



Understanding Society  
THE UK HOUSEHOLD LONGITUDINAL STUDY

# Moving a household panel survey to mixed mode: The experience of *Understanding Society*



University of Essex



An initiative by the Economic and Social Research Council, with scientific leadership by the Institute for Social and Economic Research, University of Essex, and survey delivery by NatCen Social Research and Kantar Public



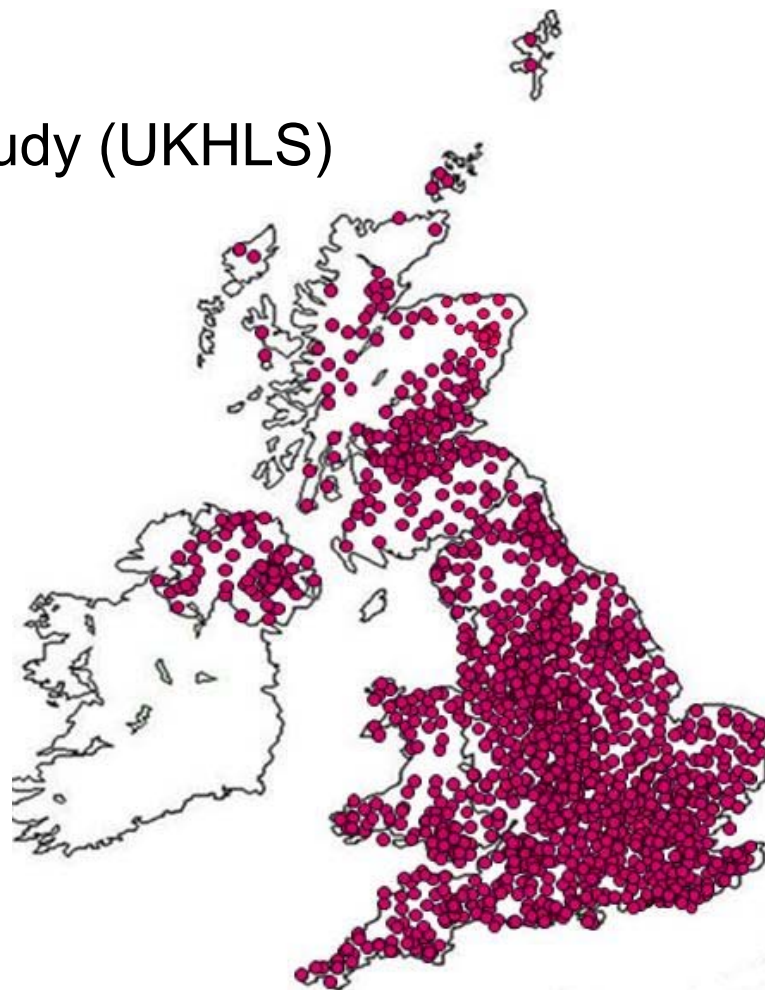
# What is *Understanding Society*?



- The UK Household Longitudinal Study (UKHLS)

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- The **UK** Household Longitudinal Study (UKHLS)
  - UK – covers
    - England
    - Scotland
    - Wales
    - Northern Ireland



# What is *Understanding Society*?



- The UK **Household** Longitudinal Study (UKHLS)
  - Collects data on all household members
  - Seeks to interview all aged 16+
  - Self-completion questionnaire for 10-15 year olds

# What is *Understanding Society*?



- The UK Household **Longitudinal** Study (UKHLS)
  - Follows the same original sample of people across time within the UK
  - Includes other people living with original sample members after first wave
  - Measures of individual-level change

# Plans for *Understanding Society*



- Wave 3 – face-to-face (CAPI)
- **Wave 4 – sequential mixed mode: telephone (CATI) with non-responders issued to interviewers (CAPI)**
- Wave 5 – face-to-face (CAPI)

# Need to test for a sequential mixed-mode design



- Had not been done on the British Household Panel Survey
- Not used on large, complex, UK household panel study
- Use the **Innovation Panel**
  - 1,500 household panel
  - Started 1 year before main UKHLS
  - Used to test questions and fieldwork design

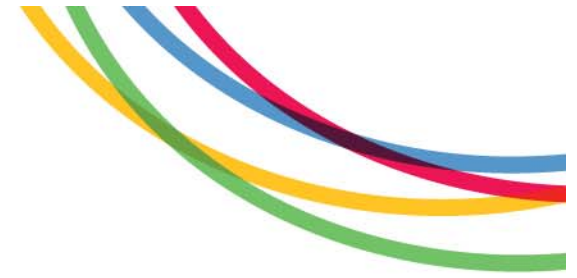
# Testing a CATI-CAPI mixed mode design



- Second wave of the Innovation Panel (IP2)
- Random allocation of households; one-third each
  - CAPI (single mode)
  - CATI-CAPI “early transfer” – as soon as we identified that a CAPI visit needed
  - CATI-CAPI “late transfer” – try to get telephone interview with all eligible adults before transfer



