

ONE NUMBER CENSUS STEERING COMMITTEE**One Number Census Management Issues**

1. This paper contains several associated issues associated with the management and development of the One Number Census (ONC) and Census Coverage Survey (CCS). It includes
 - a) A report describing progress on the One Number Census and Census Coverage Survey since the last meeting of the ONC Steering Committee on 27 April 1998 and work planned for the next 6-9 months
 - b) Risk Registers for the ONC and CCS.
 - c) Plans for Developing a Contingency Strategy.
 - d) Timetables for the Development and Operationalisation of the ONC and CCS Methodology
 - e) An Illustrative Timetable for the ONC Process

2. **The Steering Committee are asked to:**
 - a) **note the progress made and endorse the research programme**
 - b) **note the Risk Registers**
 - c) **endorse the plans for developing a Contingency Strategy**
 - d) **note the timetables, in particular the implications for achieving a ONC after 2001.**
 - e) **provide any comments at the meeting on the 13 November 1998, or in writing by 27 November 1998.**

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One Number Census Management Issues

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1. Introduction

This paper contains several items associated with the management and development of the One Number Census (ONC) and Census Coverage Survey (CCS). It includes

- A report describing progress on the One Number Census and Census Coverage Survey since the last meeting of the ONC Steering Committee on 27 April 1998 and work planned for the next 6-9 months (Sections 2 and 3).
- The updated ONC risk register and a risk register for the CCS (Section 4).
- Plans for developing a contingency strategy. (Section 5)
- A timetable for the development and operationalisation of the ONC methodology (Section 6) and development of CCS (Section 7)
- An updated illustrative timetable for the ONC Process (Section 8)

The work into implementation and development of the CCS in 2001 is now covered by a separate CCS Project under the management of John Dixie. This Project will report to a new CCS Project Board, and thence to the ONC Steering Committee.

2. Update on key areas of research

Consultation

As part of the Census Consultation process, over 500 copies of the paper '2001 - A One Number Census' were distributed during April and May 1998. This paper was sent to all members of the Census Advisory Groups and all attendees at the ONC Workshop held in Leeds, 12-13 May 1998. The consultation paper was also made available on the ONS Website and an article in Census News outlined the issues and directed interested readers to contact ONS for a copy of the full paper. Copies were sent out on an *ad hoc* basis to requests made directly to the ONC Project Team. A copy of the report on the response to this consultation paper (ONC(ONS(SC))98/18) has been distributed to Steering Committee members for information. This has also been distributed to all Census Advisory Group members and will be published in Census News.

An ONC workshop took place from 12-13 May in Leeds as part of a Joint Workshop on Census Issues. Members of the ONC project team gave presentations on the key areas of the methodology in order to facilitate discussion. The workshop was well attended and many respondents to the consultation paper mentioned how useful it had been. Further workshops on ONC methodology may be planned for early 1999 as part of the Census Output Roadshows.

An abstract has been submitted for the Population Association America conference in New York from spring 1999. This paper, 'The Role of the Dual-System Estimator in the 2001 Census

Coverage Surveys of the UK' will outline the proposed methodology for the ONC, focusing on the use of combined DSE and regression estimator.

The paper ' A methodological strategy for a One Number Census in the UK' has been accepted for publication in the Royal Statistical Society Series A.

Ian Diamond will give a presentation at Carolina Population Centre, University of North Carolina on 19 November 1998 titled 'What on earth is a One Number Census?'

Census Coverage Survey Design

Programmes previously developed to calculate sample sizes for Hampshire, Kent and West Yorkshire have been revised and updated. Work undertaken since the last meeting of the ONC Steering Committee includes:

- a) An examination of the clustering algorithm
- b) Working on a strategy to deal with Outliers
- c) Conversion of the programs into SAS Macros (to speed up processing time)

The practical aspects of the sampling have been examined in detail and suggested solutions are being sought. A list of the practical problems identified at present are:

- a) How to deal with 1998 postcodes that cross ED boundaries
- b) Communal Establishments
- c) Postcodes that have no resident households (e.g. Business addresses)
- d) Postcodes or 1991 EDs that cross 1998 Local Authority District boundaries
- e) Zero count 1991 EDs

The results and issues are covered in detail in paper ONS(ONC(SC))98/12 together with the practical fieldwork aspects of undertaking a CCS of different sizes.

