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SURVEY DATA COLLECTION METHODS COLLABORATION

Knock-to-Nudge Approach to Establishing Contact with Respondents: Participation, Representativeness and Data Quality

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Introduction

- **Research Strand 4** of Survey Futures: **Methods for surveys without field interviewers:**
  1. Recruitment
  2. Accessibility and inclusivity for population sub-groups
  3. Targeted procedures
  4. **Knock-to nudge**
  5. Within household selection of individuals
- An evidence review and two working papers have been published on the Survey Futures website:
  - https://surveyfutures.net/wp-content/uploads/2025/11/report-8-knock-to-nudge-evidence-review.pdf
  - https://surveyfutures.net/wp-content/uploads/2025/12/working-paper-10-effectiveness-knock-to-nudge-approach-establishing-contact-respondents.pdf
  - https://surveyfutures.net/wp-content/uploads/2026/06/working-paper-18-assessment-knock-to-nudge-recruitment-strategy.pdf

Definition and characteristics

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- KtN was originally introduced in the UK when Covid-19 restrictions were slightly relaxed, aiming to increase participation under these restrictions
- KtN has been used after the pandemic
- KtN can be defined as a household contact method in which interviewers
  - Visit sampled households
  - **Knock** on their door
  - Encourage (**nudge**) participants to respond to a non-face-to-face survey (telephone or online) at a later date
  - Collect basic household information (e.g., obtain phone numbers, record household size, conduct within household-selection) if required
- No major data collection occurs at the KtN stage

Definition and characteristics

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- Three main approaches have been used in UK surveys:
  - Nudging **all sampled addresses**
  - Nudging **all non-responding addresses** – non-response follow-up
  - Nudging **a pre-selected subset of non-responding addresses** – targeted procedure

Knock-to-nudge in different surveys

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- Indicators of effectiveness for **between-instances comparison**:

Survey	Period	Response rates (%)		Effects on sample representativeness	Source
		Without KtN	With KtN		
Continuous Household Survey (Northern Ireland)	2020-2022	16.0	41.0	Generally improved	Technical report
Health Survey for Northern Ireland	2020-2022	18.3	47.3	Generally improved	Technical report
Labour Force Survey (LFS), Wave 1	2020-2021	28.7	39.4	Generally improved, although less marked than other ONS surveys	Kastberg and Siegler (2022)
Living Cost and Food Survey (LCF)	2020-2021	29.8	32.2	Generally improved	Kastberg and Siegler (2022)
Survey on Living Conditions (SLC), Wave 1	2020-2021	27.5	34.2	Generally improved	Kastberg and Siegler (2022)
Travel Survey for Northern Ireland	2020–2022	25.1	33.4	Generally improved	Technical report
Wealth and Assets Survey (WAS)	2020-2021	25.5	30.6	Generally improved, particularly socioeconomic status	Kastberg and Siegler (2022)

- Indicators of effectiveness for **within-instances comparison**:

Survey	Period	Response rates (%)		Effects on sample representativeness	Source
		Without KtN	With KtN		
Ervaren Discriminatie 2018 (ED18)	2018	18.6	24.0	Information not provided	Cleary (2023)
European Social Survey Round 10: Poland	2020	31.0	37.0	Improved, particularly size of settlement	Cleary (2023)
Labour Force Survey (LFS), Wave 1	2020-2021	28.7	39.4	Generally improved, although less marked than other ONS surveys	Kastberg and Siegler (2022)
Publishers Audience Measurement Company (PAMCo)	2021	18.9	36.5	Improved, particularly socioeconomic status and home ownership	Cleary (2023)
Recruitment survey for the AmeriSpeak Panel	2014-2017	27.9	33.7	Generally improved	Cleary (2023)
Stated choice survey of housing, neighbourhood, and travel preferences in New Zealand	N/D	29.9	38.4	Generally improved	Dodge and Chapman (2018)
University of Michigan survey of student sexual misconduct	2018	54.0	67.0	Generally improved	Cleary (2023)
Wealth and Assets Survey (WAS)	2020-2021	25.5	30.6	Generally improved, particularly socioeconomic status	Kastberg and Siegler (2022)
Immigrant German Election Study II (Turkish group)	2021	12.4	33.0	Improved, as ethnic minority groups are more represented	Ellis et al. (2023)
Immigrant German Election Study II (former USSR group)	2021	17.2	38.6	Improved, as ethnic minority groups are more represented	Ellis et al. (2023)

- KtN generally **improves response rates and sample composition**.