# How successful is a CATI-CAPI sequential design?



- Not very

Individual Response Rate	Wave 2
CAPI only	75.6%
CATI-CAPI early	67.1%
CATI-CAPI late	66.9%

Peter Lynn, "The effect of a mixed mode wave on subsequent attrition in a panel survey: evidence from the Understanding Society Innovation Panel", UKHLS Working Paper 2011-06  
<https://www.understandingsociety.ac.uk/research/publications/520309>

# Experience of telephone-first ‘scarred’ the sample even when switched back to CAPI



Individual Response Rate	Wave 2	Wave 3 ALL CAPI
CAPI only	75.6%	65.1%
CATI-CAPI early	67.1%	57.1%
CATI-CAPI late	66.9%	60.8%

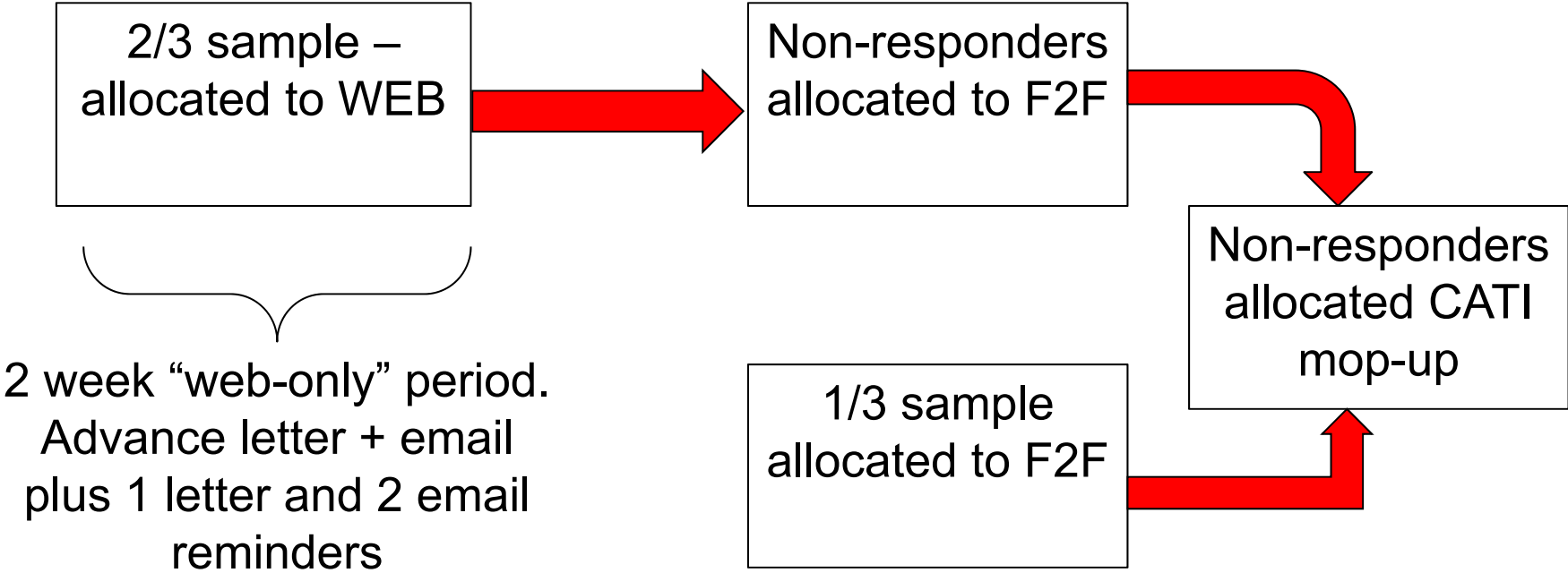
Peter Lynn, “The effect of a mixed mode wave on subsequent attrition in a panel survey: evidence from the Understanding Society Innovation Panel”, UKHLS Working Paper 2011-06  
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# Change of plan



- Wave 4 of *Understanding Society* also fully face-to-face

# Drop the idea of telephone first, experiment with web: IP5



# Our design can lead to some complications



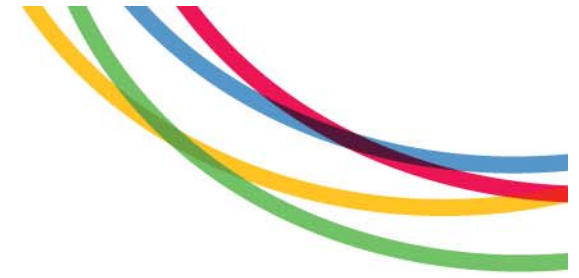
- Household
  - Want all adults to participate
  - ...even adults we don't know about yet
- Longitudinal
  - Need specific adults to participate
  - ...even if they have moved house
- Requirement to:
  - Enumerate the household first
  - Deal with movers in and out of the household
  - Follow-up non-respondents in another mode

# Questionnaire review



- Need to re-design the enumeration grid so that it can be completed by a sample member
  - Make explicit all the rules that interviewers are trained to follow
- Check all questions with Interviewer Instructions
  - If crucial definition (affects what response is) – re-write into the question
  - If likely to affect relatively few people – use <Help> pop-up
  - If instruction on how to input response – add as “Instruction”
- Re-write soft/hard check text in a more participant-friendly way
- Specified as mixed-mode alternatives