Census Coverage Survey Practicalities

A Test Census Coverage Survey (CCS) took place from 29 September to 21 October 1998 in Southampton. This test was undertaken in order to develop further the practical aspects of undertaking a postcode based CCS taking forward the lessons learnt during a small pilot survey of 20 postcodes carried out in Brent following the 1997 Census Test. An initial report on the outcome of this test will be circulated at the Steering Committee meeting on 13 November 1998. Work is now underway to evaluate this Test so that this can feed into the planning for the CCS as part of the Census Dress Rehearsal.

Following the Test CCS in Southampton, a small test will be undertaken to evaluate the different types of maps available for the CCS interviewers. In the Test CCS interviewers will use maps known as Raster maps to enumerate the 100 postcodes in Southampton. When the fieldwork for the Test CCS is completed an independent listing of addresses in these postcodes will be undertaken using Landline maps. A third list will be made using Raster maps together with a list of nearby addresses which are NOT included in the sample to give interviewers an indication of where not to re-enumerate. Evaluation of this test will feed into the decision for which maps to be used for the CCS dress rehearsal in 1999.

Matching

Work is underway to develop a strategy for matching the CCS data to that gathered by the census. Discussions have been held with Steve Kendick at ISD and Rhod Davies at the Southampton Institute regarding the Census/CCS matching procedure. There is no data at present on which to base a decision on whether to capture names and/or addresses in the 2001 Census in order to use in the matching algorithm. These variables will be captured in the Census Dress Rehearsal (CDR) and a decision will be made for 2001 after evaluation of the CDR.

The proposed matching strategy and associated methodology are outlined in ONS(ONC(SC))98/14.

Demographic Analyses in Support of a One Number Census

Work has begun into the calculation of non-sampling errors in the demographic estimates. A meeting took place on 16 July where the available information and the way forward were discussed. It was agreed that plausible ranges should be estimated by 5-year age group and sex for each of the components of demographic estimates: the 1981 census base, births/deaths, and migration (IPS, asylum seekers/visitor switchers, armed forces etc). It was agreed that the Delphi technique should be used to reach consensus on the magnitude of non-sampling errors. This technique is a way of obtaining consensus among a panel of experts.

The valuation of plausible ranges for groups of local authorities is being treated as a separate sub-project.

Administrative Records in Support of an ONC

The previous work on administrative records identified sources of data that might be of use to use at an aggregate level. Work has now begun to obtain and assess the quality of these data and also to derive a strategy for their use in the 1999 Census Dress Rehearsal.

Imputation and weighting

Fiona Steele (LSE) has been working on developing an ONC prototype imputation system based on the methodology outlined at the Leeds Workshop in May. The approach is similar to that explored by the US Bureau of the Census for their ONC.

The first step in the process is to use small area estimation to produce household and individual coverage weights. A simulation dataset was generated and used to develop models to estimate these weights.

Full details of this work are given in ONS(ONC(SC))98/15.

Several meetings have taken place with members of the Census Output Project to ensure that practical aspects are covered and any recommendations from the ONC Project can be integrated into the Census Output Strategy.

3. Programme of further work

Management issues

- Brainstorming on contingency strategy

Consultation

- Prepare 'easy to understand' guide to the ONC for ONC Workshops as part of Census Roadshow

CCS design

- Select sample for CCS following 1999 CDR
- Further develop combined Dual System and regression estimator.

Practicalities of CCS

- Evaluate Southampton Test CCS
- Preparations for 1999 Dress Rehearsal including testing a revised design of the property listing form and questionnaire, agreeing plan for pay recruitment, number and type of fieldstaff and logistics.
- Establish case and investigate methods for re-enumerating in the CCS those communal establishments where there is a coverage problem and no other sources of information about the residents are available
- Investigate top level of management required for CCS

Matching

- Investigate the impact of error rates in the matching variables on the accuracy of the matching procedure. This will be carried out using simulated censuses and CCSs.
- Improve the efficiency of the matching programmes.
- Incorporate estimation of false-match rates.
- Investigate matching and communal establishments

Demographic analysis

- Estimate non-sampling errors in national demographic estimate
- Investigate methods for estimating errors for demographic estimates at the pseudo county level

Administrative records

- Evaluate identified sources for possible use in Census Dress Rehearsal in 1999
- Develop strategy for use of these data as part of the ONC

Coverage modelling and adjusting the database

- Increase complexity of model for excluding people from census in simulations
- Further develop spatially smoothed random effects models

4. Risk Registers: Updated for the ONC and newly drawn up for the CCS

Introduction

The attached tables identify risks and issues associated with a) the development, b) the implementation of the One Number Census (ONC) process and c) the Census Coverage Survey.