UK case studies

Three surveys that used knock-to-nudge in the UK:

1) **National Readership Survey** (Publishers Audience Measurement Company, PAMCo, 2022) – IPSOS;

   Working paper available: https://surveyfutures.net/wp-content/uploads/2025/12/working-paper-10-effectiveness-knock-to-nudge-approach-establishing-contact-respondents.pdf

2) **National Survey for Wales** (Welsh Government, 2022–23) – ONS;

   Working paper available: https://surveyfutures.net/wp-content/uploads/2026/06/working-paper-18-assessment-knock-to-nudge-recruitment-strategy.pdf

3) **Transformed Labour Force Survey** (TLFS) (ONS, 2024 first semester) – ONS; *work in progress*

UK case studies: Research Questions

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Research questions:

1. Does KtN help improve **response rates**?
2. Does KtN help improve **sample composition**?
3. Are there differences in **substantive results** between respondents recruited via KtN and those recruited at earlier stages? (1 and 2 only)
4. Do participants recruited via KtN provide **data of comparable quality** to that provided by respondents recruited at earlier stages of the recruitment process? (1 and 2 only)
5. How many **KtN visits** could be considered sufficient? (2 and 3 only)
6. Are there differences in the likelihood of **participating in additional tasks** between participants recruited via KtN and those recruited at earlier stages of the recruitment process? (only 2)

1. PAMCo survey

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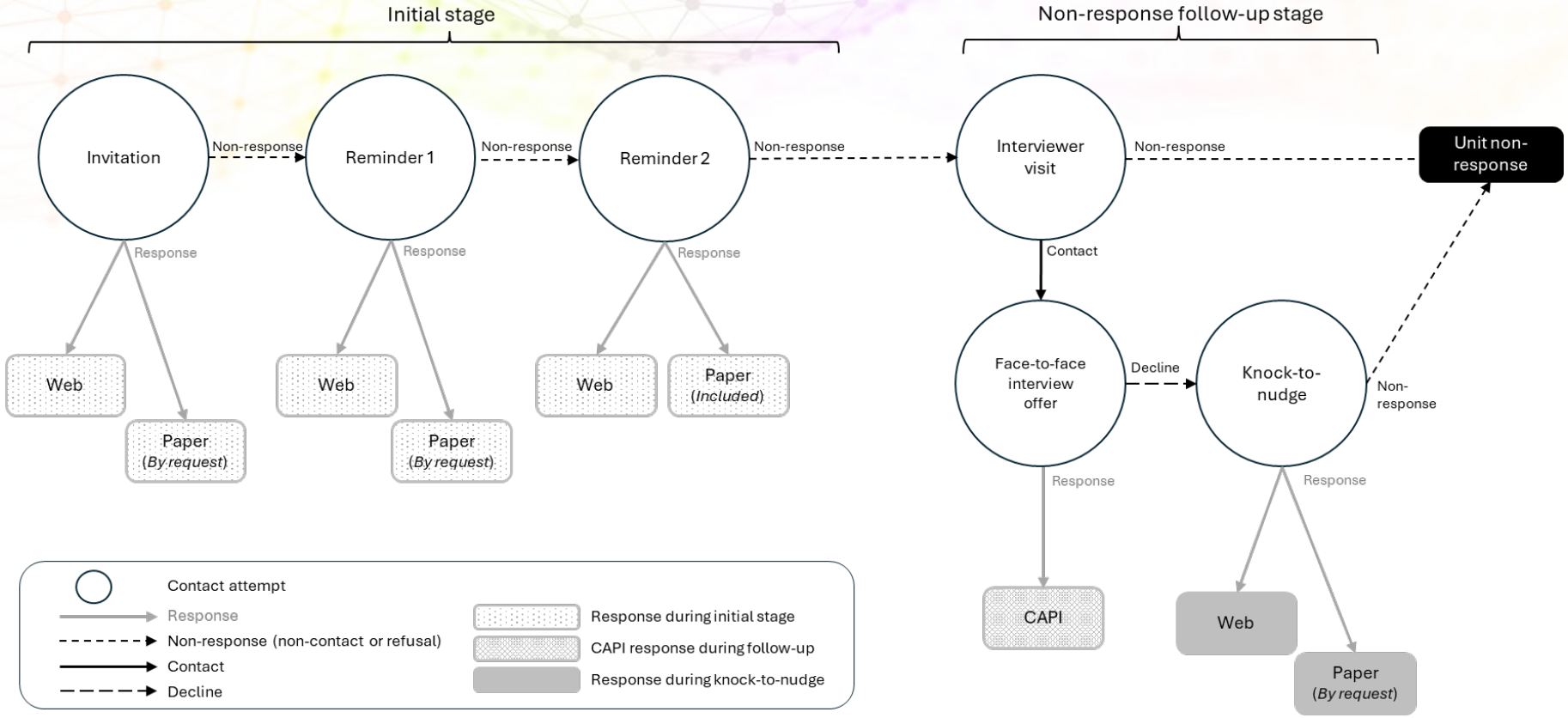
- **National Readership Survey (2022)**:
  - Commissioned by the Publishers Audience Measurement Company (PAMCo)
  - Provides newspaper and magazine publishers with data to understand their audiences
  - Designed to be representative of the adult population aged 15 years or over residing in households of Great Britain (England, Wales, and Scotland)
  - Up to two residents aged 15 or over are invited to participate
  - The survey is conducted continuously over the year
  - £20 e-voucher conditional on completion

