Census Transformation Programme

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16 February 2017

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- 2017 Test
- Admin Data Census

BACKGROUND

The Census History

- **A count (estimate) of the whole population**
  - **Every town, every village, every street**

- **Once a decade since 1801 (except 1941)**
- **Compulsory under the 1920 Census Act**
- **The last census was in March 2011**

Why we have a census

- Underpins national policy making

- Used to allocate funding to local areas

- Used to plan investment & service delivery across public, private and voluntary sectors

- Base for population estimates & projections

- Unique source of detailed socio-demographic statistics for small areas and small groups within population

Census provides:

Nationally consistent insights for small areas and population groups

- Population & housing unit counts

- Family structures

- Detailed characteristics

- Denominators for non-census statistics

- Survey sampling frames

Data available free-of-charge

2011 – Wales specific points

- Issue with Welsh tick-box in 2001
- Greater engagement with Welsh Government, Welsh Language Commission and Welsh users ahead of 2011
  - Census Advisory Group for Wales – includes LAs, Welsh language reps, faith etc groups
  - Chief Statistician, Welsh Government a member of Programme Board
  - New question on National Identity to provide Welsh tick-box
    - In combination with the question on ethnicity, enabled a respondent to say they were eg Black and Welsh
  - New question on second residences

2011 – Welsh Language provision

- Joint development of English and Welsh questionnaires

- Welsh questionnaires – paper and online

- Welsh language advertising

- Welsh language recruitment available

- Welsh language speakers in areas of high Welsh usage

Planning on all the same provisions for 2021

Where we are…

- Westminster and Welsh governments endorsed need for 2021 Census

- Implementation through Census Transformation Programme

Delivery in three tranches with iterative testing in between:

- 2017 Test

- 2019 Rehearsal

- 2021 Census

TOPIC AND QUESTIONNAIRE DEVELOPMENT

Question design and development

- Online first
  - Designing questionnaire for online first
  - Considering paper design separately
  - Minimise differences between two modes – but will be some necessary differences

- Aim not to increase respondent burden (compared with 2011)

- Aim to utilise other administrative sources as far as possible

2021 Census Topic Consultation

- ONS ran an open consultation on information needs from the 2021 Census between June and August 2015.

- Gathering users information needs about topics not questions

- Consultation closed on 27 August 2015 and received 1,095 responses
    - 279 responses from organisations; 816 responses from individuals

- Assessed all evidence against evaluation criteria to arrive at our updated view

Collect

- Age
- Sex
- Marital or legal partnership status
- Household and family relationships
- Type and self-containment of accommodation
- Tenure and landlord (if renting)
- Number of bedrooms
- Type of central heating
- Number of cars or vans
- Ethnic group
- National identity
- Amount of unpaid care provided
- General health
- Long-term health problem or disability

- Qualifications
- Long-term international migration
- Short-term international migration
- Internal migration
- Citizenship
- Religion
- Welsh language (in Wales)
- Main languages used
- English language proficiency
- Economic activity
- Occupation
- NS-SeC (Derived)
- Industry
- Method of transport to place of work
- Address of place of work

New question – Sexual identity

- Based on the APS question
- For 16 and over
- Appears before religion and after ethnicity following cognitive testing which showed worked better before religion

17 Which of the following options best describes how you think of yourself?

↪ This question is voluntary

☐ Heterosexual or Straight

☐ Gay or Lesbian

☐ Bisexual

☐ Other, write in

- Voluntary question assuming similar approach as religion question

- No 'prefer not to say' option

Added write-in other box following cognitive testing

New question – Volunteering

- The question will collect data on frequency of voluntary activity

- This should minimise respondent burden and it more closely meets the needs of three stakeholders: DCMS, NCVO and Sports England.

The terms 'official' and 'unpaid' have been dropped by request of stakeholders

Thinking of the last 12 months, have you taken part in any volunteering for any groups, clubs or organisations?

->Do not include any Court ordered activities

- *No*
- *Yes, at least once a week*
- *Yes, less than once a week but at least once a month*
- *Yes, less often*

We'll be testing respondents understanding of the term volunteering

We're only measuring formal volunteering and this will need to made clear in the guidance

Community Life Survey response options will allow us to compare our findings

Redesigned question (online) - Ethnicity

Two stage tick box option approach
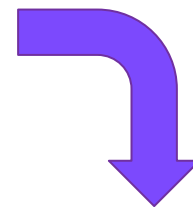
Ethnicity question (Paper)

- Same as 2011 question

- Some considerations underway to changing/improving question for 2021 and testing these independently of 2017 Test

16 What is your ethnic group?

Choose **one** section from A to E, then tick **one** box to best describe your ethnic group or background

A White
- ☐ English/Welsh/Scottish/Northern Irish/British
- ☐ Irish
- ☐ Gypsy or Irish Traveller
- ☐ Any other White background, write in

B Mixed/multiple ethnic groups
- ☐ White and Black Caribbean
- ☐ White and Black African
- ☐ White and Asian
- ☐ Any other Mixed/multiple ethnic background, write in

C Asian/Asian British
- ☐ Indian
- ☐ Pakistani
- ☐ Bangladeshi
- ☐ Chinese
- ☐ Any other Asian background, write in

D Black/African/Caribbean/Black British
- ☐ African
- ☐ Caribbean
- ☐ Any other Black/African/Caribbean background, write in

E Other ethnic group
- ☐ Arab
- ☐ Any other ethnic group, write in

Revised question (online & paper) - Qualifications

- Some concerns about the revised question – more work needed

- Additional response options to capture post-graduate degrees

- Additional instructions for apprenticeships

27 Thinking of any studies, exams or qualifications, which of the following **do you have**?

Tick **every** box that applies (whether UK or foreign equivalent) if you have **any** of the qualifications listed.

☐ 5 + GCSEs (grades A*- C) or O Levels (passes) or CSEs (grade 1), School Certificate, 1 A Level, 2-3 AS Levels/ VCEs, Higher Diploma

☐ 1 – 4 GCSEs or O levels or CSEs (any grades), Entry level, Foundation Diploma

☐ 2+ A Levels, 4+ AS levels/VCEs, Higher School Certificate, Advanced Diploma

☐ Apprenticeship (trade/advanced/foundation/modern)

☐ NVQ Level 1, Foundation GNVQ, Basic Skills

☐ NVQ Level 2, Intermediate GNVQ, City and Guilds Craft, BTEC First, RSA Diploma

☐ NVQ Level 3, Advanced GNVQ, City and Guilds Advanced Craft, ONC, OND, BTEC National, RSA Advanced Diploma

☐ NVQ Level 4–5, HNC, HND, RSA Higher Diploma, BTEC Higher, Foundation degree

☐ Other vocational/work-related qualifications

☐ Undergraduate Degree

☐ Postgraduate Certificate/Diploma

☐ Masters Degree

☐ Doctorate Degree (such as PhD)

☐ Professional qualification (such as teaching, nursing, accountancy)

☐ **Foreign qualifications (UK equivalent not known)**

☐ **None of the above**

Finalising questions for 2021

White Paper –Spring 2018 – our updated view on questions for 2021, using evidence from:

- 2017 Census Test
- Parallel programme of testing
  - Sexual identity/Gender identity/Armed Forces/Ethnicity
- Considering administrative sources
  - In particular Valuation Office Agency (VOA) for number of rooms and/or bedrooms
- Balancing overall burden, quality and space constraints – some new topics, but currently minimal space saved

Using VOA data instead of a 2021 Census question on number of bedrooms?