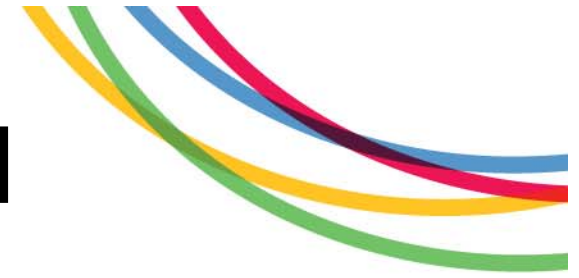
# Initially, mixed-mode performed worse than F2F



	Total		Original (IP4 Resp)		Original (IP4 N-R)		IP4 Refreshment	
	F2F	MM	F2F	MM	F2F	MM	F2F	MM
IP5	78.0%	74.3%	84.1%	81.1%	32.6%	36.4%	85.1%	81.9%

But not significantly worse (statistically)

But this difference reduced  
and reversed in IP6 + IP7

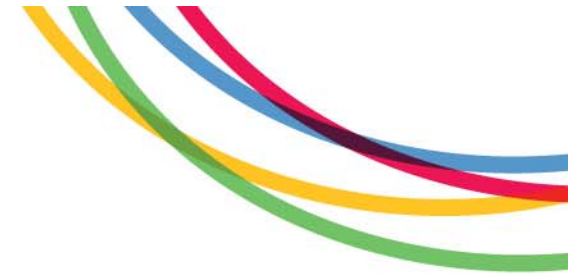


	Original		IP4 Refreshment	
	F2F	MM	F2F	MM
IP5	84.1%	81.1%	85.1%	81.9%
IP6	82.2%	81.4%	82.0%	83.0%
IP7	74.3%	<b>80.9%</b>	75.2%	<b>79.3%</b>

IP6 and IP7 used higher levels of incentives for those in the mixed-mode groups



# Effect of incentives on household response



	F2F	MM		
	£10	£10	£10+£20	£30
IP6	82.1%	77.7%	85.8%	87.7%
IP7	74.9%	71.4%	83.8%	85.8%

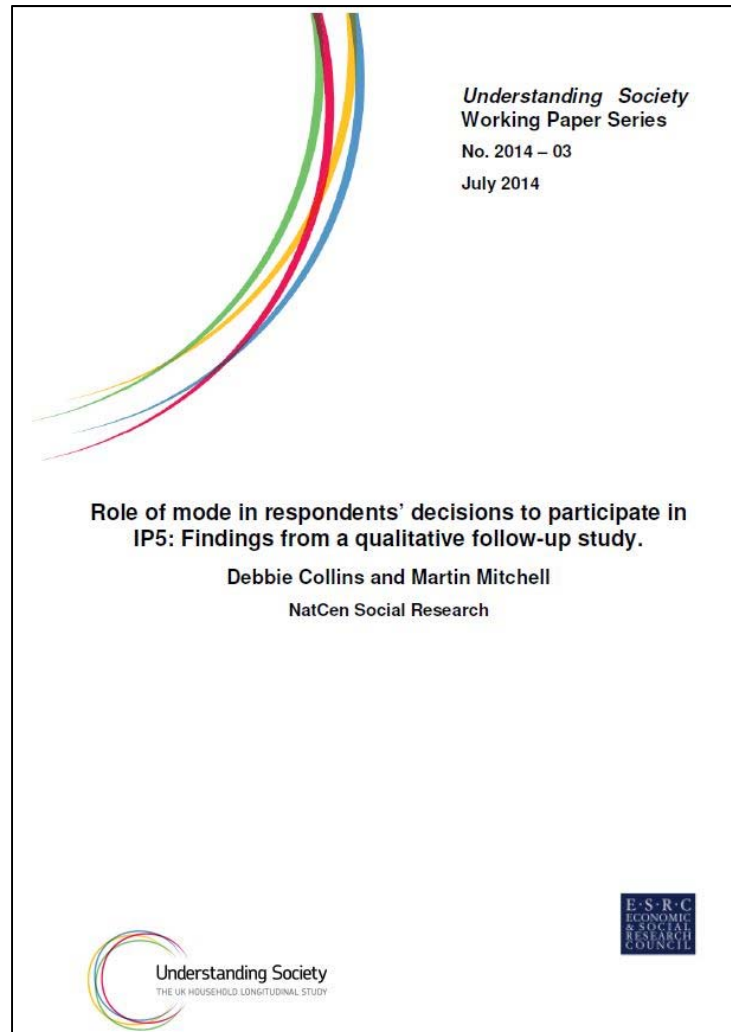
# We also see an increasing proportion of web-first sample completing online



- Random allocation at IP5 maintained for all waves
- For original and IP4 refreshment sample only

