

An Overview of the 2021 Census Design

Garnett Compton, ONS

UKDS Conference, 16-17 July 2015

Overview

- Background to the Census Transformation Programme
- An overview of the 2021 Census design
- Aspirations for Administrative Data

Beyond 2011 Programme . . . 1

ONS consulted on two options in autumn 2013:

- Census once a decade
- Census based on administrative data and large annual surveys

National Statistician's recommendation

- An **online census** of all households and communal establishments in 2021

AND

- Increased use of **administrative data and surveys**

Beyond 2011 Programme . . . 2

Way forward agreed with Government

- “The Government welcomes the recommendation for a **predominantly online census** in 2021 supplemented by further use of administrative and survey data.
- **Government recognises the value of the census** and its history as a bedrock of statistical infrastructure. The census provides information on the population that is of **fundamental importance to society**....
- Our ambition is that **censuses after 2021** will be conducted **using other sources of data** and providing more timely statistical information dependent on the dual running sufficiently validating the perceived feasibility of that approach.”

Minister for the Cabinet Office, July 2014

Census Transformation Programme initiated

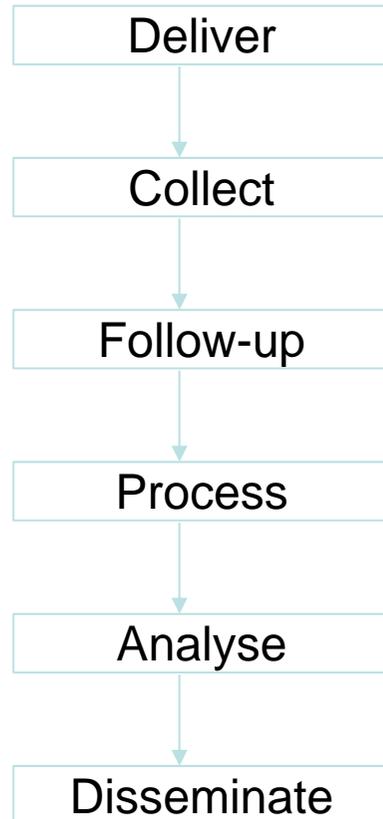
Three strands:

1. 2021 online Census operation
 - Developing and implementing 2021 online Census
2. Integrated population statistics outputs
 - Producing and enhancing census outputs with admin and survey data
 - Research outputs from 2015 onwards
3. Beyond 2021
 - Acquire new administrative data
 - Develop new methods using admin data and surveys

Census Transformation Programme - Objectives

1. Run a high quality 2021 online census data collection operation
2. Produce integrated outputs from census, administrative and survey data
3. Make a recommendation about the future state of the census and population statistics beyond 2021
4. Protect and be seen to protect confidential personal data
5. Maximise potential for wider benefits to ONS
6. Provide value for money

Developing the 2021 Census Design



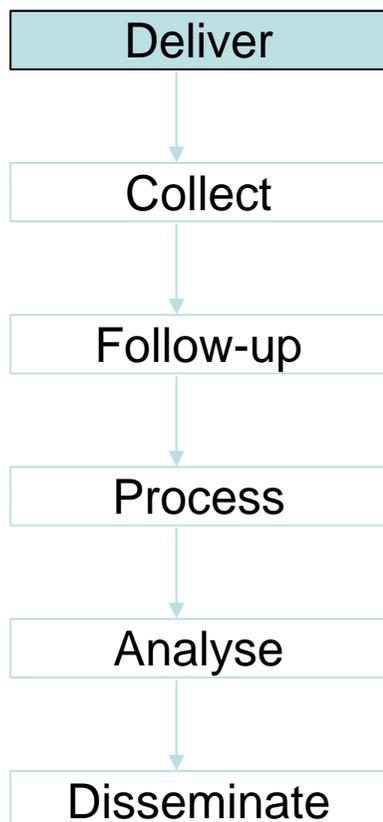
Drivers for change

- Lessons learned from 2011
- User needs
- Changes in society and technology
- Improvements in administrative data sources
- Continue to deliver value for money

Main areas of change

- Online first
- Understanding areas/populations of hard to count and digital inclusion
- Multi-mode follow-up of non-responding households
- Data Processing and outputs
- Use of administrative data

