



2011 online census in England and Wales

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Introduction

- **Development**
 - Functionality testing
 - Performance testing
 - Feedback
- **The questionnaire**
 - Design
 - Functions
- **Outcome and conclusions**
 - Response profiling
 - Fact and figures



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Online census - objectives



- **Usable**
 - Easy to give good quality answers
- **Accessible**
 - No one excluded from being allowed to complete online
- **Secure and confidential**
 - Responses only seen by those making the return
 - Protect and keep secure the online response
- **Resilient and responsive**
 - Manage expected user loads
 - Manage user expectations in the event of downtime
- **Results consistent with paper**
 - Avoid bias in responses

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Development & testing



- **Development testing – Lockheed Martin**
 - Functional and performance testing in development lab
 - 'Bootable CD' allowed verification against requirements
 - Also allowed early user testing
- **Lockheed Martin led usability and accessibility testing**
 - 3 rounds of usability testing in 3 different locations
 - One with Non-English Speakers
 - Accessibility testing with users of screen readers, voice recognition, etc
- **Consultancy with RNIB**
 - Independent testing ensured conformance with 'WCAG2.0 double A' guidelines
- **Browsers**
 - Monitored/tested with new browsers

About 150 people took part in usability testing

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2009 Rehearsal feedback



- **Stakeholder feedback**
 - 1,100 IACs sent to key stakeholders during rehearsal; 600 responses
 - 170 provided feedback, majority of which was positive
- **Respondent feedback**
 - 4,400 emails sent to rehearsal respondents, 762 feedback responses
 - Majority described the experience as 'very good' or 'good'
 - *'I thought the questionnaire was one of the best designed I have ever seen, (I spent my working life teaching questionnaire design at Lancaster University), so congratulations'*
- **Problems identified during rehearsal**
 - A small number of duplicate IACs were issued
 - A return made using 'save and come back later' could be seen by others
 - Caused by spoils from print run not being disposed of correctly
 - Process to ensure no duplicate IACs issued
 - Soft edit removed from 'address one year ago' as problematic for babies under 1 year

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Performance testing



- **Independent External testing**
 - Lockheed commissioned end-to-end test of online census
 - Simulated a respondent's visit from the landing page through to submitting their response
 - Different household sizes simulated
 - Cloud based service allowed for large simulated loads
- **Testing outcomes:**
 - Testing lasted 4-5 months, identified problems which would not have been found until live operations
 - Confirmed system able to handle 180,000 concurrent users

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Online questionnaire

Link to online questionnaire

Click to fill it in

Request replacement or individual questionnaire

Online help

Help for non-English speakers

Don't be the one who forgets

Make sure you complete your census or you could be fined up to £1,000. Doing it online is quick and easy, and you get a receipt.

Press centre

Social charities

Community groups

Scotland? Click here for the census in Scotland

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//onlinemb2.census.gov.uk/questionnaire/login.do

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Accessibility Text size A A Text colour A A Cymraeg

IAC - 20 character alphanumeric code – not case sensitive

Where to find code on front of questionnaire

Where to find code on front of questionnaire

A message to everyone

Everyone should be included, including overnight visitors.

It is used to help plan and improve health, transport, education and other services.

Taking part in the census is very important and it's also compulsory. You could face a fine if you don't participate or if you supply false information.

Your personal information is protected by law and will be kept confidential for at least 100 years.

So help tomorrow take shape and be part of the 2011 Census.

Accessibility options and statement

Welsh language toggle for respondents in Wales

More help

More information available

Can't find your internet access code? [opens in a new window]

More help with completing online... [opens in a new window]

Hints for completing online including page time limits [opens in a new window]

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Used to confirm address at first session. When returning to the questionnaire respondent was taken to last completed question

Save and come back later

Address Confirmation

You are required to answer all of the questions in this census questionnaire unless otherwise stated.