IP5	30.0%
IP6	38.3%
IP7	43.6%
IP8	45.0%
IP9	52.2%
IP10	52.5%
IP11	58.8%

# In addition to experimentation...

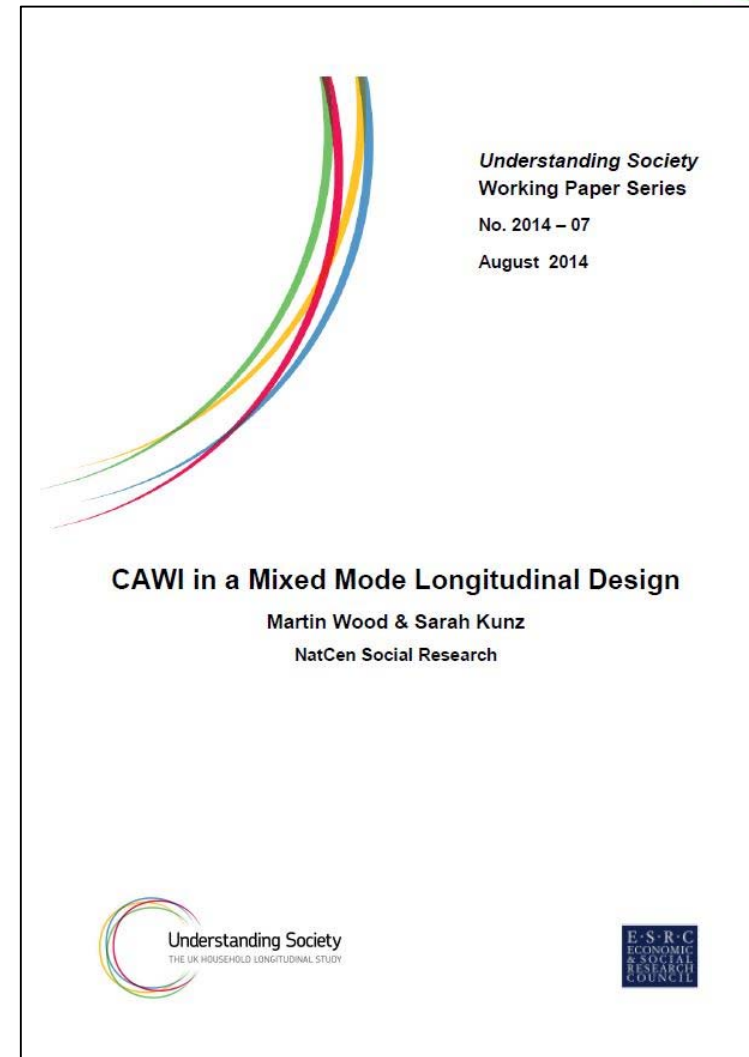


- Qualitative research with those who did not take part online, or who did but others in the household didn't
- Look at why people didn't complete online
- And why those were more likely to refuse CAPI
- Identify lessons for IP6

<https://www.understandingsociety.ac.uk/research/publications/522579>

# In addition to experimentation...

- Analysis of paradata to document the operation of the online interview
- Identifies features which can be developed further
  - Email metrics
  - Reminders
  - Day of week
  - Timing in fieldwork
  - Interaction with CAPI
  - Browser/device type
  - Break-offs/sessions
  - Question timings



<https://www.understandingsociety.ac.uk/research/publications/522677>

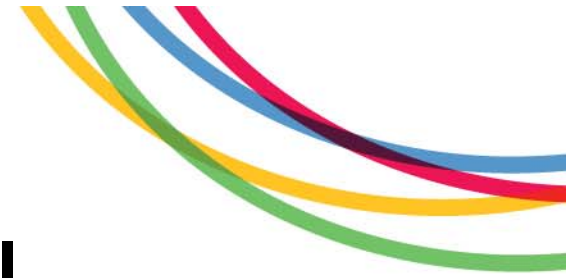
# Measurement Issues



- NatCen Social Research coded all questions proposed for waves 7 – 10 with respect to 13 characteristics associated with increased risk of measurement differences between modes
- Summary measure of ‘risk of mode effect’ derived for all 1,486 questions
- Many of the more sensitive questions (health, attitudes, satisfaction) are already asked by self-completion within CAPI; mode effects likely to be negligible for these
- Other questions most at risk of mode effects are:
  - Questions about harassment, prejudice etc, asked as part of the ethnic minority research strand;
  - Questions that benefit from interviewer encouragement/ support to answer fully and accurately, including income.