2021 Census - Deliver



Delivery activities

- Promote Census – advertising/community liaison
- Invitation to respond
- Online first
- Supported by paper where needed
- Help desk – telephone/website support/assistance

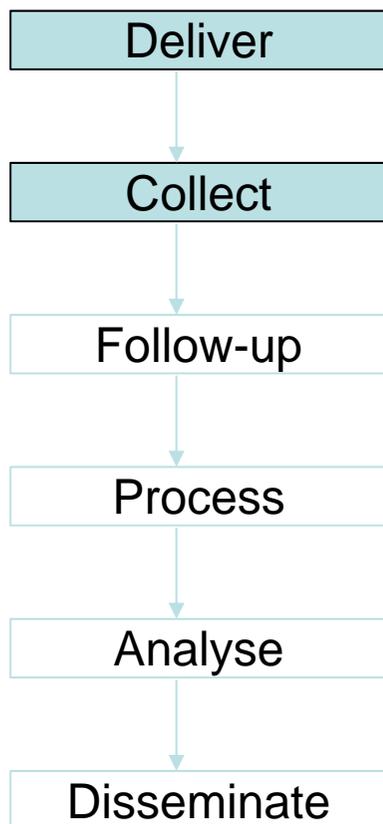
Areas for development

- Maximise online response
- Optimal way of accessing online questionnaire

Potential use of administrative data

- Prioritising delivery messages
- Inform Address Register

2021 Census - Collect



Collection activities

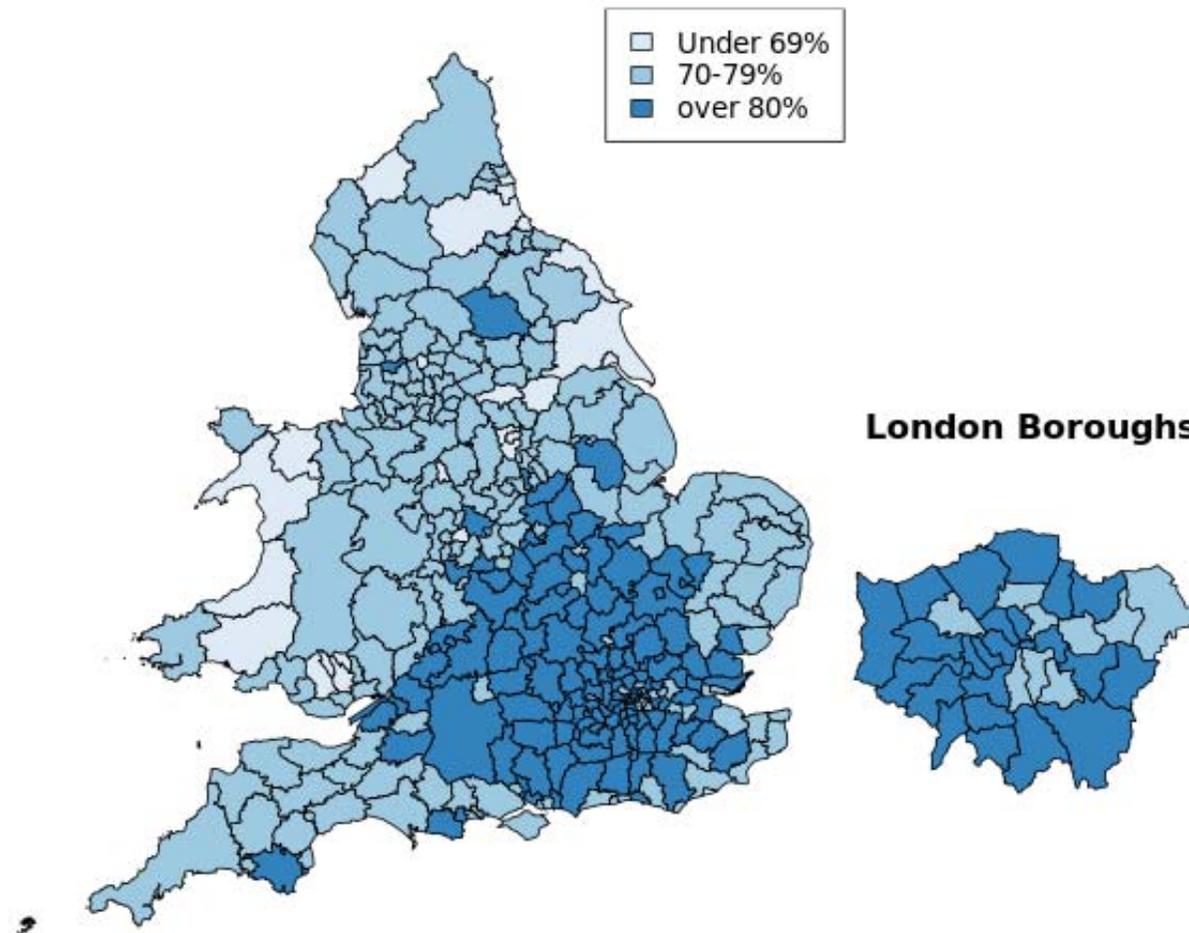
- Primarily online completion
- Some paper completion – where required
- Questionnaire tracking – for follow-up
- Up to date information to inform follow-up
- Census Coverage Survey for assessing coverage

