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 harmonization but no harmonized UK data yet….

Census Outputs

- Aggregate data

- Boundary data

- Microdata

- Origin-destination data

https://ukdataservice.ac.uk/learning-hub/census/

- Person level data

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

- Response rate 89.8% eventually after an extension period
- Coverage Survey completed
- First set of outputs (univariates) delivered last summer
- More detailed outputs to be delivered in 2025

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

27 Is the gender you identify with the same as your sex registered at birth?

This question is **voluntary**

☐ Yes

☐ No, write in gender identity

4 Do you consider yourself to be trans, or have a trans history?
- This question is **voluntary**
- Answer only if you are aged 16 or over
- Trans is a term used to describe people whose gender is not the same as the sex they were registered at birth
- Tick **one** box only

☐ No

☐ Yes, please describe your trans status (for example, non-binary, trans man, trans woman):

New questions

- Sexuality – England, Wales, Scotland
- Voluntary

26 Which of the following best describes your sexual orientation?
➔ This question is **voluntary**

☐ Straight/Heterosexual
☐ Gay or Lesbian
☐ Bisexual
☐ Other sexual orientation, write in

8 Which of the following best describes your sexual orientation?
♦ This question is **voluntary**
♦ Answer only if you are aged 16 or over
♦ Tick **one** box only

☐ Straight / Heterosexual
☐ Gay or Lesbian
☐ Bisexual
☐ Other sexual orientation, please write in:

New questions

• Veteran status – England, Wales, Scotland

32 Have you **previously** served in the UK Armed Forces?
↪ **Current serving members** should only tick "no"

☐ Yes, previously served in **Regular** Armed Forces
☐ Yes, previously served in **Reserve** Armed Forces
☐ **OR** no

26 Have you previously served in the UK Armed Forces?
♦ **Current serving members** should only tick 'No'

☐ No
☐ Yes, previously served in **Regular** Armed Forces
☐ Yes, previously served in **Reserve** Armed Forces

New questions

• Health conditions – Scotland, Northern Ireland

18 Do you have any of the following, which have lasted, or are expected to last, at least 12 months?
♦ Tick **all** that apply

☐ **Deafness or partial hearing loss**

☐ **Blindness or partial sight loss**

☐ **Full or partial loss of voice or difficulty speaking** (a condition that requires you to use equipment to speak)

☐ **Learning disability** (a condition that you have had since childhood that affects the way you learn, understand information and communicate)

☐ **Learning difficulty** (a specific learning condition that affects the way you learn and process information)

☐ **Developmental disorder** (a condition that you have had since childhood which affects motor, cognitive, social and emotional skills, and speech and language)

☐ **Physical disability** (a condition that substantially limits one or more basic physical activities such as walking, climbing stairs, lifting or carrying)

☐ **Mental health condition** (a condition that affects your emotional, physical and mental wellbeing)

☐ **Long-term illness, disease or condition** (a condition, not listed above, that you may have for life, which may be managed with treatment or medication)

☐ **Other condition**, please write in:

☐ **No condition**

21 Do you have any of the following conditions which have lasted, or are expected to last, at least 12 months?
⤷ Tick all that apply.

☐ Deafness or partial hearing loss

☐ Blindness or partial sight loss

☐ A mobility or dexterity difficulty that requires the use of a wheelchair

☐ A mobility or dexterity difficulty that limits basic physical activities (for example walking or dressing)

☐ An intellectual or learning disability (for example Down syndrome)

☐ A 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

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 Also in England/Wales – UTLA & LTLA!!!
- No postcode geography
- http://geoconvert.ukdataservice.ac.uk/

Accessing census aggregate data

- Data Explorer – https://internationaldata.ukdataservice.ac.uk/
  - Currently 1971 and 2021 (being loaded as we speak)
- Name change to https://data-explorer.ukdataservice.ac.uk coming soon.