Your address

If your address above is incorrect, please enter correct address here

Address line 1
The House
Address line 2
The Street
Address line 3
The Town
Address line 4
The County
Postcode
PO15 5RR

Save and next

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Check boxes for multi response questions

2 hard edits - number of residents and number of visitors

Online questionnaire allowed for up to 30 residents and 9 visitors in a household

Each response is saved when moving to the next question

Household questions

Help and information (opens in new window)

Save and come back later

Accessibility Text size A A A Text colour A A A

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H1 Who usually lives here?

Select all that apply

Me, this is my permanent or family home

Family members including partners, children, and babies born on or before 27 March 2011

Students and / or schoolchildren who live away from home during term time

Housemates, tenants or lodgers

People who

People who

People who

People stay

Other people

OR No-one uses

H2 Counting everyone you included in question H1, how many people usually live here?

Save and next

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Link to online help which opened in a new window

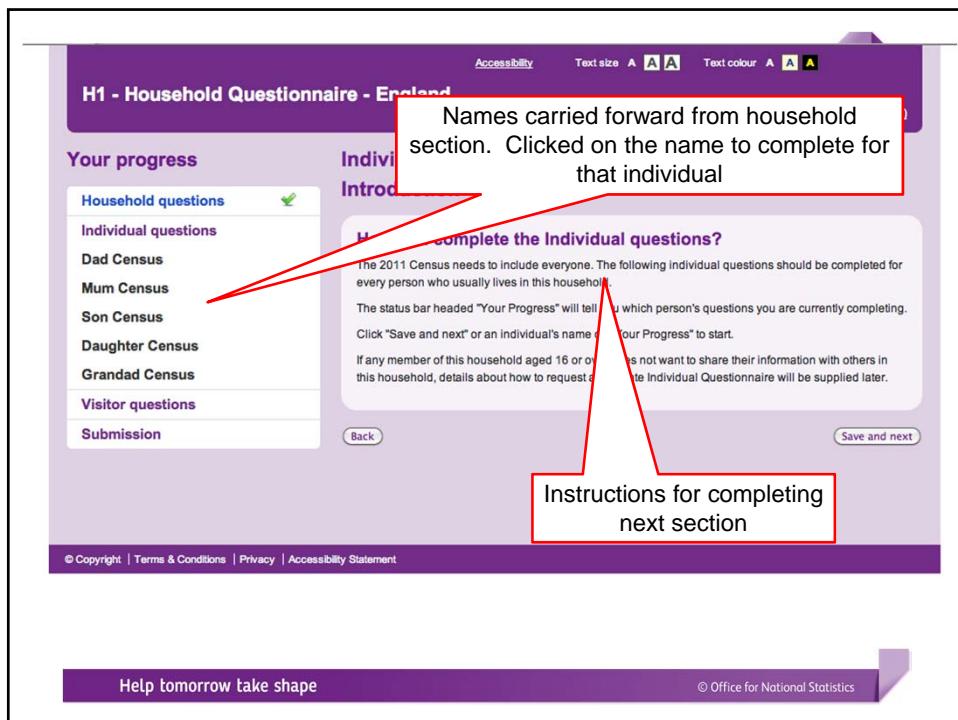
Drop down used instead of grid for relationship matrix to comply with usability guidelines

Progress bar - Clicking on question number took you back to that question to review or amend

Error clearly stated

Where error occurred with clear explanation

Soft edit check – clicking save and next twice allowed progress to the next question



Names carried forward from household section. Clicked on the name to complete for that individual

Instructions for completing next section

H1 - Household Questionnaire - England

Your progress

- Household questions ✓
- Individual questions ✗

Individual questions

- Dad Census
- Mum Census
- Son Census
- Daughter Census
- Grandad Census

Visitor questions

- Submission

Help and information (opens in new window)