Jo d’Ardenne, Debbie Collins, Michelle Gray, Curtis Jessop and Sophie Pilley. Assessing the risk of mode effects: review of proposed survey questions for waves 7-10 of Understanding Society <https://www.understandingsociety.ac.uk/research/publications/524254>

# Measurement / data comparability: Web + CAPI



- No concerns about
  - ✓ Break-offs
  - ✓ Missing or duplicate instruments
  - ✓ HH grid identification of leavers/joiners
- Higher item non-response in web – but can reduce for key items
- Web respondents are not representative
  - ✓ More affluent
- Web + CAPI follow-up sample is similar to CAPI only
  - ✓ Web-only **not** an option!
- Accounting for selection into mode
  - ✓ Few differences in response distributions

# Move to main-stage at Wave 7



- Take learning from IP in design of online survey and fieldwork implementation
- Small steps
  - Invite adults in previous-wave non-responding households to take part online (web-first)
  - This group offered higher incentive (£20 rather than £10)
  - Invitation letter asked sample member to access via computer rather than mobile device (blocked)

# Expand to more of the sample at Wave 8



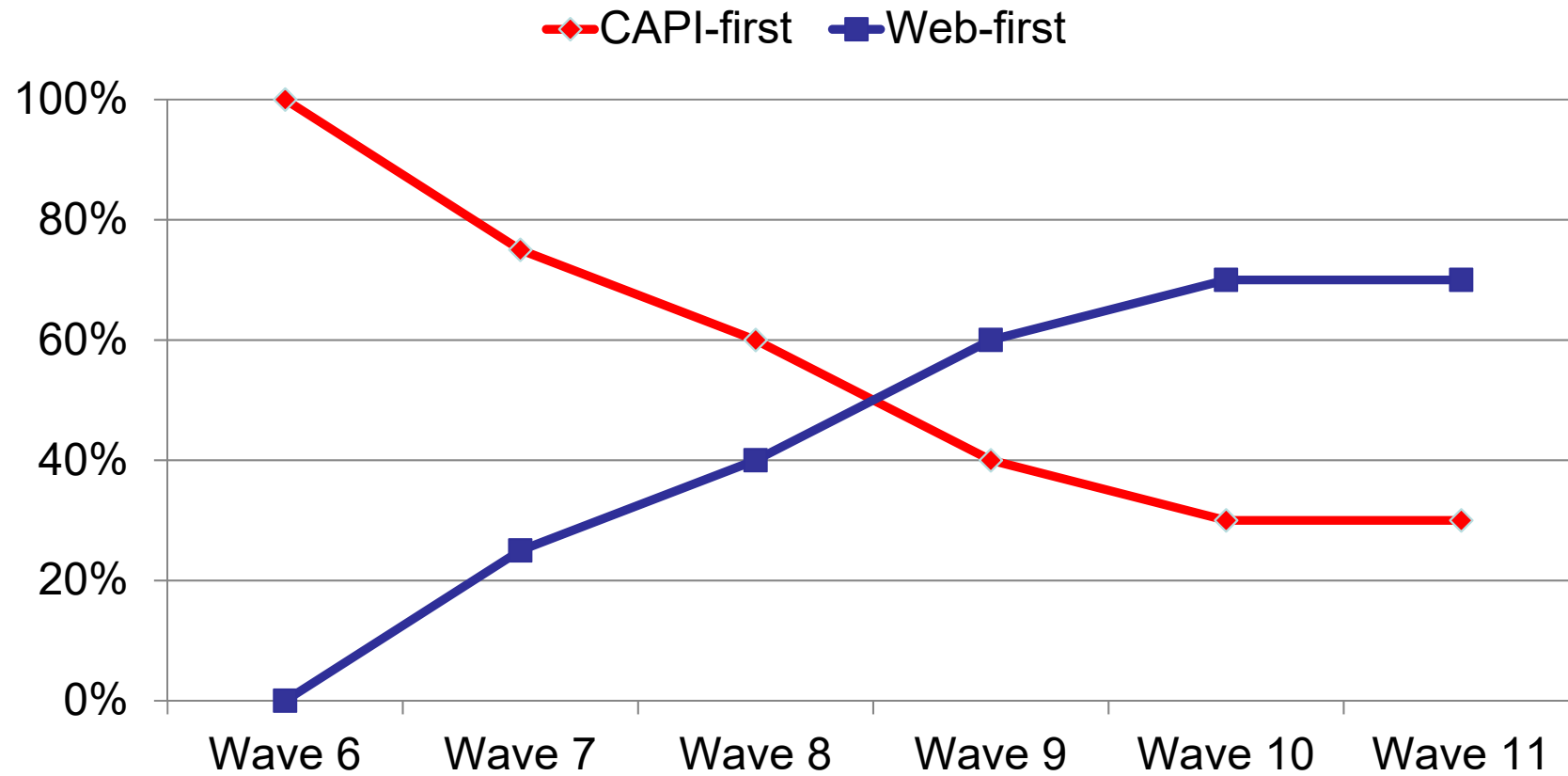
- **Not random!**
- Data from IP used to model propensity to participate online
- Allocation to mode non-random
  - All previous-wave non-responding households: Web-first
  - CAPI-first:
    - Ring-fenced sample (20% households)
    - Lowest propensity to complete online (20%)
  - Of the remaining 60%
    - 20% CAPI-first
    - 40% Web-first
- Invitation letter – recommend use computer (mobiles not blocked)



# The rise of mixed-mode



Proportion of the sample issued to each mode



# Push-to-web at Wave 8



- Experimentation during Wave 8 Year 1
- Try to increase the proportion of households that completed online
- January – 19% complete online
- October-December – 40% complete online
  - Introduction of a early-completion bonus
  - Increase length of web-only period
  - Additional letter reminder

