-up would be by post, initiated by the form tracking system. This could be area specific, and could be time- or response rate-based.

Secondary follow-up would be carried out by local follow-up teams, acting on intelligence provided centrally by the form tracking system, enabling teams to adopt a pro-active approach and provide help where needed. Follow-up teams would have access to technology in the field, allowing interrogation of the central form tracking system for the current status for addresses about to be visited, and the update of addresses with real-time follow-up results. ONS has noted the views of users that experience suggests that there may be no thoroughly effective substitute for enumerators for recording vacant properties.

A more effective prosecution strategy and process would be explored for cases where there was persistent refusal to complete and return a form.

5.4 Processing and output production

The processing of paper forms would start as soon as they have been logged, adopting a similar strategy to that used in 2001. The processing of Internet forms and of data collected by other methods of capture would be built into the system.

A faster processing schedule would allow the production of population statistics to be staged and to be completed sooner than in previous censuses. However, users generally concur with the ONS that the objective of more timely results should not be achieved at the cost of data quality. Quality assessment earlier in the processing schedule could, however, assist the aspiration to seek both timeliness and quality improvement, but the feasibility of this will be subject to detailed testing.

5.5 Operations management

As a by-product of central post-back, the 24-hour log-in of forms and the individual form tracking system, information for operational management and decision making would be available in real-time. The lack of up-to-date information and flexibility to meet problems head-on was seen as a big problem by local fieldwork management in 2001. Therefore the planning for, and management of, field operational contingencies would be based on current information in related areas and the whole country as necessary.

6 Major changes to the 2001 methodology

The 2011 design encompasses two major changes to the 2001 methodology; these in turn would enable improvement in cost and quality but also require additional supporting activities.

6.1 Post-out

The most fundamental change would be a move away from the tradition of employing a large field force to deliver forms by hand. However a move to a post-out strategy would necessitate the use of more comprehensive and accurate address lists. It is likely that national address lists currently being brought together under the e-government initiative will be incorporated into the ONS Geographic Referencing Infrastructure (GRI).

The 2011 Census operation would enhance the ONS GRI Addresses with additional information from the National Land and Property Gazetteer (NLPG), administrative sources, local authority knowledge, and survey experience on difficulty of enumeration, multi-occupancy and communal establishments, and would then use it for delivery of census forms by a postal service. But there are concerns about the accuracy of any such lists to form a sufficient basis on which to post out forms. A list of addresses is not necessarily a

list of households, and though property information may improve due to NLPG initiatives these will not necessarily improve postal address information. The ONS would, however, utilise local authority knowledge to add addresses where there are areas of known new development or multi-occupation and to carry out pre-delivery checks in hard-to-count areas (including those with high multi-occupancy). Further research will be conducted to assess how this fundamental change is likely to affect coverage.

For the 2001 Census, address lists were effectively frozen three years before Census day to allow for the planning of 100,000 or more enumeration workloads (Enumeration Districts). It is estimated that this resulted in over 1 million addresses not being pre-listed and meant that there was a reliance on enumerators locating them at delivery. In the proposed approach for 2011 there would not be a same requirement for address lists to be frozen, and thus the problem of missing addresses should be considerably reduced. Nevertheless, the importance of updating and validating address lists by (i) physical verification (ii) use of local knowledge, and (iii) use of multiple national/local lists is recognised. The validation process would need to allow for cleaning both to add previously unrecorded addresses and for the elimination of duplicates. Post-out would allow the focusing of resources to ensuring that address lists were as complete and as accurate as possible at the time of mailing.

Using post-out would:

- significantly reduce effort in stable areas where the address list is highly reliable and allow field activities to be targeted to areas with known coverage problems, both before the forms are posted and during the follow-up operation;
- significantly reduce the size of the field force and the complexity of the operation; and
- enable more consistent resolution of some issues in advance, for example, identification of some communal establishment types before Census day.

The use of postal methodology brings with it, however, the need to consider carefully postal flow, and post-out and post-back rates. There was a much higher than expected post-back response in 2001 but slower than anticipated postal flows, and insufficient field management information prevented many of the potential benefits of this high initial response from being realised. Work would need to begin with postal service providers as early as possible in the planning cycle to tackle these issues and to ensure that such providers would be able to cope with more than twice

the volume of mail handled in 2001. The outcome would be pivotal in the selection of the final mix of field enumeration options.

6.2 Form tracking

A form tracking system that was itself dependent upon a comprehensive address list, needs to be able to track responses received through all delivery and receipt channels, including the Internet. The system would underpin the process of targeting enumeration resource at poorly responding areas, and it would also quickly provide dynamic information on the overall response rates. A robust system, using the latest technology, would provide a much greater degree of control and strengthen management information processes. The range of technological options is expected to continue to increase up to the 2011 Census.

