

# Online research without the panel: Address-Based Online Surveying

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## 1. Background - Why is there a need for Address-Based Online Surveying?

The advantages and disadvantages of online access panels have been discussed many times at PDRF conferences. The Valencia conference in 2009 included several papers setting out differences that may arise when using an online panel, and techniques for overcoming them and optimising online data collection.<sup>1</sup>

Online access panels provide a cost-effective source of sample which is appropriate for many of the wide range of surveys commissioned by media owners. However, the samples they provide are convenience rather than random samples and only those who have chosen to join a panel can be represented.

In some circumstances the quality of the sample is paramount, that is to say having a sample frame that is fully inclusive with participants randomly selected to take part and a measurable response. The vast majority of these surveys sit within the social research sphere, mainly government surveys providing national statistics. However, media research currencies around the world and surveys by public bodies in the media sector (e.g. regulators, public service broadcasters) often share this requirement for full representation.

Before now, online research has mostly been overlooked in favour of a traditional face-to-face data collection approach in these scenarios. Generally, this would be using a random probability sampling technique or perhaps a random location sampling approach as a less expensive alternative. However, cuts in public spending and tightening of research budgets make it more and more difficult to justify the expenditure on random probability surveys.

The challenge is that if online access panels are not the answer in these scenarios, because they do not uphold the principle of anybody having a chance to take part, what is? Is there another way that the cost savings achieved from collecting data online, rather than by using interviewers, can be brought to bear without losing the principles of random sampling?

## 2. 'Community Life' – Pioneering Address-Based Online Surveying

This was just the challenge set by The Cabinet Office in the UK when reviewing the future of its face-to-face, random probability sample 'Community Life' survey, which aims to track the latest trends and developments across areas that are key to encouraging social action and empowering communities, such as volunteering, charitable giving, community cohesion and civic engagement. The Cabinet Office set out its goal in a Consultation document:

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<sup>1</sup> Sample surveys based on internet panels: 8 years of learning, Dr Julian Baim, Dr Michal Galin, Dr Martin Frankel, Risa Becker, Joe Agresti, PDRF Valencia 2009: <https://www.pdrf.net/wp-content/uploads/2013/03/962.pdf>

Methodological tests on online research: Incidence of formal aspects/questionnaire layout on the results and respondents' attitudes concerning online questionnaires, Bruno Schmutz and Olivier Lê Van Truoc, PDRF Valencia 2009: <https://www.pdrf.net/wp-content/uploads/2013/03/968.pdf>

A structured approach for reducing bias in surveys using online access panels, Neil Farrer, Yehuda Dayan, PDRF Valencia 2009: <https://www.pdrf.net/wp-content/uploads/2013/03/947.pdf>

Online interviewing through access panel: Quantity and quality assurance, Dr. Irena Petric, Marion Appel, Prof dr Edith de Leeuw, PDRF Valencia 2009: <https://www.pdrf.net/wp-content/uploads/2013/03/964.pdf>

*“Whilst the face-to-face survey is effective in providing robust and nationally representative data, and although costs have been reduced as far possible in the three survey years, the approach of the face-to-face interviews remains an expensive and resource intensive undertaking. In light of this, and considering the significant appetite for the survey data and the importance of this data set, the Cabinet Office embarked on development work, in line with the Government’s Digital by Default agenda, to explore the feasibility of delivering the survey through online methods, offering the opportunity to improve convenience for users, pursue efficiency savings and increase the survey’s sample size.”<sup>2</sup>*

Kantar Public (then known as TNS-BMRB) was commissioned by the Cabinet Office to carry out this series of methodological projects, to run alongside the face-to-face ‘Community Life’ surveys between 2012 and 2015 to inform the decision on a potential change of survey methodology. The aim of this work was to test the feasibility of an innovative online survey technique known as ‘Address-Based Online Surveying’ (ABOS).

### **3. What is Address-Based Online Surveying?**

Address-Based Online Surveying is a ‘push to web’ approach and involves drawing a random probability stratified sample of addresses from the Postcode Address File (which lists every address in the UK) and issuing survey invitations to these addresses by letter in the post. The letter includes details of a web address to visit to complete the survey, including unique log-in details.

