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Wellbeing Pilot Study



**SUPERFAST
BRITAIN**

Ipsos MORI



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Key findings

Ipsos MORI and partners¹ were commissioned by the Building Digital UK (BDUK) directorate of the Department for Digital, Culture, Media and Sport (DCMS) in May 2019 to undertake an evaluation of the Superfast Broadband Programme. The evaluation requires an assessment of the effects of the programme on wellbeing outcomes. This paper presents the findings from a pilot study exploring the feasibility of a survey of households benefitting from subsidised broadband coverage to capture the wellbeing outcomes.

Background

As noted in our *Workstream D Feasibility study* paper earlier this year, the gaps in the evidence base relating to the wellbeing benefits of broadband coverage can only realistically be addressed by undertaking a longitudinal survey of households benefitting from the programme before and after their internet was upgraded, using face-to-face methods to collect data.

Aims and objectives

This pilot study was designed to determine whether a larger study would be feasible for answering the evaluation questions. It was also important given the significant costs and risks attached to this type of large-scale primary data collection.

The onset of the COVID-19 pandemic meant, however, that the pilot also became a test of adapting methods so that they were COVID-secure. In the event, we were able to complete all but seven interviews before a second national 'lockdown' was imposed in England. The pandemic posed a very challenging backdrop for fieldwork with the ongoing prospect of local and national 'lockdowns' being announced at very short notice.

Headline results

The main lessons and recommendations described in this report are repeated in the box below and pertain to a continuation of COVID-19 conditions at the time of mainstage fieldwork. Importantly, the pilot validated the feasibility of the following:

- using the DCMS' speed and coverage templates (SCTs) and C3 reports as sampling frames;
- drawing reserve sample so that we could be agile in response to local 'lockdown' restrictions (possible for a project of this scale);
- a longitudinal approach - 82 percent of our sample consented to take part in another survey in 6-12 months; and
- the effectiveness of using advance communication, followed by COVID-secure interviewer-administered interviewing via telephone or MS Teams.

Key lessons

The pilot highlighted the importance of working to secure more balance in achieved samples. It also presented two significant challenges in respect of collecting data relating to wellbeing via a follow-up self-completion survey and checking the speed of each household's broadband connection. Both were dependent on respondent co-operation as well as online access, made more difficult by the rurality of the areas sampled. We have set out some options for tackling these issues in the box below, including the use of further development work in advance of the mainstage.

¹ Ipsos MORI's partners are: George Barrett, Richard George Feasey Plum Consulting and Simetrica.

This development work would be small scale, possibly involving around 10 participants. We might send the advance letter and the broadband speed test instructions to a sample of pre-recruited respondents, asking them to complete the broadband speed test in advance of a telephone or MS Teams interview. As part of this interview we could then probe around their impressions of the communications, how easy the instructions were to follow, etc. We might use the same interview to cognitively test some key questions (particularly the question on loneliness); in the event of changes to the questionnaire we would need some certainty about how long it will take to administer the survey especially if we are adding the wellbeing module to the interview too.

It is worth noting that if COVID-19 restrictions are eased in advance of mainstage fieldwork, we would envisage returning to conventional face-to-face in-home methods of interviewing. The broadband speed check would continue to present challenges, but we anticipate this being more efficiently administered by interviewers within households than by respondents.

Lessons and recommendations for mainstage

Fieldwork:

- Ensure the interviewer briefing addresses why the wellbeing questions are being asked, and any implications around asking these questions in the chosen mode for mainstage.
- Interviewers valued the opportunity to provide feedback on the interview script in advance of fieldwork; this opportunity should be included at mainstage, probably as part of questionnaire development.
- Consider using the DCMS logo on the envelope to encourage people to open the advance letter – this was tested in further development work.
- We recommend re-designing the calling and appointment cards to maximise engagement and highlight key details (e.g. add more colour).
- Include more information on the appointment card, using colour to highlight key details.
- Allow extra time for additional sample checks, e.g. to exclude non-residential addresses (businesses, holiday lets).
- To achieve the desired response, review the number of issued addresses to reflect that c12 percent of addresses may be ineligible (depending on the areas sampled).
- Ensure reserve sample is extracted to cover local 'lockdowns'.
- Where no sample is available in specific areas, reallocate across a range of sample points to mitigate any risks that may arise in one area.
- Add an ECS outcome code to track the impact of holiday lets on the eligibility of addresses.
- Explore the options (and any associated costs) of providing more detailed maps and/or mapping software to interviewers to make locating residences more efficient.
- Continue to use a system of pre-booking appointments to increase participation rates.
- Consider providing a set of single-use showcards for all respondents or those who are unable to access the PDF document online, or removing all showcards to ensure that a consistent approach is taken for all respondents.
- We recommend retaining the broadband speed test question for use alongside respondent recall of speed (and upgrade) but in order to reduce the impact on interview length reform this as follows:
 - As far as possible, encourage completion of the test by respondents in advance of the interview.

- Include additional question codes to better understand reasons for refusing to complete the broadband speed test, e.g. lack of time, did not understand the instructions, difficulties around access.
- It may be necessary to undertake further testing of this method to understand feasibility and the best approach.

This was explored in further development work.