- CKAN - https://www.statistics.digitalresources.jisc.ac.uk/
  - Currently mainly 2021 and 2011 but plans for censuses back to 1971

Activity 1

Data Explorer – https://internationaldata.ukdataservice.ac.uk/

Exploring Population density and the Data Explorer interface

What's next in Data Explorer

- More data – all of 2021 for England Wales and Northern Ireland
- Scottish 2022 data
- 2011 and 2001 data
- 1961 data hopefully
- 1991 & 1981

- Ability to share data/charts to social media/email
- Ability to map data

Census bulk data

- CKAN - https://www.statistics.ukdataservice.ac.uk/

- Whole tables for geographical areas

- Easy to search

- Metadata

- Expanding all the time

Activity 2

CKAN - https://www.statistics.ukdataservice.ac.uk/

- Find the "Gender Identity" table for England and Wales.
- Download the data – how many people were born in England?
- How many people arrived in the Wales aged 20 to 24 years of age?
- What 'Units' are used?

Activity 2.1

- Find the "National Identity" table for Northern Ireland.
- Download the data – notice the differences
- How many people identified themselves as Northern Irish only in Fermanagh and Omagh?
- What Geographic referencing system was used?

Gender Identity

- In CKAN find "Gender identity"

- There is an issue with the gender identity estimates
- No longer considered accredited official statistics

  "Some responses to the sexual orientation question that should have been coded to "All other sexual orientations" in the detailed classification were incorrectly coded to "Pansexual"

- Does not affect detailed version of table
- We will upload the corrected version as soon as possible.

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
    - [Index of Multiple Deprivation (IMD) | CDRC Data](#)
    - [Indices Futures: Updating the English Indices of Deprivation (IoD) - consultation - GOV.UK](#)

Matching Geographies

- GeoConvert - 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

- GeoConvert 2 is in development now using the ONS NSPL

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
- Impact blog
- Case studies
- Data Catalogue
- Data Skills Modules
- Helpdesk - https://beta.ukdataservice.ac.uk/help
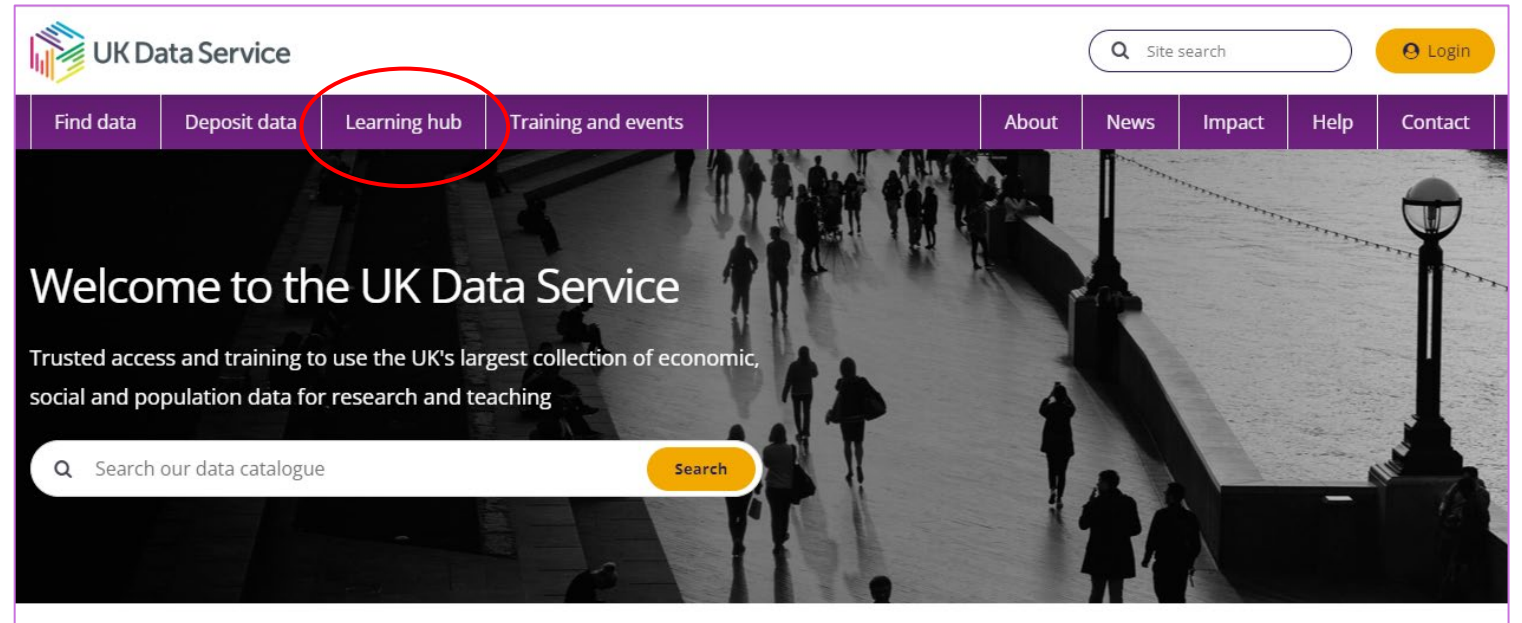
Census Learning Hub