# Changes in protocol



## **Wave 8 Year 1**

- Fieldwork start (letter + email)
- Email reminder (+1 week)
- Email reminder (+1 week)
- F2F starts after 3 weeks

## **Wave 9 Year 1**

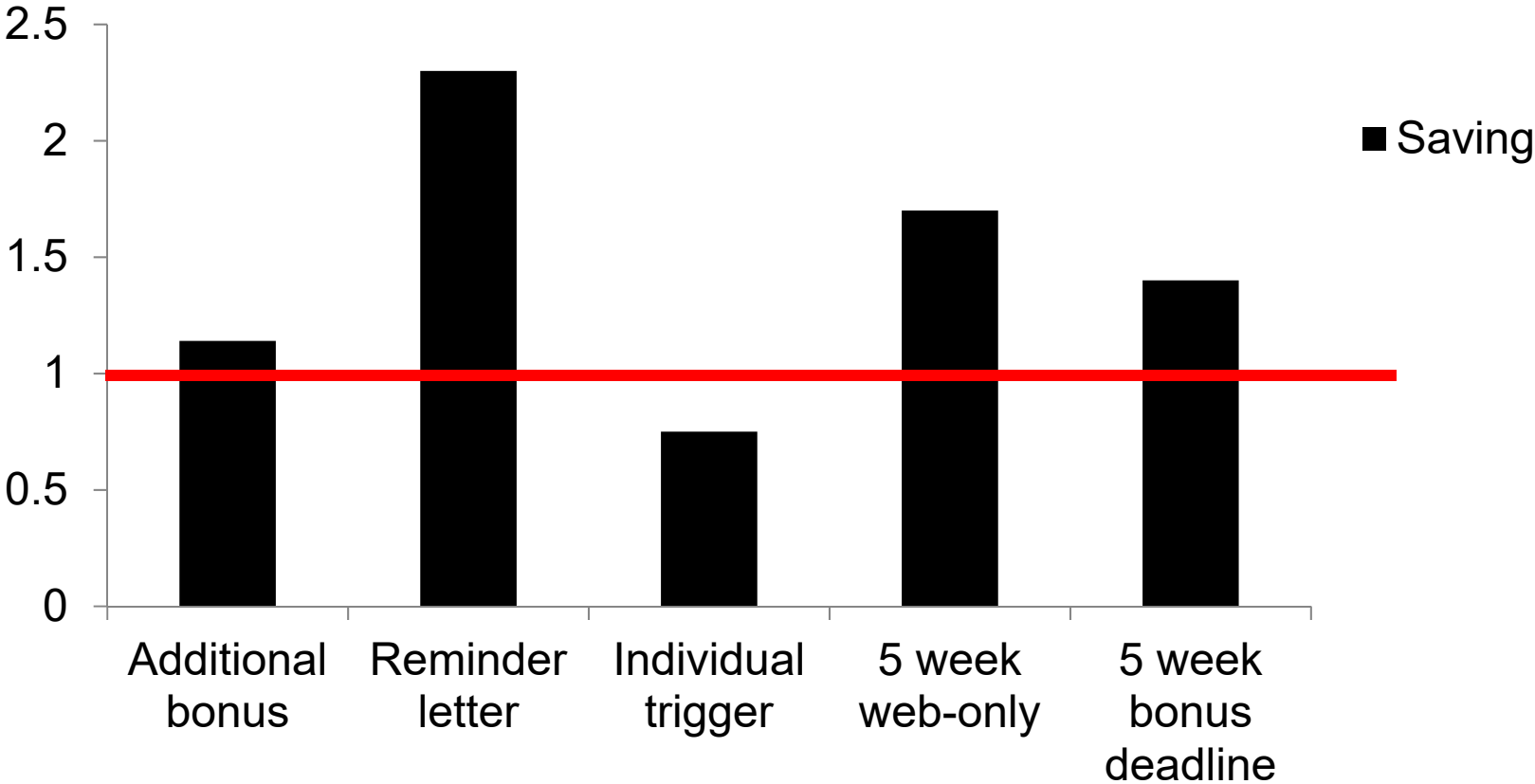
- Fieldwork start (letter + email)
- £10 bonus to complete online
- Letter + Email reminder (+1 week)
- Email reminder (+1 week)
- Letter + Email reminder (+1 week)
- Email reminder (+1 week)
- Deadline for bonus (34 days)
- F2F starts after 5 weeks