In 2001 the link between a form identifier and an address was dependent upon intervention of field staff who wrote in the form identifier by hand. This was sometimes difficult to read and, critically, there was no central electronic record of all forms delivered. In 2011 a unique identifier would be linked with each address before post-out and printed on the form. This would allow individual form tracking at the earliest stage and would be essential in targeting follow-up.

Form tracking would enable:

- accurate, automatic and rapid tracking of response from individual households;
- tracking of responses via multiple collection methods, and the ability to support new methods suitable for reaching disadvantaged groups;
- centrally monitored and co-ordinated follow-up, organised and carried out by local field staff;
- real-time assessment of response rates by area;
- central post-back in turn allowing an earlier start to processing; and
- management of exceptions supported by the system rather than outside of it.

The form tracking database would record all no-response addresses by creating 'dummy' records. This would help update the address lists, ensure accurate assessment of real response rates, and assist in linking with the subsequent coverage survey. It would also assist in providing a frame to ensure that all forms were processed.

Given the importance of the data to be provided from form tracking in this way and the short time frame over which it was actionable it would be essential

that the system be completely reliable and should provide consistently quick response times to those accessing it. If this were not the case then efforts to target resource at hard-to-count areas could be severely hampered. It would be essential, therefore, that any systems considered were fully scalable and that their performance had been thoroughly evaluated and tested in advance of selection.

6.3 Other key elements of the design

To exploit the benefits or mitigate the risks of the major methodological changes detailed above, there would be a need to change or enhance some other parts of the census operation.

6.3.1 Effective public relations

That the lack of direct contact with the public may pose a risk to the response rate has been noted as a major concern among many users. However, for the majority of households, the ONS believe that effective nationwide communication of the major messages of the census would result in the need for fewer doorstep enquiries of enumerators and the speedier return of forms. This would not only be more cost effective, but it would also simplify the rapid deployment of enumerator resources to those harder-to-reach households where contact, engagement or response needs a more household-specific approach.

6.3.1.1 Publicity

To achieve this the ONS would endeavour to ensure that publicity is effective, informative, time-related and responsive to events. But what is also important is the recognition and development of the National Statistics 'brand' so that the general public may feel more positive and trusting about the ONS and would thus be more encouraged to participate in the Census.

To ensure a good understanding of the issues, early engagement with the media would be necessary, covering TV, radio, newspapers, and Internet service providers. It would be vital for any publicity campaign to follow a clear timetable, giving messages that are appropriate to what is actually happening on the ground at the local level. Full use would be made of local TV, radio and newspapers, and other specialist media that could tailor information to meet local community needs. Those running the publicity campaign would require a clear and detailed understanding of the Census operation.

6.3.1.2 Call centres

The effectiveness of call centres would be critical to the overall success of this design, chiefly for maximising coverage. Call centres would be the first port of call for householders who had not received a census form or who needed help in completing it. Such centres would issue forms and identify clusters of calls suggesting

streets or areas where forms had not been received. The relevant information would be used to update the address register as necessary, then passed to teams in the field for appropriate action. There would need to be contingency for call centres to meet extreme demands, particularly requests for additional forms, if the extent of missing addresses and/or respondent understanding of the form is under-estimated, and of handling calls in a wide variety of languages.

Using centralised call centres would offer the opportunity to give the public consistent messages and assistance by using scripted responses. Call centres would also provide a telephone service for completion of census forms, initially for disadvantaged groups, but which could subsequently be made more widely available during follow-up.

There would be a benefit in integrating the role of call centres with the valuable assistance traditionally provided by local authorities in handling many enquiries from the public during the census so that consistent information was given.

6.3.1.3 Community liaison

The biggest challenge to a future census will be in reaching groups that are traditionally undercounted. Further research into the types of people missed in the 2001 Census is being undertaken and findings will help to inform the type of initiatives needed. The Community Liaison Programme would also be a key to this. A 2011 programme would build on the 2001 experience, placing emphasis on more collaboration with the many agencies and community organisations involved. In particular, ONS recognises that there would be a need to establish an agreed format and programme for local liaison, which should allow adequate time and resource for training and preparation. While it is recognised that there would be a need to vary the programme according to local situations, the general details would be the subject of consultation and agreement with local organisations.

The best partners in working to maximise coverage have, in the past, been local authorities, whose need for reliable local information provides a strong incentive to assist in identifying and reaching local hard-to-count populations. They are generally best placed to be aware of local interest groups. By positively engaging local authorities in the development and quality assurance of address lists, for example, and actively encouraging them to promote the benefits of the census in their areas the ONS can seek to improve coverage and minimise differential non-response. Such initiatives would aim to cover not only the known disadvantaged groups, such as the disabled or very elderly, but would allow the ONS to target resource at areas known to have the characteristics associated with poor coverage.