- **Agreement rates between 2011 Census and VOA - number of bedrooms**
  - Direct agreement = 78.0%
  - Census+1 room   7.8%
  - Census-1 room   10.7%

Census includes rooms converted into a bedroom

VOA specifies that the room has to comfortably fit a single bed

Agreement rate %

90
80
70
60
50
40
30
20
10
0

Census - 3 or more rooms | Census - 2 rooms | Census - 1 room | Agreement | Census +1 room | Census +2 rooms | Census +3 or more rooms

Deviation from agreement
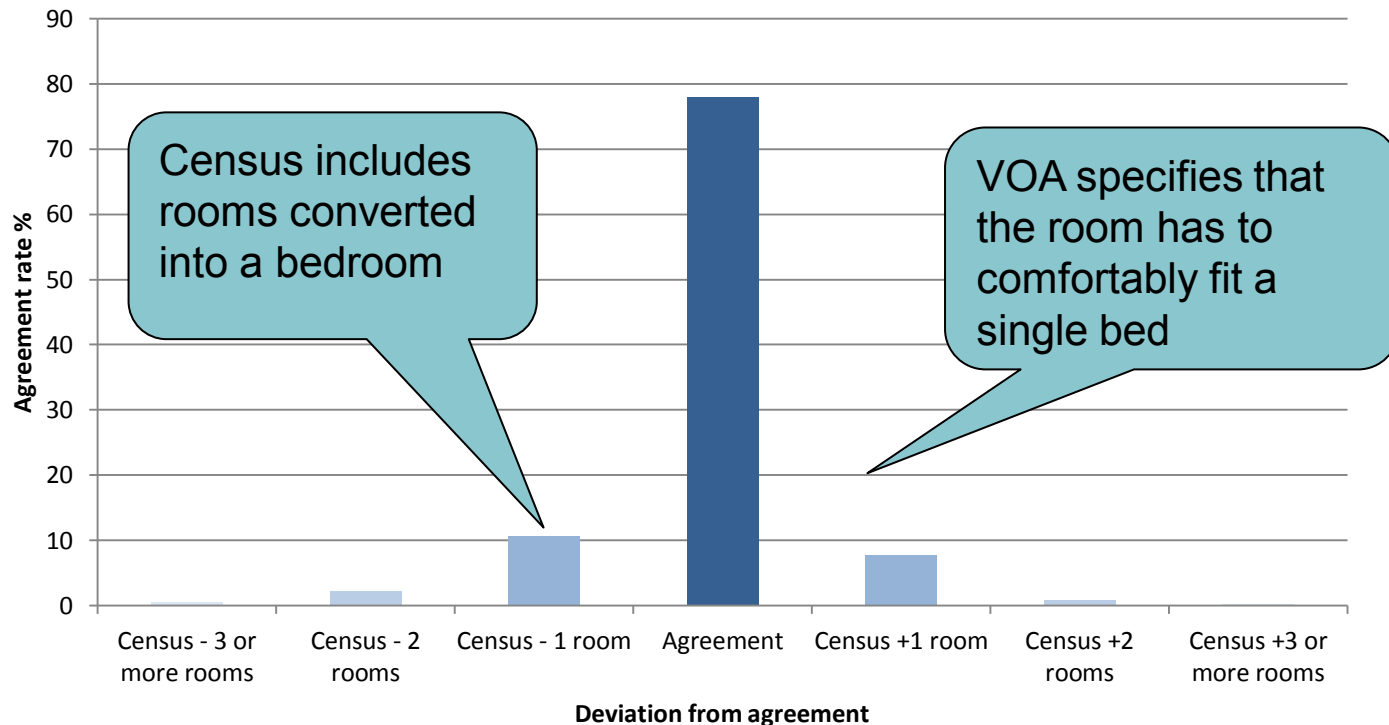
Source : 2011 Census, VOA

2011 online Census

- In 2011 we offered online completion for the first time

- Almost 17% used the service, with many taking the opportunity to tell everyone on social media how quick and easy they found the experience

- Every household received a paper questionnaire with an IAC

Homepage in Welsh

Usability Testing

- Participants think aloud while completing the Census.

- Observe high points and low points of completion.

- Make changes. Test again.
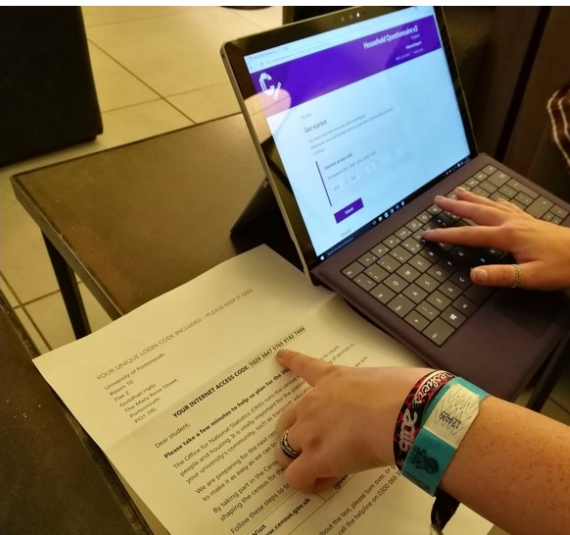
Usability testing – some findings

Start button relabelled following user feedback

Census Test

Help

Prototype v2

Previous

3

3.21 Which of the following options best describes how you see yourself?

This question is voluntary

☐ Hetrosexual or straight

☐ Gay or lesbian

☐ Bisexual

☐ Other

Save and continue

Save and complete later

Previous

Sections

✔ Who lives here?

✔ Accommodation

Participants didn't know they could enter a specific text entry and many felt their identity wasn't considered important

Census Test 2017

Help and support

Previous

Alan Partridge

17. Which of the following options best describes how you think of yourself?

This question is voluntary

☐ Heterosexual or Straight

☐ Gay or Lesbian

☐ Bisexual

☐ Other (please specify)

＞ Show further guidance

Save and continue

Save and complete later

Previous

Sections

✔ Who lives here?

✔ Household and Accommodation

Alan Partridge

Benny Andersson

'Please specify' added to make clear to user they can give an open answer

GOV.UK date of birth design but from research users needed an example

Clearer example to explain to users

2017 TEST

Why we need to Test

- Census is once every ten years
  - An event, one chance to get it right
  - Society changes
  - ONS staff change

- Check questions work
- Evidence topic and design decisions
- Check operational systems and processes work

2017 Test – Objectives

- The effect on response, and the quality of response, of the inclusion of a question on sexual identity
  - topic consultation demonstrated high user demand for this
- Options for the collection design to:
  - Optimise overall response
  - Methods for optimising self-completion (maximising response before introducing field staff into the follow-up operation)
- Online take-up and our ability to predict the characteristics of areas/respondents who will/can only respond on paper
  - Volumes of paper questionnaire likely to be needed for 2021

2017 Test Areas

7 Areas chosen to be representative:

- Urban
- High density - London
- Rural
- Low density
- Low connectivity
- Ethnic mix
- Hard to count

1. Blackpool
2. Barnsley
3. Powys (part)
4. Sheffield
5. South Somerset
6. Southwark
7. West Dorset

Census Test areas

1 Blackpool
2 Barnsley
3 Powys (part)
4 Sheffield
5 South Somerset
6 Southwark
7 West Dorset

■ Census Test areas[1]   (7)

Local or unitary   (348)
authorities

Regions (England)   (10)
or country (Wales)