# ...and is it cost effective?

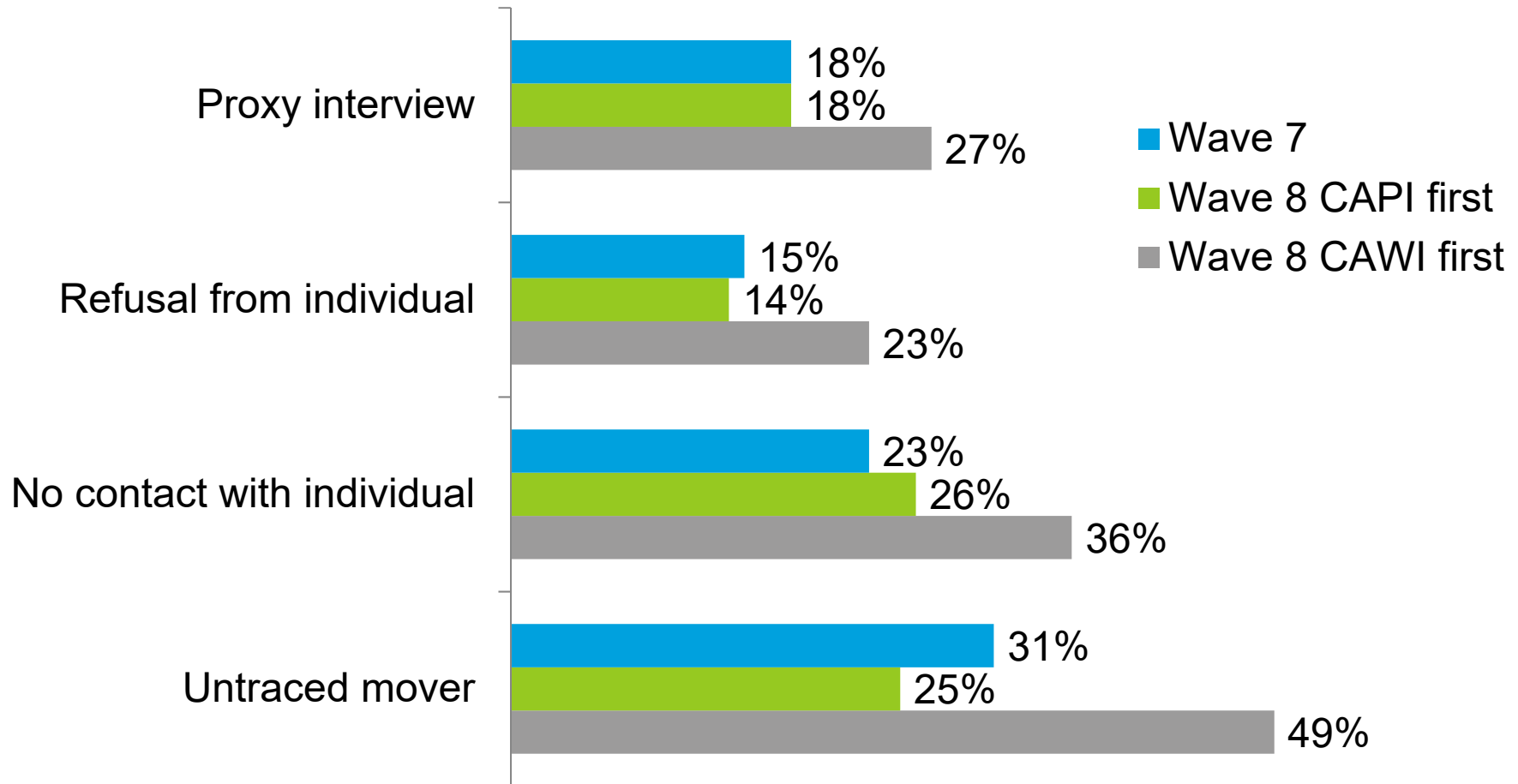
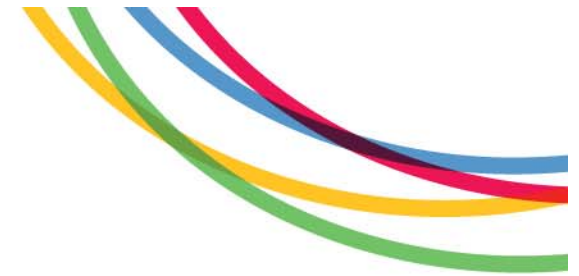


- Not straight-forward
- Additional costs:
  - Incentives
  - Additional letters
  - Administration time

# Most adaptations saved more than they cost



# Web first, increased response among non-responders

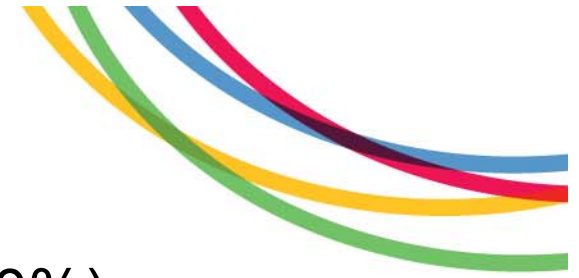


# Impact on face-to-face interviewing



- Increasing number of completed web households has an impact on efficiency of face-to-face interviewing
  - Increased per household CAPI cost
- Decrease in morale among interviewers?
  - Feel as if they're left with the harder cases

# Waves 9 and 10



Increased proportion issued web-first (60%, 70%)  
Questionnaire designed “mobile-first”

- Those issued to Web-first at W8/9 and completed online:
  - 87% complete online at W9 (+5% F2F)
  - 89% complete online at W10 (+4% F2F)
- Those issued to Web-first at W8/9 but completed F2F:
  - 41% complete online at W9 (+40% F2F)
  - 31% complete online at W10 (+51% F2F)
- Most of those issued to web again, complete online. Even those who don't take part online in one wave, large minority do it online the next (but decreases at W10)