- We have shown some evidence that some upgrades had occurred but were not visible in the data at the point of sampling. This is something we would need to find a way of addressing with BDUK for the mainstage surveys if at all possible.
- Review and action the question-specific feedback provided. Use a small-scale cognitive testing exercise to validate feedback from interviewers about comprehension has been undertaken following the completion of the pilot study (this might be used to test other elements including changes to the broadband speed test).

Recommendations:

- The pilot study did not provide any evidence that the Theory of Change for Wellbeing impacts needs to be revisited.
- We recommend that a longitudinal survey design is used to capture the wellbeing effects of Superfast Broadband connectivity. We would recommend using two samples, one in areas where the Superfast Broadband Programme is soon to be delivered (so that we capture a before and after observation), and one in areas where Superfast Broadband is not available and is not being delivered by the programme (a comparator group). This will allow us to identify the impact of the connectivity on wellbeing indicators. This differs from the option put forward in the feasibility study in that it incorporates a comparator group. This has an elevated importance as the context is rapidly evolving and changes in outcomes will be difficult to attribute the programme without an appropriate comparator.
- We propose running a matching exercise at the sampling stage to maximise (but not guarantee) our chances of securing balanced achieved sample profiles for delivered to and not delivered to areas at the initial wave of fieldwork (and a basis for longitudinal research), strengthening the conclusions drawn by the evaluation.
- We recommend developing options covering a potential randomised process to select a household member or targeting someone best placed to answer survey questions such as the person with responsibility for household broadband bills.
- We recommend including the wellbeing module as part of the main interview i.e. as part of the MS Teams or telephone interview, but only after consultation and discussion with BDUK and advisers.
- If designing an interviewer-administered module, we would draw on the ONS wellbeing questions that have been asked using a telephone method in previous studies (e.g. ONS' Annual Population Survey) as well as extensive in-house experience asking sensitive questions over the telephone.
- Consider oversampling in 'not delivered to' as contingency for reporting lags (subsidised coverage not captured in BDUK monitoring data at the point of sampling).

Survey findings and use

- In our view the survey's findings, albeit constrained by sample sizes, do not provide any reason for doubting the questionnaire and the mainstage survey will generate the evidence required, nor that we should revise the current Theory of Change.

- There were no statistically significant differences between delivered and not delivered to areas in terms of the two measures of overall wellbeing (results do not give any guidance on whether an effect might be detected in a main-stage study). The findings indicated that the main threat to a mainstage study is the low response rates to an online wellbeing module if data were collected in this way again (this will both reduce statistical power and introduce possible issues of non-response bias). With a sufficiently high sample size it should be possible to undertake a Propensity Score Matching exercise in the main-stage to enhance the robustness of the analysis alongside comparisons of the changes in means of the two groups.
- The findings also did not provide any reason for thinking the findings of mainstage survey could not be used to drive a cost-benefit analysis. In particular, the responses to the questions around commuting / travel times, working hours and internet connection costs.

1 Introduction

Ipsos MORI was commissioned by the Building Digital UK (BDUK) directorate of the Department for Digital, Culture, Media and Sport (DCMS) to undertake an evaluation of the Superfast Broadband programme in 2019. This report sets out the findings of a pilot exercise exploring the feasibility of a survey of households benefitting from subsidised broadband coverage. The survey, intended as a face-to-face in-home survey but adapted for COVID-19 conditions, was designed to improve understanding of the wellbeing benefits of the programme within Workstream D of the evaluation.

1.1 Background

The Superfast Broadband programme was announced in 2010 in response to concerns that the commercial deployment of superfast broadband infrastructure would fail to reach many parts of the UK. The Government established the programme to fund network providers to extend provision to areas where deployment was not commercially viable, on the expectation that doing so would result in economic, social, and environmental benefits.

1.1.1 Workstream D

The purpose of this workstream is to explore the wellbeing outcomes of the programme and to collect information and data relating to the relevant aspects of the BDUK benefits framework:

Wellbeing	Improved quality of life and wellbeing Consumer savings
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The workstream's Theory of Change was developed in the previous evaluation of the programme and presented in detail in the evaluation report². Evaluation questions were reviewed and revised during preparation of a *Workstream D Feasibility study* paper and finalised as follows:

Table 1.1: Evaluation research questions

Key question	Supplementary questions
What are the outcomes of the scheme?	<ul style="list-style-type: none"> ▪ What are the wellbeing outcomes and impacts of the Superfast Broadband programme? These include any negative outcomes and impacts and potential dis-benefits of the programme. ▪ Do the outcomes and impacts of the scheme vary by population group? ▪ How do the outcomes and impacts of the programme change over time (duration of time since upgrade)? ▪ Do the outcomes and impacts differ by the speed of connection used?
How has the behaviour of individuals / organisations changed for these outcomes to come about?	<ul style="list-style-type: none"> ▪ What is the role of take-up in enabling the programme's wellbeing outcomes? ▪ What does a step-change in speeds allow households and individuals to do? ▪ How does a step change in speeds alter individuals' behaviour?

² Annex D:

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/734862/BDUK_SF_EVAL_ANNEX_D_PUBLI_C_VALUE.pdf

Key question	Supplementary questions
	<ul style="list-style-type: none"> ▪ Are there differences in a step change to superfast speeds and to fibre network speeds? What are these? ▪ What are the barriers to take-up? ▪ What are the facilitators to change for different sub-groups? ▪ Is the issue of reliability, as opposed to speed, still important for users?
Was the investment cost effective?	<ul style="list-style-type: none"> ▪ What are the consumer savings (e.g. in relation to household consumption)? ▪ Do the benefits to households exceed the total cost of the improved connection of making superfast available? ▪ Do the benefits to households exceed the costs of making superfast available?
What can we learn to improve future policy designs and implementation?	<ul style="list-style-type: none"> ▪ How can we facilitate change in households and individuals' behaviour?