6.3.2 Alternative collection methods

Alternative collection methods offer opportunities for increased coverage and allow investigation of suitable completion methods for disadvantaged groups such as the visually impaired. Advances in technology may present further alternatives, but the present design covers capture via paper, Internet and telephone.

Further research and development would determine the best methods of promoting the use of Internet forms. By increasing the take-up of Internet completion, real cost and time savings could be made by reducing the quantity of paper forms to be captured and processed. Although we would seek to maximise the Internet response in order to realise the potential savings there is no guarantee of success, particularly since among the hard-to-count populations (such as the elderly) there would likely be significantly lower levels of take-up.

Though the benefits of Internet capture may be generally recognised, there will remain some reservations about its use until full testing and evaluation has been undertaken. Initial international research suggests that paper will continue to be the media preferred by the public for the foreseeable future, and it would thus be essential to develop reliable estimates of the Internet response. The particular issues of confidentiality and the potential risk of overcounting would also have to be addressed.

6.3.3 Field force management

Given the influence of the field force on the final quality of the census, the cost benefits should justify equipping the field force with the technology to enable rapid understanding of response rates and the direction of follow-up operations. The outsourcing of field recruitment, pay and training would be considered, though any such development would have to be closely scrutinised and both quality and security assessed. The quality and motivation of field staff are paramount to the success of the census and these may be more difficult to instil if such activities are managed at a step removed from the ONS.

6.3.4 Census questions

The evaluation of questions to be included in the 2011 Census would need to balance the benefits of increasing or reducing the previous question set to meet user needs against the need for ensuring that, in the context of increasing societal change, we had sufficient means of measuring coverage and quality. The ONS would seek to identify some themes around which new questions would be evaluated. The issues for research would cover:

- balancing the benefits of focusing limited financial resources more on the enumeration - in order to improve response rates - against the processing of an extensive question set to include, for example, any additional questions necessary to provide multiple population bases;
- the impact of a smaller question set on response;
- an improved understanding of the dynamics of changing household structures; and
- the availability (and comparable geography) of data on specific topics from other sources.

Consultation on the data needs for questions for the 2011 Census will commence later in 2004, in parallel with further research on the above issues.

6.3.5 Form design

Research will address form design in respect of both public acceptability and new technological requirements. Consideration will be given to whether census forms should be available in languages other than English and Welsh, to help increase response rates and coverage among the ethnic minority communities. It is proposed, at least, that any accompanying explanatory material would include the wording of the questions in as wide a range of languages as possible, building on the practice followed in 2001.

6.3.6 The Census in Wales

There will be close liaison with the Welsh Assembly Government, Welsh local authorities and the Welsh Language Board to define the form and content of the 2011 Census in Wales. Also discussions are already in progress between the ONS and the Welsh Assembly Government on the options available to enable the National Assembly for Wales to take a more formal role in determining the question content.

6.3.7 Outputs

There has been criticism that the census is a slow process, with some population statistics not available until two years after Census day. The proposed design provides an opportunity to produce results more promptly, by means of an earlier start to processing, a reduction in processing through Internet completion, and a tightly integrated processing timetable. Also quality assurance could be brought further forward in the processing operation. This would, however, add complexity to the processing operation and would require innovative and flexible systems and approaches.

The ONS would aspire to develop the 2001 Census Access project to provide even greater value from the census outputs, and would seek to deliver these primarily via the Internet using the ONS corporate

output systems. These would incorporate more dynamic, interactive tables, subject to the necessary constraints of protecting confidentiality and preventing disclosure within an environment of more highly developed computer technology and data matching techniques. The needs of some users for fast and efficient means of downloading significant quantities of census data would be taken into account.

The development of a standard, fixed output geography (Output Areas and Super Output Areas) would provide the potential for far greater comparability between 2001 and 2011 Census outputs, in order to facilitate better analysis of demographic change.

Subject to legislative changes and public debate, if the census responses were to be matched to other data sources a far richer database could be created, giving a far greater understanding of the state of the population. (For more details see the ONS Discussion Paper on *Proposals for an Integrated Population Statistics System*¹⁰.)

Initial views of users have been assessed with regard to the timeliness and delivery of future census results, but detailed consultation on specific output products is not likely to start until 2006/07, following on from the decisions on topic content. However, the ONS have already noted the concerns of many users that there should be close liaison with the Census Offices in Scotland and Northern Ireland to ensure that 2011 Census results would be available on a consistent and comparable basis across the UK.