The original ONC risk register has been updated in line with comments received and after consultation with John Nisbet who is advising on risk for the 2001 Census. He recommended that the structure should be retained but that risks grouped under the following headings:

1. Confidence,
2. Interfaces,
3. Methodology
4. Timing
5. Quality

Overview

The primary purpose of the ONC is to provide Local Authority District (LAD) level estimates by age-sex groups adjusted for undercount by:

- a) Carrying out a coverage survey - Census Coverage Survey (CCS). This will be designed to produce population estimates for large areas (large LADs or groups of smaller LADs) for a specified level of precision, allowing for variability in age-sex and hard to count groups and ensuring coverage across all LADs. To make direct estimates for all LADs would require a much larger sample size.
- b) Reconciling census-based estimates at a) with the demographic estimates produced by Population and Vital Statistics Division using rolled forward 1981 Census data and aggregate level administrative records (Health records, births and deaths etc).
- c) Using the CCS data to model down to small areas in order to derive probabilities of individuals being missed. These can then be used to impute a complete database that can be tabulated as required. Alternatively the probabilities can be used to derive to weights which can be added to the database which can then be used for tabulation as required.

Assumptions/prerequisites

- Census day is 29th April 2001.
- The Census aims at a complete enumeration.
- Enumerators will be recruited in all areas.
- The Census is carried out successfully and a Census Coverage Survey (CCS) also takes place.
- The CCS takes place 3-4 weeks after Census day.
- Consultation will indicate that users require adjusted estimates to at least LAD level and will accept a delay in their publication.

A. Developmental and Testing Risks

RISK	LIKELIHOOD	IMPACT OF RISK	EFFECTS	SECONDARY EFFECTS	RESPONSIBILITY	CONTINGENCY/ ACTION	STATUS
1. GENERAL MANAGEMENT							
1.1 Confidence							
Failure to communicate the concept of a ONC to users:					ONC Project team: Ian Diamond, Marie Cruddas	Consultation paper and further consultation. To ensure methods fully understood.	Responses received to consultation paper - summary being prepared
Internal ONS	Low	Medium	Customer dissatisfaction				
External	Low	Large					
Raising expectations too high	Medium	Medium	Customer and internal dissatisfaction	Ineffective expenditure			
Consultation not adequate	Low	Small	Users criticise method	Undermines Census and mid-year population estimates			
Failure to provide adequate advice to users (as methodology involves degree of complexity).	Low	Small	Undermines user confidence in Census results	Undermines user confidence in P&VS population estimates	Andy Teague Ian Diamond Marie Cruddas	Simple guide to ONC	Ian G Scott drafting guide
Damage to ONS reputation if not successful.	Medium	Medium	Undermines user confidence, primarily in Census	Undermines user confidence in other ONS business areas, particularly P&VS	Tim Jones Graham Jones Andy Teague	Develop evaluation strategy for DR so that this is avoided.	

RISK	LIKELIHOOD	IMPACT OF RISK	EFFECTS	SECONDARY EFFECTS	RESPONSIBILITY	CONTINGENCY/ ACTION	STATUS
1.2 Interfaces Failure to communicate the concept and requirements of ONC to: OOP CCS IS	Low	Large	Difficulties in development of ONC Inability to deliver system		Marie Cruddas Census Project Managers OOP Team	On going communication with Census and OOP and IS teams	Ongoing
1.3 Methodology Failure of the methodology during Dress Rehearsal.	Medium	Large	Need to reassess methodology for 2001. Might not be possible to test changes before 2001.	Inappropriate methodology adopted for 2001.	ONC Project Team	Evaluate and learn from DR.	Evaluation plan to be drafted
1.4 Timing The process will involve delays to usual timetable that will not be acceptable for customers of population estimates	Medium	Medium	Delay which does not impinge on Revenue Support Grant (RSG) is acceptable	Delay to RSG use diminishes need for Census	Graham Jones Judith Walton Andy Teague Roma Chappell	Aware of current user requirements with respect to proposed methodology and timing	Input waited from Census Procurement. ONC timetable updated.
2. PROCESSING THE CCS							
2.1 Methodology Matching methodology inadequately developed eg high false match rate	Medium	Large	Can not adequately match Census and CCS data	Adverse effect on DSE	Lisa Buckner	Research to minimise this risk	Work ongoing. Consultation with matching experts
Matching methodology inadequately trialled	Medium	Large	Can not adequately match Census and CCS data		Lisa Buckner	Plan full trial of matching procedures in DR	See paper ONS(ONC(SC)98/14
Names – Confidentiality issues if captured	Medium	Medium	Risk to Census		Graham Jones	Capture in DR first. Explore implications with Census Legislation	

