Data in the spotlight: Census and population studies

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Quiz time

• A – 2,467
• B – 27,229
• C – 176,632
• D – 390,870
• E – 1,156,221

In 2011 how many people in the UK identified their religion as Jedi?
Aggregate data are data about populations, groups, regions or countries.
The Census of Population

- Every 10 years
- First modern census in 1841
- Data held secure for 100 years
- Digitised censuses from 1971 (1961 ongoing)
- Last ever census?
A UK Census?

- Different nations, different governments, different ideas.
  - Office for National Statistics
  - National Records of Scotland (formerly GROS)
  - Northern Ireland Statistics and Research Agency

- Different Geographies
- Different Questions
- Different Outputs
- Lots of harmonisation
England and Wales Census
21st March 2021

- 97% response
- Average completion time – 23 minutes
- Census Coverage Survey
- Census Quality Survey
- Output consultation
Northern Ireland Census
21st March 2021

- Census Coverage Survey
- Outputs consultation
- Add geographies
- Statistical Disclosure Control
- Quality Assurance
Scotland Census
1st March 2022

• Census rehearsal
• Data processing rehearsal
• Work ongoing to ensure that people are not counted twice or not counted at all.
Census Outputs

• Should start to appear July 2022
• Headline figures first
• Ready made tables
• Tables that flex
• Build your own tables
• Links to administrative data
What can the census aggregate data tell us?

• The most complete source of information about demographic and socio-economic characteristics of the UK population.

• Population
• Employment, occupation, socio-economic class, qualifications
• Ethnicity, religion, national identity, language
• Housing, tenure, residence type
• Household and family composition, occupancy
• Carers and caring
• Long term health problems or disability
• Travel to work, migration
New questions

• Gender – England, Wales, Scotland, Northern Ireland
• Voluntary
New questions

• Sexuality – England, Wales, Scotland
• Voluntary
New questions

- Veteran status – England, Wales, Scotland
New questions

• Health conditions – Scotland, Northern Ireland

<table>
<thead>
<tr>
<th>Question</th>
<th>Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>18 Do you have any of the following, which have lasted, or are expected to last, at least 12 months?</td>
<td>Deafness or partial hearing loss, Blindness or partial sight loss, Full or partial loss of voice or difficulty speaking, Learning disability, Learning difficulty, Developmental disorder, Physical disability, Mental health condition, Long-term illness, disease or condition, Other condition, Please write in:</td>
</tr>
<tr>
<td>21 Do you have any of the following conditions which have lasted, or are expected to last, at least 12 months?</td>
<td>Deafness or partial hearing loss, Blindness or partial sight loss, Mobility or dexterity difficulty that requires the use of a wheelchair, Mobility or dexterity difficulty that limits basic physical activities (for example walking or dressing), Intellectual or learning disability (for example Down syndrome), Learning difficulty (for example dyslexia), Autism or Asperger syndrome, An emotional, psychological or mental health condition (for example depression or schizophrenia), Frequent periods of confusion or memory loss (for example dementia), Long-term pain or discomfort, Shortness of breath or difficulty breathing (for example asthma), Other condition (for example cancer, diabetes or heart disease), No condition</td>
</tr>
</tbody>
</table>
What the census cannot tell us

- Wealth and income
  - Derived deprivation data

- Personal identification
  - Data blurring and obfuscation
The Tricky Issue of Census Geography

- Building block is the Output Area
- These are used to create Super Output Areas (SOA)
  - Two types – Lower layer SOA (LSOA) and Middle layer SOA (MSOA)
  - In Scotland – Data Zones (DZ) and Intermediate Geographies (IG)
  - In Northern Ireland – just LSOA
- None of the above relate to anything ‘real’.

- Regions, Counties, Local Authorities, Wards and Electoral Divisions
- No postcode geography
- [http://geoconvert.digitalresources.jisc.ac.uk/](http://geoconvert.digitalresources.jisc.ac.uk/)
Accessing census aggregate data

- **Infuse** - [http://infuse.ukdataservice.ac.uk/](http://infuse.ukdataservice.ac.uk/)
  - Data from 2001 and 2011 censuses

- **Casweb** - [http://casweb.ukdataservice.ac.uk/](http://casweb.ukdataservice.ac.uk/)
  - Data from 1971, 1981, 1991 and 2001 censuses
  - Boundary data with 1991 & 2001 censuses

- **DKAN** - [https://www.statistics.digitalresources.jisc.ac.uk/](https://www.statistics.digitalresources.jisc.ac.uk/)
  - Currently only 2011 but currently loading 2001 and plans for censuses back to 1971
Activity 1

InFuse - http://infuse.ukdataservice.ac.uk/

Worksheet - https://stats2.digitalresources.jisc.ac.uk/training/handout1.pdf

10 minutes.
Deprivation data

- Derived from room occupancy, house ownership/tenancy, car availability, employment status etc...

- A number of recipes
  - Carstairs
  - Townsend
  - Index of Multiple Deprivation/Indices of Deprivation

Matching Geographies

- GeoConvert - [http://geoconvert.digitalresources.jisc.ac.uk/](http://geoconvert.digitalresources.jisc.ac.uk/)
  - Uses address points to calculate an area population
  - Clever proportioning
- Caveats
  - Think about what you are attempting to do.
  - Postcodes change
- Supporting documentation - [http://geoconvert.digitalresources.jisc.ac.uk/help/documentation.html](http://geoconvert.digitalresources.jisc.ac.uk/help/documentation.html)
Activity 2

GeoConvert - http://geoconvert.digitalresources.jisc.ac.uk/

Postcode file - http://stats2.digitalresources.jisc.ac.uk/training/postcodes.csv

Data file - http://stats2.digitalresources.jisc.ac.uk/training/data.csv
Census bulk data

- DKAN - [https://www.statistics.digitalresources.jisc.ac.uk/](https://www.statistics.digitalresources.jisc.ac.uk/)
- Whole tables for geographical areas
- Easy to search
- Metadata
- Expanding all the time
DKAN - https://www.statistics.digitalresources.jisc.ac.uk/

- Find the “Age by Ethnic group by Long-term health problem or disability by Sex (England and Wales) 2011” table.
- What ‘Units’ are used?
- What is the definition of a “Long-term health problem or disability”?
- For England and Wales what is the total number of men in the Asian /Asian British category that considered themselves to have a Long-term health problem or disability?
What is the UK Data Service?

• A comprehensive resource funded by the Economic and Social Research Council (ESRC)
• A single point of access to a wide range of secondary social science data
• Support, training and guidance
Online resources

• Guides
• Videos
• Webinars
• Data Skills Modules
Methods and Software Guides

For example:

- **Software guides**
  - What is Stata?
  - Using R to analyse key UK surveys

- **Survey data**
  - What is weighting?
  - What is complex sample design?
  - What are hierarchical files?
Videos

Go to the [UK Data Service YouTube channel](https://www.youtube.com/c/UKDataService) for video tutorials and recordings of events
Data Skills Modules

• Survey data
• Aggregate data
• Longitudinal data
• Exploring crime surveys with R

Find them in the UK Data Service Learning Hub
Census data: shaping policy

https://uk.wikibudgets.org/w/united-kingdom-budget-2015
Thank you

web:  https://ukdataservice.ac.uk/
YouTube:  https://www.youtube.com/user/UKDATASERVICE
email:  help@ukdataservice.ac.uk
Twitter:  @UKDataService