- How to use aggregate data
- Flow data guide
- Microdata guide
- Mapping with R
- Mapping with QGIS
- Census boundary data
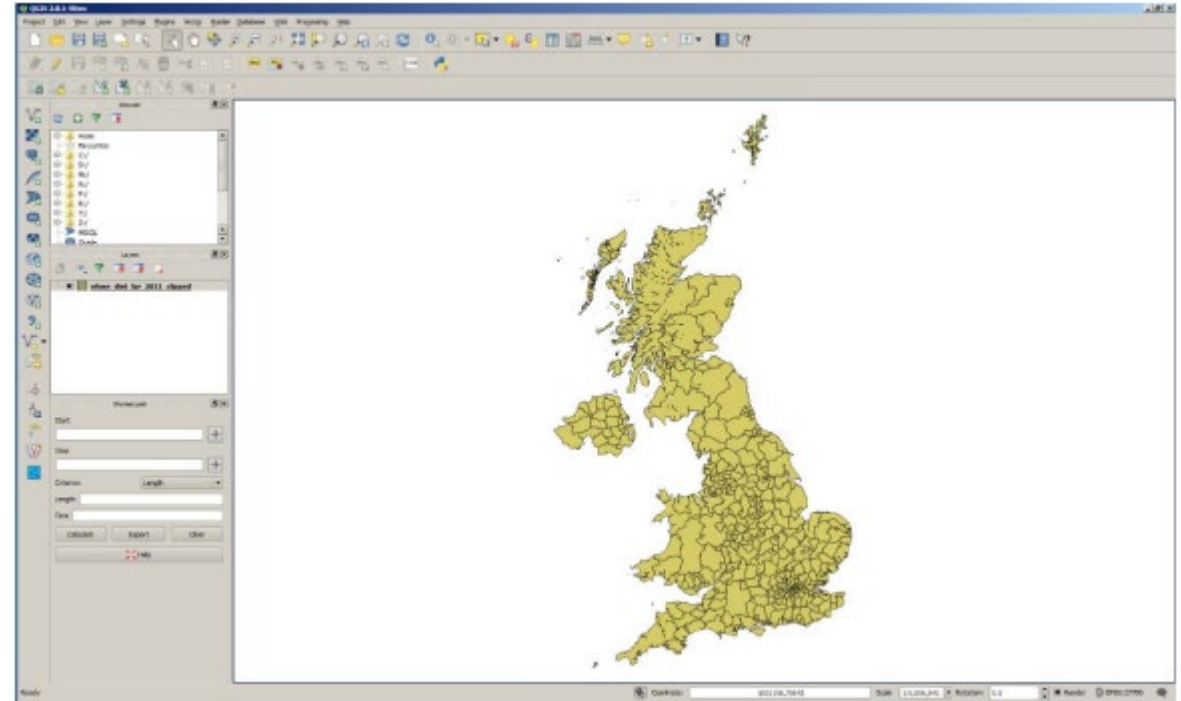
Videos

"Can you show me
how to do that?"