RISK	LIKELIHOOD	IMPACT OF RISK	EFFECTS	SECONDARY EFFECTS	RESPONSIBILITY	CONTINGENCY/ ACTION	STATUS
Software not developed for matching and modelling	Low	Large	Cannot proceed with making estimates		Marie Cruddas Simon King	Software being developed via prototyping	Ongoing liaison with Census IS.
CCS not Dress Rehearsed in Scotland	Medium	Small	Reduced GRO(S) commitment to joint approach	Cannot demonstrate for Scotland explicitly.	David Orr	Ensure staff/funding and other inputs. ONS provide assistance? Extrapolate from ONS/NI experience	Scotland lag ONS in planning CCS design /implementation
3.MAKING DEMOGRAPHIC ESTIMATES							
3.1 Quality							
<u>National Level:</u>							
The quality of demographic sources is inadequate.	Medium	Small	Some demographic estimates will be possible		Roma Chappell	Research to quantify quality	
<u>Sub national Level :</u>							
The quality of demographic sources is inadequate.	High	Small	Some demographic estimates may be possible		Roma Chappell	Research to quantify quality	
4. MAKING LAD ESTIMATES							
4.1 Methodology							
Not possible to make estimates to the level required (LA and below).	Low	Large	ONC not possible		Ian Diamond	Standard estimation techniques to be adopted. Research underway to minimise any risk	
4.2 Timing							
Resources not available: expertise, software etc. to develop methodology	Medium	Large	Production of estimates delayed, ONC not possible.	Risk to ONS reputation	Graham Jones	Ensure adequate resources available. Automate as much as possible.	Issue is considered in the timetable.
Estimates not available on time	Medium	Medium	Delay reduces value but does not remove it		Marie Cruddas and ONC Project Team	Timetable issues always central when estimating resources	See development timetable

RISK	LIKELIHOOD	IMPACT OF RISK	EFFECTS	SECONDARY EFFECTS	RESPONSIBILITY	CONTINGENCY/ ACTION	STATUS
5. ADJUSTING THE DATABASE							
5.1 Methodology							
Methodology for imputation of households and individuals not developed.	Medium	Medium	Full ONC not possible		Ian Diamond Ray Chambers Marie Cruddas	Methods currently being investigated.	See paper ONS(ONC(SC))98/15
A practical methodology for weighting not developed.	Medium	Small	Tabulations not acceptable to users. Full ONC not possible		Ian Diamond Ray Chambers Marie Cruddas	Methods currently being investigated. Standard methods are available but may not be acceptable.	See paper ONS(ONC(SC))98/15

B. Implementation Risks

RISK	LIKELIHOOD	IMPACT OF RISK	EFFECTS	SECONDARY EFFECTS	RESPONSIBILITY	CONTINGENCY/ ACTION	STATUS
1. GENERAL MANAGEMENT							
1.1 Confidence Damage to ONS reputation if not successful.	Medium	Medium	Undermines user confidence, primarily in Census	Undermines user confidence in other ONS business areas, particularly P&VS	Tim Jones Graham Jones Andy Teague	Contingency strategy	Contingency strategy outline
1.2 Methodology ONC methodology fails due to inadequate evaluation/methodology	Low	Large	Effects depend on level of failure and point in process at which failure occurs.	Undermines user confidence. Damage to ONS reputation	Tim Jones Graham Jones Andy Teague	Develop methodology. Evaluate Dress Rehearsal	
1.3 Timetable Timetable slippage	Medium	Medium	Impact on Census Outputs and hence user confidence	Impact on population estimates	Marie Cruddas to liase with Census Processing	Release of agreed LAD estimates prior to database adjustment.	
2 CCS and the ONC							
2.1 Quality Failure to find sufficient of the people missed in the Census.	High	Large	Failure of CCS to meet need	Deal with in contingency strategy.	John Dixie	Design CCS to minimise this risk - ONC research designed to reduce likelihood	Contingency strategy
Affect on outputs if CCS fails	Medium	Large	Reliance on demographic checks and other sources for distribution to users.		Andy Teague Ian Diamond		Contingency strategy
Mis-reporting of information by interviewers (e.g. postcode, date of birth, etc.)	Low	Medium	Difficulty in matching to Census data - too few matches found.	Inaccurate population estimates	During fieldwork - John Dixie During matching Lisa Buckner	Research designed to minimise this risk.	