1.1.2 Theory of change

A theory of change was developed to support this exercise, identifying the key hypothesised pathways through which enhanced internet connectivity would help raise the wellbeing or quality of life of residents.

Direct effects on wellbeing

Increased availability was expected to have the following direct effects on wellbeing and will be the primary focus of the primary research:

- **Consumption benefits:** Improved access to faster broadband may produce a range of consumption benefits for households arising through improved choice, quality, and time savings. Most obviously, faster broadband speeds will allow consumers to access a range of entertainment and media services that depend on high bandwidths (e.g. streaming services or smart devices). Benefits may also arise from access to more extensive on-line marketplaces that allow consumers more choice or obtain savings.
- **Teleworking and leisure time:** Greater opportunities for teleworking may produce benefits that exceed any effect on the productivity of the worker and associated wage income. Households newly able to work (or indeed shop) remotely may derive additional benefits from extra leisure time gained from reduced commuting or travelling times and travel costs. Changes in wellbeing may be negative if superfast connectivity encourages workers to engage with work outside of normal working hours.
- **Social interaction:** Faster broadband may also open new modes of communication between residents. While use of email and social media may not be dependent on higher bandwidths (and can be straightforwardly used via mobile telecommunications networks), the COVID-19 pandemic has popularised the use of video conferencing (previously used for remote meetings in a business context) as a mode of interpersonal communication. This technology requires greater bandwidths and subsidised coverage may improve wellbeing by supporting more extensive social interactions within and beyond the communities in which residents live (potentially reducing social isolation or loneliness for some).

- **Social costs:** Greater on-line social interaction may not always be positive. There is evidence that for some groups, greater use of social media is associated with lower levels of self-esteem. Internet addiction issues (i.e. compulsive desire to use the internet) has also been an area of recent clinical investigation – and have been found to be associated with depression and self-esteem. The direction of causality is unclear – i.e. internet addiction issues may be symptom of underlying emotional disorders, rather than a cause – but it should be at least acknowledged that improved broadband connectivity has the potential to produce negative wellbeing effects in some users³.
- **Distance learning:** Superfast broadband may also allow residents to access offer a wider range of distance learning options. This may have direct economic benefits by upskilling individuals and improving their ability to find better paid work (which are out of the scope of this exercise). However, some may choose to undertake these courses for pleasure, leading to improvements in wellbeing that are not linked to gains in income.
- **Positive health outcomes:** The programme could also lead to positive and/or negative effects on wellbeing through its effects on physical or mental health. Any increase in leisure time (or reductions in loneliness) enabled by the programme could potentially be used by residents to undertake more physical activity or produce improvements in mental health. More advanced applications of telemedicine – such as video consultations or digital health applications enabling more effective self-management of conditions - require stable and fast internet connections to be effective and could represent a significant benefit for the health and wellbeing of people living in isolated areas. This is dependent on healthcare providers developing the ability to offer these services (though the NHS and GP practices are making progress in these areas).
- **Adverse health outcomes:** There are also potential negative health impacts from the improved access to superfast broadband. Increased access to entertainment at home could reduce physical activity leading to decreases in physical health. Shifting services online could lead to negative health effects for those that do not have access to superfast connections (via the digital divide). Negative mental health effects could be caused by online criminal activity, internet addiction and cyber-bullying. These outcomes are also linked to changes in the quality of relationships, which could be influenced by superfast access.
- **Perceptions of inequity:** Less directly, the Superfast Broadband programme has the potential to address perceptions of inequity relating to the locations of major investments in infrastructure. For example, focus groups undertaken by University College London⁴ revealed a perception that recent investments in infrastructure have exacerbated disparities in amenities and mainly benefitted those that were already affluent. Although clearly the programme cannot tackle these issues in their entirety, bringing superfast broadband coverage to rural areas that would not have otherwise been covered by commercial deployments has the potential to at least ameliorate these types of public concern. However, consideration may need to be given to the possibility that the programme exacerbates these perceptions in some areas (e.g. in cases where communities have not been included in the build plans of schemes).

The Superfast Broadband programme also has the potential to drive improvements in wellbeing through its economic impacts (by raising incomes and taking residents out of unemployment). These effects have already been extensively explored elsewhere in the evaluation programme and will not be directly explored

³ Pantic (2014) Online Social Networking and Mental Health, *Cyberpsychology, Behaviour and Social Networking*

⁴ Natarajan et al (2020) Civil Society Perspectives on Inequality: Focus Group Research Finding, Submission to UK2070 Commission.

through the evaluation. However, it will be important to control for these effects in any analysis (to ensure that the focus is solely on other factors driving wellbeing).