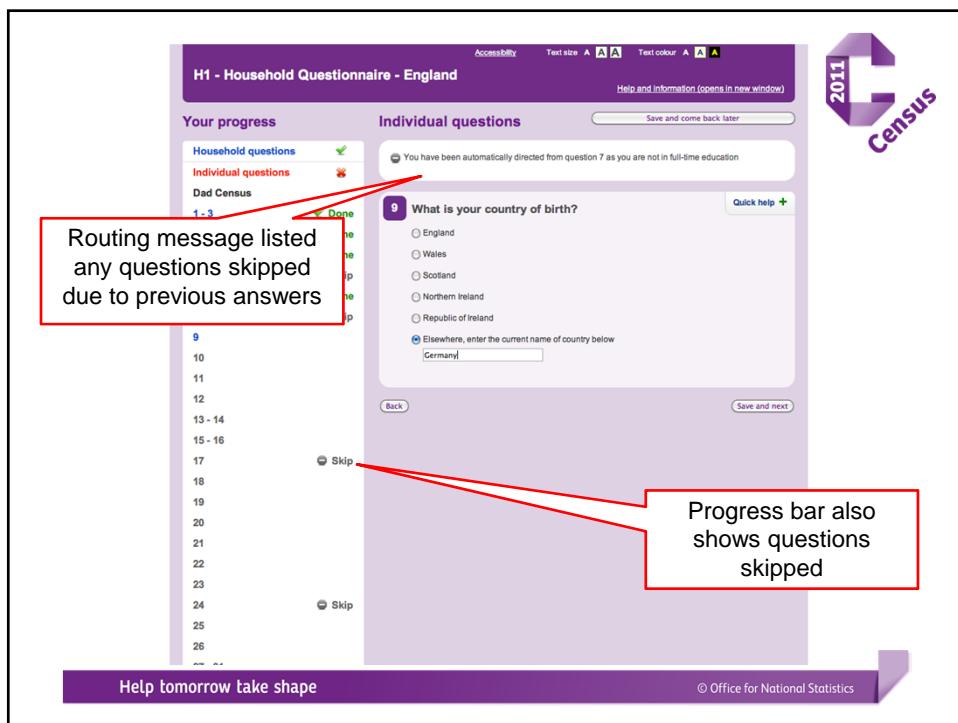
Accessibility Text size A A A Text colour A A A

Save and come back later

Save and next

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Routing message listed any questions skipped due to previous answers

Progress bar also shows questions skipped

H1 - Household Questionnaire - England

Your progress

- Household questions ✓
- Individual questions ✗

Individual questions

1 - 3 ✓ Done

4 ✗ Skip

5 ✗ Skip

6 ✗ Skip

7 ✗ Skip

8 ✗ Skip

9 ✗ Skip

10 ✗ Skip

11 ✗ Skip

12 ✗ Skip

13 - 14 ✗ Skip

15 - 16 ✗ Skip

17 ✗ Skip

18 ✗ Skip

19 ✗ Skip

20 ✗ Skip

21 ✗ Skip

22 ✗ Skip

23 ✗ Skip

24 ✗ Skip

25 ✗ Skip

26 ✗ Skip

... ... Skip

9 What is your country of birth?

- England
- Wales
- Scotland
- Northern Ireland
- Republic of Ireland
- Elsewhere, enter the current name of country below

Germany

Quick help +

Help and information (opens in new window)

Accessibility Text size A A A Text colour A A A

Save and come back later

Save and next

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Progress bar shows all sections complete

Once submitted, responses couldn't be amended.

Declaration that questionnaire has been completed to the best of the respondent's knowledge

Message that unsubmitted responses will be collected - approx 3% of returns

Submit was a hard check. If questionnaire not complete it could not be submitted

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Receipt number. The respondent was advised to print this page

Print button opened print options

How to request an individual questionnaire

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Feedback from users



"I thought the on-line completion process was very professional - I'm a 64 year old pensioner and I completed my form without any problems."