RISK	LIKELIHOOD	IMPACT OF RISK	EFFECTS	SECONDARY EFFECTS	RESPONSIBILITY	CONTINGENCY/ ACTION	STATUS
3. PROCESSING THE CCS							
3.1 Interface and Timing							
<u>Capture:</u>							
Not Integrating with Census processing	Low	Medium	Timetable effects/additional costs		Marie Cruddas Rod Massingham Simon King		
<u>Matching</u>							
Matching methodology and software inadequate at implementation	Low	Large	Failure to match Census and CCS data adequately		Lisa Buckner	Research to minimise this risk	
<u>Making population ('pseudo-county' level) estimates</u>							
People and software not available to carry out the estimation	Low	Large	Planned method not operable		Marie Cruddas liaising with Census Operations	Ensure adequate resources available	
3.2 Quality							
Estimates differ from admin records	Medium	Small	None: Admin records used as quality checks at aggregate level for specific popn groups.		Lisa Buckner	Contingency strategy	
4.MAKING DEMOGRAPHIC ESTIMATES							
4.1 Timing							
<u>National Level:</u>							
The demographic estimates are not available on time.	Low	Medium	Delay in finalising figures		Roma Chappell		
<u>Sub national Level :</u>							
The demographic estimates are not available on time.	Medium	Small	Possible delay in output		Roma Chappell		
4.2 Quality							

RISK	LIKELIHOOD	IMPACT OF RISK	EFFECTS	SECONDARY EFFECTS	RESPONSIBILITY	CONTINGENCY/ ACTION	STATUS
National Demographic estimates do not (approximately) equal Census +CCS results.	Medium	Large	None if Census+CCS taken as the Gold Standard.	Otherwise Contingency invoked	Roma Chappell Ian Diamond Andy Teague Marie Cruddas	Contingency strategy	
Sub national Demographic estimates do not (approximately) equal Census +CCS results.	Medium	Small	Explanation /resolution required.		Roma Chappell Ian Diamond Marie Cruddas	Contingency strategy	
5. MAKING LAD ESTIMATES							
5.1 Quality							
Not possible to make estimates to the level required (LA and below).	Low	Large	Minimum aim of ONC not possible		Ian Diamond	Robust standard methods adopted as far as possible. Prototype and test fully.	
LA estimates not acceptable to Las	Low	Large	Customer confidence lost		P&VS and Census Divisions	Consult and inform as much as possible	Need to develop a strategy for agreement and release
5.2 Timing							
Resources not available: expertise, software etc for calculating estimates	Medium	Large	ditto		Graham Jones		
Estimates not available on time	Medium	Medium	Delay reduces value but does not remove it	Impact on distribution of RSG	Marie Cruddas and ONC Project Team		
6. ADJUSTING THE CENSUS DATA BASE							

RISK	LIKELIHOOD	IMPACT OF RISK	EFFECTS	SECONDARY EFFECTS	RESPONSIBILITY	CONTINGENCY/ ACTION	STATUS
6.1 Quality Numbers do not add up to the 'One Number' Output does not distinguish collected from imputed data	Low	Medium	ONC not achieved		ONC Project Team		
	Medium	Large	Some users will wish to know how much data is "invented".		Ian Diamond Ray Chambers Marie Cruddas Lisa Buckner	Provide indication of the amount of imputed data.	