Of course, if only an online option is provided the survey will only represent the online population. So, given the importance of offering full representation, the letter also gives respondents the option of requesting a paper version of the survey instead, to ensure nobody is excluded.

An assessment of the effectiveness of the ABOS approach for ‘Community Life’ and whether the quality of data is maintained was undertaken through four stages of testing between 2012 and 2015:

- Stage 1: initial testing and refining of the field model for online survey delivery.
- Stage 2: a larger scale web test to further refine the fieldwork model.
- Stage 3: testing an all-adult in one household sampling approach, instead of one selected at random, and
- Stage 4: understanding differences between online and face-to-face surveys by drawing stronger conclusions on the relative impact of sample effects vs mode effects.

An overall report was collated bringing together findings and conclusions from across the whole programme of methodological research, which also helped to optimise the approach<sup>3</sup>. This informed the Cabinet Office’s decision to go ahead with a move to ABOS from 2016-17 onwards, after the consultation period<sup>4</sup>.

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<sup>2</sup> Cabinet Office Consultation: Community Life Survey: Development and implementation of online survey methodology for future survey years, 2015  
[https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/466919/Community\\_Life\\_Survey\\_Consultation\\_2015.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/466919/Community_Life_Survey_Consultation_2015.pdf)

<sup>3</sup> Investigating the viability of moving from a face-to-face to an online/postal mode: evidence from a series of methodological studies 2012-2015, Becky Hamlyn, Alice Fitzpatrick, Joel Williams, 2015  
[https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/466921/Investigating\\_the\\_the\\_viability\\_of\\_moving\\_from\\_a\\_face-to-face\\_to\\_an\\_online\\_postal\\_mode\\_FINAL.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/466921/Investigating_the_the_viability_of_moving_from_a_face-to-face_to_an_online_postal_mode_FINAL.pdf)

<sup>4</sup> Cabinet Office Consultation Response: Community Life Survey: Development and implementation of online survey methodology for future survey years, 2015  
[https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/539111/community\\_life\\_survey\\_consultation\\_response\\_final.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/539111/community_life_survey_consultation_response_final.pdf)

#### **4. Adapting Address-Based Online Surveying for the media industry – BBC ART case study**

In 2016, BBC issued a brief for the re-tender of its Accountability and Reputation Tracker (ART). This has been the cornerstone of the BBC's understanding of the public's view on its overall performance and performance against its public service remit for around twenty years. Results from ART are published externally and consequently the approach must be of high quality. The principle of representing everybody is paramount, reflecting the BBC's obligation to be 'for all of us' as a licence-fee funded organisation.

Up until now, continuous data collection has been face-to-face in-home through a c. 30 minute interview using CAPI and random location sampling. However, budget restraints, coupled with a desire to reassess and future-proof the approach for ART, meant that an alternative way of delivering a high quality sampling approach, whilst maintaining the ability to report results on a monthly basis, would be attractive.

The parallels with the Cabinet Office situation were evident. Kantar Media, worked closely with colleagues from Kantar Public to put forward an ABOS solution, which by this time had been thoroughly tested and developed, to the BBC as the future of ART. After the tender process, the BBC decided to test the ABOS methodology with a pilot at the beginning of 2017, in order to make a final decision on the approach to take ahead of the new ART contract beginning in July 2017. Would the advantages of the new approach outweigh the benefits a consistent face-to-face approach, albeit one that would need to be shorter with a smaller sample size to achieve the required cost savings, would bring?

##### **4.1 The importance of survey branding**

The key challenge to overcome moving the ABOS approach into the media sector was how to achieve a branding and positioning of the survey that would enable us to achieve a response rate high enough to make the switch of approaches viable.

The 'Community Life' project had achieved an estimated response rate of 22% using 'Community Life' branding and the power of the Cabinet Office brand behind the research. However, we were conscious that this was for a government survey with worthy aims and the potential for people to feel more obliged to take part. Indeed, when Kantar Public has tested an ABOS approach for other public, but non-governmental, organisations with much lower brand recognition, response rates have been in single digits.