"As a highly cynical "sysadmin" I was very surprised that the site worked perfectly in firefox with javascript disabled on a semi-broken linux box. Nice work!"

Twitter: Starting online census form 14:05 lets see how long this takes Done in 13 minutes, well that was pretty painless

"The best online experience in Welsh that I have ever had ...delighted that the ONS has done such a great job"

"It was fantastic – an object lesson in how to make a complex procedure seem very simple"

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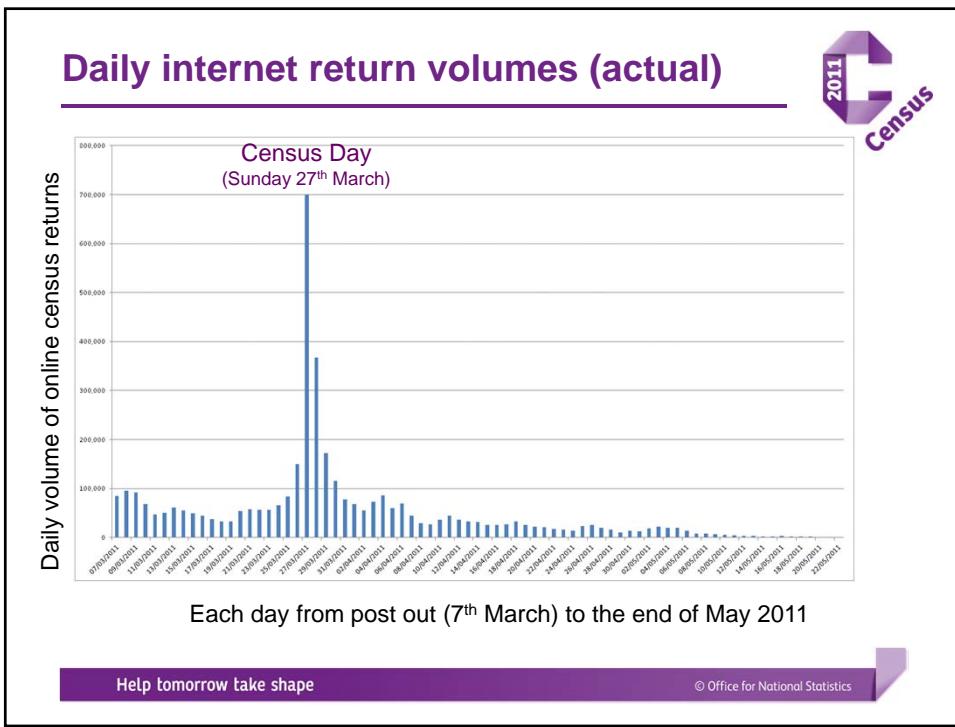
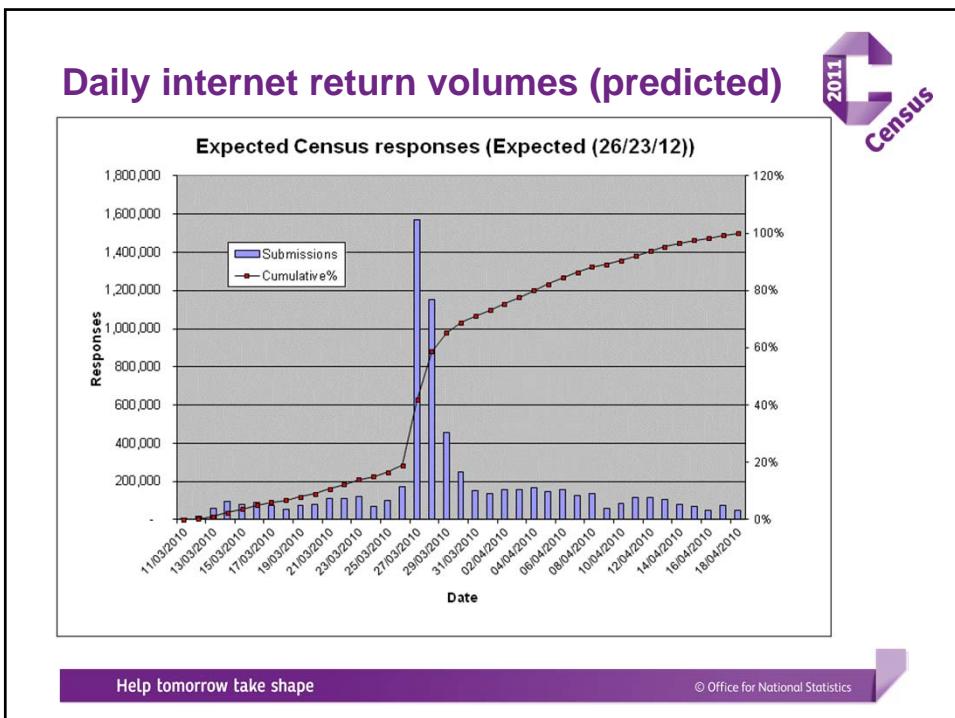
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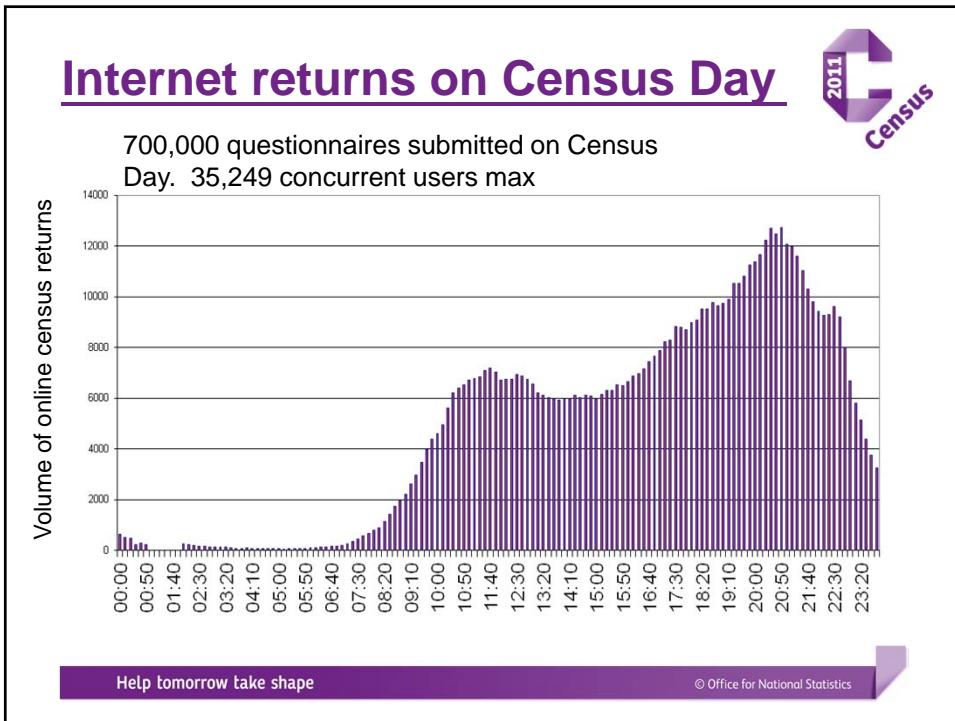
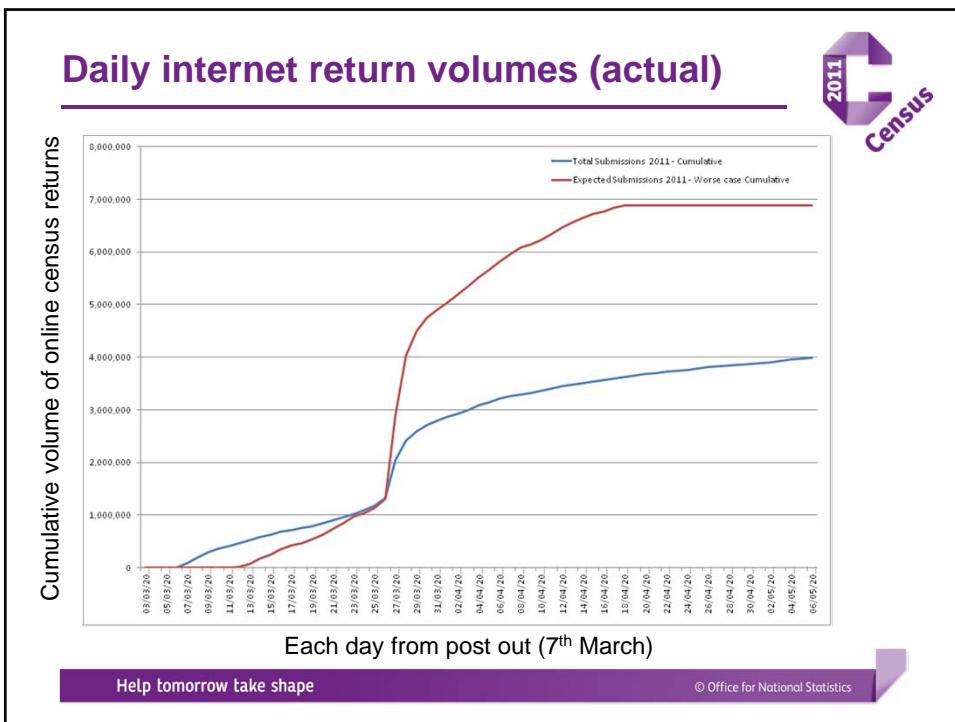
Response profiling