C. Census Coverage Survey Risk Register

<u>Primary Risk</u>	Contributory Risks	Action to Manage	Responsibility	Likelihood of Failure	Effect of Failure	Contingency Action
Political interference	Government not supportive	Thoroughly brief all Ministers and secure support	Director	Low?	Medium	
	Other MPs not supportive	Ensure all MPs are informed and support	Publicity unit	Medium?	Low	Counter by contingency campaign by ONS Press Office
	Local Councillors not supportive	Contact councillors and seek to persuade	Publicity unit	Low	Low	Local publicity campaign
	Pressure groups against the CCS	Meet groups and seek to pre-empt any opposition	?	Medium	Low	Counter pressure groups publicity
Insufficient field staff	Advertising not seen	Research best methods of advertising, and prove noticed	Data Collection Support	Medium	High	Contingency advertising
	Pay and conditions not attractive enough	Research job market thoroughly and estimate the pay required	Data Collection Support	Medium	High	Contingency allowances in difficult areas
	Enumerators unwilling to continue after their experience on the Census	Recruit suitable people just to interview if they do not wish to enumerate Hold a reserve list; consider stand-by payments	CCS	Medium	High	Local contingency advertising and recruitment campaigns
Inadequate fieldwork	Public don't co-operate	Local publicity in difficult areas Have a robust estimation model	CCS + Publicity unit ONC	High in some areas	? low overall but maybe higher on the ONC	?
	Interviewers inadequately	Thoroughly test all	CCS	High at	High	Use reserve interviewers

	<p>trained</p> <p>(1) Forms incorrectly completed</p> <p>(2) Forms completed illegibly for scanning/keying</p>	<p>training, and continue testing until it is shown to be effective</p>		present		
	Supplies not out in the field on time	<p>Research proposed carrier's capability</p> <p>Hold adequate buffer stocks in the field and at HQ</p> <p>Ensure communications with field managers are effective</p>	Data Collection Support + CCS	Low	High	Use another carrier for emergency deliveries
	Supplies not collected back on time	<p>Research proposed carrier's capability</p> <p>Ensure communications with field managers are effective</p>	Data Collection Support + CCS	Low	Low	Use another carrier for emergency collection
Inadequate processing	Failure by OOP contractor	<p>Research the OOP suppliers' technical and management capability and record</p> <p>Thoroughly check the specification of the work required</p> <p>Dress rehearse the processing</p>	<p>Data capture</p> <p>CCS</p> <p>CCS</p>	Low	Low/Medium	Reschedule processing and seek to catch up later by bringing in additional equipment

5. Developing a Contingency Strategy

Within the risk register there are several points at which it is recognised that contingency strategies need to be established. Among these a strategy needs to be developed to deal with the situation where ONC population estimates do not approximately equal the 1981 rolled forward population estimates. Some initial thought has been given to what such a Contingency Strategy might look like, but as there are many issues to be considered the ONC Project Board has decided to hold a meeting on **11th December** to ‘brainstorm’ the issues. This note proposes an agenda for the meeting that will help to define a Contingency Strategy.

Further meetings will be held to develop other contingencies. For example once the ONC methodology and CCS sample size have been agreed we can consider various Census and CCS scenarios that might arise in terms of their respective coverages, degree of dependence and proportions missed by both.

Agenda for Brainstorming a ONC Contingency Strategy

A. Background and data sources

The first stage of the ONC process is to produce national level estimates of the population by age-sex groups combining Census and CCS data via a dual system / regression estimation approach. These ONC population estimates will have associated error bounds.

These are to be compared with the demographic estimates – the 1981 rolled forward estimates available by age-sex groups. These will have associated plausibility ranges.

Also available are aggregate level data from various administrative records, some of which focus on particular groups thought to be particularly at risk of underenumeration in the Census, such as students, the elderly and young children.

At pseudo county level demographic estimates will be available for groups of LADs both from the official rolled forward population estimates and from other sources (FHSA etc). Plausibility ranges for these estimates will be large and not explicitly calculable.

When pseudo county estimates have been agreed, modelled estimates will be prepared for all LADs.

B. Questions to be answered

Criteria for agreement at the National Level

How will it be agreed whether or not the Census+CCS estimate should be accepted at national level, or further adjusted? Will this be done by separately age-sex groups?

What should be done in the event of a non-acceptance?

The national benchmark estimates (whether or not further adjusted) must be signed off by Population and Vital Statistics Division, ONS (or equivalent in Scotland, NI) – for all levels. How will this be done and how long is it likely to take ?

Sub National (Pseudo county) Level

What administrative data sources should be used to compare with the Census/CCS results? What comparisons should be made ? (e.g. Comparing distributions between sources?)

What action will be taken in the case of outliers?

Could there be feedback to the national level?

Local Authority District Estimates

How will we Quality Assure the LAD population estimates?

Who should be involved in the process?

How will the estimates be agreed as the official benchmark LAD figures ? (for April 2001 ?)
How long will this take ?

Should agreed LAD estimates be released at this stage?

When will users require estimates rolled forward to mid-year 2001? How long will this take?