1.1.3 Indirect effects on wellbeing

The Superfast Broadband programme may also have indirect effects on the wellbeing of residents through its effects on the local economy or population:

- **House prices:** If households place a value on superfast broadband connectivity, changes in the availability of superfast broadband connections in an area could lead to increases in house prices. However, this would not necessarily be a purely positive outcome. It would be a positive outcome for home owners, but it could also have a negative effect on wellbeing of other members of society. For example, those that would like to own property (but currently do not) in an area where superfast broadband connectivity has increased house prices could experience a decrease in wellbeing, as their chances of owning property in the area would decrease. Therefore, changes in house prices should be viewed with caution as a positive wellbeing outcome.
- **Vibrancy of town centres:** A shift to on-line consumption patterns could also lead to reductions in wellbeing if it reduces the viability of in-store retail services. Loss of retail outlets may reduce the vibrancy of town centres (reducing the wellbeing of residents of those communities) or produce digital exclusion issues amongst those that are unable to take advantage of increased digitalisation (because they are unable to pay or because they do not have the skills to do so). Such effects may not be permanent if town centres can adjust to changing consumption patterns - in the long run, such effects could be expected to lead to reduced commercial rents, encouraging the redeployment of those spaces for alternative uses. The COVID-19 pandemic has accelerated these trends as the closure of non-essential retail forced households to shift their consumption on-line (and there are signals that this shift may have some permanence).
- **Population migration:** Improved superfast broadband connectivity may encourage the relocation of firms to rural areas. This may require their workforces to make relocation decisions to avoid episodes of unemployment, maintain their incomes, or reduce commuting times. In these cases, the wellbeing impact of superfast broadband coverage may not be positive (and may indeed be negative).
- **Rural population growth:** Migration of population to rural areas could also lead to pressures on local housing markets. This could also have a negative impact on the wellbeing of residents for example, if it increases equilibrium rents or stimulates housebuilding activity on previously undeveloped land (creating disamenities for existing residents). Additionally, rural population growth could feed through into pressures on public services (if supply does not expand to meet demand, as discussed below) or create other negative externalities such as greater congestion on rural road networks (and associated impacts on air quality).
- **Composition of local populations:** Finally, while increased social connectivity may promote greater community cohesion, migration of population to rural areas could have the opposite effect if it disrupts settled patterns of community life.

These effects cannot be rigorously understood through surveys of the resident population and will not be explored through the research (as the connection between these processes and provision of broadband may not be immediately apparent to individuals). However, given the risk that the effects of the programme

are masked or distorted by changes in the composition of the resident population, it will be important to ensure that the survey captures baseline and follow-up measures from residents that do not relocate.

Measures of wellbeing

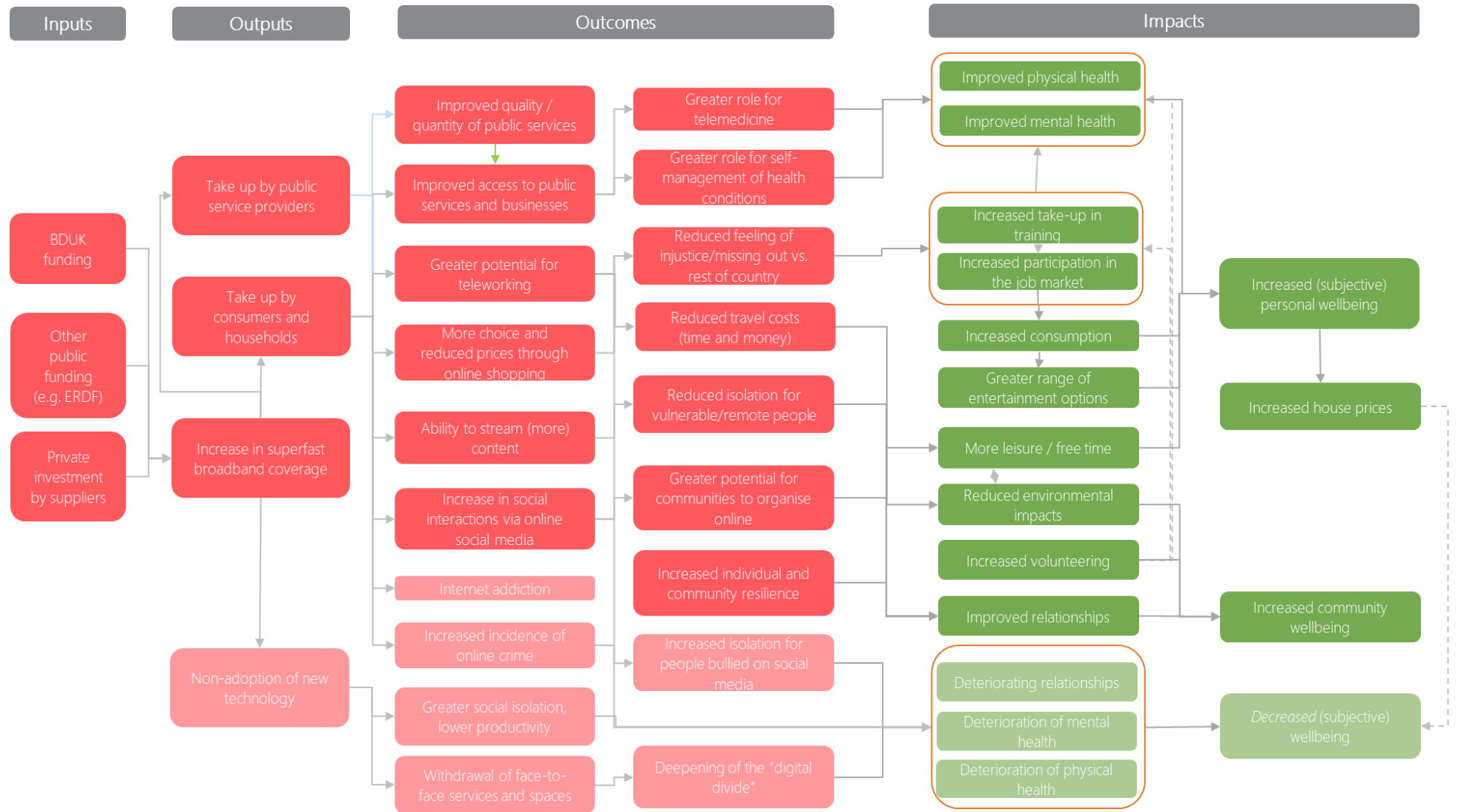
The approach will explore the use of a variety of measures of wellbeing:

- **Improvements in subjective wellbeing:** The research will estimate the effects of superfast broadband on two measures of overall wellbeing: the ONS life satisfaction measures and the Warwick Edinburgh Mental Wellbeing Scale. These are questionnaire constructs designed to provide a measure of the overall psychological state of the individual (capturing the total effect of the programme on wellbeing). These measures have been selected because they are both widely accepted and other research has sought to quantify the causal relationship between income and wellbeing (and can be used to help drive an economic evaluation of the programme). The two measures are based on different underlying concepts of wellbeing and their inclusion in the study is expected to be complementary.
- **Objective measures:** Headline measures of wellbeing conflate different drivers of quality of life in a single measure. The survey will seek to establish information on the intermediate outcomes identified above to provide an assessment of the 'goods' and 'bads' associated with the delivery of the programme for residents. In some cases (e.g. increases in leisure time), there are widely accepted methodologies for associating these outcomes with an economic value (providing a potential alternative means of driving a cost-benefit analysis of the programme).

Pilot findings

The pilot did not seek to provide an evaluative assessment of the programme. However, there were no observations collected that suggested that the theory of change outlined above required amendment.

Figure 1.1: Theory of change for wellbeing outcomes



1.1.4 Previous research

Most premises that have benefitted from subsidised coverage are residential. However, the wellbeing benefits of higher capacity broadband networks are not well understood. A variety of attempts have been made to understand the wellbeing benefits of the programme to address these gaps in understanding as part of the broader evaluation of the programme, including:

- A **postal survey** of residents benefitting from superfast coverage undertaken as part of an evaluation of the programme published in 2018. This survey showed that households benefitting from superfast coverage funded by the programme were more satisfied with the reliability and speed of their connection than internet subscribers that could only access sub-superfast speeds (less than 24Mbit/s). However, the survey did not reveal significant differences in the subjective wellbeing of these groups.

The strength of the conclusions from the study were limited by its design, a low response rate and not knowing about the sample profile. It took a snapshot of respondents at a point in time and did not capture changes in subjective wellbeing or other measures before and after upgrades were delivered. The findings could not be used to understand the impact of the programme, as differences between groups could have been caused by either provision of enhanced broadband coverage or differences in their underlying characteristics.

- **Data driven analyses** using administrative and secondary data to understand the effect of the programme on house prices and subjective wellbeing (on the basis that the value households place on access to superfast broadband will be reflected in what they are willing to pay to obtain a property with faster internet access). These analyses, undertaken in 2020, were based on evidence gathered before and after properties benefitted from enhanced broadband coverage and could be used to understand the impacts of the programme.

The findings showed that subsidised coverage does create a house price premium, suggesting the programme has created assets that are valued by households. However, evidence of the impacts of the programme on subjective wellbeing was more mixed – raising questions about how far subsidised broadband coverage produces improvements in quality of life. Parallel analyses highlighted that enhanced broadband coverage may encourage migration from urban to rural areas. The resultant population growth may produce negative effects for existing residents that could explain these findings – for example, by placing pressure on public services or reducing social cohesion. However, these hypotheses remain speculative.

Further analysis more recently completed by DCMS using data collected through the Oxford Internet Surveys (OxIS) produced similarly ambiguous findings. These analyses adopted a similar approach in comparing areas that have and have not benefitted from the programme over time. The findings suggested the programme has had the expected effects on some attitudes and behaviours. However, the findings in relation to changes in wellbeing ran counter to expectations. Again, these analyses could not account for the possible effects of the programme in driving migration.

There is a need for further evidence to develop more certainty in relation to the wellbeing benefits of broadband coverage and provide evidence to explain the processes behind the impacts of the superfast programme highlighted by previous evaluations. As we noted in our *Workstream D Feasibility study* paper, these gaps can only realistically be addressed by undertaking a longitudinal survey of households benefitting from the programme before and after their internet was upgraded, using face-to-face methods to collect data.

1.1.5 Survey methodology

In the early part of 2020, we recommended a survey design which involved interviews with households where Superfast Broadband coverage had recently been made available, and with households where Superfast Broadband connections were not available. Interviewers would seek a face-to-face interview at each sampled address and would ask for consent for a follow-up interview with the same household at a later date, after superfast broadband connectivity has been rolled-out.

Given the evaluation questions, the ideal longitudinal design would be to conduct research with households at a minimum of two time points: before new broadband infrastructure in the area is built, and at least several months afterwards, when the intermediate outcomes linked to uptake may become more evident. We would seek to recontact those households who took part in a 'baseline' survey.