Areas for development

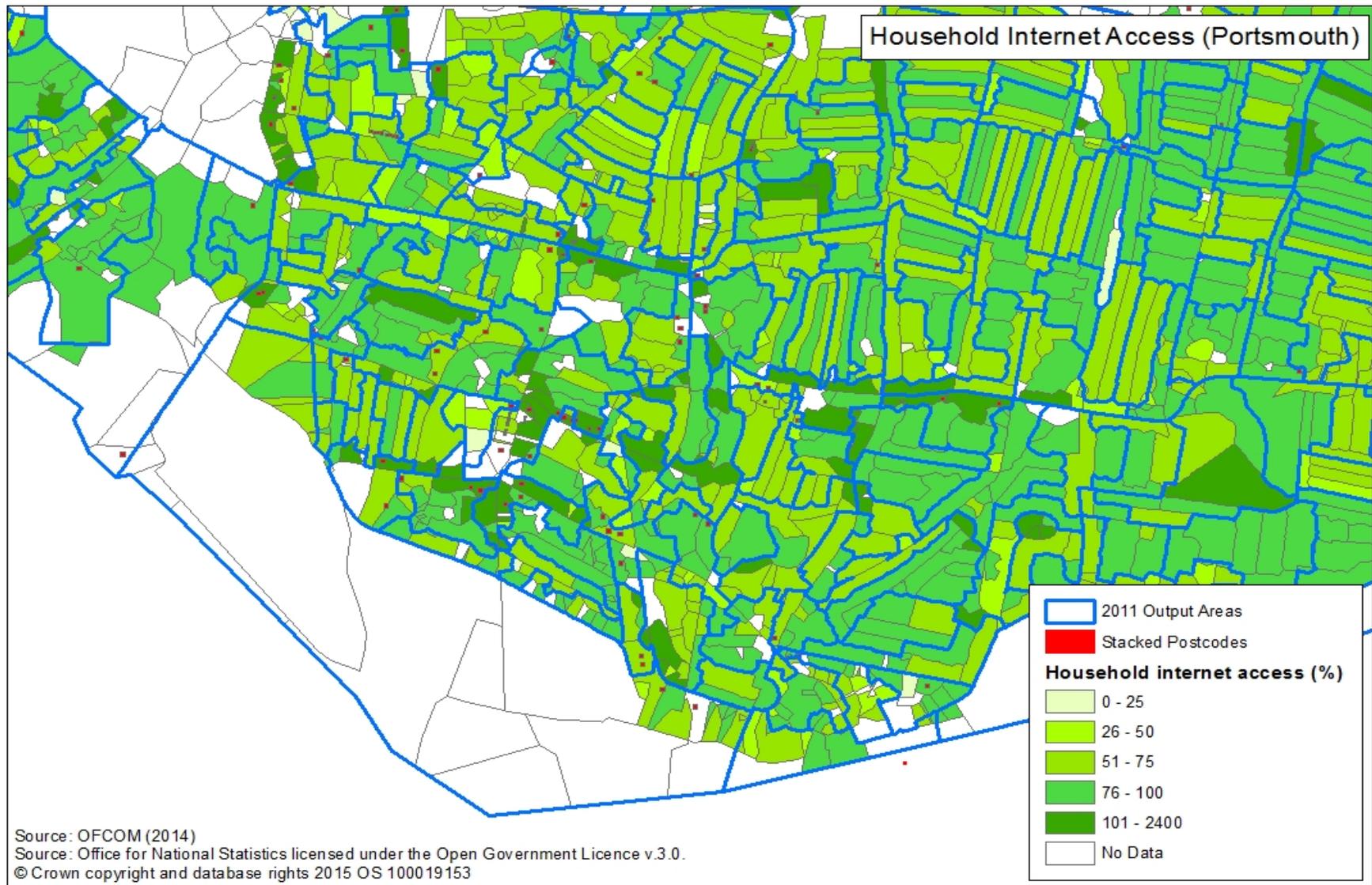
- Maximise online response
- Maximise device compatibility
- Up to date information on people responding
- Design of online questionnaire to maximise quality and ease of use
- Self coding, validation rules