7 Benefits and risks

There are, of course, both benefits and risks to the census in the proposed design. The ONS Discussion Paper¹ set out those that had been identified at an early stage in the planning, but invited users to suggest others from their own perspective.

7.1 Benefits

Users have generally expressed strong support for the overall proposals for the 2011 Census (as set out in the Discussion Paper), which they feel are sensible if, perhaps, optimistic. But they provide, at least, an excellent starting point for further discussion, and users feel that a vital role exists for close co-operation in order to ensure success. It was felt that the Discussion Paper presented both a good analysis of the issues to be addressed and a useful and structured way forward for developing more detailed proposals.

Users think it is very sensible to focus on improving response rates given the trend to a more mobile population and the associated difficulties in achieving high response. They noted that early research into

a number of aspects of census planning would be necessary if some of the difficulties experienced in 2001 are to be avoided.

Particular benefits of the proposed design identified include:

- the potential for a greater understanding of coverage, and increased confidence in counts and responsiveness to user requirements;
- better use being made of local knowledge through improved liaison;
- increased focus of resource in hard-to-count areas and population sub-groups;
- less dependency on the success of enumerator recruitment, which has been traditionally problematic in particular areas;
- delivery to known addresses would be at a single, controlled, point in time;
- greater flexibility in delivery of forms to suit disadvantaged groups;
- a choice of mode of response helping to maximise the opportunity to participate;
- improved field information and control systems provided by form tracking;
- reduced complexity giving a more streamlined operation and greater consistency; in particular:
- reduced processing; potentially leading to:
- earlier outputs with better geographical comparability; and
- more flexibility to provide outputs for multiple population bases, which will be increasingly important as we move towards an integrated population statistics system.

7.2 Risks

The proposals for the 2011 design have been particularly welcomed since they attempt to deal with difficulties that have been growing in the past 20 years, but users have expressed some concern that the proposals are high-risk in that: they envisage a move from the more traditional approach to enumeration, losing the benefits of tried and tested methods; they require commitment of resources at an early stage; and that the changes may simply achieve an alternative set of results with no better overall quality but less accumulated knowledge about the nature of that quality.

The particular risks that have been identified include:

- the dependency on the accuracy of national and local address lists resulting in possible insufficient coverage and quality necessary for a full post-out strategy;
- the inability to match addresses and households in areas/dwelling types with high multi-occupancy;
- the increased reliance and burden on future postal services of unknown quality;
- the inability of systems and processes to increase response and data quality, resulting particularly from reduced contact with households;
- under-coverage resulting from changes in the form delivery system could mask real decline in response rates;
- improvement in response in hard-to-count areas may be at the expense of a deterioration in those that are less difficult;
- the over-dependency on the householder to report non-delivery of forms;
- the increased difficulty in identifying unoccupied accommodation, and in enumerating communal establishments and people without a usual address;
- the possible double counting through use of multiple response routes;
- public concerns about the confidentiality of linked databases and the security of the Internet;
- Internet response may be under-estimated, stretching the infrastructure capacity to handle demand;
- increasing numbers of the elderly may have difficulty in coping with more complex technology;
- call centres may not be able to manage peak demand and/or diversity of language;
- improvement in timeliness of outputs at the cost of quality;
- the need for tighter confidentiality constraints may limit usefulness of the data;
- the potential lack of UK comparability; and
- insufficient funding.

For these reasons, ONS intend that consultation and research should continue, organised over the next two years explicitly and intensively around the major risks and benefits, involving, where possible, resources

outside the ONS. Only then would plans be finally set. However, having taken note of the comments received from respondents to the Discussion Paper, the ONS are now confident that sufficient benefits have been identified and the risks assessed to justify planning on the basis of the proposed design.

A summary of the comments and views expressed by respondents to the Discussion Paper is available on the ONS website¹³. The ONS are most grateful to all those who took the trouble to respond.

It is possible that other benefits or potential risks to the census operation may emerge in the course of the programme of research about to be conducted. These, along with users' requirements for questions to be included, will shape the form and content of the 2011 Census, for which a major Test is scheduled to take place in 2007.

8 Next steps

To ensure the success of the proposed design ONS will:

- carry out the further research already identified into improving response rates and understanding of coverage, and in defining population bases in consultation with users;
- define and implement a rigorous testing strategy from which the final design will emerge;
- address the risks identified, particularly the impact of post-out on coverage and quality, and develop mitigation strategies;
- instigate an earlier start to the Community Liaison Programme and provide clearly defined roles for local authorities to contribute;
- produce a full planning matrix that will identify dates by which key decisions must be made to ensure that decennial census figures can be supplied in 2011/12, and identify tasks required to achieve this;
- develop an outsourcing strategy in consultation with users; and
- continue liaison with international statistical agencies to share experiences.

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