



**ASSESSMENT OF INNOVATIONS IN DATA COLLECTION  
TECHNOLOGY FOR *UNDERSTANDING SOCIETY***

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The views and statements expressed in this publication are those of the author and do not necessarily reflect those of the ESRC

*Understanding Society* is a world leading household panel study tracking the lives of about 100,000 people in 40,000 British households every year as they are affected by regional, national and international change. Over time, the study will permit examination of short- and long-term effects of social and economic change, including policy interventions, on the general wellbeing of the UK population. The study has a strong emphasis on domains of family and social ties, work, financial resources and health. *Understanding Society* also breaks new ground with its interdisciplinary focus. The study will capture biomedical data on 20,000 participants and place this alongside rich social histories, helping us weigh the extent to which people's environment influences their health relative to their genetic make-up.

Commissioned in 2006/2007, the first wave of fieldwork started in January 2009. Wave 4 entered the field in January 2012. The collection of biological data will be completed in Spring 2012.

The full Wave 1 dataset was released to the public on 23 November 2011 and is available through the [Economic and Social Data Service \(ESDS\)](#). The full Wave 2 dataset is expected to be available from Autumn 2012.

Further information on the Study can be found on the *Understanding Society* website: <http://www.understandingsociety.org.uk/>.

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# Assessment of Innovations in Data Collection Technology for *Understanding Society*

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## 1. Executive Summary

- 1.1 In this brief assessment, I review some of the options for using new technologies for data collection in *Understanding Society*, with a primary focus on Web-based data collection. I briefly address the following areas:
  - Web as the primary mode for all main instruments, in a sequential mixed-mode approach.
  - Web as the secondary mode for all main instruments, in a sequential mixed-mode approach.
  - Web as the primary mode for certain instruments, such as the youth self-completion survey.
  - Web as the only or primary mode for special supplemental studies.
  - Web as the only mode of data collection, using an online panel.
  - Other technologies such as smart phones, tablets, and social media.
  - Use of administrative records.
  - Biomeasures.
- 1.2 Each of these topics is addressed in the body of the report.
- 1.3 Much of the review focuses on the use of the Web as the primary mode of data collection in a sequential mixed-mode design, as this is the approach currently under investigation in the *Understanding Society* Innovation Panel (IP5), and has the most potential – if successful – of yielding efficiencies in data collection. However, the existing research evidence is thin, and while there are some promising findings there are also studies that suggest this approach might not be as effective as hoped. This suggests caution in proceeding down this path too fast.
- 1.4 The mixed-mode design planned for the next two Innovation Panels (IP5 and IP6) offers the best opportunity to gain much-needed evidence of direct relevance to *Understanding Society*, and my recommendation is to wait for the results of these studies to be available before any decisions about changing data collection strategies for the *Understanding Society* mainstage are made. This conclusion is based on the fact that there is much we do not know about how well the introduction of Web-based data collection will work, and that proceeding without such knowledge presents intolerable levels of risk for an important infrastructure study like *Understanding Society*. It is my understanding that IP6 will be funded in the next cycle, and is a potential target for cuts. I urge ESRC to fund IP6 – and to make a decision about doing so as soon as possible – as it will provide key evidence on the effect of a mixed-mode strategy on panel attrition in *Understanding Society*. The recommendation also implies that the next round of funding for *Understanding Society* should be based on the current model of data collection (i.e., face-to-face). Funding Waves 6-8 on the assumption that significant savings will be realized through the adoption of mixed-mode approaches is simply too risky, and needed cuts will need to be sought elsewhere.

## 2. Introduction

- 2.1 At the request of ESRC, this assessment reviews innovations in data collection technologies that may be applicable to *Understanding Society*, with a goal of increasing the efficiency of data collection for the study. This assessment is based on the following sources:
- A review of the existing and emerging literature (greatly facilitated by Shirley Dex and Julia Gumy's comprehensive review).
  - Participation in the one-day seminar on General Population Surveys on the Web: Possibilities and Barriers, organized by NCRM.
  - Discussions with key stakeholders from ESRC and the *Understanding Society* governing board.
  - Discussions with members of the *Understanding Society* team at ISER and NatCen.
  - Discussions, e-mail exchanges, and Web queries on other leading panel studies, including PSID and HRS (University of Michigan), SLID (Statistics Canada), SOEP (DIW, Germany), SHARE (MEA, Germany), and others.
- 2.2 This assessment is not intended to provide an exhaustive review of the relevant literature. The interested reader is referred to the comprehensive review paper produced by Dex and Gumy (2011). Rather, this assessment attempts to focus on information directly relevant to *Understanding Society*.
- 2.3 In the sections that follow, I briefly review some of the background that led to the consideration of alternative designs for *Understanding Society*. I then examine the possibilities for introduction of new technologies to *Understanding Society*, focusing primary on Web data collection as part of a mixed mode survey strategy. I identify the various approaches that could be considered and what is known and not known about each approach. I end with a brief discussion of the relative risks of alternative strategies and a set of recommendations.

### 3. Background

- 3.1 The challenges facing survey research in the first decades of the 21<sup>st</sup> century are well known. Briefly, without exception, developed countries have experienced declines in response rates over the last decade, with sharper declines in telephone surveys than face-to-face surveys. Such declines have been countered in part through increasing effort, meaning that the cost of surveys has been rising steadily over this time. Other methodological developments such as responsive or adaptive designs (see Groves and Heeringa, 2006), the increased use of incentives, and the like, have served to dampen the effect of this trend, but not reverse it.
- 3.2 While the effect of these trends has been felt most keenly by cross-sectional surveys (especially those conducted by telephone), longitudinal studies – including panel and cohort studies – are not immune. Panel surveys have experienced similar increases in attrition rates over this time period<sup>1</sup>. The increased dispersion of a panel sample over time, due in part to rising residential mobility and changes in household composition, increases the cost and effort of locating panel members, making contact with them, and gaining their cooperation, relative to a highly-clustered cross-sectional design.
- 3.3 This same period has seen the rise of new methods of data collection, particularly among market researchers, but also increasingly among political pollsters – the two groups hardest hit by the rapidly declining response rates of traditional methods. We have seen a proliferation of online opt-in or access panels, to the point of saturation in the US and rising concerns about the value of such panels for market research. Methodological research has also focused on tackling the challenges that mobile or cell phones present for RDD telephone surveys. The last few years has seen rising interest in research on so-called smart phones (Web-enabled phones), tablets (such as the iPad), the use of social media (Facebook, Twitter, etc.) and the use of administrative records (whether commercial or government) to replace or supplement traditional survey methods for data collection.
- 3.4 Finally, there has been a rapid rise in research on mixed-mode data collection approaches. While there is a long history of mixed-mode surveys (see Couper, 2011), the last few years has seen a dramatic growth in such research, in part because of the growing threats to traditional data collection methods, along with the hope that by mixing modes we can mitigate some of the negative effects of the trends mentioned earlier.
- 3.5 The interest in mixed-mode surveys is also being fueled by the rising penetration of Internet and mobile phone technologies, and by societal changes in the use of these technologies. As the segment of the population with access to these devices increases, and as people become increasingly comfortable with technology for a variety of activities, it is important to consider whether and how we can adapt surveys to take advantage of these trends.