1. PAMCo survey

- The PAMCo survey uses an **online-first design**:



2. National Survey for Wales (NSW)

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- **National Survey for Wales (2022-23)**:
  - Commissioned by the Welsh Government
  - Comprises over 50 main modules covering a wide range of public policy and quality of life topics
  - Cross-sectional survey conducted annually, designed to be representative of all adults aged 16 or over living in private households in Wales
  - In 2022-23 it was a telephone survey. However, it also included online modules containing sensitive questions, which had to be completed after the interview. Participants received a £15 voucher upon completion of both.
  - Three KtN visits to non-responding addresses
  - One participant per household responds to the survey (no within-household selection)

3. Transformed Labour Force Survey (TLFS)

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- Survey of residents of private households in Great Britain – January-June 2024 (£20 e-voucher conditional on completion)
- An adapted version of the Labour Force Survey (LFS)
- The TLFS uses a “targeted” approach to knock-to-nudge. Field interviewer resources are targeted at areas of Great Britain with the lowest likelihood of response.
- A response propensity model using previous TLFS data was estimated at the lower super output area (LSOA) level. Based on the results of this model, LSOAs in the following groups were identified as eligible for KtN visits:
  - Urban and most deprived areas with an average age of under 45
  - Non-urban and most deprived areas with an average age of under 45
  - Urban and most deprived areas with an average age of 45 or over

RQ1 and RQ5: Response Rates

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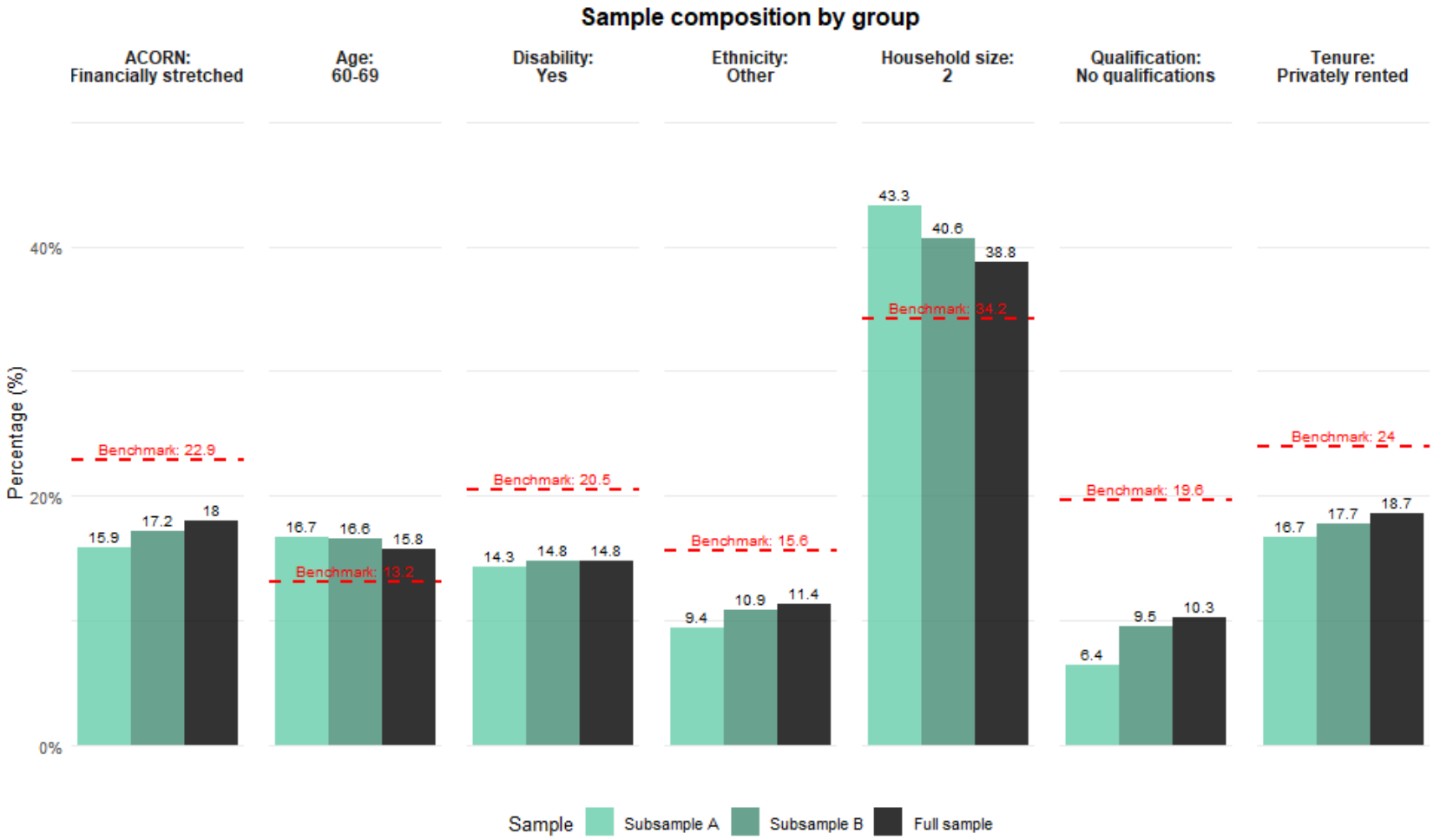
Survey	Non-nudged	Nudged			RR increase
	Initial	+1 visit	+2 visits	Full sample	
PAMCo	16.4% (25.1%) (includes CAPI)	–	–	38.0%	12.9pp
NSW	13.8%	29.8%	34.8%	38.1%	24.3pp
TLFS	25.6%	28.0%	28.7%	29.1%	3.5pp