Isles of
Scilly

London

Contains OS data © Crown copyright 2016
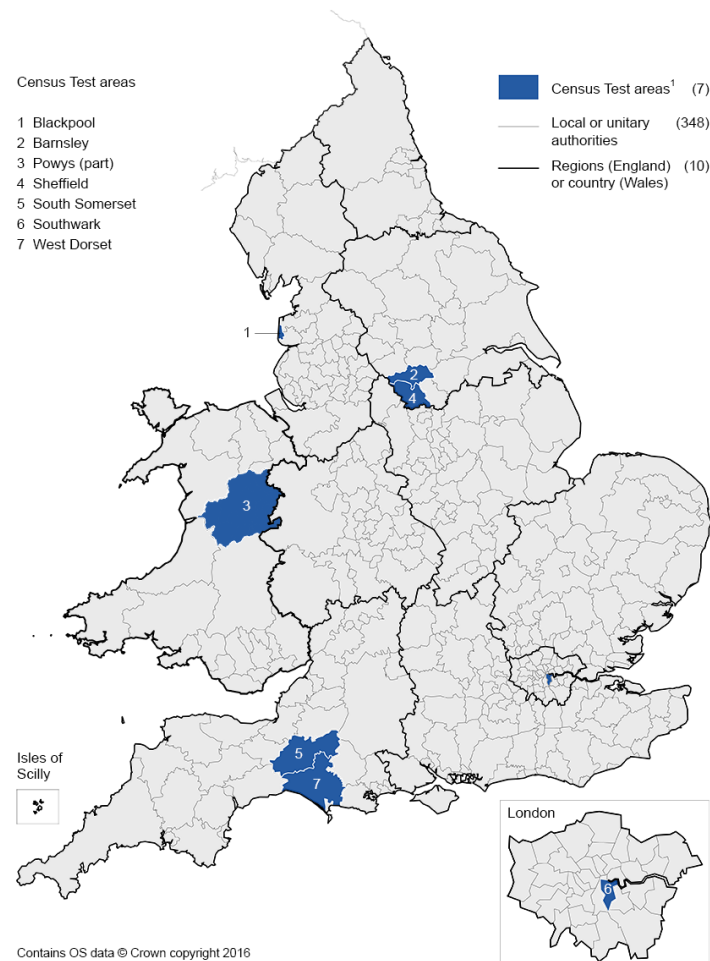
1 Census Test 2017 areas are composed of whole local or unitary authorities except for the area within Powys
in Wales, which is composed of 35 of its constituent Lower Layer Super Output Areas (LSOAs) for 2011.

Powys

- Test supported by Local Authority
- Need to test digital Census approach in area with lower broadband coverage; online usage
- Welsh language services
  - We will send an English and Welsh version of both the Initial Contact letter, and subsequent letters to addresses in Wales.
  - Welsh version of the questionnaire (paper and online) for addresses in Wales.
  - Online help in Welsh
  - Welsh language support via the helpline.
  - Bilingual envelopes in Wales
  - Field staff will carry a multi-lingual card that includes Welsh and some will be Welsh speaking

How it will work?

- Posting out letters with unique access codes to enter online capture site

- Paper questionnaires available on request

- Non responders followed up with

  - Reminder letters

  - Visits to encourage/help participation

- Results used to inform decisions for 2021

  - No outputs published

Component two

- 100,000 households – no field follow up
  - Randomly sampled across England and Wales
  - Sexual identity vs no sexual identity
  - Paper first in some areas
  - Different reminder letter styles and timing
- 8,000 – Assisted Digital
  - Isle Of Wight
  - Assistance in libraries, can we support people to go on-line?

ADMIN DATA CENSUS

ONS Beyond 2011 Programme 2011-2014/15

- Programme to identify the best way to provide small area population and socio-demographic statistics in the future (England and Wales)

- ONS consulted on two options in autumn 2013:
  - Census once a decade
  - Census based on administrative data and large annual surveys

- Made a recommendation in March 2014

National Statistician's recommendation (March 2014)

- An **online census** of all households and communal establishments in 2021 - with support for those who are unable to complete the census online.

- **AND**

- Increased use of **administrative data and surveys** in order to enhance the statistics from the 2021 census and improve annual statistics between censuses.

  ➢ Make the **best use of all available data** to provide the population statistics required.

  AND

  ➢ Offer a **springboard to** the greater use of administrative data and annual surveys in **the future**

What do we mean by an Admin Data Census?

- **Aiming to replicate as many census outputs as possible using admin data (and surveys) by 2021 to compare with 2021 Census**

  - ➤ **Recommendation in 2023**

- Three key types of Census outputs:

  - Size of population

  - Number and structure of households

  - Characteristics of housing and the population

- **Lot of potential with admin data alone but it will not provide the complete solution.**

- **Need access to range of admin data and combine with surveys.** Likely to need two new surveys:

  - Annual 1% coverage survey to help measure size of population and households

  - Annual characteristics survey – size tbc

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SPD Population Estimates Methodology

Statistical Population Dataset – SPD V1.0
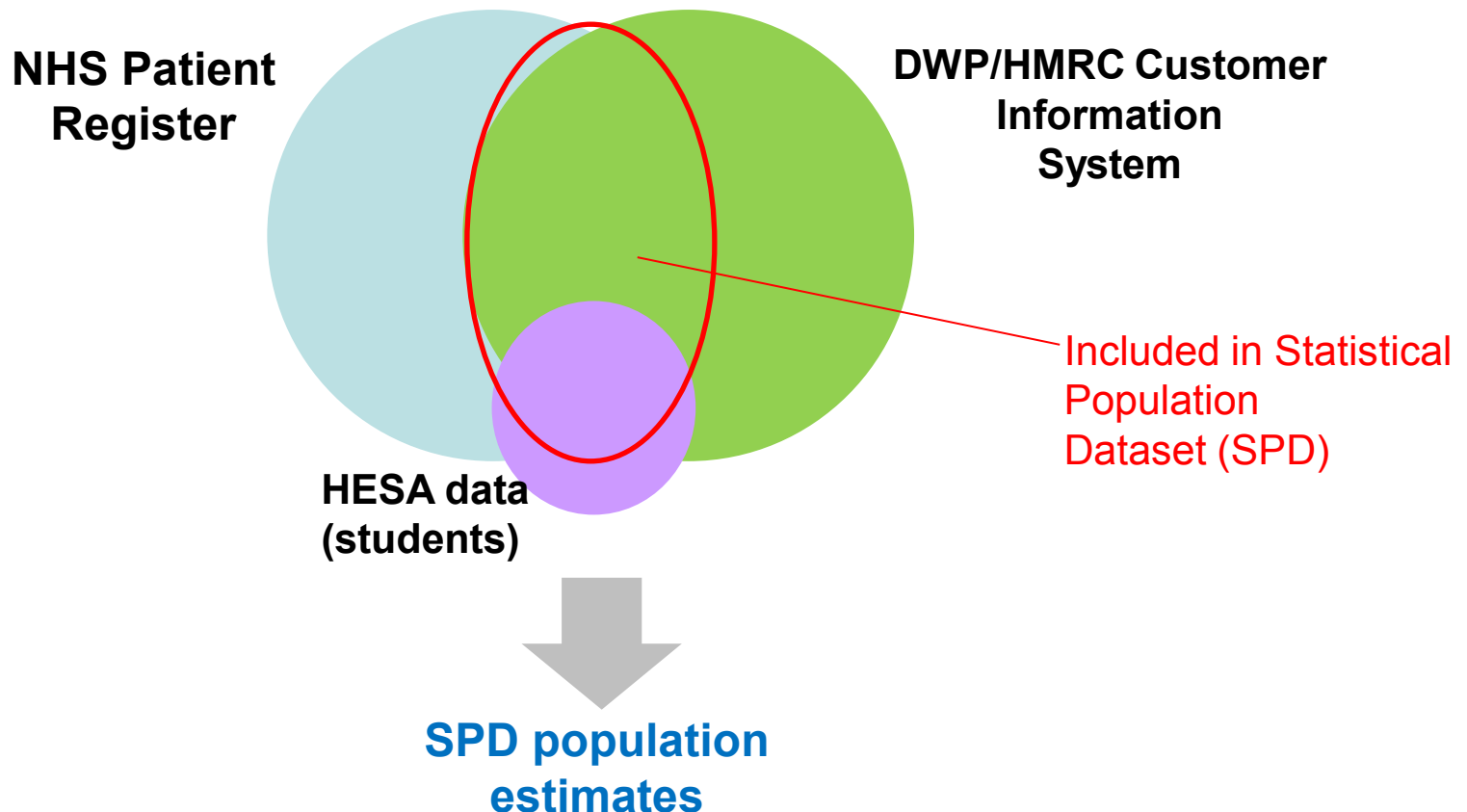
SPD Population Estimates Methodology