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<sup>1</sup> The scientific evidence of these trends is surprisingly hard to assemble, in part because cost and effort data are often not available. However, public statements by both directors and funders of large-scale surveys in North America and Europe suggest there is near-consensus on this view.

- 3.6 While these alternative modes – and combination of modes – are increasingly attractive for those with limited budgets and time, they present different challenges for panel studies. While the panel design provides an advantage in terms of measuring panel members' access to and use of new technologies over time, the demands for data from such panels often translates to long and complex questionnaire relative to cross-sectional studies, making them less suitable for mixed-mode approaches. Similarly, the need to hold measurement constant over time to observe true changes in the panel necessitates a cautious approach to adopting new methods that may change the fundamentals of the measurement process. Further, the long-term effects of mixed-mode approaches on panel attrition are not yet well-understood, and the risk of introducing differential attrition through the too-rapid adoption of mixed-mode designs remains a key concern.
- 3.7 Finally, the rising pressures on government coffers given the recent economic downturn have forced a careful look at investments in science, with a view to limiting increases in expenditures or even reducing investments in scientific research. At the same time, the demand for high-quality data, especially from panel studies, is increasing, and studies like *Understanding Society* are being replicated in other countries, further increasing the comparative value of the study. It is in this context that ESRC is taking a careful look at large-scale social scientific investments such as *Understanding Society*, with a view to balancing the science case of making changes against the fiscal realities faced by funding agencies.
- 3.8 With this background in mind, what follows is an attempt to review the scientific evidence for the adoption of new technologies and methods in *Understanding Society*. My primary focus is on Internet- or Web-based data collection, specifically in the context of mixed-mode methods, but I will also briefly touch on other approaches such as the use of administrative records. I also briefly discuss the implications of biomeasure collection for a mixed-mode approach to *Understanding Society*. I conclude the review with a summary of what is known and not known to date and a set of specific recommendations.

## 4. Options Analysis of Web-Based Data Collection

- 4.1 There are a number of different ways that Web surveys<sup>2</sup> could be used in large-scale population-based longitudinal surveys such as *Understanding Society*. Some of these are<sup>3</sup>:
- Web as the primary mode for all main instruments, in a sequential mixed-mode approach.
  - Web as the secondary mode for all main instruments, in a sequential mixed-mode approach.
  - Web as the primary mode for certain instruments, such as the youth self-completion survey.
  - Web as the only or primary mode for special supplemental studies.
  - Web as the only mode of data collection, using an online panel.
- 4.2 Each of these approaches has potential opportunities and challenges for *Understanding Society*, and I address each in turn in the sections that follow.

### *Web as the Primary Mode for All Main Instruments*

- 4.3 I begin with this option, as this is the approach being tested in the Innovation Panel in 2012 (IP5) and has the greatest likelihood of achieving cost savings, if successful. This approach invites panel members to complete the Web version of the survey as the first option, then switching to other modes (primarily face-to-face) for those unwilling or unable to complete the survey online.

#### *What Is Known?*

- 4.3 A number of studies have explored beginning with the Web in a sequential mixed-mode design. Many of these are cross-sectional studies and thus may not be directly applicable to *Understanding Society*. Even among the longitudinal designs exploring this approach (see Dex and Gummy 2011, Table 2), there is limited information of direct relevance to the *Understanding Society* situation.
- 4.4 A closer examination of one example may be instructive. The Netherlands Kinship Panel Study (NKPS; see <http://nkps.nl/NKPSEN/nkps.htm>), the Dutch part of the Generations and Gender Survey (GGS; see <http://www.ggp-i.org/>), is based on a large address-based sample (n≈24,400 at W1), covers a broad age range (18-79), and has a fairly long (~60 minutes) and complex questionnaire. Wave 1 of this study was conducted in 2002-4, using CAPI, and obtained an initial response rate of 37% (8,161 interviews). Nonrespondents were later sent an abridged self-completion version of the questionnaire, and an additional 8% did so (Dykstra et al., 2005). Wave 2 was conducted in 2007, and achieved a 74% response rate among the 8,161 respondents interviewed at W1 (the 37%

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<sup>2</sup> I prefer the term Web surveys to the increasingly popular acronym CAWI (computer-assisted Web interviewing) which doesn't actually make much sense as the Web is a self-administered mode.

<sup>3</sup> This is based on a list presented by Peter Lynn at the NCRM Seminar in November 2011.



who initially responded; Dykstra et al., 2007). Wave 3 was conducted in 2010, and utilized a sequential mixed-mode design. Panel members were initially invited to complete the survey online, and about 40% of W2 respondents did so. Telephone follow-up (CATI) was then used, bringing in a further 20% of W2 respondents. Finally, personal interviews (CAPI) were used as a last resort or for those without telephones, yielding a further 13% of W2 respondents, for an overall W3 response rate of 73% (Dykstra, 2011). Per Liefbroer (2011), this design brought the cost per respondent down from €195 in W2 to €115 in W3.

- 4.5 While this example shows the potential benefit of a sequential mixed-mode design, it is not clear that similar results would be obtained for *Understanding Society*. A key difference is that the NKPS follows selected individuals (one selected at each sampled address in W1), while *Understanding Society* follows all members of panel households. Further, the NKPS sample was selected in an unclustered design, meaning (relatively) higher costs for interviewer administration. *Understanding Society* is based on a clustered design of sample points. While such clustering may dissipate over time and sample persons move, the relative costs of face-to-face interviewing may be different than if an unclustered design was used.
- 4.6 Initial reports from Statistics Netherlands also suggest some success with using this approach in the Health Interview Survey (Van Nunspeet, Cuppen, and van der Laan, 2011). This is a cross-sectional survey, with samples drawn from the population register. Van Nunspeet and colleagues report responses rates slightly higher (64%) for the sequential mixed-mode design than for the old CAPI design (61%) with about half of the respondents in the mixed-mode design reporting via the Web. While this also suggests optimism, it is not clear how representative the Dutch experiences are, and it is telling that none of the major population-based longitudinal studies have adopted a sequential mixed-mode design involving the Web (see Dex and Gummy, 2011, Table A1.2; reproduced here as Appendix A).
- 4.7 All the other sequential mixed-mode designs reviewed by Dex and Gummy (2011) either involve mail rather than interviewer administration as the alternative mode (e.g., Holmberg, Lorenc, and Werner, 2010), use Web as a follow-up for nonrespondents (e.g., Voorpostel and Ryser, 2011; see next section), and/or focus on particular cohorts of individuals, such as school leavers or teachers, that are likely to be more amenable to being surveyed online. Thus, with the possible exception of the NKPS and Dutch Health Interview Survey, research evidence on switching existing panel surveys to a sequential mixed-mode involving Web is noticeably lacking.
- 4.8 Sequential mixed-mode designs starting with Web offer the most promise for reducing data collection costs, as long as significant proportions of the sample complete the online version – sufficient to reduce costs of follow-up efforts and to offset the costs of developing and deploying different versions of the instrument. Such designs have been explored in a number of methodological studies on cross-sectional surveys, with varying success. Many of these studies use mail and/or telephone as follow-up modes, and hence are usually much shorter instruments than used in *Understanding Society*. A related difference between these approaches and *Understanding Society* is that the panel members have prior experience of the survey, and are familiar with the effort that may be required