- Response rate increased in all three surveys but improvements differ by survey and by KtN procedure
- The KtN stage increased sample sizes
- The largest increase in response rates are observed after the first KtN visit

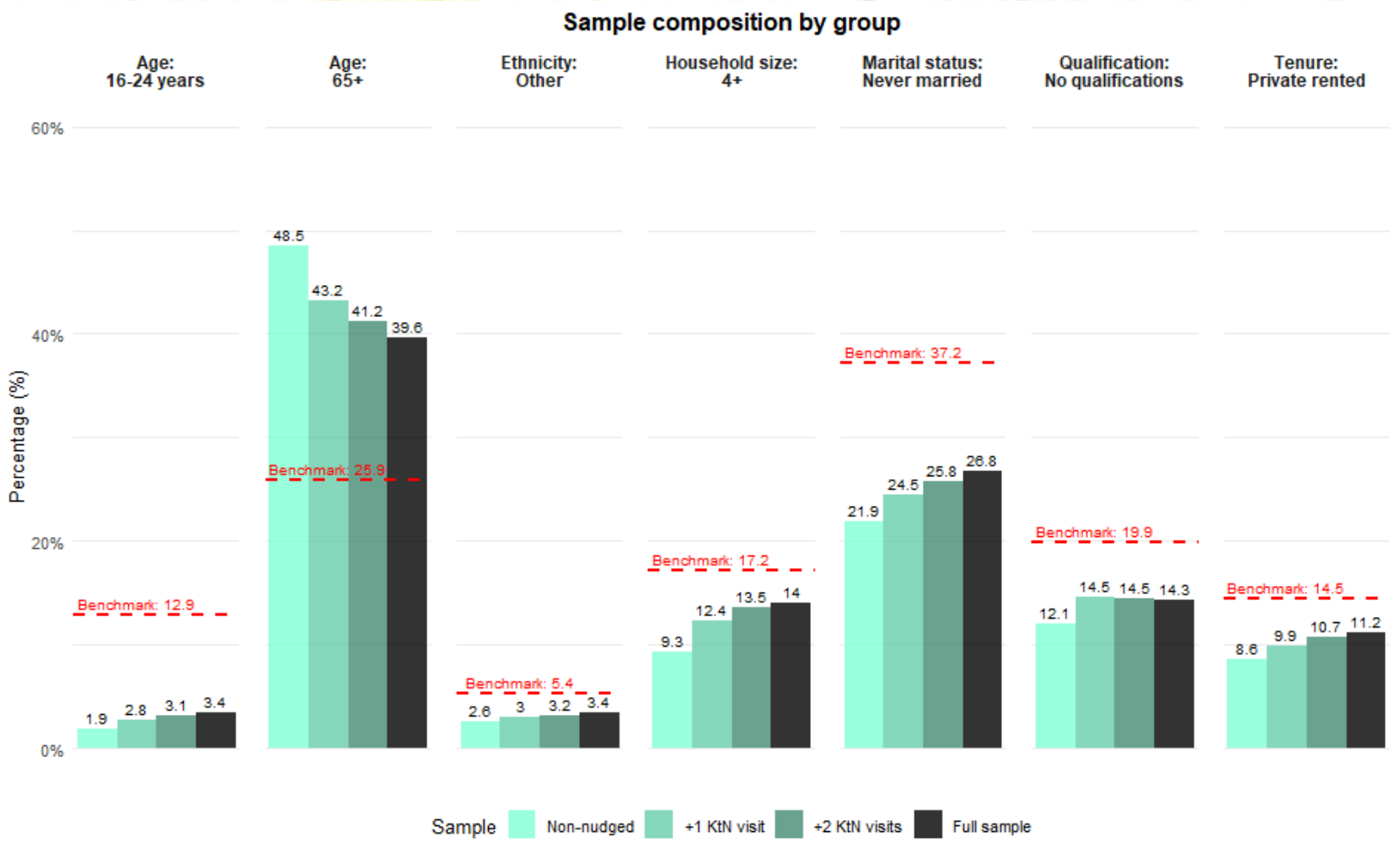
RQ2: Sample composition (PAMCo)



