Data in the spotlight: Census and population studies

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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
21 March 2021

- 97 % response
- Average completion time – 23 minutes
- Census Coverage Survey
- Census Quality Survey
- Output consultation

Northern Ireland Census
21 March 2021

- Census Coverage Survey

- Outputs consultation

- Add geographies

- Statistical Disclosure Control

- Quality Assurance

Scotland Census
1 March 2022

- Response rate 89% eventually after an extension period
- Coverage Survey completed
- Currently in a consultation phase on outputs
- Cleaning and collating responses
- No dates on when any data will be released yet, but mid 2023 for first phase is likely.

Census Outputs

- England and Wales

  - Population and household estimates
  - Household and resident characteristics
  - International migration
  - Armed forces veterans

- Data down to MSOA or Output Area level

Census Outputs

- Northern Ireland

  - Population and household estimates
  - Age and sex
  - Country of birth, Passports held
  - Ethnicity, Language, Identity, Religion
  - Housing and accommodation

- Data at Country and Local Government District level

Next Census releases

- Today   Ethnic group, national identity, language, and religion - EW
  Census maps – update to add recent data releases - EW

- 6 Dec   Welsh language - W
- 8 Dec   Labour market and travel to work – EW
- 15 Dec   Phase 2 Release – NI
- 5 Jan   Housing – EW
- 6 Jan   Sexual orientation and gender identity - EW
- 10 Jan   Education – EW
- 19 Jan   Health, disability, unpaid care – EW
- Spring '23 Phase 3 - NI

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
- No postcode geography
- Geoconvert

Accessing census aggregate data

- **Infuse**
  - Data from 2001 and 2011 censuses

- **Casweb**
  - Data from 1971, 1981, 1991 and 2001 censuses
  - Boundary data with 1991 & 2001 censuses

- **CKAN**
  - Currently mainly 2021 and 2011 but plans for censuses back to 1971

Activity 1

InFuse

Worksheet

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
  - https://www.gov.uk/government/statistics/english-indices-of-deprivation-2019

Matching Geographies

- [GeoConvert](#)
  - Uses address points to calculate an area population
  - Clever proportioning
  - Caveats
    - Think about what you are attempting to do.
    - Postcodes change

- [Supporting documentation](#)

Activity 2

GeoConvert

Postcode file

Data file

Census bulk data

- CKAN

- Whole tables for geographical areas

- Easy to search

- Metadata

- Expanding all the time

Activity 3

[CKAN](#)

- Find the "Census 2021 Age of arrival in the UK" table for England and Wales.
- What 'Units' are used?
- What is the definition of a "Long-term health problem or disability"?
- For Manchester what is the total number of people Aged 25 to 24 are resident?