to complete the questionnaire. What effect this may have on online uptake rates is unknown. Further, as with the NKPS, most of these studies are based on surveys of persons rather than households and avoid the complexity of determining household composition before administering individual surveys. Nonetheless, a great deal of useful research is being conducted on the best ways to invite persons to an online survey, and the optimal sequencing of modes. Should this approach prove effective for *Understanding Society*, best practices are already being developed on how best to design and implement sequential mixed-mode surveys.

*What Questions Need to Be Answered?*

4.9 As noted earlier, *Understanding Society*'s IP5, to be conducted in 2012, will include a test of a sequential mixed-mode design starting with Web. Given the dearth of directly-relevant studies, the Innovation Panel will answer a number of important questions about the utility of this approach for *Understanding Society*. These include the following:

1. What proportion of *Understanding Society* respondents opt for Web completion?

4.10 Two key sub-questions with cost and efficiency implications are a) what proportion of households complete the household grid, and b) in how many households do all individuals complete their survey online?<sup>4</sup> Further, given the length of the *Understanding Society* instrument, there are likely to be significant numbers of breakoffs in the online version, necessitating interviewer follow-up. Cost savings are likely to be achieved only with significant numbers of whole-household completions online. As with the experience using the telephone mode in IP2, if the interviewer has to make a visit to the household for even one sample person, significant efficiencies may not be realized.

2. What types of panel members do so?

4.11 This question also has efficiency implications. Early research from the US (e.g., Link and Mokdad, 2006) suggests that those who complete the online survey are more likely to be cooperative respondents, requiring less follow-up effort. On the other hand we know that young, single, urban professionals are more likely to have Internet access, and given that these groups are generally more difficult to contact, getting them to complete the survey online may produce efficiencies. So, it is not just the number but also the type and composition of respondents that are important.

3. Are there effects on panel attrition of completing the survey online?

4.12 A critical concern for a panel study like *Understanding Society* is retaining sample members over time. I know of no research that has addressed the long term implications of a sequential mixed-mode design on panel attrition. Some encouraging indirect evidence comes from the Health and Retirement Study (HRS) in the US, where those who are asked and who complete supplemental Web surveys in the off-years, appear slightly more cooperative in the subsequent wave of the main survey. These are generally cooperative respondents who have Internet access and who expressed willingness to complete an

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<sup>4</sup> My own expectation is that this proportion is likely to be low – maybe as low as the teens or single digits.

Internet survey. A small sample of these cases is held back to examine the effect of the Internet survey invitation (and completion) on later-wave response, and there is no evidence of a negative effect. However, the experience of the telephone mixed-mode experiment in IP2 and IP3 (see Lynn, 2011), in which those who completed the telephone interview in IP2 had lower response rates in IP3, suggests there may be some cause for concern in *Understanding Society*.

- 4.13 To answer this important question for *Understanding Society*, it is necessary to have data from IP6, the wave following the sequential mixed-mode experiment. It is my understanding that a decision has not yet been made on the funding for IP6. In my view, IP6 is a critical component for understanding the longer-term impacts of the mixed-mode strategy being tested in IP5.

4. What are the cost implications of starting with Web?

- 4.14 Aside from the overall cost figures presented by Liefbroer on the GGP, and similar high-level estimates from Statistics Netherlands on the Health Interview Survey, no detailed cost estimates are available on sequential mixed-mode designs. Answering the cost question is a vital one for IP5, and will require detailed expense and effort data from NatCen. The cost data may not be readily forthcoming, but the effort information (e.g., number of visits by interviewers, numbers of miles traveled, number of hours worked, etc.) is essential for developing accurate models of the cost implications of a sequential mixed-mode design. As noted above, a key element of any potential cost saving is not just the number of online completions, but how many of these are households where all members complete their questionnaires online, avoiding the need for costly in-person follow-up. If the pattern of online completions leaves the remaining cases more geographically dispersed, the effort to complete the remaining cases may go up. Similarly, if the most cooperative panelists (i.e., those requiring the least effort to interview) are the most likely to complete the Web version, the costs saving will not be a simple linear function of the number or proportion completing the survey online.
- 4.15 Finally, the cost-quality trade-off should not be ignored. For example, if Web completion of the household grid leads to poorer quality data on household transitions, the population coverage of *Understanding Society* may be negatively impacted. ISER is planning a telephone follow-up of Web completes to verify the household grid enumeration, and this will provide important information on this question.
- 4.16 Given the importance of this question to decisions about the future direction of *Understanding Society*, ISER and NatCen are strongly encouraged to plan for a detailed costs analysis of IP5 results. This may involve identifying the key elements needed for such analysis, and ensuring that such information will be available, prior to the start of data collection. Decisions will also need to be made about how to deal with the fixed costs of developing the Web instrument and the sample management system to handle a sequential mixed mode design. These are not trivial investments, and the question of whether these are one-time investments or ongoing expenditures is critical to estimating the likely cost of adopting this approach for the main *Understanding Society* panel.

4.17 One key outcome of IP5 would be to identify a break-even point for adoption of a sequential mixed-mode approach for *Understanding Society*. Understanding the per-case costs of completion would help inform decisions such as whether additional incentives for whole-household Web completion would make sense.

5. What are the data quality implications of starting with Web?

4.18. Gathering completed interviews from as many *Understanding Society* panel members with the greatest efficiency is not the only goal. The quality of data must be sufficient to justify the decision to adopt a mixed-mode strategy. Mixing modes of data collection adds complications to cross-sectional and longitudinal analysis if there are measurement differences between modes (see Martin, 2011; Martin and Lynn, 2011). Views are still mixed on the data quality implications of mixing Web and face-to-face surveys. Many of the surveys aggressively pursuing mixed-mode data collection use mail as the alternative mode, where the measurement differences between mail and Web are generally small. For straightforward, non-sensitive factual questions, the differences appear to be small enough to be ignored. Questions that benefit from interviewer clarification or probing (e.g., industry and occupation) may differ between modes (e.g., Dawe and Wilson, 2011). Sensitive questions or those involving socially undesirable behaviors appear to be answered more honestly on the Web. Long or complex questions may perform better than in telephone surveys (giving respondents time to think about the answers), but maybe not relative to face-to-face surveys using show cards. It is argued that questions that require consultation with other household members or the lookup of records may work better on the Web, but evidence to support this is currently lacking (although HRS researchers are currently exploring this issue). To my knowledge, no research has explored how well dependent interviewing works in a self-administered setting. Given concerns that there is less control over who accesses the online instruments, the possibility of presenting prior responses to other family members may raise confidentiality concerns. IP5 has the opportunity to contribute to this research. In summary, the measurement differences are likely to differ by the types of questions asked and the way they are asked.