- Sub-sample A: initial stage
- Sub-sample B: initial stage + CAPI
- Full sample

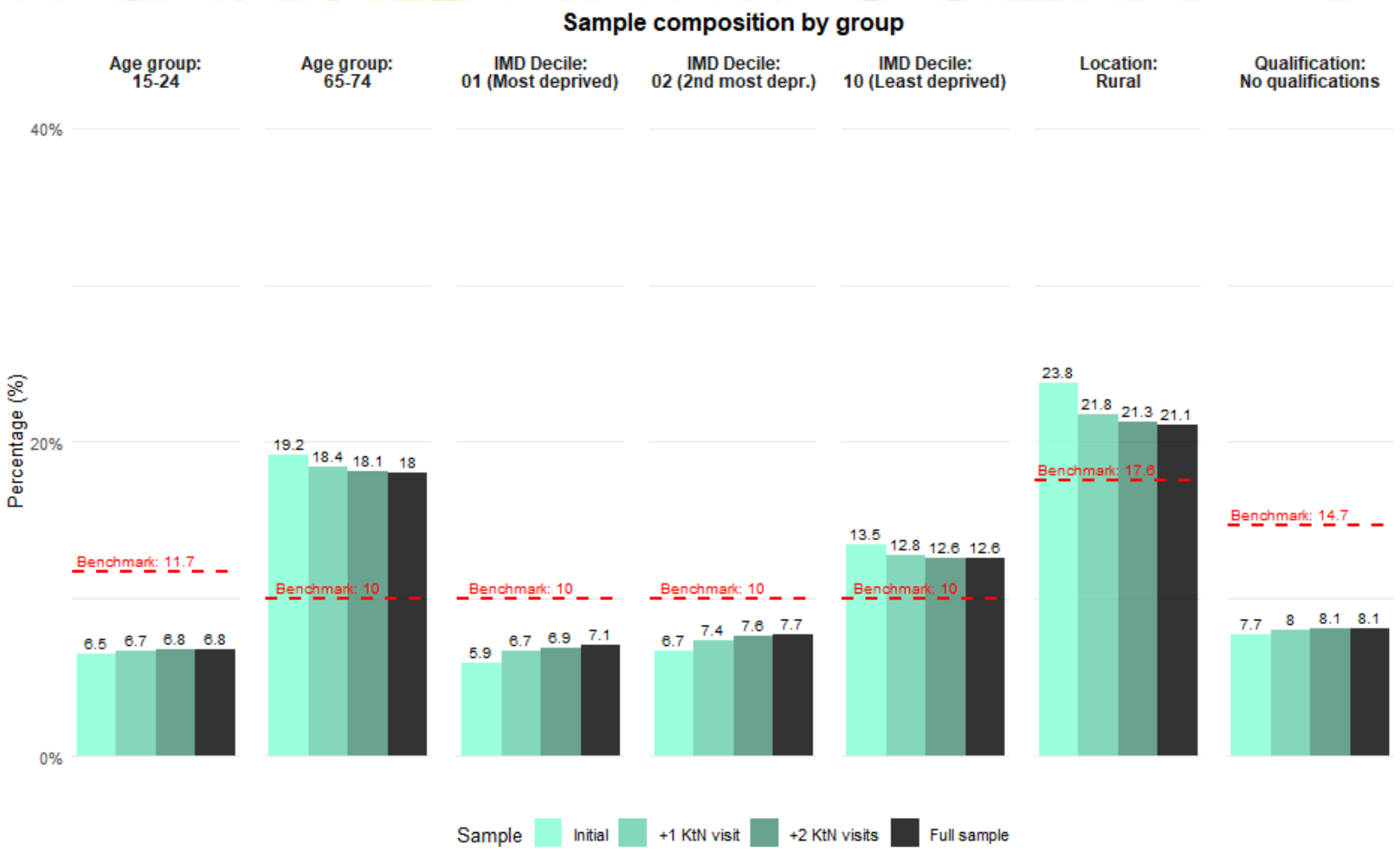
KtN stage brings sample proportions closer to the population benchmarks

RQ2: Sample composition (NSW)



- KtN stage brings sample proportions closer to the population benchmarks
- KtN improves sample composition

RQ2: Sample composition (TLFS)



- KtN stage brings sample proportions closer to the population benchmarks
- KtN improves sample composition

RQ2: Sample composition

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- Mean dissimilarity indices by survey and by recruitmentstage:

Survey	Initial (Non-nudged)	Full sample (Non-nudged + Nudged)
PAMCo	8.2%	7.0%
NSW	15.2%	9.9%
TLFS	12.2%	10.8%

- Duncan Dissimilarity Index indicates the % of the sample that would need to belong to different categories for the sample distribution to match the population benchmarks
- Dissimilarity Index reduces for all three surveys with KtN stage suggesting improved representativeness

RQ2 and RQ5: Sample composition

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- Dissimilarity indices by survey and by recruitment stage:

Variable	PAMCo			NSW				TLFS			
	Initial	+ CAPI	Full sample	Initial	+1 visit	+2 visits	Full sample	Initial	+1 visit	+2 visits	Full sample
Sex	3.2	2.8	3.3	5.2	5.6	6.1	6.2	1.1	1.1	1.1	1.1
Age	5.9	6.6	5.1	25.8	20.2	18.0	16.2	20.3	18.5	18.0	17.8
Education	10.1	11.1	9.4	22.6	18.3	18.1	18.4	18.7	18.6	18.5	18.5
Ethnicity	6.3	4.8	4.3	2.8	2.3	2.2	2.0	8.4	7.3	7.0	6.8
Region	5.3	8.2	6.8	17.7	11.8	10.9	10.0	11.9	11.2	11.0	10.9
Disability	6.3	5.7	5.8	–	–	–	–	–	–	–	–
HH size	9.1	11.1	8.3	13.8	8.0	6.6	5.9	13.6	12.8	12.7	12.7
Socioeconomic group	14.5	11.3	10.3	–	–	–	–	11.2	8.8	8.1	7.9
Economic activity	–	–	–	23.1	17.8	15.5	13.9	–	–	–	–
Marital status	–	–	–	15.3	12.7	11.4	10.4	–	–	–	–
Housing tenure	9.6	11.0	9.1	14.8	10.6	9.4	8.8	–	–	–	–
Overall	8.2	8.0	7.0	15.2	11.7	10.6	9.9	12.2	11.2	10.9	10.8

RQ3: Substantive Variables (NSW)

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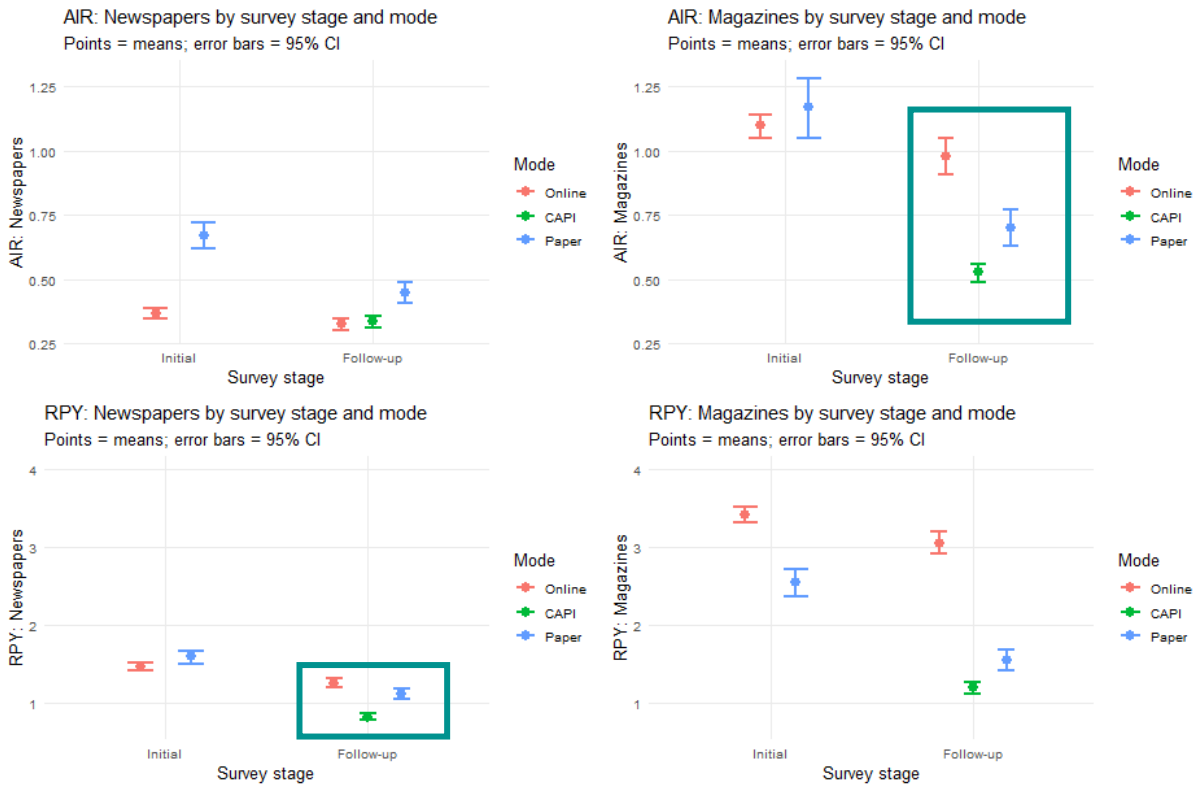
Substantive variable	Percentage of participants (%)			χ^2	p-value	Sample size
	Full sample	Non-nudged	All nudged			
Car available for use	**85.6**	87.4	84.5	17.3	**0.000**	11,047
Internet access at home	**91.6**	91.9	91.5	0.6	0.457	11,047
Used bus	**39.2**	39.6	39.1	0.3	0.613	11,045
Used train	**38.8**	37.5	39.5	4.5	**0.034**	11,043
Carer for someone else	**28.5**	28.1	28.7	0.4	0.509	11,025
Received help for themselves	**5.3**	5.3	5.2	0.1	0.786	11,025
Received help for caring for others	**6.6**	6.6	6.5	0.0	0.922	11,020
Good or very good health	**64.6**	65.4	64.1	1.9	0.174	11,016
Limiting disability or illness	**55.0**	57.7	53.5	18.2	**0.000**	10,879
Seen a GP in the last year	**65.3**	66.5	64.7	3.8	0.051	11,011
Seen another professional at GP practice	**48.5**	52.8	46.0	46.0	**0.000**	11,013
Had a hospital appointment	**41.5**	43.6	40.3	11.2	**0.001**	11,013
Attended A&E or minor injuries	**14.1**	13.5	14.5	1.7	0.191	11,020
No religion	**45.9**	42.1	48.1	35.9	**0.000**	11,028
Used archives or record offices	**7.9**	9.2	7.1	14.9	**0.000**	11,042
Concerned about climate change	**75.8**	78.5	74.3	24.7	**0.000**	10,872