Clearly, the survey needed to have a brand and the 'UK Media Survey' was created. However, due consideration needed to be given to who was positioned as the survey sponsor. A key consideration was avoiding any skew in the sample by attitudes towards the BBC. The BBC was never introduced as the sponsor of the face-to-face survey (even if this became evident to people during completion) thus people didn't have the option to decide whether or not to take part based on the survey being about and on behalf of the BBC (it was introduced within a more general media consumption context).

Consequently, branding the survey as from the BBC felt like it would potentially cause some kind of bias in the sample. However, we felt that using Kantar branding was unlikely to elicit as high a response as using BBC branding would. So, the BBC consulted a selection of other broadcasters in the UK to see whether they would allow us to position the survey as for a range of broadcasters in return for sharing some of the results relevant for them. This would enable us to use the widely-recognised logos of a range of broadcasters on our invitation envelopes and letters to help response rates and minimise any sample bias.

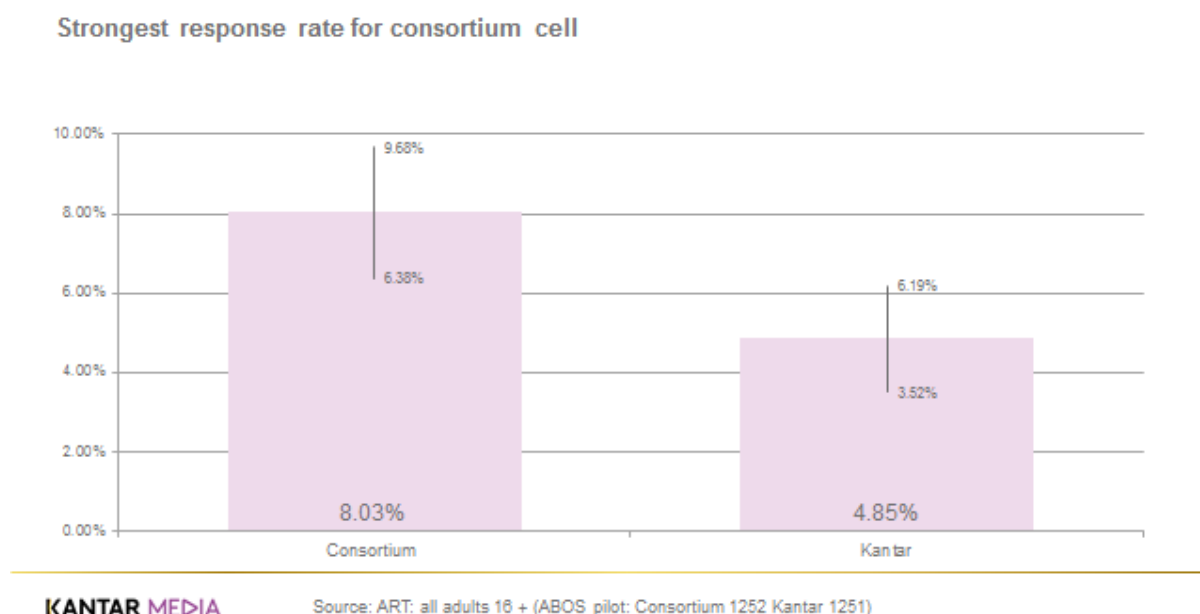
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With the BBC getting agreement from other broadcasters we were able to test this approach in the pilot. With media consumption being of interest to most, and big recognisable brands behind the project, our hope was that whilst we would not achieve the levels of a government survey the pull would be strong enough to achieve a response rate that makes the approach feasible.

#### 4.2 Results from the initial ART ABOS pilot

The pilot involved sending 2,500 letter invitations to households across the UK, with up to four adults in each household able to take part. This was split into two cells, testing using the consortium and Kantar branding respectively.

**Figure 1: Overall response rate by cell, with 95% confidence intervals**



A response rate of 8% was achieved<sup>5</sup> for the cell with consortium branding. Indeed, as expected, the consortium branding improved response as the response rate for the Kantar branding cell was lower at 4%.

With an agreement in place with other consortium members the consortium branding option was clearly preferable to the Kantar branding option because of the higher response rate, whilst achieving similarly good sample profiles. Although the response rate was lower than hoped, when compared with ‘Community Life’, actually having a measurable response rate is an enhancement from the previous random location sampling method used for ART and the response rate achieved was sufficient to make the approach viable for the budget. Furthermore, a good sample profile was achieved (see Figure 2, below), especially bearing in mind that the face-to-face survey uses quotas and ABOS does not, as it is completely random. The actual survey results also looked sensible compared with face-to-face results.