4.19 In my view, the data quality implications of mixing modes – while important – are of secondary concern to the response rate or nonresponse bias questions. If significant numbers of respondents cannot be convinced to complete the survey online, the measurement issue is moot. A great deal of research is currently underway to investigate such differences and design questionnaires to minimize such differences, and that research will inform the adoption of mixed-mode approaches for the *Understanding Society* mainstage. Further, while not directly designed to do so, IP5 will permit analysis of data quality differences between modes, and this should be a priority for analysis. Finally, recent developments in developing statistical methods for combining data from different modes (e.g., Beulens and van der Brakel, 2011; Vannieuwenhuyze, Loosveldt, and Molenberghs, 2011) offer promise for addressing this issue statistically, but it may take a while to get the user community comfortable with using data from multiple modes if extensive statistical adjustments are required.

### Knowledge gaps

- 4.20 A number of key questions remain unanswered before *Understanding Society* can adopt this approach with minimal risk. These include: 1) how many will opt for self-completion, 2) how much fieldwork effort will this save, 3) what are the effects on later-wave participation, and 4) what are the measurement error or data quality implications of online self-completion? Many of these questions will be answered with data from IP5 and IP6 (if funded). Despite promising results from the Netherlands, the general view is that only a small minority of *Understanding Society* panelists will avail themselves of the opportunity for online self-completion. If this proves true, alternative strategies will need to be explored. Even if the results are encouraging, further testing is necessary before fully adopting this approach in mainstage data collection.

### Benefits and risks

- 4.21 The potential benefits of this approach lie in the reduction of fieldwork effort for those who complete their surveys online. The risk lies in the proportion (and type of people) who do so – if this is low, the potential savings may not justify the risk. Additional risks related to measurement error or data quality effects and to the long-term effects on panel attrition. There may also be opportunity costs in terms of biomeasure collection and administrative data record linkage (addressed in separate sections of this report).

### Recommendation and timeline

- 4.22 Based on the available evidence, the least risky strategy would be to fund the next round of *Understanding Society* assuming that face-to-face interviewing will continue. The outcome of IP5 and IP6 will help determine whether a sequential mixed-mode data collection strategy is feasible in the long run, with research then focusing on ways to increase the proportion of panel members completing the survey online (whether through more targeted strategies, the use of significant financial inducements, or other strategies), and on ways to minimize measurement error differences between the modes of data collection.
- 4.23 The results of IP5 will be critical in deciding whether it is worth pursuing this strategy further. If the results are promising, the effects on attrition in IP6 will help determine whether to proceed in the mainstage of *Understanding Society*. The timely funding of IP6 is critical to answer key questions. If the results of IP5 and IP6 prove promising, then a phased introduction of this approach during the 2013-2015 waves of data collection may be feasible, but this will not be known until the funding decision for those waves is already made.

### ***Web as the Secondary Mode for All Main Instruments***

- 4.23 This approach would use the Web as a follow-up mode for those not interviewed in another mode (whether because of a contact failure or a refusal to participate).

### *Review of Research Evidence*

- 4.24 A few studies have tested this approach (see Dex and Gummy 2011, Table 2), with mixed success. Voorpostel and Ryser (2011) report on a study in the Swiss Household Panel in which those who refused the telephone interview were recontacted and asked to complete the individual questionnaire online. Of the 1,962 panel members who did not complete the CATI questionnaire, 87 opted for the Web mode and were sent login information; of these, only 43 completed the survey online. Statistics Netherlands attempted a similar strategy in the Labor Force Survey (see Banning and Schouten, 2009). While the LFS is a household survey, only one individual per household was recontacted for this study. One group was approached with the option of completing a short instrument by telephone, mail or Web; 45% of those offered this option answered the basic questions in the short questionnaire (the report does not reveal the breakdown by mode). This compares to 77% of those in the other group – followed up using CATI and CAPI – who completed the full survey. Finally, W2 of the NKPS offered Web self-completion to those who had refused participation in the main data collection (Dykstra, et al., 2007). While the report does not state how many were offered this option, only 1.6% of all completed questionnaires (96 respondents) in W2 were obtained via the Web.
- 4.25 These limited findings suggest that this approach is not likely to be of much benefit to *Understanding Society*, in terms of either yield or efficiency. However, a possible variation on this approach for *Understanding Society* may involve the completion of individual questionnaires for those not available at the time the household grid is completed, i.e., to save follow-up visits to complete the remaining individual interviews in partially-completed households. This may be worth some further exploration by ISER, with preliminary analyses focusing on how many cases this might affect and who those cases are (i.e., are they persons with Internet access?).

### *Summary*

#### Knowledge gaps

- 4.26 While the research evidence on following up nonrespondents suggests that this is not a particularly viable approach, it is not known how well this approach may work in *Understanding Society* for household members not present at the time of the initial interview.

#### Benefits and risks

- 4.27 The financial benefits of this approach are likely to be minimal. It is possible that this may help to reduce the number of follow-up visits to households and reduce part-household nonresponse. The risk of this approach comes with those household who are given this option but then don't respond. Would this require additional (expensive) interviewer follow-up or increase part-household nonresponse and attrition?

#### Recommendation and timeline

- 4.28 This approach is unlikely to have a big impact of *Understanding Society*. While the benefits are small, the risks and costs are also relatively low, and so this approach is worth testing, either in IP6 or among a subset of mainstage cases. Preliminary analysis with existing

data could estimate the likely benefits. My view is that this could be done at relatively low marginal cost.

### ***Web as the Primary Mode for Certain Instruments***

- 4.29 This approach considers the Web as the primary mode for instruments such as the adult (for those age 16 and older) or youth (for those age 10-15) self-completion questionnaires, which are currently (ideally) completed while one of the other household members is being interviewed, or picked up by the interviewer on a subsequent visit, or left with the household to be mailed in (in order of preference). This approach is similar to that outlined in Section 3.2 above, and the two could be tested in tandem.