Timetable Implications

The process map and timetable will need revisiting in more detail following the brainstorm

6. Timetable for the Development and Operationalisation of the ONC Methodology

Note: OA – Owen Abbott, JB – Jennet Baxter, JJB – James Brown, LB – Lisa Buckner, RC – Ray Chambers, MC – Marie Cruddas, ID – Ian Diamond, LS – Ludi Simpson, NT – Norma Tennant.

Date	Action	Responsibility/ Resources	Notes
1998			
October	CCS Test – Southampton		
13 October	ONC Project Board		
Mid October	Agree grouping of Local Authorities districts for Dress Rehearsal	OA, LB, ID	
End October	Obtain examples of selected administrative lists for evaluation	MC, LB, NT	
End October	Circulate papers for Steering Committee meeting	MC	
13 November	ONC Steering Committee meeting		
	Agree CCS Design	Steering Committee	
	Agree overall ONC methodology		
	Decision on weighting/imputation		
End November	Develop sample size calculation program	OA, JJB, RC, ID	Integrate with Census IS
	Develop strategy for use of administrative lists for comparison with population estimates	ID, MC, LB, NT	
	<i>Decide on data needed to be collected in CCS</i>	JB, LB, ID, MC	Can be refined after the Dress Rehearsal
Early December	Develop CCS sample selection program	OA, JJB, RC, ID	Integrate with Census IS
	Develop and derive Hard to Count Index for England and Wales	OA, LB	Can be refined after the Dress Rehearsal
Mid December	Draw up concise matching algorithms	JB, LB, ID	Can be refined after the Dress Rehearsal
End December	Select sample for CCS Dress Rehearsal	OA, LB, ID	
31 December	Agree methodological approach to ONC in 2001	Registrars General	

1999

January	<i>Agreement on matching algorithms</i>	JB, LB, ID	
	Develop LAD estimation procedure	OA, JJB, RC, ID	
	Develop small area estimation approach	OA, JJB, RC, ID	
February	Program and test matching algorithms	JB, LB, ID	Integrate with Census IS
March	Program and test LAD estimation procedure for DR	OA, RC, ID	Integrate with Census IS
	Develop database adjustment method	RC, MC	
	Program and test small area estimation approach for DR	OA, RC, ID	Integrate with Census IS
<i>April</i>	ONC Steering Committee meeting		
<i>29 April</i>	Census Dress Rehearsal		
May	Program and test database adjustment approach for DR	RC, MC	Integrate with Census IS
	Obtain administrative lists for Dress Rehearsal areas for comparison with population estimates	MC, LB, NT	
May/June	CCS Field work		
July/August	Undertake handmatch to calculate probability weights	JB, OA, LB, ID	The timing of this is dependent on the processing of the DR data
Autumn /Winter	Implement, check and refine matching algorithms.	JB, LB, ID	The timing of this is dependent on the processing of the DR data
	Develop methodology for grouping LADs into pseudo counties for 2001	OA, LB, ID, LS	
<i>November</i>	ONC Steering Committee meeting		

2000

January	Implement pseudo county estimation program for DR areas	OA, LB, ID, RC	The timing of this is dependent on the processing of the DR data
February	Implement small area estimation program (LAD estimates) for DR areas	OA, LB, ID, RC	The timing of this is dependent on the processing of the DR data
	Compare estimates with demographic estimates and administrative records	ID, RC, LB, NT	
March	Implement database adjustment program (LAD estimates) for DR areas	MC, RC	The timing of this is dependent on the processing of the DR data
	Decide on capture of Names/addresses in 2001	Census Programme Board	This will depend on the requirement from the OOP supplier
	<i>Agree LAD groupings for 2001</i>	OA, LB, ID, LS	
April	ONC Steering Committee meeting		
June	Complete evaluation of DR ONC process	Project Team	The timing of this is dependent on the processing of the DR data
Autumn /Winter	Refine procedures and programmes for 2001 and test	OA, JB, LB, MC, RC, ID	Integrate with Census IS
Autumn	ONC Steering Committee meeting	Steering Committee	
	<i>Final decision on Hard to Count index for 2001</i>		
	<i>Final decision on content on CCS questionnaire for 2001</i>		
	<i>Final decision of Matching strategy for 2001</i>		
	<i>Agree methodology for 2001</i>	Registrars General	
December	<i>Select sample for CCS</i>	OA, LB, ID	

2001

Jan-April	Final revision of procedures and programmes	OA, JB, LB, RC, MC, ID	Integrate with Census IS
April	Census Day		
May/June	CCS Fieldwork		