<sup>5</sup> Response rate calculated as  $r = n / (i \times 0.92 \times 1.9)$  where  $n$  = number of responses from individuals,  $i$  = number of invitations sent to households. This is then reduced by 0.92 to account for deadwood addresses and multiplied by 1.9 as the average number of adults per household.

**Figure 2: Comparison of sample profile from ABOS pilot consortium cell (unweighted) and from face-to-face results (unweighted) for the same period in January 2017 versus the target profile for all adults aged 16+ in the UK.**

	ABOS Consortium cell JAN unwtd	F2F JAN unwtd	TARGET PROFILE
Male	54%	49%	49%
Female	46%	51%	51%
16-34	30%	28%	29%
35-54	32%	25%	34%
55+	38%	47%	38%
ABC1	45%	51%	54%
C2DE	30%	49%	46%
N/A*	26%	0%	0%
BAME	8%	13%	13%
FT work	37%	33%	47%
PT work	11%	11%	10%
Not working	31%	56%	43%
N/A*	20%	1%	0%
Disability	15%	16%	13%

\*The self-completion approach resulted in a higher level of not stated answers for social grade and working status than achieved with the presence of an interviewer but rebasing on those who gave an answer would bring profiles more into line with the target profile.

### 4.3 Compelling evidence to switch to an ABOS approach

The response rate was high enough to achieve an equivalent sample size to a face-to-face random location survey for the budget (800 per month) with several advantages on top:

- good sample representation, as demonstrated above
- more questions can be covered than would be feasible for the budget face-to-face
- able to re-format awareness and recency of usage funnel questions for BBC services to force an answer for every service. The previous face-to-face interview used the quicker approach of asking to choose those aware of from a list of brands in the first instance and filter subsequent lists to save time. The pilot demonstrated that the new design produced higher awareness and usage figures that were more credible against other industry sources
- survey results that looked sensible compared with the long history of data from the face-to-face approach, even if not entirely consistent
- an approach that's future-proofed as more and more of our lives moves online and the time available for face-to-face interviews, at the interviewer's convenience, diminishes

Consequently, the BBC decided to go ahead with launching the new ABOS approach from July 2017 alongside a parallel run with the previous face-to-face questionnaire to enable further comparison of results with a larger sample size and the calibration of previous ART results for key measures, if necessary, to account for the change in methodology.

## **5. Applying the learnings from ‘Community Life’ and the ART ABOS pilot to the ABOS design for ART**

The pilot stage and the original development work undertaken for the ‘Community Life’ survey led us to have a clear understanding of how to optimise the ABOS approach for it to work best for the launch in July. These considerations are valuable as a list of tips should you consider using a similar approach in the future:

### **Branding**

- Develop a brand for the survey that is easy for respondents to remember and use this throughout. We created the ‘UK Media Survey’ for ART.
- Use the logo of the sponsor on the envelope containing the invitation to encourage people to open the letter in the first place. The Postcode Address File provides addresses but not the names of residents. As we are therefore only able to address the letters to ‘The resident(s)’ anything else that will encourage them to open the letter is a benefit.
- The survey branding and client logos are used on the invitation letter too, alongside the Kantar Media logo as Kantar Media is the organisation with whom the respondent will actually have the relationship.

### **Sample**

- Draw a random probability stratified sample of addresses from the Postcode Address File (PAF) or national equivalent. We need 6,400 addresses to achieve the sample size we are aiming for on ART (800 per month).
- ART also requires a minimum sample within each of the devolved UK nations each month (c. 80) and so the sample is drawn within nation in line with the differential response rate per nation. This means addresses in Scotland, Wales and Northern Ireland are over-represented in the sample.
- All residential addresses within each nation have an equal probability of selection.