### *Review of Research Evidence*

- 4.30 I know of no existing research on this approach, although the German Socioeconomic Panel (SOEP) has proposed exploring this option for their paper self-completion instruments, and the Panel Study of Income Dynamics (PSID) has proposed similar tests.
- 4.31 Results from W1 of *Understanding Society* shows that the majority of self-completion questionnaires (85.1% of those completed by adults and 73.2% of those completed by youth) are completed with the interviewer present in the household. However, an additional 10.7% of adult and 23.3% of youth questionnaires are picked up by interviewers, necessitating another visit to the household, while a further 3.1% of adult and 2.2% of youth questionnaires are returned by mail. Targeting these latter two groups for online self-completion (in those households with Internet access), may be worthwhile. Furthermore, the nonresponse rates for the self-completion questionnaire in W1 were 15.1% and 26.1% for the adult and youth questionnaires respectively, suggesting this is an area for targeted attention in future waves.
- 4.32 Providing a Web option for these instruments or encouraging household members with Internet access to complete them online (i.e., a mode choice or a sequential mixed-mode design) may improve data quality, reduce costs of mailing and keying of the paper questionnaires, and possibly reduce the number of follow-up visits to collect completed questionnaires.

### *Summary*

#### Knowledge gaps

- 4.33 There is little research evidence on this option. We do not know what proportion of self-completion questions not completed at the time of the interviewer visit would be done online, and what effect this may have on panel attrition.

#### Benefits and risks

- 4.34 The benefits of this approach are likely to be small, potentially reducing the small number of follow-up visits required to pick up completed self-completion questionnaires. The risks are

also likely to be small, although the research evidence suggests a choice of modes (Web and paper) may reduce response rates relative to paper-only.

#### Recommendation and timeline

- 4.35 While this approach is unlikely to yield substantial cost savings, exploring this option involves relatively low risk and costs, and is a recommended strategy for *Understanding Society* to pursue, either in the Innovation Panel (e.g., IP6) or with a targeted subsample of mainstage cases. Targeting the self-completion nonrespondents for a follow-up Web option (depending on reasons for nonresponse) seems worth pursuing, with minimal additional cost.

#### ***Web as the Only or Primary Mode for Special Supplemental Studies***

- 4.36 This approach is used by the Health and Retirement Study (HRS) for off-year exploratory studies among Internet users, using supplemental funds provided through a separate grant from the main study.

#### *Review of Research Evidence*

- 4.37 The only evidence I'm aware of comes from quasi-experimental work in the HRS. HRS has now conducted 5 waves of Internet data collection among willing and able panel members, with response rates ranging from 70% in 2006 to 81% in 2011. Response rates are significantly higher among longstanding panel members than among newly-recruited cohorts, which has possible implications for the success of a mixed-mode approach involving Web. A small number of cases eligible for the Web survey are held back, to see what effect this additional off-year data collection may have on response rates in the main biennial waves. The evidence suggests that, if anything, the effect of participation in the Web survey is marginally positive.
- 4.38 While this approach permits exploration of mode effects and testing of new content, it does so at increased cost. This approach could be viewed as the equivalent of a methods panel, but with much limited scope relative to the *Understanding Society* Innovation Panel.

#### *Summary*

#### Knowledge gaps

- 4.39 Such an approach has not been tested as part of an annual data collection such as *Understanding Society*.

#### Benefits and risks

- 4.40 This approach increases costs relative to the current design. It permits testing of Web-based instruments without interfering with mainstage or IP data collection, but at increased cost and potentially increased burden for respondents.

#### Recommendation and timeline



- 4.41 Given that this approach is not likely to reduce costs or improve efficiency, and given the existence of the Innovational Panel, this approach is not recommended for *Understanding Society* in the next funding cycle. However, if supplemental studies were to be included in *Understanding Society*, possibly with other sources of funding, a mixed-mode mail and Web design would be a cost-effective option to consider. This would involve minimal risk to *Understanding Society* mainstage data collection, as long as the burden of these additional requests is not high.

### ***Web as the Only Mode of Data Collection***

- 4.42 The final option involving the Web is not one of those mentioned by Lynn (2011), and is the most radical approach to rethinking the design of *Understanding Society*. However, given the success of the Dutch LISS paper (see Das, 2011), this approach deserves brief mention. The basic idea would be to develop a new panel, with data collection – following initial face-to-face recruitment – entirely on the Web, either using panel members’ own equipment or that provided by the survey organization. Such a panel could be devoted entirely to *Understanding Society* content, or could be combined with other content areas. Panel members would then complete short periodic surveys (monthly in the LISS case), thereby keeping them engaged in the study and reducing the burden of a single lengthy survey each year.

### *Review of Research Evidence*

- 4.43 The bulk of the research evidence comes from the LISS panel in the Netherlands<sup>5</sup>. LISS has reached a panel size of approximately 5,000 households and 8,000 individuals. The sample was drawn from population registers in collaboration with Statistics Netherlands. Scherpenzeel and Das (2011) report that in 75% of eligible households someone completed the short recruitment interview or answered a subset of the core questions. Among these, 84% expressed willingness to participate in the panel and 76% of these registered for panel membership, yielding a cumulative recruitment rate of 48%. Those households without Internet access (about 15% of recruited households) are provided with equipment (Das, 2011). Panel members are invited to complete short (about 30 minutes) monthly surveys, with an incentive of about €15 per hour. Monthly response rates are around 70%. Attrition rates are hard to compute, as panel members are still considered part of the panel even if they have not completed a number of monthly surveys. However, de Vos (2009a) reported that 6.2% of panel members left the panel between January and November 2008 (attritors), and de Vos (2009b) reported that in November 2008, about 13% of panel members had not completed a survey in the past three months (“sleepers”). Despite this, comparisons of data from the LISS panel to official estimates from Statistics Netherlands suggest that the panel is broadly representative of the Dutch population (Scherpenzeel and Bethlehem, 2011).
- 4.44 Two other smaller-scale efforts, both directed by researchers at Stanford University, have employed a similar strategy in the US. The FFRISP (or “Face-to-Face Recruited Internet Survey Platform”) panel used an area probability sample of addresses and face-to-face

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<sup>5</sup> Disclosure: I chair the international board of advisors for the LISS project.

recruitment, and achieved a response rate of 49% for the household screener (among eligible households), 92% for the recruitment interview (among screened households), and 87% for enrollment in the panel (among those who completed the recruitment interview), yielding a cumulative recruitment rate of 39% (Krosnick, et al., 2009; Sakshaug et al., 2009). The panel lasted 2 years and attrition rates over this time are unknown.