Because this design interviews the same individual at the baseline and follow-up interview, any "between-subjects variation" (i.e. variation arising from interviewing different individuals) is controlled for, making this a powerful design for detecting change over time. Furthermore, this design allows the reasons behind changes over time to be explored explicitly (e.g. individuals who have increased the number of days they work at home per week could be asked the extent to which this change is a consequence of their internet speed) – with one possible disadvantage being the potential influence on survey respondents' behaviour of being involved in the baseline interview.

Following the pilot stage, we still feel that this is the most appropriate research design to collect the wellbeing effects of Superfast Broadband connectivity, with one change. We would recommend that the longitudinal survey design is applied to two groups. This would be a 'treatment' group, which would be selected as households from areas where the Superfast Broadband Programme will deliver to in the coming months but as yet does not have Superfast Broadband connectivity, and a 'comparator' group, where Superfast Broadband connectivity is not available and the Superfast Broadband Programme is not delivering to. The two groups would be subject to the same survey questions and timeframe.

1.1.6 Pilot methodology and objectives

A pilot study was agreed as a necessary stage in determining whether the larger study would be feasible and the extent to which it could contribute to answering the evaluation's aims and objectives. It was also important given the significant costs and risks attached to this type of large-scale primary data collection, and there was value in gauging the efficacy of including a range of questions about the intermediate outcomes of the programme as well as those measuring subjective wellbeing (the ONS questions).

In addition, the onset of the COVID-19 pandemic meant that we needed to test whether a baseline survey could be undertaken against such a backdrop and in line with UK Government (and Market Research Society) guidance, given the likely need to start mainstage fieldwork during 2021.

It was agreed to target:

- 75 interviews in areas planned for superfast rollout in the next few months ('not delivered to' areas)
- 75 interviews in areas that have recently been upgraded to superfast ('delivered to' areas)

With no constraints, the pilot would ideally test full-length questionnaires for both waves of the longitudinal study. However, the suggested design meant that respondents in the upgraded areas would not have taken part in a baseline survey, meaning that it was not possible to ask questions that follow-up on answers from the baseline to explore the reasons for any changes. Moreover, the pilot was not designed to test

question formulations and respondent comprehension; it did not involve cognitive testing. Although the pilot did not involve cognitive testing, interviewers were asked to feed-back on question formulations and respondent comprehension. We have undertaken some cognitive testing following the completion of the pilot study in advance of the mainstage survey.

1.2 About this report

Reflecting the purpose of the pilot, this report provides detailed feedback on sampling, fieldwork protocols and questionnaire content, rather than offering a detailed description of the survey findings (although some of these have been made available in Appendix C and Appendix D). Following this introductory chapter, we cover the following:

1. **Fieldwork:** a discussion of the approach to sampling, how this was developed, interviewer training and materials, the method used to administer the main survey and the follow-up online (wellbeing) survey, and feedback on the questions/question areas in the survey, particularly the non-standard elements such as capturing household broadband speed.
2. **Response:** technical details including number of addresses issued, contact rates, eligibility, response rates, interview timings, rates of recontact permission, the profile of achieved samples and the online wellbeing module.
3. **Survey findings and use:** covering the content of the questionnaire, its contribution to answering the evaluation questions, a summary of key findings and the potential for monetising benefits.
4. **Appendices;** key fieldwork materials.

2 Fieldwork

This chapter outlines the data collection and fieldwork processes of this pilot study, including interviewer training and materials, the sampling approach, and the data collection methods used. Reflecting the objectives set for the pilot, this chapter summarises the implications of our findings and key lessons in relation to the mainstage.

2.1 Overview of method

The pilot study was conducted by Ipsos MORI in eight areas across England between 5th October and 2nd November 2020. The study surveyed 150 residents aged 18 or over. These residents were sampled at random⁵ with the aim of achieving interviews with:

- 75 households living in areas where superfast broadband had been delivered to, and
- 75 households living in areas where superfast broadband had **not** been delivered to.

The survey had two components: an interviewer-administered interview (via telephone or MS Teams) and a short online follow-up survey, which asked respondents to privately answer questions about their wellbeing. As part of the main interview, respondents were asked to complete a broadband speed test; this involved accessing a weblink (<https://broadbandtest.which.co.uk>) and clicking 'start your speed test now'. The speed test was introduced as taking around two minutes to complete.

COVID-19 restrictions were in place during the fieldwork period and influenced the fieldwork design and processes. For example, interviewers were not allowed to conduct the survey face-to-face so they were asked to make contact and schedule a follow up appointment to complete the survey by telephone or using MS Teams. A number of other adjustments were made to the fieldwork processes in response to COVID-19 and these are summarised in Table 2.1 below.

Table 2.1: Adjustments to fieldwork processes in response to COVID-19

Restrictions	Adjustments in response to COVID-19
Interviewers were not allowed to enter respondents' homes to administer a face-to-face survey	<ul style="list-style-type: none"> ▪ Interviewers make initial contact, arranged an appointment and completed the survey by telephone or MS Teams ▪ Advance letter and FAQ portal to provide reassurance to respondents about COVID-19 safety measures
Interviewers unable to enter the home to assist with the broadband speed test	Interviewer script included instructions to help the respondent complete the speed test without assistance from the interviewer in their home
Requirement to avoid/reduce handling fieldwork materials and leaving paperwork with respondents	<ul style="list-style-type: none"> ▪ Showcards were made available on screen as a pdf document accessed via a URL link: https://ipsos.uk/broadbandcards so that no fieldwork materials were exchanged with respondents.