### **Respondent selection within the household**

- A web design does not allow for true random selection of an individual at each address as it cannot be assumed that the sampling procedures will be applied correctly in the absence of an interviewer.
- Initial ‘Community Life’ tests asked recipients of the letter to select one respondent from the household based on last/next birthday. However, these tests found that one in four adults was the “wrong” household respondent showing that non-compliance with the sampling instructions was high.
- Inviting up to four adults in the household to take part was found to be more effective. Although the response rate is lower, this is compensated by compliance with the sampling instructions.
- A range of measures are recommended to validate responses. We have developed a process for flagging questionable cases in the data. This is based on an algorithm which takes into account factors, such as the stated number of adults in the household versus the number of complete interviews received; the length of time taken to complete the interview; and comparisons between the responses given to questions relating to the household by each individual.

### **Invitation letters**

- Explain the purpose and nature of the interview and that up to four adults aged 16+ in the household may take part.
- Provide respondents with the web address they should visit to complete the survey. Make this short and memorable as respondents will have to type this in to their browser. Ideally use the survey name as the web address for memorability.

- Offer a paper survey as an alternative to ensure inclusion where the household lacks internet access. This paper survey to be made available on demand.
- Provide a helpdesk e-mail address, phone number and postal address for people to contact with any queries or to request paper copies of the questionnaire.
- Provide 2-stage log in details within the letter for four adults to take part; a respondent ID that identifies the household and individual along with a randomly generated password. This ensures people who have not been invited to take part cannot do so and minimises risk of respondents entering the survey after mistyping the log in.
- Explain that the survey can be completed in any location with internet access including on a desktop computer, laptop, tablet or mobile. The online survey should be designed in a way that makes it feasible to complete on mobile devices for best representation.
- Include more detailed information about the survey in the form of an FAQ on the reverse of the letter.
- Our experience is that people tend to respond fairly quickly if they are going to. As ART happens every month we ask for people to complete within seven days on the initial invitation

### **Reminder letters**

- Follow up the initial mailing with two reminder letters unless it can be established that all adults in the household have already responded (e.g. one response received and stated that one adult is in the household).
- The reminder letters contain the same information as the initial invitation letter.
- Also send a paper questionnaire in the post to a targeted subset in second reminder packs. This adds to the overall cost of the project because of the amount of printing involved but we have found that it increases response and helps to balance the overall sample achieved much more so than when paper questionnaires are available only on request.
- The assumption is that the approach may over-represent those in areas with higher internet penetration. So, we include a paper questionnaire with second reminders to the households in the sample which fall into the 50% of most deprived households in the UK according to the index of multiple deprivation (IMD), with the intention of balancing this. 'Community Life' testing found this to be the most effective way of using paper questionnaires.
- With only one month available for each ART fieldwork period, a period of around 7 days is left between mailings although we try to ensure that letters arrive on different days to maximise the chance of a letter arriving on a day when the respondent can complete the survey. Timing letters to arrive for the weekend is also good practice.
- Reminder mailings have been found to have a significant impact on response rates across the studies Kantar has conducted.

### **Questionnaire design**

- If you are designing a survey from scratch, it is important that the online survey is set up in such a way that it can be replicated in the paper version.
- With ART aiming a degree of comparability with the previous face-to-face approach we also designed it to reflect the face-to-face survey construction unless a decision was agreed to accept a break and re-design a question to optimise it for the new approach.
- One of the most significant issues which affected compatibility between the interviewer-led and self-completion modes was the presentation of 'Don't know' and 'Prefer not to say' answer options. In the face-to-face survey script the option to select these answers is available at every question, although they are only used when the respondent specifically volunteers them as an answer. This presented a challenge in the design of the online and paper questionnaires as this approach could not be replicated exactly. For ART, we decided to include such answer options which resulted in a higher level of such answers compared with the face-to-face approach.

## 6. Assessing the launch of ART using ABOS

We began collecting ART data using the ABOS approach on behalf of the BBC in July 2017. Results from the first month of fieldwork are presented here. The face-to-face interview was also continued in July to act as a parallel run.

### 6.1 Response rate

The response rate recorded for July 2017 was slightly lower than for the pilot with 720 completed questionnaires received from the 6,400 households mailed to, an estimated response rate of 6.4%. One hypothesis is that response may be lower during the summer holiday months and this appears to be the case with a similar number of returns recorded in August but September exceeding the 800 target.