A possibility . . .

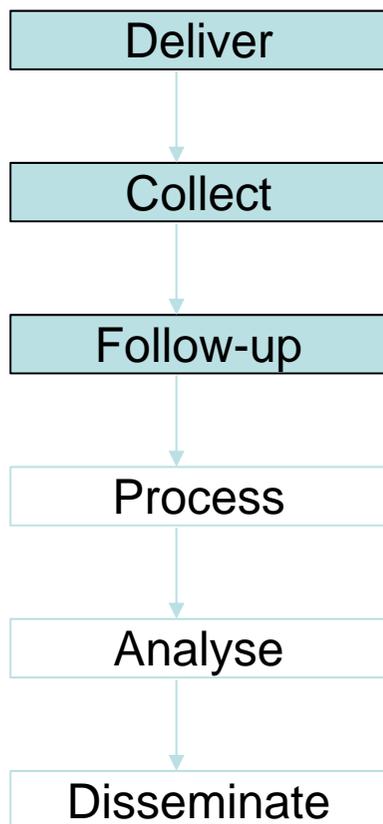
2014 Household Access to Fixed Line Broadband by Local Authority



A possibility continued . . .



2021 Census – Follow-up



Follow-up activities

- Visits to support/encourage completion
- “Assisted digital”
- Reminder letters
- Advertising and Community liaison
- Use of up to date on-line information to focus field and communication activities
- Up to date MI to manage the field activities

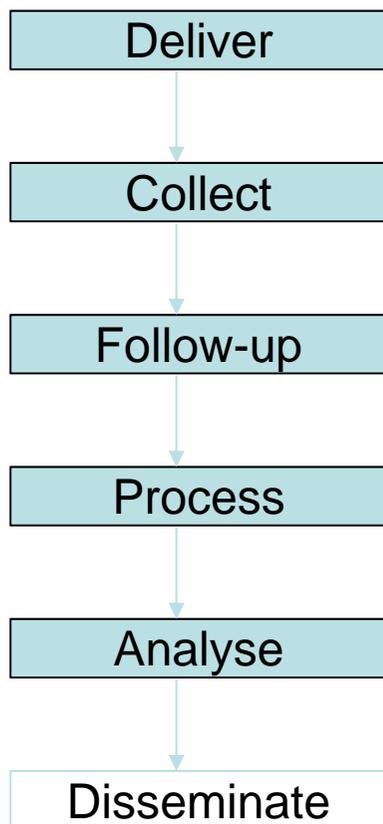
Areas for development

- Use of hand-held devices to support follow-up/completion
- Other methods of completion – e.g. telephone completion

Potential use of administrative data

- Improved targeting of resources

2021 Census – Processing and Analysis



Processing and Analysis activities

- Capture and clean
- Match/integrate data; census to census coverage survey, admin data etc.
- Estimation – missed people/ households
- Edit and imputation – consistency/missed variables
- Quality assurance
- Disclosure control