Statistical Population Dataset – SPD V2.0

NHS Patient Register

DWP/HMRC Customer Information System

HESA data (students)

1. Inclusion of School Census records that link to either PR or the CIS

2. Inclusion of Patient Demographic Service (PDS) 'Address moves'

3. Inclusion of DWP Benefits data

4. Improved the matching methodology for linking PR, CIS, HESA and SC records

SPD population estimates
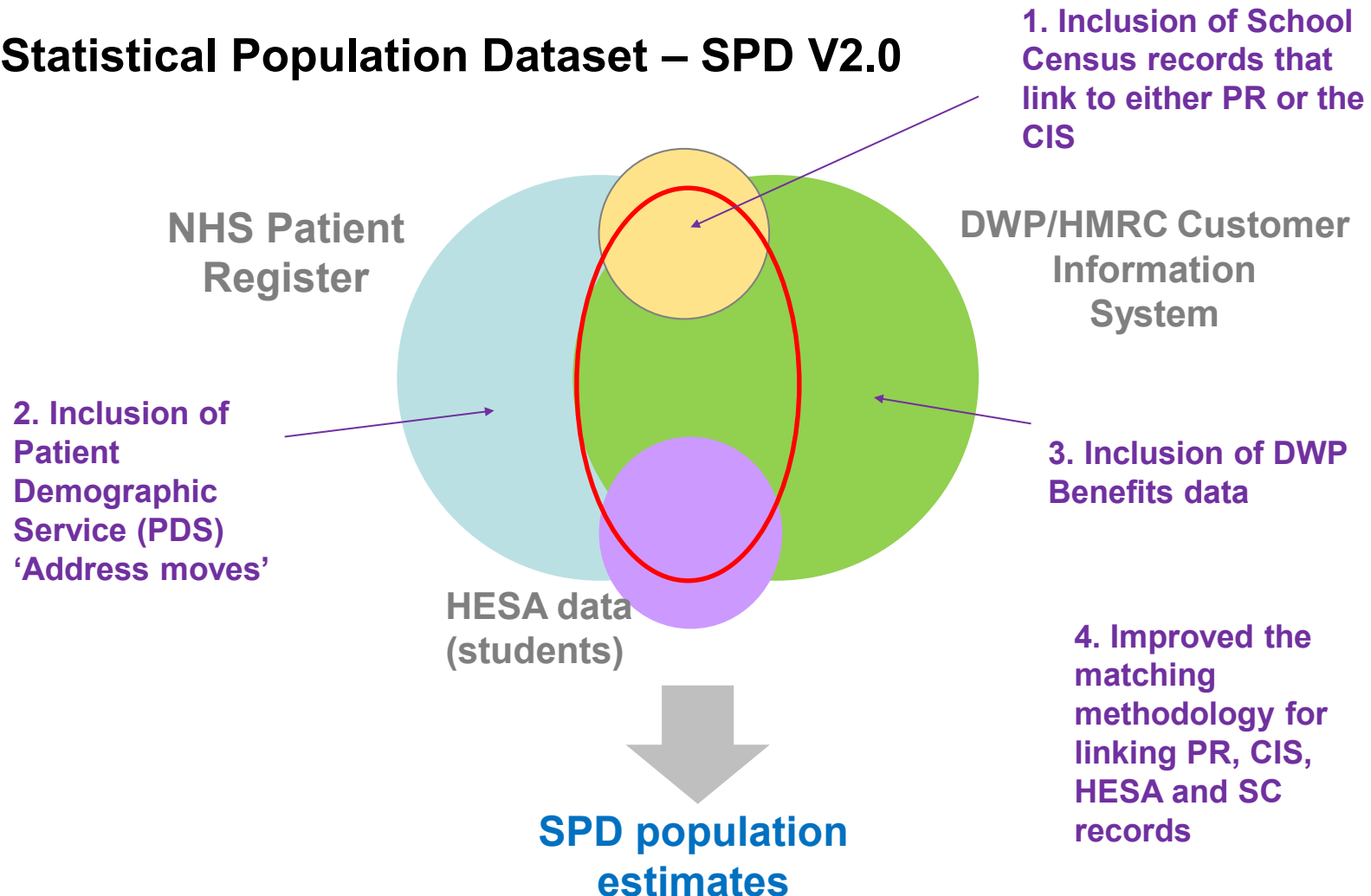
How will we know if we're ready to move?

- Annual cycle

- Research outputs every Autumn (first: 22 October 2015)

  - expanding the accuracy and/or breadth and/or detail each year

- Assessment every Spring (first: 16 May 2016)

  - Using five high level criteria

    - where we are now

    - where we expect to be by 2023

First assessment of ONS' ability to move to Admin Data Census post-2021

	Access to data	Ability to link	Methods to meet information needs				Acceptability to stakeholders	Value for money
			Population estimates	Households and families	Housing character-istics	Population character-istics		
Where are we now?	**Red/Amber**	**Amber**	**Amber**	**Red/Amber**	**Amber**	**Red/Amber**	**Red/Amber**	**Amber**
Where do we expect to be by 2023?	**Amber/Green**	**Green**	**Green**	**Amber/Green**	**Green**	**Amber**	**Amber/Green**	**Amber/Green**

Availability of population characteristics on administrative sources

Individual variables	Earning and benefits data	Health data	Education data	Vehicle and driver data	Property attributes
Sex	G	G	G	G	R
Date of birth	G	G	G	G	R
Marital status	A	R	A	R	R
Household relationships	A	R	R	R	R
National identity	R	R	G	R	R
Ethnicity	RA	A	G	R	R
Language (ability to speak English)	RA	RA	A	R	R
Language (ability to speak Welsh)	R	R	RA	R	R
Religion	R	R	G	R	R
Qualifications	R	R	AG	R	R
General health	R	A	RA	R	R
Disability/long-term health conditions	A	A	A	RA	R
Carers (number of)	A	R	R	R	R
Economic activity	A	R	A	R	R
Industry of occupation	A	R	R	R	R
Mode of travel to work	R	R	R	R	R
Place of work	A	R	R	R	R
Country of birth	RA	RA	R	R	R
Internal or international migrant	A	G	A	A	R
Term time address	R	R	G	R	R
Income	AG	R	R	R	R
Sexual identity	R	R	RA	R	R
Activity (interacting with system from which data are taken)	G	G	G	G	RA

What outputs have we produced this year?

Package 1 Population estimates	Population estimates from a linked Statistical Population Dataset (SPD), years 2011 and 2015 SPD Versions 1 & 2: Local authority level, by single year of age sex LSOA level, by five year age sex	**17 Nov 2016**
Package 2 NEW Income from PAYE and benefits data	by LA (2013/14 Tax Year) Five year age sex distribution (national)	**16 Dec 2016**
Package 3 NEW Household estimates (Number of households)	by LA (2011 and 2015)	**27 Feb 2017**

Estimates of population size

SPDV2 2011 comparison with Census estimates

- Greater than 13% lower
- Greater than 8.5 or less than or equal to 13% lower
- Greater than 3.8 or less than or equal to 8.5% lower
- Within or equal to 3.8%
- Greater than 3.8 or less than or equal to 8.5% higher
- Greater than 8.5 or less than or equal to 13% higher
- Greater than 13% higher