- Significant differences across several key estimates
- Diversity of answers is improved through improved inclusivity and reach and may reflect increase in representativeness

RS3: Substantive Variables (PAMCo)



- Some participants recruited during the non-response follow-up stage, which includes KtN, **read significantly fewer newspapers and magazines** than those recruited during the initial stage
- The results hold after controlling for demographic and socio-economic characteristics
- Diversity of answers is improved through improved inclusivity and reach and may reflect increase in representativeness

RPY: Read per year
AIR: Average issue readership

RQ4: Data Quality (PAMCo)

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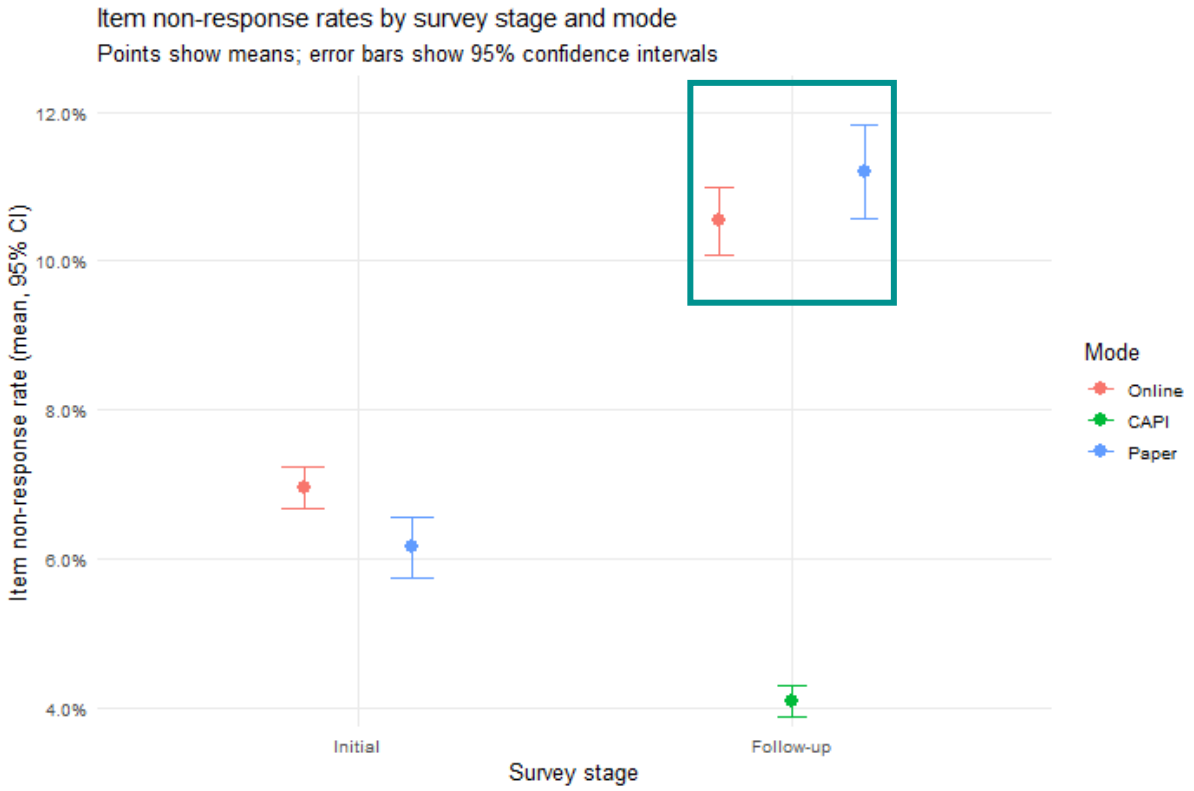
RQ4: Do participants recruited via knock-to-nudge provide data of comparable quality to respondents recruited during initial stage?