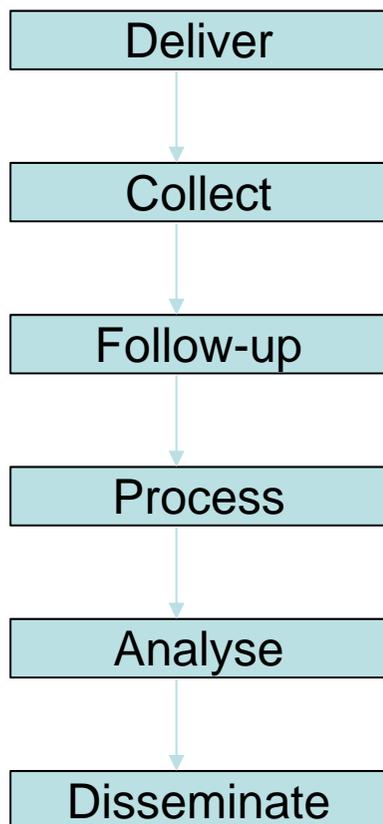
Areas for development

- Reduce processing times
- Improved estimation
- “Smarter” disclosure control

Potential use of administrative data

- Use in estimation and quality assurance

2021 Census – Dissemination



Dissemination activities

- Disclosure control
- Create and disseminate output products
- Web-based outputs
- Promote use and uses
- Analysis and presentation

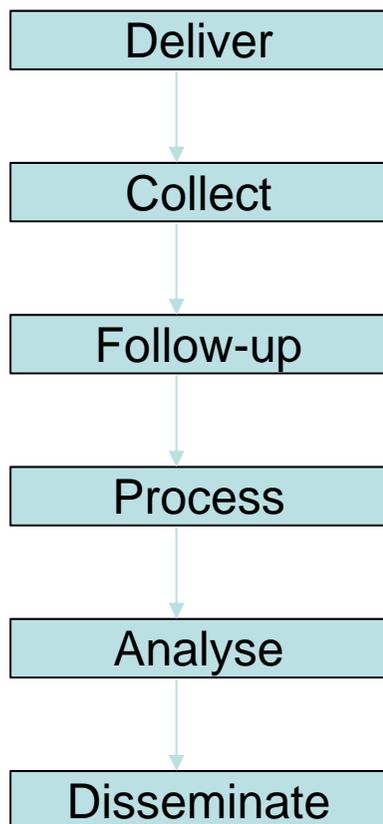
Areas for development

- Release outputs earlier
- More flexible delivery order
- Improved quality

Potential use of administrative data

- Merge with Census returns to enhance outputs

2021 Census Design



Success depends on:

- Good understanding of user needs
- Sound address register
- Effective communications and partnerships
- Excellent field work
- High response rates
- Innovative methods
- Accurate processing
- Well designed outputs

Admin data aspirations and expectations

- Lots of potential with admin data
- Aiming to replicate as many census outputs as possible using admin data (and surveys) by 2021
- Research update and outputs published each year, subject to data access and quality
- New integrated census and admin data outputs, subject to data access and quality
- No new surveys before 2021 – use existing surveys and censuses to simulate surveys

Objectives of using admin data

We are pursuing admin data to provide:

- Activity data - to help identify 'active' residents to improve our estimates of the population
- Characteristics data – to provide information to replace/supplement census topics and to develop new research outputs
- Improve the quality of the address register

Potential of administrative sources

Individual variables

Sex
 Date of birth
 Marital Status
 Household relationships
 National identity
 Ethnicity
 Language (ability to speak English or Welsh)
 Religion
 Qualifications
 General health
 Disability/long-term health conditions
 Carers (number of)
 Economic Activity
 Industry of occupation
 Mode of travel to work
 Place of work
 Country of birth
 Internal or international migrant
 Term time address
 Income

Earnings and benefits data	Health data	Education data	Vehicle and driver data	Property attributes
G	G	G	G	R
G	G	G	G	R
A	R	A	R	R
A	R	R	R	R
R	R	G	R	R
A	A	G	R	R
RA	RA	A	R	R
R	R	G	R	R
R	R	AG	R	R
R	A	RA	R	R
A	A	A	RA	R
A	R	R	R	R
A	R	A	R	R
A	R	R	R	R
R	R	R	R	R
A	R	R	R	R
RA	RA	R	R	R
A	G	A	A	R
R	R	G	R	R
AG	R	R	R	R

Aims of publishing admin based research outputs

New annual admin based research outputs beginning Autumn 2015 to enable:

- feedback from users on quality
- methods to be improved through time
- operationalise procedures
- users to derive early benefits

Aim to demonstrate improvements each year in:

- breadth (topics) and/or
- (geographical) detail and/or
- accuracy/timeliness

Summary

- 2021 Census Design
 - Main drivers for change and key areas for development
- Aspirations on the use of administrative data
 - Publication of first Admin data research outputs in Autumn 2015