Greater London
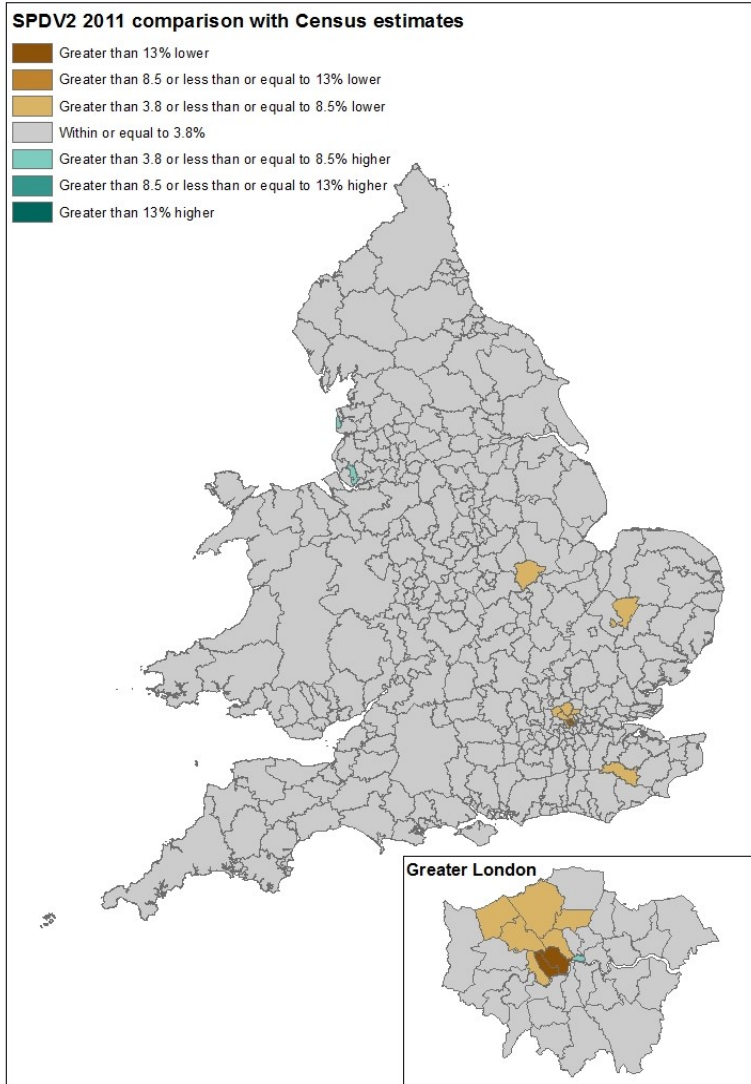
- 96% of LA's (334) are within the P1 quality standard.
- This compares with 94% (327) using V1

Research Outputs - Population

Comparison of SPDv2.0 to 2015 MYE by five-year age group and sex
Wales, 2015

Source: Office for National Statistics
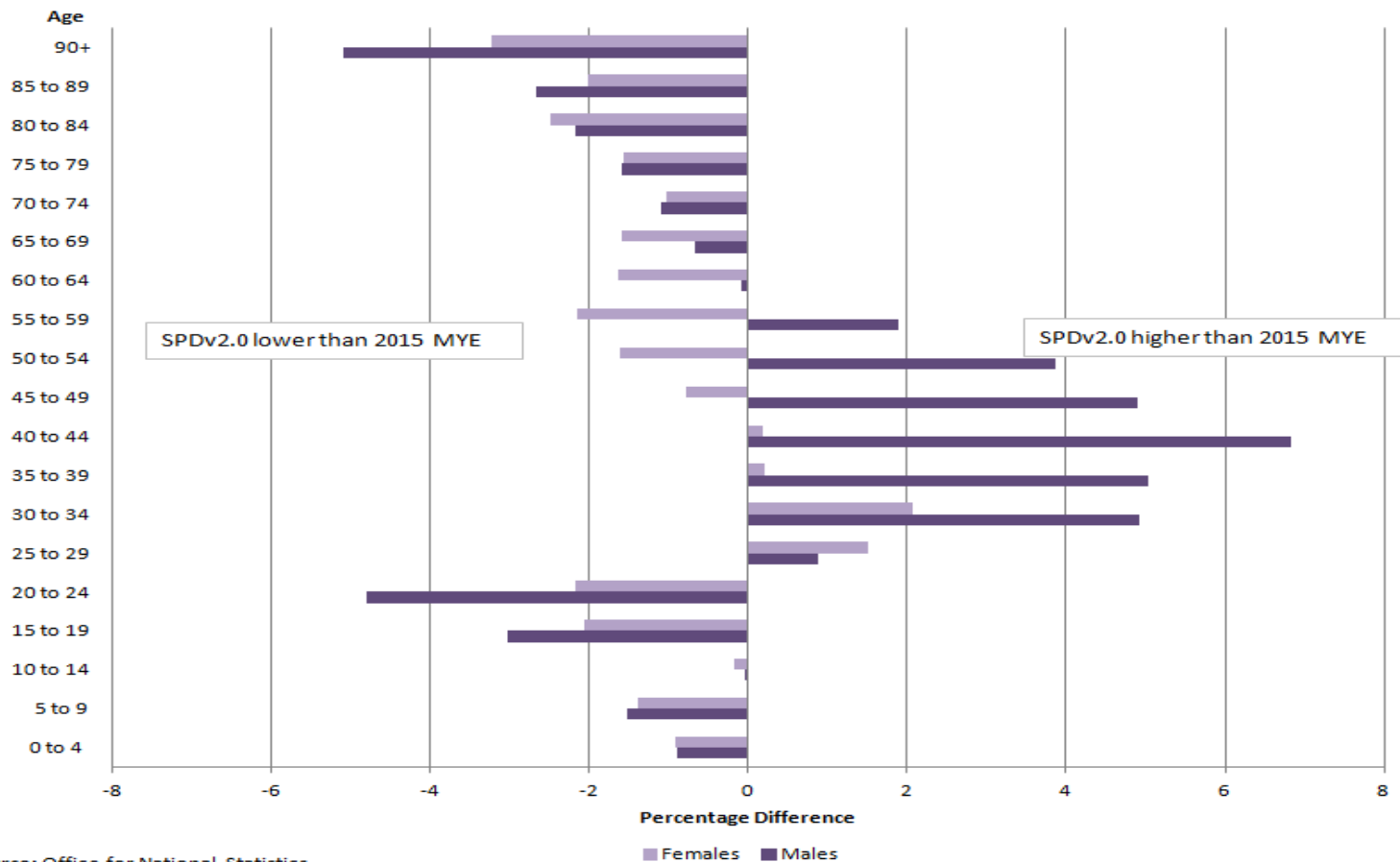
Research Outputs - Population