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

UKRI — Economic and Social Research Council

Online resources

- Guides
- Videos
- Webinars
- Impact blog
- Case studies
- Data Catalogue
- Data Skills Modules
- [Helpdesk](#)
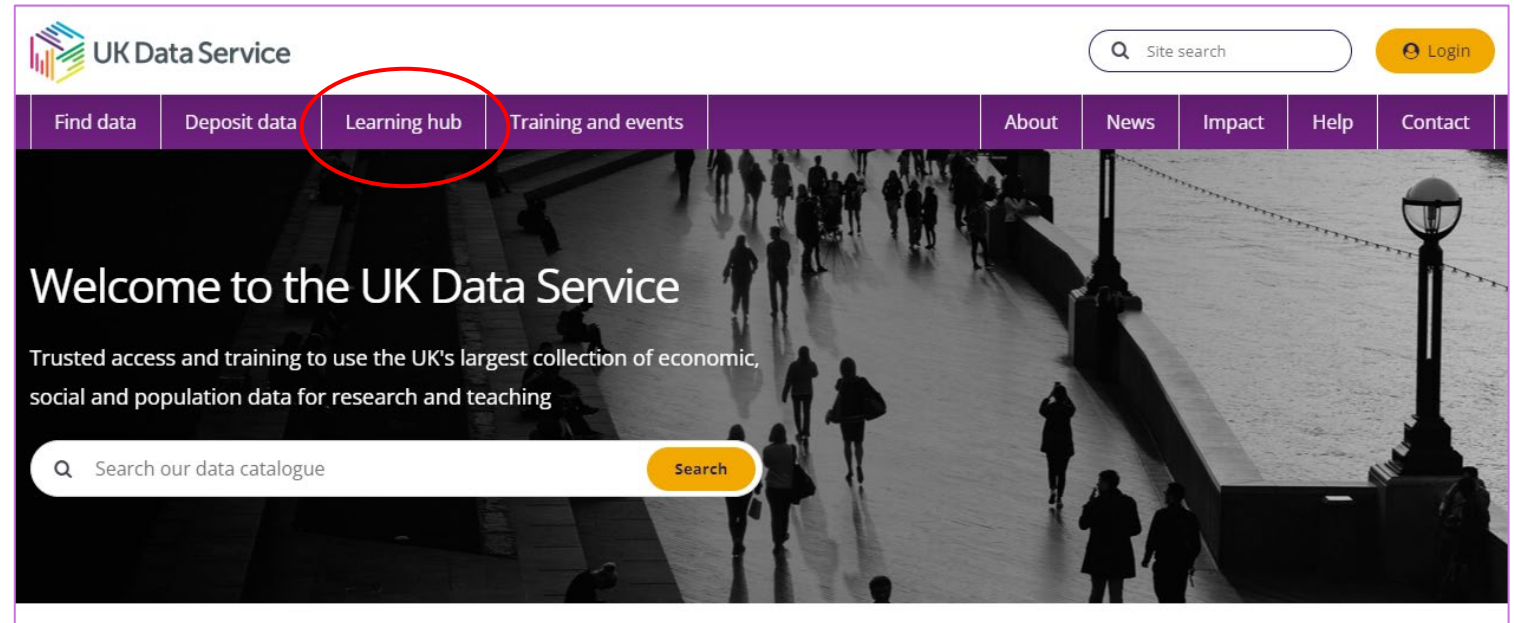
Census Learning Hub

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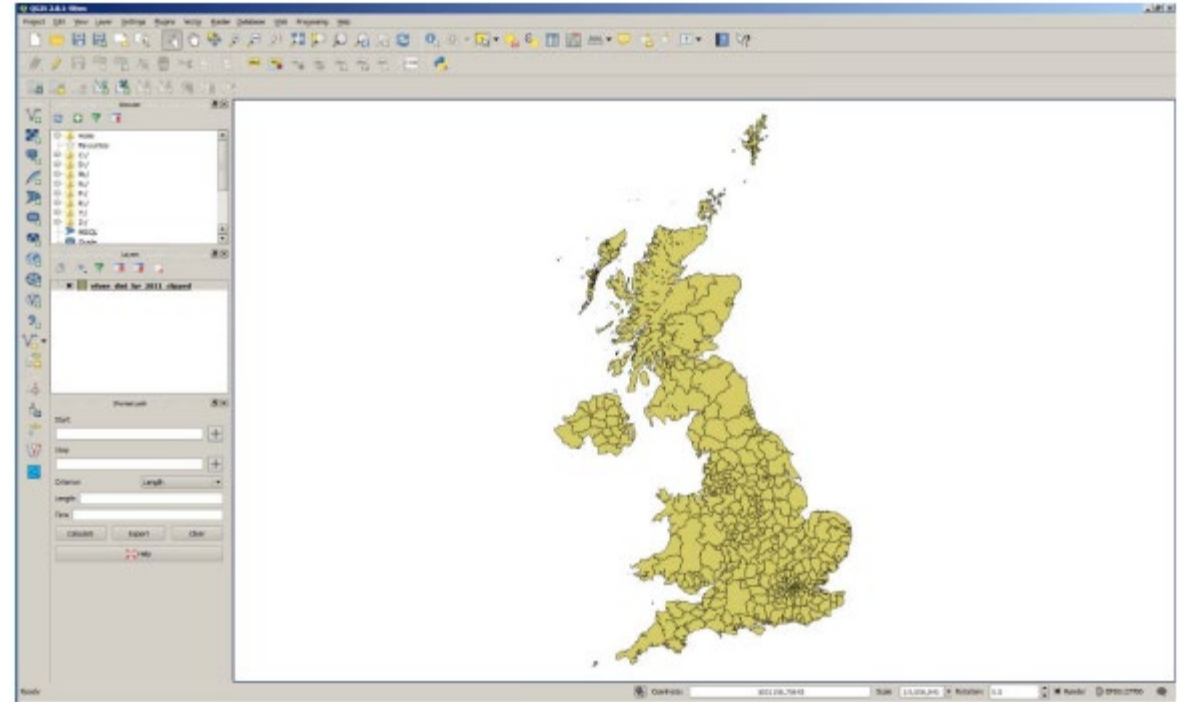
Videos

"Can you show me how to do that?"