Office for
National Statistics
Swyddfa
Ystadegau Gwladol



2021 Census: Understanding user needs

Ann Blake, ONS

UKDS Conference, 16-17 July 2015

Topic consultation

- Online consultation about information requirements
- Organised by main and sub-topics
- Making admin data intentions clear
- We will work with our colleagues in the Devolved Administrations to harmonise topics across the UK
- Present initial view to encourage response

How we got to our initial view

Started with principle of minimal change

Developed through:

- Assessment of quality from 2011
- Assessment of user need and relevance from 2011 and more recent consultations
- Considering respondent burden

Developed with:

- Topic experts throughout ONS
- Welsh Government
- National Records of Scotland/Northern Ireland Statistics and Research Agency review
- Review by other Government Departments

Status definitions – Our current view

Status	Definition
Collect	Proposed to include based on user need and current understanding of quality issues
Do not collect	Proposed not to include as we have concerns about collection, acceptability or low user need
Do not collect. Explore Admin data potential	Where we can see potential to use admin data as an alternative
Further information required	Where there may be potential to make savings depending on strength of user need and availability of admin data

Our initial view on sub-topics

Topic proposals	Previously collected?
Collect 24 sub-topics	All collected in 2011 Census
Do not collect 3 sub-topics	2 sub-topics collected in 2011, 1 new sub-topic
7 sub-topics require further information	5 sub-topics collected in 2011, 2 new sub-topics
1 sub-topic may be possible using admin data	1 new sub-topic

- Proposed no change in enumeration or output bases

Enumeration and output bases

Enumeration base

- A 'composite' enumeration base
- Collects information on all people intending to stay 3 months or longer
- Includes short-term residents and visitors
- Consistent with 2011
- Broadly consistent with international definitions

Output bases

- Primary base is usual residents
- Households
- Out-of-term populations
- Workplace populations
- Workday populations
- Usually resident dependent children with a parental second address
- Short-term residents

Collect

Age

Sex

Marital status

Household and family relationships

Type and self containment of accommodation

Tenure and landlord (if renting)

Number of bedrooms

Ethnic group

National identity

Welsh

Main languages used

English language proficiency

Religion

Long-term international migration

Short-term international migration

Internal migration

Qualifications held

General health

Amount of unpaid care provided

Economic activity

Occupation

National Statistics socio-economic classification (NS-SeC)

Method of transport to place of work

Address of place of work

Do not collect

- Supervisory status
- Year last worked
- Address of place of study

Do not collect. Pursue admin data

- Income

Further information required

- Number of rooms
- Type of central heating
- Number of cars and vans
- Long term health problem or disability
- Industry
- Volunteering and unpaid work
- Sexual identity

Evaluating the responses



- Three linked sets of evaluation criteria
- The primary set is the user needs – assessed using responses to the topic consultation – **what you say!**
- The other two are mainly for ONS to assess

User need evaluation criteria

1. Strength of user need
2. Need for small geographies or populations
3. Suitability of alternative sources
4. Need for multivariate analysis
5. Requirement for UK comparability
6. Requirement for consistency over time

- Consultation questions reflect these criteria
- Aims to aid you in giving the information we need
- Also increases transparency of approach

Evaluation – what we need to think about

Considerations

- ✓ Data quality
- ✓ Public acceptability
- ✓ Respondent burden
- ✓ Financial concerns
- ✓ Questionnaire design

Operational requirements

- ✓ Improving coverage
- ✓ Coding derived variables
- ✓ Navigation of form

However, any relevant information you give related to these criteria will also be fed into their assessment

Citizen Space - Taking part is easy



- We use Citizen Space – an online consultation platform widely used by government – to host our 2021 Census topic consultation and collect responses
- People can access Citizen Space directly <https://consultations.ons.gov.uk/census/2021-census-topics-consultation> or via our 2021 Census consultations webpage on the ONS website, the Welsh Government website and GOV.UK

Summary

- Consultation open until 27 August
- Tell us how the information is used and what impact this has
- Tell us the impact of not having the information
- Tell us about the range of data sources you use
- Make a strong case by using *specific detailed examples*
- We want to understand your information needs so that we can design to meet this in the best way

Further information

Topic consultation:

- Web: www.ons.gov.uk/ons/guide-method/census/2021-census/consultations
- Email: 2021census.consultation@ons.gov.uk

Census customer services:

- Email: census.customerservices@ons.gsi.gov.uk
- Tel: **01329 444972**