⁵ Random probability sampling i.e. every unit in the population (in this case, an address) has a chance of being selected for the sample, and the probability of selection for any unit in the population is either known or could be calculated. Effectively, everyone in the population has a known and non-zero chance of being selected. This allows us to generate a representative sample of our target population.

Restrictions	Adjustments in response to COVID-19
	<ul style="list-style-type: none"> ▪ Appointment/calling cards and leaflets to be left on the doorstep or posted through the letterbox to avoid any direct exchange of materials
Prospect of 'local lockdowns'	A list of additional addresses of reserve sample points were available to be released to interviewers if access was restricted in specific geographical areas

2.2 Interviewer training and materials

All interviewers received training to ensure they were equipped with knowledge of the project and guidance on how to conduct interviews successfully and safely. This was especially important as, during the fieldwork period, interviewers were not allowed to conduct any interviews on doorsteps or in homes due to COVID-19.

2.2.1 Interviewer briefing

Interviewers attended a one-and-a-half-hour briefing on 30th September and 5th October 2020. The briefings were run by researchers and a field team manager from Ipsos MORI. Twelve interviewers completed the briefing (with 11 of these interviewers proceeding to work on the project). The briefings were conducted using MS Teams and covered:

- **Project background** –the aims and objectives of the project, the COVID-19 context, an overview of the survey design, and timings.
- **Making contact** – including the contact strategy, selected sample areas, COVID-19 safety measures, and how to introduce the survey.
- **The survey** – including the script, interview methods, the use of showcards, how to conduct the broadband speed test, the follow-up online survey, collecting recontact consent, and the project outcome codes (to be recorded in interviewers' electronic contact sheets).
- **Resolving problems and queries** – including contact details, and the pilot feedback required.

Interviewers were given the opportunity to ask questions about the project and were required to complete practice interviews to familiarise themselves with the questionnaire content and processes. Some interviewers highlighted a potential improvement to the questionnaire script⁶ (subsequently, interviewers mentioned that this process and the edits incorporated into the final version of the script were useful).

2.2.2 Briefing materials

Ahead of the briefing sessions, interviewers were sent a briefing pack containing all materials required for making contact at addresses in the different sample points. The pack included:

- Interview instructions
- Copy of advance letter (including a laminated copy)

⁶ For Q5 ('Now thinking about going online when you are at home – this address – how often would you say you personally do this nowadays when connected to your home internet connection only?'), interviewers highlighted that there may be some confusion around how to answer this question if respondents accessed the internet at home using their mobile phone service provider. Following this feedback, we updated the 'never' code to 'never / I only access internet via mobile phone service provider' and included the instruction 'Please exclude internet access from mobiles/smartphones if you are accessing the internet via your mobile phone service provide.'

- Calling cards
- Appointment cards
- Address listing
- Sample point map
- Leaflet on Covid-19 safety
- Thank you leaflets

2.2.3 COVID-19-secure measures

Measures were put in place to protect both the respondents and the interviewers. In line with UK Government (and Market Research Society) guidance, all interviewers were assessed and confirmed as fit and healthy. They were trained in undertaking socially distant interviewing and did not complete any interviews on doorsteps or in homes. Overall, interviewers reported feeling confident with the COVID-19 measures we had put in place.

“I was happy participating in this study and felt the safety procedures we had in place helped me to be confident in approaching householders and setting up appointments.”

2.2.4 Interviewer feedback

After the interviews were completed, interviewers were sent feedback forms to complete and were invited to attend a debrief with the project team on 10 November. This provided interviewers with the opportunity to share how they found the briefing session and packs, and the interviews themselves. Overall, the feedback from interviewers was positive and they enjoyed administering the survey.

“I would do this job again in a heartbeat.”

Interviewers were satisfied with the amount of information provided to them before starting. It was noted that it may be beneficial to discuss the wellbeing module in more detail. These questions were asked as a separate follow-up online survey, which raised queries about why this approach was taken.

“The briefing was comprehensive and provided me with all the information I needed to make a start on this study. I’m not sure what could be improved for next time.”

Interviewers mentioned the briefing packs included a good amount and range of materials in them, with enough information to complete the job but did question whether the materials could be reviewed to help maximise respondent engagement. For example, it was suggested that the client logo could be added to the outer envelope of the advance letter to encourage respondents to open and read it before the interviewer makes contact. In addition, it was suggested that more colour may help with the design of the calling and appointment cards.

Fieldwork: lessons and recommendations for mainstage

- Ensure the interviewer briefing addresses why the wellbeing questions are being asked, and any implications around asking these questions in the chosen mode for mainstage.
- Interviewers valued the opportunity to provide feedback on the interview script in advance of fieldwork; this opportunity should be included at the mainstage, probably as part of questionnaire development.
- Consider using the DCMS logo on the envelope to encourage people to open the advance letter.
- We recommend re-designing the calling and appointment cards to maximise engagement and highlight key details (e.g. add more colour).
- Include more information on the appointment card, using colour to highlight key details.

2.3 The sample

We used two different sample types to test the sampling approach, survey content and fieldwork protocols across a range of households:

1. **Not delivered to** - defined as areas where superfast broadband has not yet been delivered to, but are expected to be at a later date.
2. **Delivered to** - defined as areas where superfast broadband has been delivered, although this does not mean each respondent living in these areas has upgraded to it.