SHARE

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
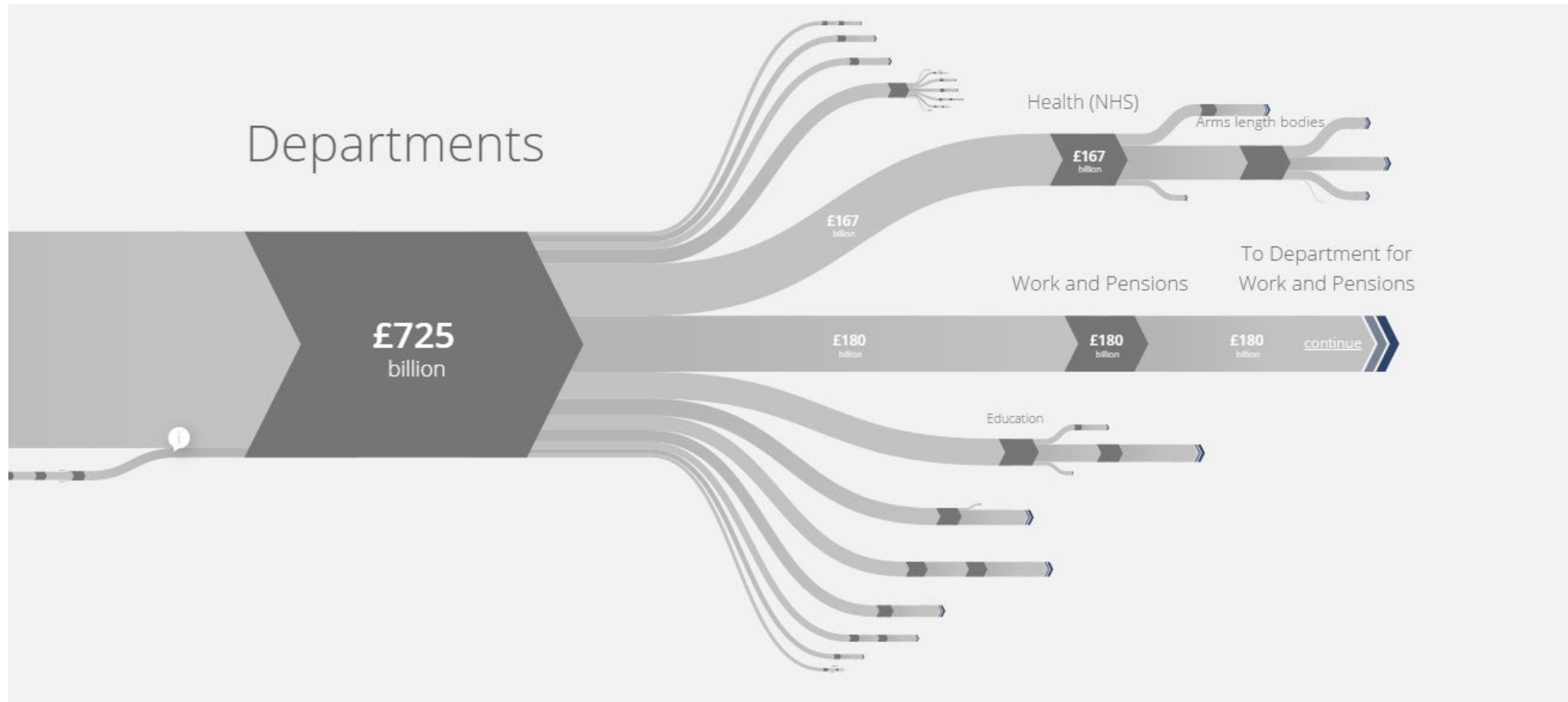
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