- 4.45 The ANES 2008-2009 Panel Study (see DeBell, 2011) used an RDD sample of landline telephone numbers and telephone recruitment. DeBell reports a recruitment response rate of 42%, with 22% attrition from Wave 1 to Wave 17.
- 4.46 It is not clear whether the success of the LISS panel can be replicated elsewhere, but efforts are underway to develop similar panels in Belgium, France, and Germany. This approach requires a considerable initial investment, but may offer the best long-term approach to replacing traditional modes with Web measurement. A great deal of work would be involved to transition *Understanding Society* to something like the LISS panel, and so this approach may be more suitable as an alternative for other large-scale (particularly cross-sectional or one-time) surveys funded by ESRC – especially those focused on education cohorts such as school leavers or college graduates. Nonetheless, it is worth keeping an eye on developments elsewhere to build and maintain such online probability panels.
- 4.47 An even more radical approach would be to use an existing non-probability panel of volunteers maintained by a commercial vendor for administering the *Understanding Society*. This approach has been shown to introduce serious biases, both through the volunteer nature of participation and through the exclusion of those without Internet access (e.g., Yeager et al., 2011). The third National Survey of Sexual Attitudes and Lifestyles (Natsal3) will be exploring differences between the probability-based survey results and those obtained from such opt-in or access panels. This is unlikely to be a scientifically defensible solution for *Understanding Society*, but it is still worth monitoring developments in this area.

### *Summary*

#### Knowledge gaps

- 4.48 While the LISS panel is viewed as a success, it is not clear how well this model will work in other countries, especially the UK. It is also not known how useful this approach is for long-term (multi-decade) panel studies such as *Understanding Society*.

#### Benefits and risks

- 4.49 An approach such as the LISS panel has the potential for dramatically changing how large-scale national probability surveys are viewed. However, this approach requires a considerable initial investment, and ongoing resources to maintain and replenish the panel.

#### Recommendation and timeline

4.50 In summary, it is not recommended that ESRC pursue this option with respect to *Understanding Society* in the next funding cycle, although doing so with respect to other surveys – or as an innovative scientific endeavor in its own right – might well be justified. However, it is recommended that ESRC carefully monitor developments in this area, especially regarding the success of efforts to replicate the Dutch experience elsewhere in Europe.

## 5. Other New Technologies

- 5.1 A variety of other technological developments are garnering attention in the research community. Key among these is the use of mobile telephones (especially Web-enabled smart phones) and tablet computers. In both cases, organizations are exploring the feasibility of equipping respondents with these devices to permit frequent measurement in-the-moment. These approaches are more appropriate for measurement of frequently engaged-in behaviors (such as time use, expenditures, social interactions, drug and alcohol consumption, and the like). Market researchers and behavioral researchers (psychologists, behavioral economists, health researchers, etc.) are particularly interested in the potential of these approaches.
- 5.2 The key challenge for mobile research (as for most other types of survey measurement) remains that of identifying representative samples and recruiting and retaining panel members. To date, much of the work involving mobile data collection has been based on small groups of volunteers, although efforts are currently underway to test the feasibility of mobile data collection among LISS panel members. Increasingly, younger cohorts are using smart phones rather than traditional Web browsers for Internet-based activities, and researchers will need to confront these challenges in the future. It may be useful for *Understanding Society* to explore such possibilities in the context of the Innovation Panel, or at least to measure behaviors related to changing patterns of Internet and mobile telephony use with a view to future exploration. But such technologies are unlikely to solve any of the challenges facing *Understanding Society* in the short term (i.e., in the next round of funding).
- 5.3 Another development getting a lot of attention among social researchers is the use of social media such as Facebook and Twitter (see Poynter 2010). Online social media produce enormous amounts of what Groves (2011) calls “organic data” (as opposed to “designed data” – the product of surveys), and increasingly these data are being mined to explore societal trends. Such use of organic data – producing trends on a much more fine-grained timescale than the *Understanding Society*, but on a more selected population – may be used to enrich the data from *Understanding Society* but are unlikely to replace it.
- 5.4 Social media are also being used for tracking of panel members (e.g., Rhodes and Marks, 2011; Nwadiuko et al., 2011). Social media may also possibly be used to keep in contact with panelists, but this raises ethical questions, e.g., if a Facebook page is created for a survey, panel members might be able to identify other members of the panel. Again, these trends are worth monitoring, but are unlikely to have substantial efficiency benefits for *Understanding Society* in the short- to medium-term.

## 6. Administrative Data Linkages

- 6.1 Another area of great interest to *Understanding Society* is that of administrative data linkages. Three key national databases in the UK of potential relevance to *Understanding Society* are:
- Education
  - Health care
  - Pensions, government transfers, taxes, etc.
- 6.2 This is not my area of expertise, but I understand that the ESRC and other agencies are engaged in strategic planning in this area, as outlined in the *UK Strategy for Data Resources for Social and Economic Research 2009-2012*.
- 6.3 Most of the large-scale panel studies around the world are already using or exploring some form of data linkage to supplement the data obtained from the surveys. A growing body of research is exploring issues related to consent to linkage to administrative records, including as part of *Understanding Society* (e.g., Calderwood and Lessof, 2009; Gray, 2010; Knies, Sala, and Burton, 2011; Sakshaug et al., 2011). Wave 1 of *Understanding Society* included consent requests from adults for health and education records, and for child health and education records. An examination of the codebook suggests consent rates ranging from about 49% (for child education records) to 78% (for education records of those age 16-24), with adult health record consent at around 68%.
- 6.4 With the exception of the Canadian Survey of Labour and Income Dynamics (SLID; see Michaud et al., 1995; Dibbs et al., 1996), no study has used administrative data to *reduce* the length of the survey interview or to *replace* interviewer-administered surveys. The SLID experience is somewhat unique. It is a rotating panel design, with households in the panel for 6 years. The sample is based on outgoing cases from the Labour Force Survey. Two telephone interviews are conducted each year, the first in January asking about the labour force activity and income in the previous year, and the second in May to collect information reported on tax returns. For the second interview, panel members are sent a questionnaire by mail to prepare for the CATI interview, and given the option of consenting to record linkage at the time the interviewer calls. If they consent – and if a successful match is obtained – no May interview is conducted for the remainder of the panel. In 1995, Michaud et al. (1995) estimated that only doing the May income interview for nonconsenting households and those who did not submit tax returns would avoid about \$160,000 CAD in data collection costs. Bastien (2009) reported person-level longitudinal response rates in 2009 of 69.3% for Panel 5 (in its 5<sup>th</sup> wave) and 75.6% for Panel 6 (in its 2<sup>nd</sup> wave), with cumulative consent rates to record linkage of 89.7% and 82.2% respectively for the two panels. Consent to record linkage in the first wave of Panel 6 was around 72%.
- 6.5 A review of the *Understanding Society* survey instruments suggests that not much of what is currently asked could be replaced by access to records. So, it is not clear that such administrative data use would result in efficiency gains for *Understanding Society*, but the

benefits lie in increasing the amount and value of data on survey panel members at potentially low marginal cost.

- 6.6 There is also increasing recognition that administrative data are captured for different purposes than survey data, and should be viewed as complementary to the survey data rather than as a substitute (see, e.g., Sakshaug, Weir, and Nicholas, 2010).
- 6.7 Substantial hurdles remain, in terms of creating and consolidating national databases, in gaining access to such databases for research purposes, in evaluating the quality and coverage of the administrative data, and in combining these data with survey responses from *Understanding Society* while protecting respondent confidentiality. In this area too, a great deal of methodological work is being done to overcome these barriers, and the increased use of administrative data should be a long-term goal of *Understanding Society*.
- 6.8 In summary, while research attention could be paid to ways to increase consent rates and reduce consent bias in *Understanding Society* over the next few years, work in this area is unlikely to yield significant cost savings in the next round of funding for the study.