SHARE

YouTube:
https://www.youtube.com/user/UKDATASERVICE

Data Skills Modules

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

https://ukdataservice.ac.uk/learning-hub/data-skills-modules/

Census data: shaping policy
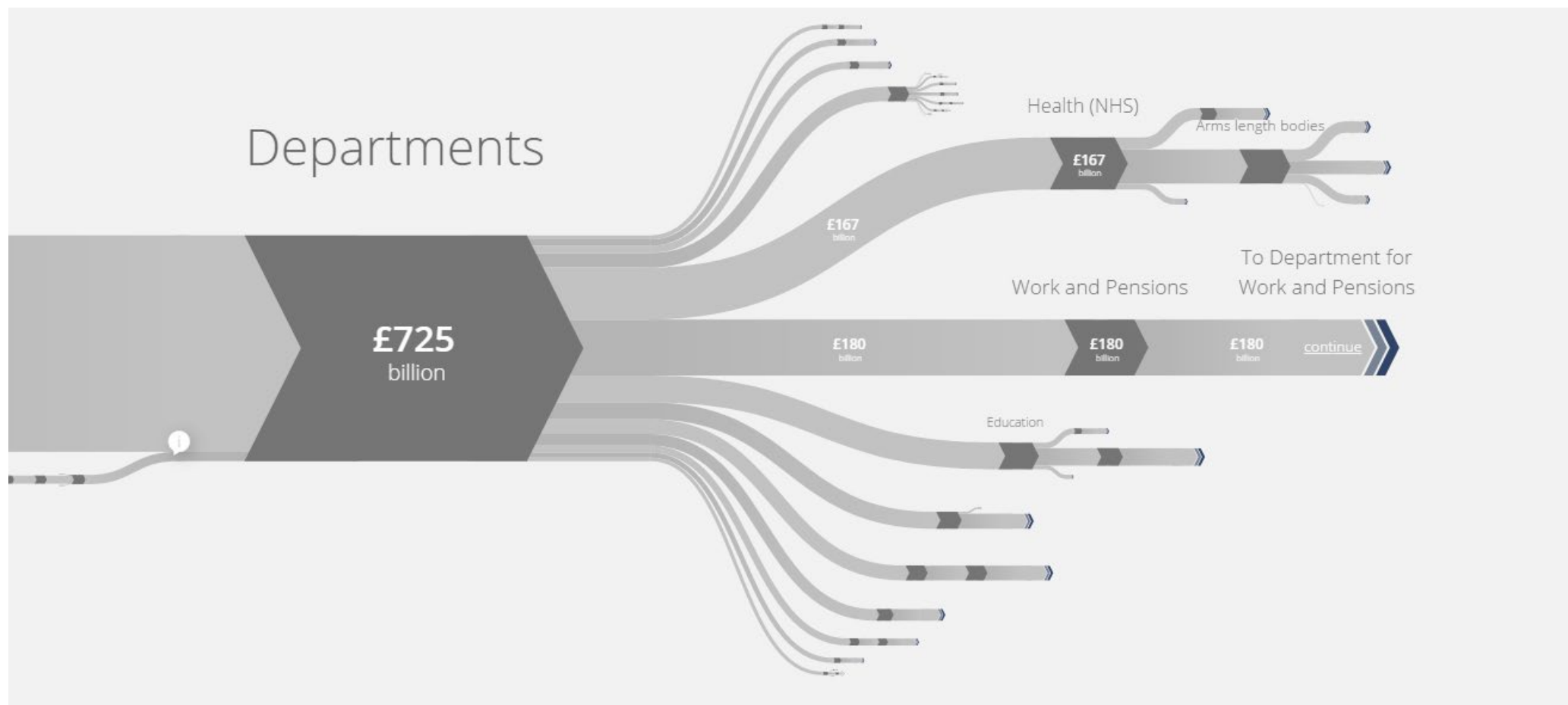
Thank you and Questions?

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

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