**Figure 3: Response rates from ART ABOS July 2017**

	PILOT	JULY - UK	England	Scotland	Wales	NI
Online complete	135	589	317	129	73	70
Postal complete	36	131	78	23	12	18
Total complete	171	720	395	152	85	88
<b>Individual response</b>	<b>7.8%</b>	<b>6.4%</b>	<b>7.1%</b>	<b>6.4%</b>	<b>8.4%</b>	<b>3.9%</b>
% on paper	21%	18%	20%	15%	14%	20%

With response rates looking higher in Scotland than originally estimated we will be able to adjust the number of invitations in Scotland down in future months to enable us to send more within England and likely achieve a higher response rate overall.

### 6.2 Sample profile

As the response rate to the web/postal survey is significantly lower than one might expect the response rate to be on a random probability face-to-face survey, the risk of non-response bias is much greater. However, the reality is that a good sample profile was achieved.

Compared with the target profile of UK adults aged 16+, Figure 4 shows the self-completion sample is more likely to comprise internet users, higher social grades<sup>6</sup>, owner-occupiers, white respondents and the more highly educated but not to proportions that cannot be corrected with weighting. The boost of nations within the design means the size of each nation also needs to be corrected with weighting.

The paper questionnaire option helps bring in non-internet users, although take-up of these questionnaires on-request is low so there is only improvement in sample profile if paper questionnaires are included with a targeted subset of reminder packs.

The inclusion of the paper questionnaire appears to improve response with around a fifth of responses returned being on paper. Furthermore, the profiles of response, below, show how this option helps to balance the sample profile overall.

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**Figure 4: Sample profiles – ABOS overall, online and paper (unweighted) versus face-to-face (unweighted) and the target profile for all adults aged 16+ in the UK.**

	ABOS TOTAL July unwtd	ABOS Online July unwtd	ABOS Paper July unwtd	F2F July unwtd	TARGET PROFILE
Male	43%	43%	41%	50%	49%
Female	53%	53%	55%	50%	51%
N/S	4%	4%	4%	0%	0%
16-34	26%	29%	10%	25%	29%
35-54	32%	32%	24%	29%	34%
55+	43%	38%	63%	46%	38%
ABC1	67%	72%	48%	44%	54%
C2DE	31%	28%	43%	57%	46%
N/S*	2%	-	10%	n/a	0%
BAME	7%	6%	8%	9%	13%
FT work	39%	42%	23%	33%	47%
PT work	16%	17%	14%	11%	10%
Not working	30%	30%	34%	55%	43%
N/S*	15%	11%	30%	1%	0%
Disability	15%	12%	26%	16%	13%
Internet user	96%	100%	78%	80%	87%
Degree educated**	32%	35%	19%	n/a	29%^
Owner- occupier**	71%	73%	64%	n/a	67%^

\* The self-completion approach resulted in a higher level of not stated answers for social grade and working status than achieved with the presence of an interviewer but rebasing on those who gave an answer would bring profiles more into line with the target profile.

\*\* Percentages of those who gave an answer shown.

^ Source: TGI Q3 2017.

^^ Source: Annual Population Survey 2017.

### **6.3 Comparability of results with face-to-face**

Results from the July ABOS fieldwork period were compared with the parallel run conducted face-to-face over the same period and presented to the BBC.

Overall, where questions were kept similar, the ABOS results were similar to the face-to-face results. This was certainly true for the BBC's key overall measure 'general impression' on a scale from one to ten. The mean score was consistent between the two approaches at 7.

Furthermore, there are no glaring concerns about the quality of the online data compared with face-to-face data, based on quality metrics such as time taken to complete, drop-out rates, drop-out points and measures to detect survey "satisficing" (i.e. short-cutting tactics).

## **7 Conclusion**

There is now a body of evidence to demonstrate the effectiveness of Address-Based Online Surveying as a viable alternative to face-to-face data collection when high quality sampling is needed.

Of course, ABOS does not offer the same scale of cost savings as using an online panel, but when online panels are not deemed to be appropriate, ABOS does provide significant savings compared with face-to-face random methods, without compromising quality.

The different sampling/fieldwork methods do not appear to influence the distribution of the data so the lower response rate of the online/paper method compared to what would be achieved through a random probability face-to-face interview method should not be a strong concern.

## **8 Acknowledgements**

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