- Item non-response based on 33 survey questions
- Respondents recruited via KtN have **significantly higher item non-response** than both those who responded via CAPI, and those who responded during the initial stage

RQ4: Data Quality (NSW)

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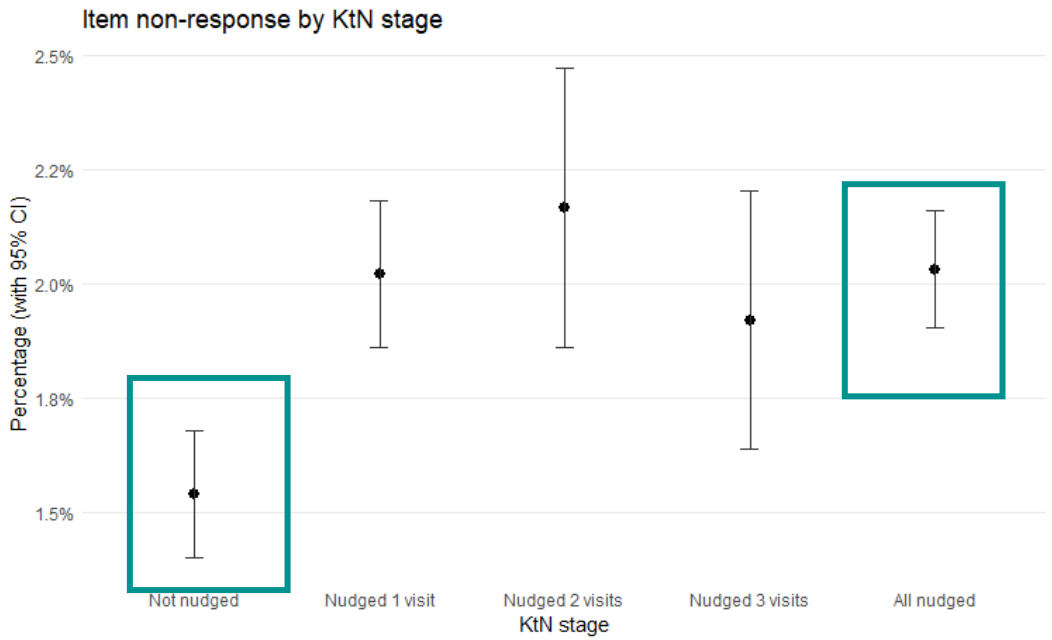
RQ4: Do participants recruited via knock-to-nudge provide data of comparable quality to respondents recruited during initial stage?



- Item non-response based on 43 “ask-all” questions in the survey
- Respondents recruited via KtN have **significantly higher levels of item non-response** than those recruited initially

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RQ4 and RQ6: Additional Indicators

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Survey	Indicator	Non-nudged	Nudged		
		Initial	1 visits	2 visits	3+ visits
NSW	Participation in online modules	89.7 [88.8, 90.7]	82.5 [81.4, 83.6]	81.0 [79.0, 83.0]	75.5 [72.2, 78.8]
TLFS	Participation via telephone	6.4 [6.4, 6.7]	17.6 [16.7, 18.5]	14.7 [13.2, 16.3]	11.6 [9.5, 13.7]
	Partial response: Web mode	9.7 [8.9, 10.5]	15.2 [13.3, 17.2]	15.0 [11.2, 18.8]	12.6 [6.7, 18.6]
	Partial response: Phone mode	26.9 [26.6, 27.2]	39.3 [38.3, 40.3]	40.8 [40.8, 44.4]	41.4 [38.7, 44.0]

- In NSW, those recruited via KtN are less likely to take part in online modules that ask sensitive information, even though the respondents only received £15 after taking part in these modules.
- In TLFS, those recruited via KtN are more likely to responded via telephone than online, and more likely to provide partial responses, which suggest lower data quality.

Conclusions

- We found evidence that KtN strategies:
  - Increase sample sizes
  - Improve sample composition
  - Reach participants with different substantive responses, which may positively influence representativeness of the final achieved sample
  - Reach more “reluctant” participants with higher levels of item non-response, less committed to responding online or doing additional tasks and with higher likelihood of partial responses (lower data quality)
  - There are diminishing returns in improvements after the first KtN visit

Conclusions

- More data quality indicators should be investigated
- Experimental designs would be beneficial
  - Even though the designs are not experimental, some of our RQs could be interpreted as casual questions, as we can treat the KtN stage as counterfactual in a setting where fieldwork would otherwise have stopped without the KtN
- Cost-effectiveness of KtN needs to be established
- It is important to assess whether the improvements in response rates and sample composition outweigh any potential trade-offs in data quality and the additional implementation costs before recommending this approach to other surveys as a method for improving participation and engagement

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