- **Early understanding – predicting online response**
 - Independent consultancy review in 2007 suggested online uptake up to 25%
 - Internet usage continued to increase. iPhone in Nov 2007 and iPad April 2010
 - Reviewed other NSIs plans and 2009 Rehearsal take-up experience
- **What were our predicted response rates?**
 - 26% of all returns online, of which 23% on Census day, and 12% of the Census day returns in the busiest hour
- **What about contingency?**
 - Sized for 40% of all returns online, with 30% of those returns on Census day itself, and 12% of the Census day returns in the busiest hour
- **What if we were inundated?**
 - Graceful deferral – if max number of concurrent users reached, then experience preserved for those who'd already started the online census
 - Message informed new users 'the service is busy' and 'try again later'

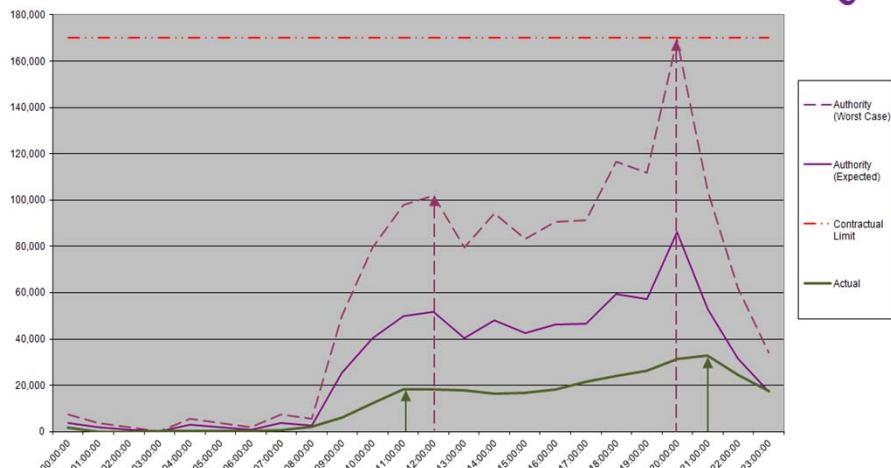
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Concurrent users – forecasts vs actual