7. High Level Timetable for the Census Coverage Survey (CCS)

Date	Action	Responsibility /Resources	Notes
1998			
September/October	CCS Test – Southampton	CCS Project	
23 rd October	CCS Test Interviewer Debriefing	CCS Project	Further small tests following form redesign
November	CCS Map Test	ONC Project	
13 th November	Agree CCS Design	ONC Steering Committee Meeting Members	
24 th November	Issue Evaluation report for CCS Test and circulate CCS Board papers	CCS Project/ONC Project	
1st December	CCS Project Board Meeting to agree arrangements in the Dress Rehearsal for:	CCS Project Board Members	
	<ul style="list-style-type: none"> • Recruitment • Field Staff • Pay • Training 		
4 th December	CCS Form design for DR ready	CCS Project ONC Project OOP Project	Very tight date – see timetable for ONC project.
1999			
31 st January	Agree Publicity Strategy	CCS Project /Publicity Project	CAMs to handle any media interest in the CCS
31 st January	Appoint Field Managers and Team Supervisors	CCS Project	
Mid-February	Field Manager/Team Supervisor Training – Part 1	CCS Project	
March	Team Supervisor's to recruit interviewers	CCS Project/Team Supervisors	

April	Field Manager/ Team Supervisor training Part 2	CCS Project	With assistance from survey professionals
25th April	CENSUS DR DAY		
15 th May	First day of employment – Interviewers	CCS Project	Team Supervisors to train Interviewers
20th May	CCS DR Fieldwork Starts	CCS Project	
13th June	CCS DR Fieldwork Ends	CCS Project	Provisional date
By 30 th June	Field Managers/Team Supervisors and Interviewers debriefed	CCS Project	
30 th September	CCS DR Forms Captured	OOP Supplier	Date estimated by OOP Team
2000			
By 30 th June	Evaluation report for the CCS DR.	CCS Project/ONC Project	
By 30 th November	2001 CCS plans completed. Finalise 2001 CCS Form	CCS Project/ONC Project/OOP Supplier	Provisional date
November	Advertise for Field Managers/Team Supervisors	CCS Project	
2001			
January	Appoint Field Managers/Team Supervisors	CCS Project	
Mid-February	Field Managers /Team Supervisors Training - Part 1	CCS Project	
March	Team Supervisors to Recruit Interviewers	Team Supervisors	
April	<i>Field Manager/Team Supervisors Training Part 2</i>	CCS Project	
29th April	CESUS DAY		
24th May	2001 CCS Fieldwork Starts	CCS Project	
17th June	2001 CCS Fieldwork Ends	CCS Project	Provisional Date

8. An Illustrative Timetable for the One Number Census Process in 2001

An illustrative timetable for processing the ONC after the 2001 Census is given below. It shows how we might organise the ONC process in order to fit in with the planned date of the census and availability of demographic estimates.

It has been constructed in the following manner:

Assumed fixed point:

- Census Day is 29 April 2001.
- The Census Coverage Survey is undertaken May/June 2001
- National demographic estimates are available by month 9 of the process

The timetable for the ONC has been constructed to fit in with the above. The following assumptions have been made:

- England and Wales will be divided geographically into pseudo counties of approximately 0.5 million population size, therefore approximately 100 pseudo counties.
- Processing of forms begins in May/June 2001 - obviously this can start immediately after census but I have allowed time for any operational problems that might occur.
- Prior to month 1 a hand match will have been carried out to calculated probability weights if necessary.
- By 1st month census information for the first whole pseudo county will be available. All CCS data will be available. Census and CCS data has been marked for inconsistencies and imputed. Extracts of data will be available pre- and post edit and post imputation.
- Data will be available in pseudo county blocks in some geographic pattern, if possible.
- The time taken to do the clerical match following the computer match is dependent on the number of people available to undertake the matching and also the processing of the census data. The assumption here is that by month 5 all census data will have been processed. The time to do the clerical match could therefore be shortened if census data were available over a shorter time span.
- Production of pseudo county and LAD estimates is largely an automatic process and the timing of this is dependent on the time taken for matching.
- Coverage modelling could be undertaken over a shorter time interval but this too is partly dependent on the time taken for matching but also the timing for the availability of rolled-forward demographic estimates as imputation cannot begin until the census-based estimates have been agreed.
- A large number of powerful PCs are available for imputation since the imputation of absent households and individuals missed from counted households is very computer intensive.