Comparison of SPDv2.0 to 2011 Census by five-year age group and sex
Wales, 2011

Source: Office for National Statistics
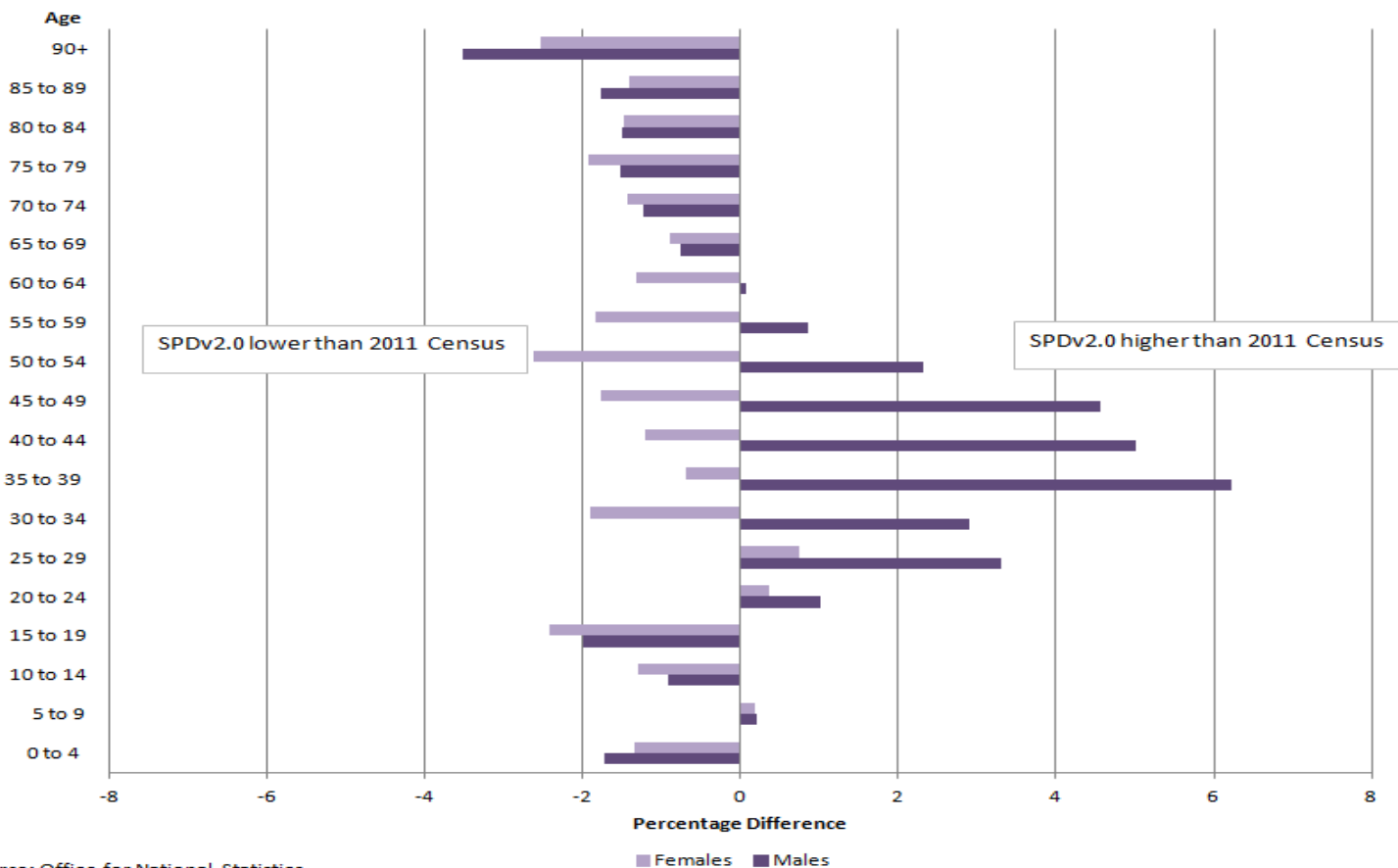
Income and the census

- An income question has never been included in UK censuses

- 2007 Census Test showed inclusion of income question reduced overall response by 2.7 percentage points

- Will not be collected in 2021 Census, explore use of administrative data

Percentage of the SPD population that has some PAYE and benefits income information by age and sex, England and Wales

Tax year 2013/14

Males and females, aged 16 and over

Percentage of the population (y-axis), Age (x-axis). Legend: Males (solid line), Females (dashed line).
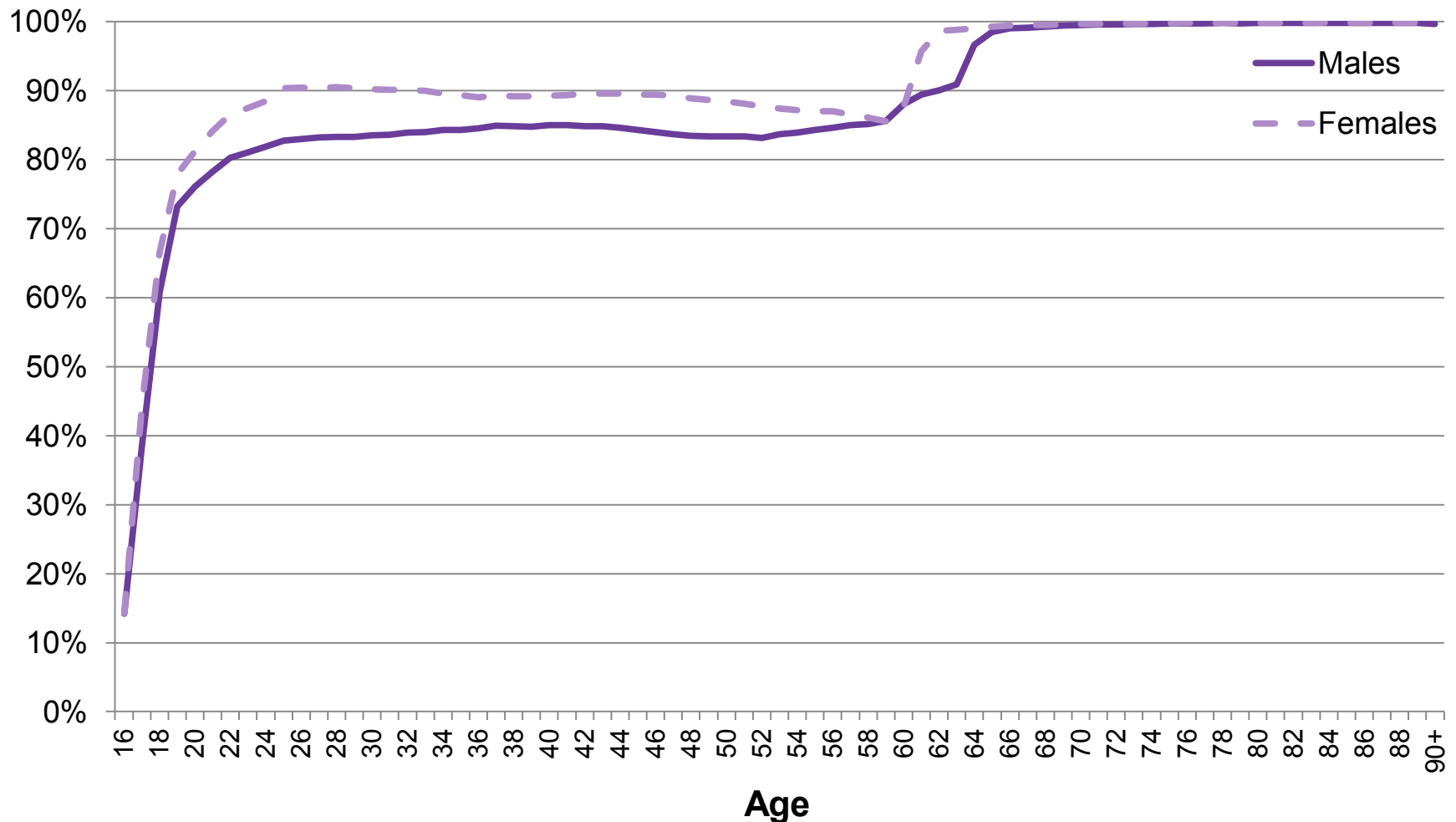
Percentage of the SPD population that has some PAYE and benefits income information by local authority

Tax year 2013/14
Males and females, aged 16 and over

Greater London

Legend:
- 70% to 79%
- 80% to 89%
- 90% and over

What's missing?

Income from:

- Self-employment

- Investments

- Child benefit

- Universal credit

- Personal independence payments

- Some pensions

- Anything below the tax threshold which doesn't go through the PAYE system

PAYE and benefits income distribution

Tax year 2013/14
Males and females, aged 16 and over
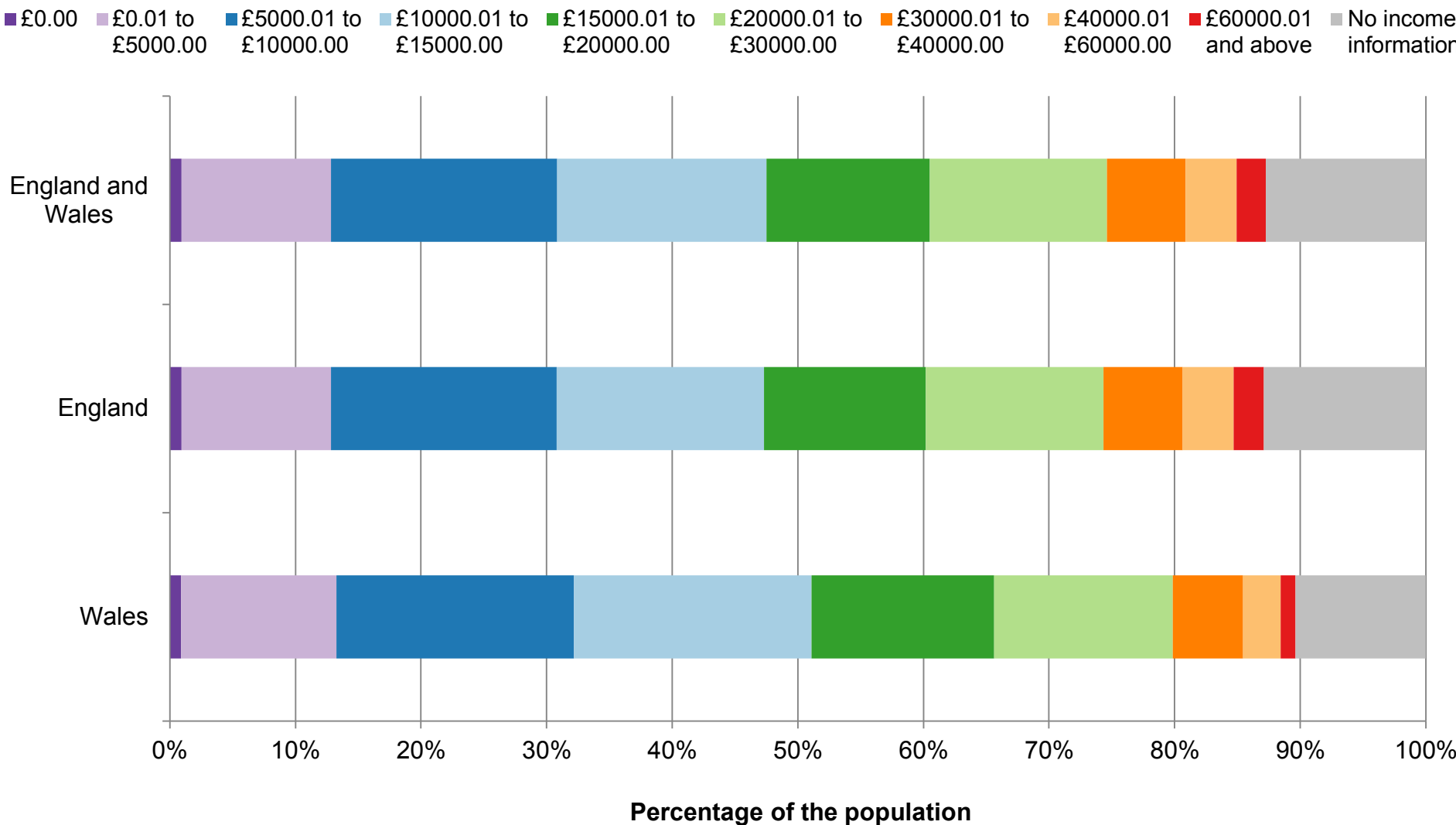
Legend:
- ■ £0.00
- ■ £0.01 to £5000.00
- ■ £5000.01 to £10000.00
- ■ £10000.01 to £15000.00
- ■ £15000.01 to £20000.00
- ■ £20000.01 to £30000.00
- ■ £30000.01 to £40000.00
- ■ £40000.01 to £60000.00
- ■ £60000.01 and above
- ■ No income information

Percentage of the population

Data Source: PAYE employment and pension data and Tax Credits data from HM Revenue & Customs and benefits data from the Department for Work and Pensions
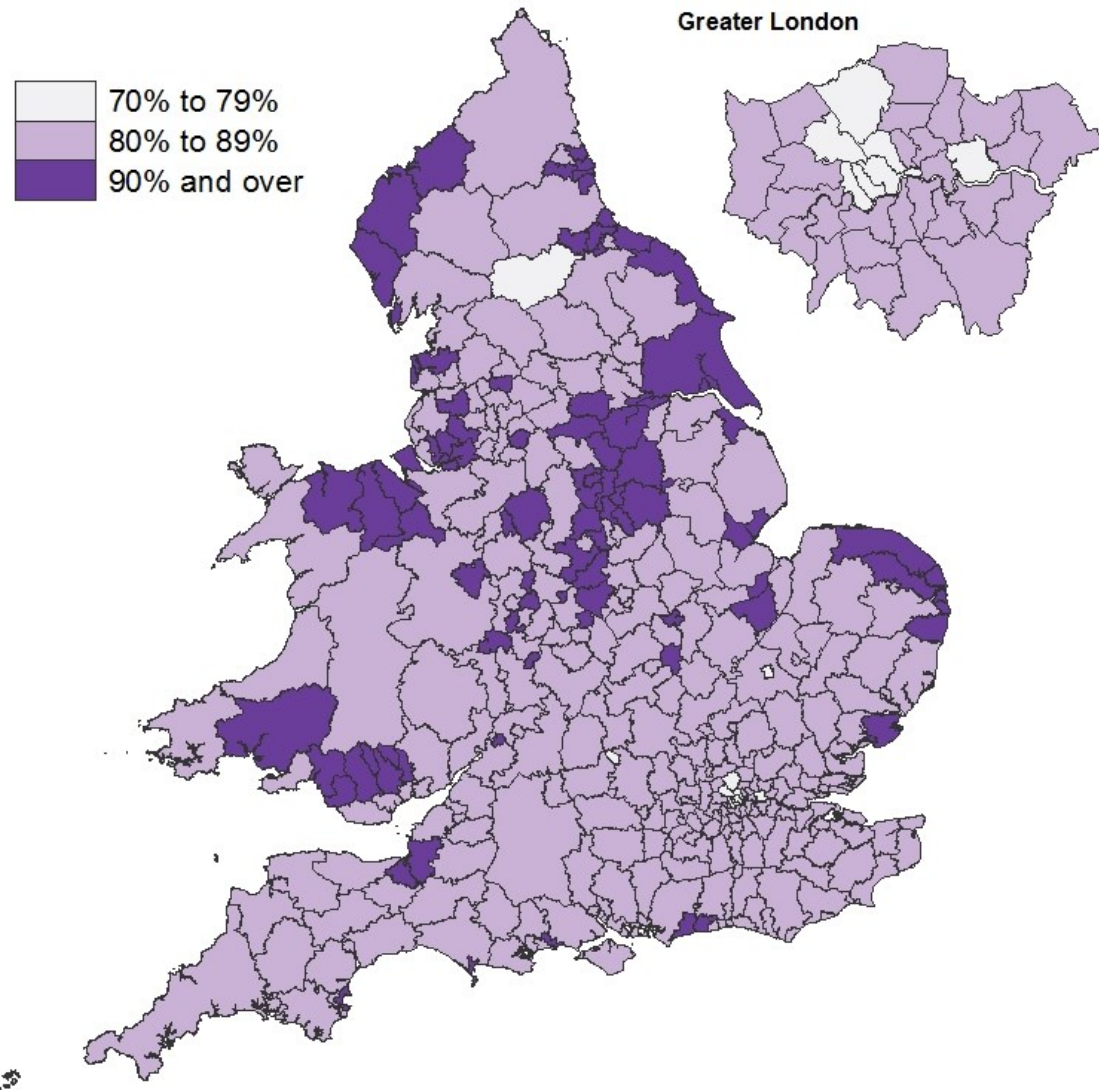
Percentage of the population with PAYE and benefits income of £20,000 or below by local authority