# Waves 9 and 10



- Those issued CAPI-first at W8/9, completed F2F and then switched to Web-first at W9/W10:
  - 70% complete online at W9 (+19% F2F)
  - 34% complete online at W10 (+49% F2F)
- As higher proportion are issued web-first, the proportion who complete online falls
  - Lower “web propensity” group
- Getting harder to push-to-web as more of the sample are issued web-first

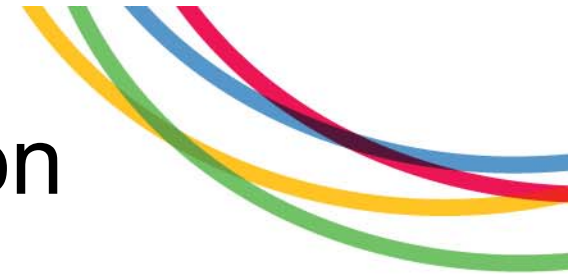
Figures on this slide and previous: Hannah Carpenter, “Moving the UK Household Longitudinal Study to mixed mode: implications for response”, MOLS2 presentation + follow-up analysis

# Current issues



- How to maintain a high household web completion rate when increasing the proportion of web-first households?
  - Given that the households more recently allocated web-first are those with a lower propensity to complete online
  - But... increasing proportion of those previously web-first completing online...?
- How to manage face-to-face fieldwork in a survey where most complete online?

# Tracking progress on transition through Working Papers



<https://www.understandingsociety.ac.uk/research/working-papers>

## IP2: CATI-CAPI mixed modes

- Lessons from a randomised experiment with mixed-mode designs for a household panel survey, Peter Lynn, S.C. Noah Uhrig, Jonathan Burton
- Understanding Society Innovation Panel Wave 2: results from methodological experiments, Jonathan Burton, Heather Laurie, S.C. Noah Uhrig
- The effect of a mixed mode wave on subsequent attrition in a panel survey: evidence from the Understanding Society Innovation Panel, Peter Lynn
- Mode-switch protocols: how a seemingly small design difference can affect attrition rates and attrition bias, Peter Lynn

# Tracking progress on transition through Working Papers



## Web-CAPI mixed modes

- Going online with a face-to-face household panel: initial results from an experiment on the Understanding Society Innovation Panel, Annette Jäckle, Peter Lynn, Jonathan Burton
- Understanding Society Innovation Panel Wave 5: results from methodological experiments, Katrin Auspurg, Jonathan Burton, Carl Cullinane, Adeline Delavande, Fumagalli Laura
- Role of mode in respondents' decisions to participate in IP5: findings from a qualitative follow-up study, Debbie Collins, Martin Mitchell
- Understanding Society Innovation Panel Wave 6: results from methodological experiments, Nick Allum, Katrin Auspurg, Margaret Blake, Cara L. Booker, Thomas F. Crossley
- CAWI in a Mixed Mode Longitudinal Design, Martin Wood, Sarah Kunz
- The role of email addresses and email contact in encouraging web response in a mixed mode design, Alexandru Cernat, Peter Lynn

# Tracking progress on transition through Working Papers



## Web-CAPI mixed modes

- Understanding Society Innovation Panel Wave 7: Results from Methodological Experiments, Annelies G. Blom, Jonathan Burton, Cara L. Booker, Alexandru Cernat, Malcolm Fairbrother
- Understanding Society Innovation Panel Wave 8: results from methodological experiments, Mathew Creighton, Jennifer Dykema, Alessandra Gaia, Alexandru Cernat, Dana Garbarski
- Web-CAPI sequential mixed mode design in a longitudinal survey: effects on participation rates, sample composition and costs, Annamaria Bianchi, Silvia Biffignandi, Peter Lynn
- The implications of alternative allocation criteria in adaptive design for panel surveys, Olena Kaminska, Peter Lynn
- The effect of respondent incentives on panel attrition in a sequential mixed-mode design, Alessandra Gaia
- Adaptive push-to-web: experiments in a household panel study, Hannah Carpenter, Jonathan Burton

# Tracking progress on transition through Working Papers



## Measurement effects

- Effect of interview modes on measurement of identity, Alita Nandi, Lucinda Platt
- Measurement effects between CAPI and Web questionnaires in the UK Household Longitudinal Study, Jorre T.A. Vannieuwenhuyze, Peter Lynn
- Using motivational statements in web instrument design to reduce item missing rates in a mixed-mode context, Tarek Al Baghal, Peter Lynn
- Impact of mixed modes on measurement errors and estimates of change in panel data, Alexandru Cernat
- Using equivalence testing to disentangle selection and measurement in mixed modes surveys, Alexandru Cernat
- Assessing the risk of mode effects: review of proposed survey questions for waves 7-10 of Understanding Society, Jo d'Ardenne, Debbie Collins, Michelle Gray, Curtis Jessop, Sophie Pilley