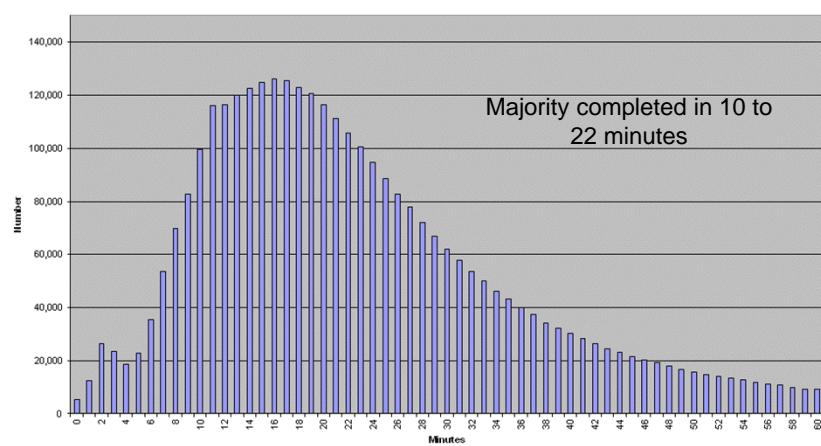
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Time to complete

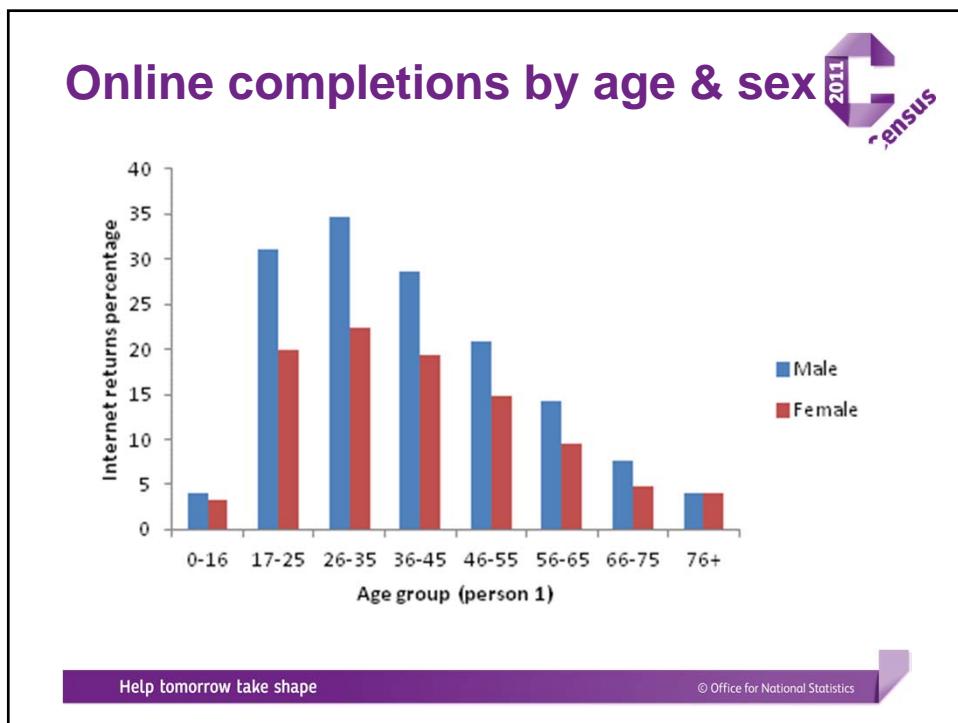
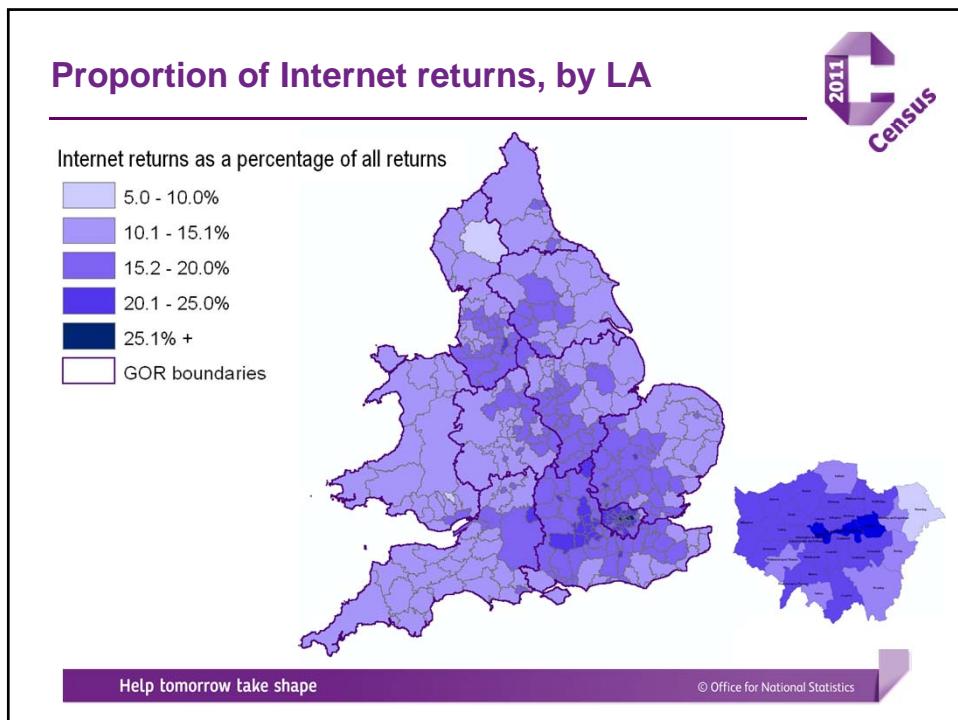