## 7. Biomeasures

- 7.1 I use the term “biomeasures” loosely to include a range of measures that can be collected as part of a face-to-face survey, ranging from physical tests and measures (e.g., height, weight, balance, grip strength, walking speed), to cognitive tests (e.g., cognition, mental acuity, literacy), and the collection of biosamples (hair, saliva, blood, etc.). A great deal of research attention is focused on enhancing traditional survey data collection with such measures. Biomeasures (including height and weight, blood pressure, grip strength, lung function, and a whole blood sample) were collected in Wave 2 of *Understanding Society* in a separate nurse visit several months after the survey interview. In 2011, the collection of biomeasures by interviewers (including dried blood spots and saliva, but excluding whole blood and lung function) was piloted, but details of this testing are not yet available. Wave 3 also included a module on cognitive functioning, involving a variety of interviewer-administered tests. Biomeasure collection is an increasingly important element of *Understanding Society*, and needs to be factored into decisions about mixed-mode designs.
- 7.2 While biomeasure collection is not viewed as a potential cost-saving measure for *Understanding Society*, it has implications for the adoption of mixed-mode data collection methods. Switching to the Web as a primary mode of data collection may limit the type of data that can be collected in *Understanding Society*. For example, the HRS and PSID are primarily conducted by telephone, making it difficult to collect biosamples or conduct physical measurements. The measurement of cognitive performance is also easier to do in interviewer-administered modes, although there are efforts underway to develop equivalent measures for the Web. Similarly, some early work has explored the feasibility of biomeasure collection in the context of Web surveys (see, e.g., Avendano, Scherpenzeel, and Mackenbach, 2011; Gatny, Couper, and Axinn, 2011) and telephone surveys (see Boyle et al., 2010), but this has been limited to noninvasive procedures such as saliva collection. HRS also tested the collection of dried blood spots as part of a supplemental mail survey on diabetes. Of the 2,385 eligible respondents, 1,901 returned questionnaires for a response rate of 79.7%, and of these 1,233 returned valid blood spots, representing 64.9% of mail survey respondents and 51.8% of all eligible cases. More research is needed on the feasibility of biomeasure collection in a mixed-mode environment.
- 7.3 Face-to-face interviews, although costly, have other advantages in terms of the supplemental data that can be collected. The HRS strategy is to conduct an enhanced face-to-face interview (including biosample collection and physical measurement) every third wave (i.e., every 6 years), with telephone interviews in the intervening waves. Such in-person interviews also allow for the collection of signatures for consent to link to administrative records (both retrospectively and prospectively). If *Understanding Society* is to include biomeasures, this type of long-term strategy needs to be considered.

## 8. Summary of Risk Assessments and Recommendations

- 8.1 This brief assessment of the state of knowledge with respect to the possibilities of mixed-mode data collection for *Understanding Society* suggests there is much we still don't know. Waiting until full knowledge of all issues is gained will take too long to be of benefit to *Understanding Society*. Further, much of the evidence may not pertain directly to the *Understanding Society* situation. Given this, I believe it is important to have a research agenda where the most pressing questions can be answered within the *Understanding Society* context before proceeding. Several stakeholders argued for a phased strategy of building the evidence for a move to increased use of the Web in *Understanding Society*. It was also expressed that the survey is too important to serve a trailblazing or pioneering role with respect to adopting mixed-mode strategies, and a measured approach was recommended. Further, managers and principal investigators of other large-scale panel studies are even more cautious about exploring mixed-mode alternatives, in part because they do not have a methods panel (although SOEP has recently begun such a panel, following the *Understanding Society* model). *Understanding Society* already has such a strategy in place, and the Innovation Panel is an important vehicle for understanding the risks and benefits of mixed-mode data collection before widespread adoption in the *Understanding Society* mainstage.
- 8.2 Given this context, there are still strategies of varying levels of risk that can be considered. I offer some observations on three alternative strategies below.

### *High Risk Options*

- 8.3 In my view, the riskiest strategy would be to proceed with mainstage adoption of a sequential mixed-mode design on the basis of IP5 results alone (assuming a sufficiently positive outcome), without waiting for the results of IP6. A big unknown (see Section 3.1.2) is the possible long-term consequences for panel attrition and data quality of an aggressive plan to introduce a sequential mixed-mode strategy in mainstage W5. It is not clear that such a strategy would save a substantial amount of money, and the data quality, response rate, and attrition implications of such an approach are – as yet – unknown.
- 8.4 Such an approach, if adopted, could pursue methods of targeting the groups designated for Web completion. The IP5 experiment randomly assigns the panel to a mixed-mode design versus the standard approach. An alternative (but more risky) design could target those 1) known to have Internet access, and 2) likely to have a stable household composition, possibly using additional incentives to encourage Web completion. This is an area for future research, conditional on the outcome of IP5 and IP6.
- 8.5 An alternative high-risk strategy, which would substantially increase costs in the short run, but may (if successful) replace the current *Understanding Society* design, would be to develop and evaluate a probability-based online panel along the lines of the Dutch LISS panel. This can be done independently of *Understanding Society*, and may serve to replace other large-scale face-to-face surveys conducted in the UK.



### *Medium Risk Option*

- 8.6 The strategy that *Understanding Society* is currently pursuing with IP5 and IP6 can be regarded as medium risk, depending on the results of the experiment and how these results are translated to mainstage data collection. This risk is all for the Innovation Panel, potentially contaminating it for future studies. But this is exactly what the Innovation Panel was design for. If the results from the Innovation Panel are mixed, decisions could be made to selectively pursue a mixed-mode strategy in the mainstage, by targeting certain individuals and households with higher likelihood of Web completion.

### *Low Risk Options*

- 8.7 Options that are less risky for the core *Understanding Society* data collection would be to offer the Web as an alternative (or primary) mode for the adult and youth self-completion questionnaires, and/or for supplemental studies. These options are unlikely to generate large efficiencies but will increase knowledge of the Web mode and provide additional data to users at lower relative cost than the main study. This is the approach used by GSOEP and HRS, and proposed by PSID – to use the Web mode as a supplement, keeping the main-wave data collection in the original mode (telephone or in-person). Such an approach could be targeted at selected individuals (i.e., those with Internet access), or combined with mail for the full *Understanding Society* sample.
- 8.8 Another low-risk option is to continue to explore mixed-mode strategies in the Innovation Panel – for example, to test ways to encourage households to complete the survey online, to evaluate whether differential incentives may encourage proxy completion for other household members, or to evaluate splitting the instrument into several short pieces administered over a period of months – before any implementation was considered for the *Understanding Society* mainstage.