Tax year 2013/14

Males and females, aged 16 and over

Greater London

Legend:
- 49% and below
- 50% to 59%
- 60% and over

PAYE and benefits income distribution for females by age, England and Wales

Tax year 2013/14
Females, aged 16 and over

Legend:
- £0.00
- £0.01 to £5000.00
- £5000.01 to £10000.00
- £10000.01 to £15000.00
- £15000.01 to £20000.00
- £20000.01 to £30000.00
- £30000.01 to £40000.00
- £40000.01 to £60000.00
- £60000.01 and above
- No income information
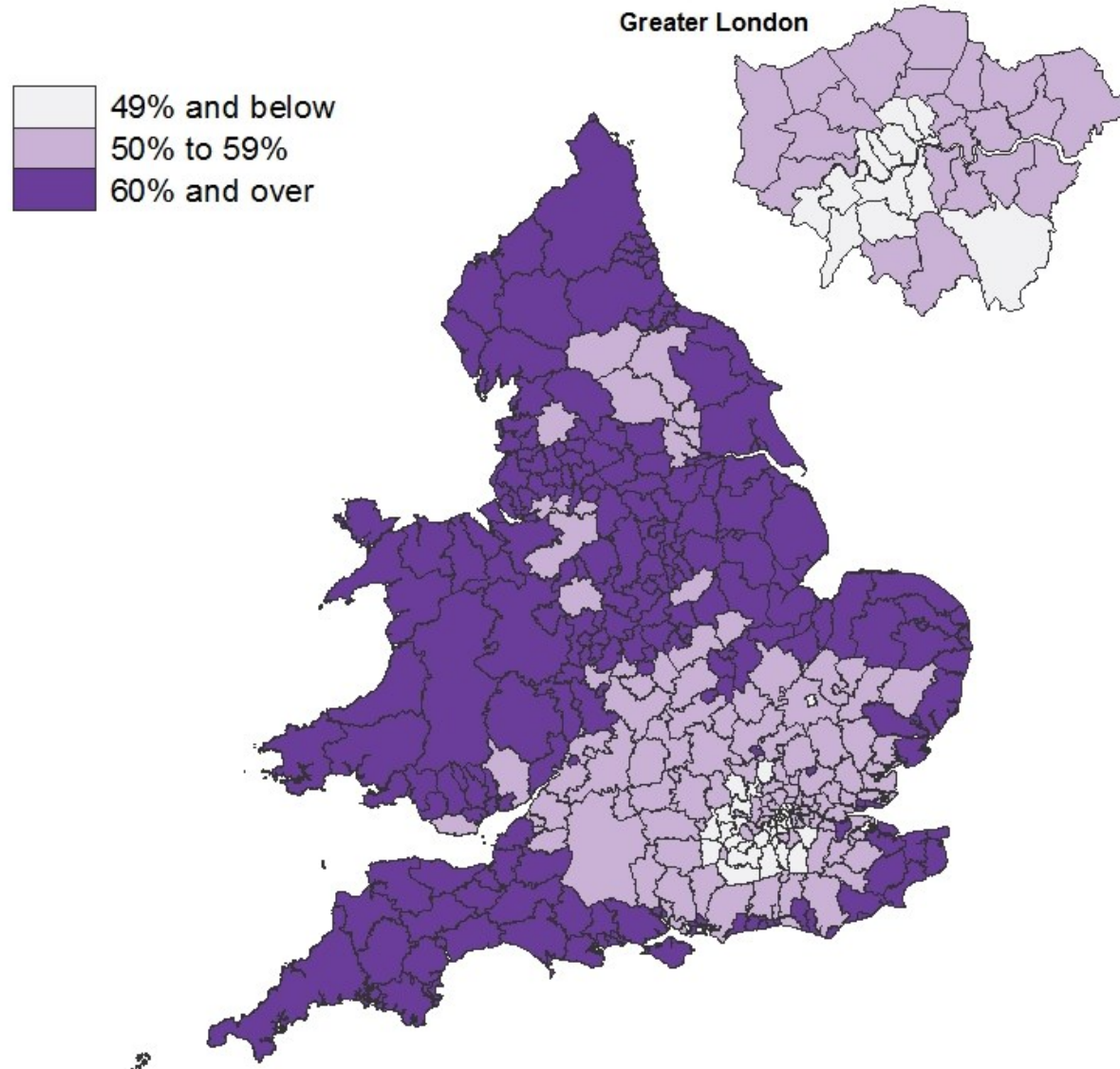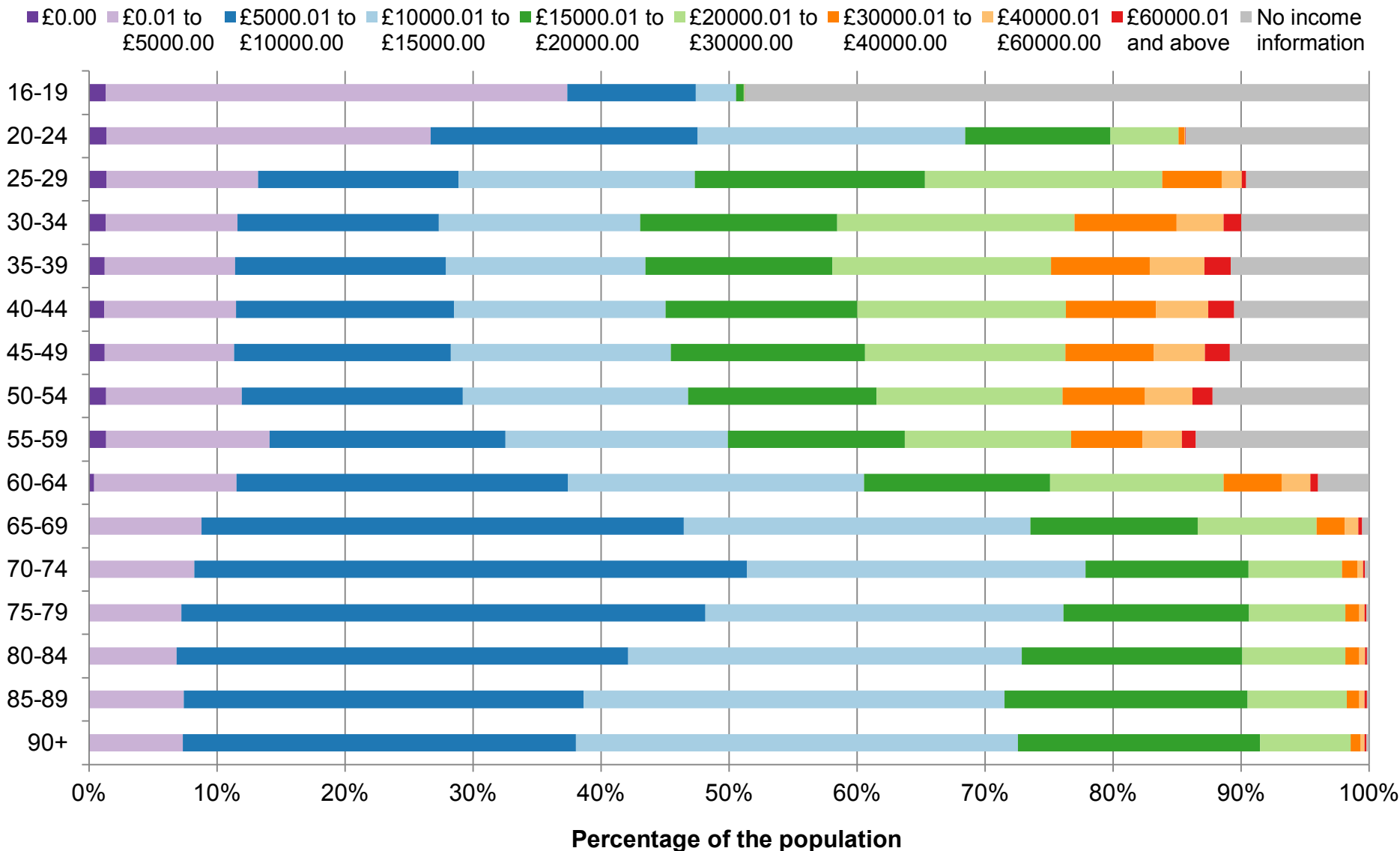

Percentage of the population

Data Source: PAYE employment and pension data and Tax Credits data from HM Revenue & Customs and benefits data from the Department for Work and Pensions

QUESTIONS?