Time from login to submit: all forms

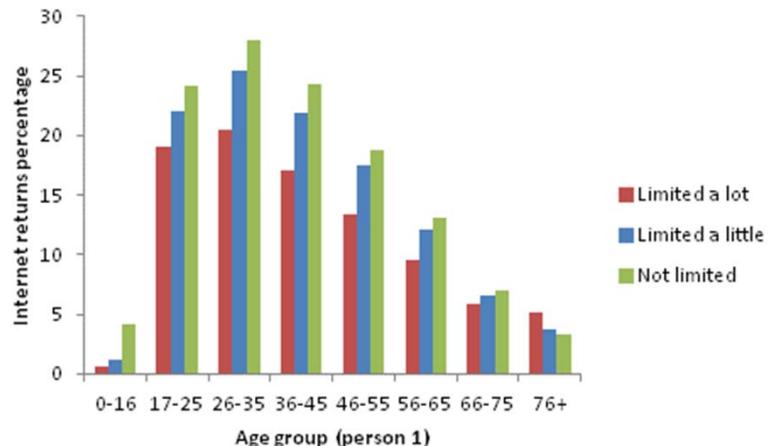


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Online completions by age and disability



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Conclusions



- **Very successful online census application**
- **Liked by users**
 - Due to extensive user and accessibility testing
- **Many design choices to be made**
 - Soft vs hard edits; routing; how to show progress, etc
 - Design largely replicated paper; design for online first in 2021
- **Only 16.7% response online vs 25% planned**
 - Planning 60-65% online in 2021
- **Infrastructure sized for the census day peak**
 - What role for 'cloud-based' solutions for the future?

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Further information



<http://www.ons.gov.uk/ons/guide-method/census/2011/the-2011-census/the-2011-census-project/2011-census-updates-and-evaluation-reports/2011-census-update--providing-the-online-census.pdf>

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