### *Other Trade-offs to Consider*

- 8.9 Saving money is not – or should not be – the only consideration for *Understanding Society*, and it is not certain that a mixed-strategy involving the Web would save money. But if financial pressures necessitate it, other cost-saving strategies should also be considered, including 1) abandoning the Innovation Panel, 2) more aggressive efforts to use the telephone mode (despite the disappointing results of IP1 and IP2), 3) cutting the overall sample size of the *Understanding Society* panel, and 4) limiting the scope of panel refreshment or changing the tracking rules to reduce the effort of locating, contacting and interviewing those who have moved. None of these alternatives is particularly attractive, but the decision to adopt a mixed-mode strategy for cost reasons should be balanced against competing risks.
- 8.10 Another set of trade-offs to consider is that switching to the Web as a primary mode of data collection may limit the type of data that can be collected in *Understanding Society*. The collection of biosamples, physical and mental performance measures, and other observational data are facilitated by in-person interviews (see Coleman et al., 2011). Similarly, obtaining consent (especially if signatures are required) for administrative record

linkages is likely more difficult in self-administered modes than in in-person interviews, potentially affecting consent rates and the value of such administrative data linkages. If *Understanding Society* is to include physical measures, biosample collection and administrative record linkage, finding ways to do so in the context of a mixed-mode strategy should be carefully considered.

- 8.11 Finally, ESRC also needs to consider *Understanding Society* relative to other large-scale data collection investments. Switching to the Web mode may be more suitable for some of the cohort studies, especially those focused on younger cohorts of school leavers and college graduates (see, e.g., Elias, 2011).

#### *Keeping Updated on Emerging Research and Trends*

- 8.12 Throughout this assessment, I've alluded to work currently underway or not yet published. The publication cycle is too slow to influence decision-making for *Understanding Society*, and new developments must be monitored in other ways. Sponsoring focused seminars such as that organized by NCRM on *General Population Surveys on the Web*, and commissioning reviews such as that by Dex and Gumy (2011) are important contributions to the synthesis and dissemination of such emerging knowledge.
- 8.13 Research on mixed-mode data collection has expanded rapidly over the past few years, and we are likely to see continued expansion of knowledge in this area. The annual conferences of the American Association for Public Opinion Research (AAPOR) and biennial conferences of the European Survey Research Association (ESRA) each have several sessions devoted to the topic of mixed-mode surveys.
- 8.14 Much of the past research on nonresponse has focused on cross-sectional surveys, but we are seeing a shift to greater attention to the attrition problems faced by longitudinal surveys. The annual *International Workshops on Household Survey Nonresponse* are increasingly focusing on panel studies, and the biennial *Panel Survey Methods Workshops* (the next to be held in Melbourne in July 2012) are good sources of valuable information on these topics. The latter was started following the success of the *International Conference on the Methodology of Longitudinal Surveys* held at Essex in 2006, and is explicitly designed with a view to sharing information and encouraging methodological research on longitudinal studies. Researchers working on *Understanding Society* are making important contributions to these efforts.
- 8.15 It is clear that the decisions being faced by ESRC with regard to future funding of *Understanding Society* are not a one-time event. *Understanding Society* will need to continue to innovate and explore alternative methods for improving the quality and efficiency of data collection, as new research and technologies emerge, while balancing the long-term value of the panel.

#### *Final Thoughts*

- 8.16 It is already clear, on the basis of the available research evidence, that I believe that the strategy that ISER has adopted – to test a mixed-mode strategy in IP5 and examine the consequences of such a strategy in IP6 too – represents the best balance of risks for

*Understanding Society*. This view is shared by all of the stakeholders I consulted. The Innovation Panel is a key strength of *Understanding Society*. It is designed to address the kinds of questions we need answered in order to make more use of the Web in future waves. It seems most prudent to use this valuable resource to gain the best scientific evidence of direct relevance to *Understanding Society* before making decisions that may fundamentally alter the character and value of *Understanding Society*.

- 8.17 One of the biggest challenges for survey researchers is that of getting sample persons to use the new technologies in support of our survey endeavors. While it is clear that computer-assisted self-interviewing (whether via the Web, tablet, or smart phone) may be beneficial to us as survey researchers (in terms of time, money, and data quality), and the populations we are studying are increasingly using these devices for their own purposes, the basic challenge remains one of gaining cooperation from such persons. In other words, new technologies do not solve the fundamental challenge of scientific sample surveys—rather, they may serve to sharpen the focus on the key dilemma. To quote a recent review by Groves (2011, p. 869), “The new modes of data collection (e.g., mobile phones, Internet surveys) appear to offer substitute methods of responding among the cooperative rather than strong appeals to those who would reject the old modes of responding. Although there appears to be a broad consensus among survey methodologists that we are moving to a future of mixed-mode surveys, the current available mix does not solve the problem of falling response rates in a permanent way.” Survey research relies on the willing participation, not of a self-selected group of volunteers with access to new technology and a willingness to share information with others, but of a scientifically-selected segment of the broader population.
- 8.18 It is not clear that offering a Web mode in IP5 will generate a sufficiently large number of respondents to pursue this approach in the *Understanding Society* mainstage, and it is likely that traditional methods of data collection will need to be used for a large proportion of *Understanding Society* panel members for the foreseeable future.

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## Appendix A: Use of Mixed Modes Including Web in Selected Panel and Cohort Studies

<b>Study</b>	<b>Use of mixed modes including Web</b>
NEP, National Education Panel, Germany	Yes
LISS internet panel, Netherlands	Not mixed mode, only Web panel
ANES Web panel, USA	Not mixed mode, only Web panel
PSID, Panel Study of Income Dynamics, USA	Not used mixed mode with Web
ACS, American Community Survey, USA	Experimenting with mixed mode with Web
PAIRFAM, Panel Analysis of Intimate Relationships and Family Dynamics, Germany	Not used mixed mode with Web
PASS, Panel Study Labour Market and Social Security, Germany	Not used mixed mode with Web
SHP, Swiss Household Panel	Used mixed mode with Web as follow up
CEPS/INSTEAD surveys, Luxembourg	Not used this kind of mixed mode
GSOEP, German Socio-Economic Panel	Not used mixed mode with Web
NLS, National Longitudinal Surveys, USA	Not used mixed mode with Web
SIPP, Survey of Income and Program Participation, USA	Not used mixed mode with Web
SLID, Survey of Labor and Income Dynamics, Statistics Canada	Not used mixed mode with Web
HILDA, Household Income and Labour Dynamics Survey, Australia	Not used mixed mode with Web
GUS, Growing up in Scotland	Not used mixed mode with Web
ELSA, English Longitudinal Study of Ageing	Not used mixed mode with Web
SHARE, Survey of Health, Ageing and Retirement in Europe	Not used mixed mode with Web

Source: adapted from Dex and Gummy (2011, Table A1.2.)