This report discusses the differences in response between these two sample types.

2.3.1 Sampling

The two samples were selected using DCMS' speed and coverage templates (SCTs) and C3 reports. Together, these files highlight postcodes where superfast broadband has already been delivered to and the planned timings for rolling this out to areas that are not yet delivered to.

The not delivered to areas excluded postcodes that were already delivered to or were due to be delivered to in the near future. The remaining areas were mapped to allow us to select geographical areas where not delivered to postcodes were clustered.

For both sample types, a list of potential local authorities was produced, and eight were selected based on availability of interviewers and excluding areas where addresses would be highly dispersed:

1. Cambridgeshire
2. East Riding
3. Norfolk
4. North Yorkshire
5. Shropshire
6. South Yorkshire
7. Suffolk
8. Warwickshire

In each of these areas, non-residential addresses were removed, and any businesses replaced with the closest residential address (around 10 percent of the sample). A random 1 in N sample was drawn within

postcode sectors to decrease the chances that addresses issued in each sample area had similar experiences to each other.

During the data analysis stage, we identified an issue with the sampling for not delivered to areas. In total, 16 addresses in the not delivered to sample were within postcodes which had received coverage by the time survey fieldwork started but had not been picked up in the screening of postcodes against C3 data because the postcode information in the three individual C3 reports these came from, was either missing or did not match the aggregate C3 data provided previously⁷.

Of these 16 addresses, six were only matched to the aggregate C3 data on postcode and the remainder of the addresses (e.g. house number) differed from the C3 data (it is possible that coverage could have been brought forward by another supplier). This left 10 addresses which were matched in their entirety to C3 data. Responses collected via interviews at these addresses were reallocated to the delivered to group (covered in Appendix B) but it was *not* possible to adjust survey administrative data such as that described in the sections which follow and on which response rates and other indicators of survey performance are based.

2.3.2 Addresses issued

Table 2.2 below summarises the number of addresses issued across the eight areas. We aimed to issue 40 addresses per area for each sample type. However, there were no postcodes where superfast broadband was not delivered to in East Riding (Yorkshire) and Suffolk. Consequently, additional not delivered to addresses were issued in South Yorkshire.

Table 2.2: Number of addresses issued by sample type and area

Areas	Addresses issued - Not delivered to	Addresses issued - Delivered to
Cambridgeshire	40	40
East Riding (Yorkshire)	Not available	40
Norfolk	40	40
North Yorkshire	40	40
Shropshire	40	40
South Yorkshire	120	40
Suffolk	Not available	40
Warwickshire	40	40
Total	320	320

2.3.3 Rurality of issued addresses

Reflecting the areas selected for the pilot, the addresses issued to interviewers were overwhelmingly in rural areas with many located in hamlets or being isolated dwellings, shown in Table 2.3 below.

⁷ Where the latter was the case, the aggregate data indicated the postcodes s having been delivered to but the individual C3 reports did not.

Table 2.3: Rurality/urbanity of sample

Categories	Not delivered to (% of addresses)	Delivered to (% of addresses)
Major conurbation	0	*
Minor conurbation	9	10
City and town	12	17
City and town in a sparse setting	*	0
Total urban	22%	26%
Town and fringe	7	17
Town and fringe in a sparse setting	*	7
Village	31	17
Village in a sparse setting	2	7
Hamlets and isolated dwellings	36	17
Hamlets and isolated dwellings in a sparse setting	1	9
Total rural	78%	74%

Categories based on Rural-Urban Classification for Small Area Geographies Government Statistical Service 2013

* less than 0.5%

2.3.4 Reserve addresses

Reserve sample was selected so that additional addresses could be issued if local COVID-19 'lockdowns' restricted our ability to undertake fieldwork. On 22 October, a local 'lockdown' came into force in South Yorkshire. Interviewing was suspended in this area. In addition, as one interviewer living in the area was unable to travel, their assignments based in North Yorkshire were also impacted and could not be completed. Advance letters were mailed to 120 reserve addresses and fieldwork commenced in those three areas on 26 October.

Table 2.4: Number of reserve addresses issued by sample type and area

Areas impacted by lockdown	Replacement areas	Addresses issued - Not delivered to	Addresses issued - Delivered to
South Yorkshire	Cambridgeshire		40
South Yorkshire	North Yorkshire	40	
North Yorkshire	East Riding (Yorkshire)		40
	Total	40	80

2.3.5 The second national 'lockdown' in England

Fieldwork was suspended in all areas in response to the announcement of the second national 'lockdown' which started on 2 November. Any appointments that had been scheduled were completed, with fieldwork officially closing on 6 November (ahead of the original end date of 13 November).

Table 2.5 below summarises the number of addresses that interviewers actively worked and therefore can be counted in the final sample of households; this figure is used to calculate the response rates adjusted for COVID-19. Notably, slightly fewer addresses were actively worked in the not delivered to sample, compared to the delivered to sample.

Table 2.5: Number of addresses visited in each area

Areas	No. of addresses visited at least once - Not delivered to	No. of addresses visited at least once - Delivered to
Cambridgeshire	40	72
East Riding (Yorkshire)	0	72
Norfolk	40	40
North Yorkshire	120	2*
Shropshire	40	40
South Yorkshire	40	24
Suffolk	0	40
Warwickshire	40	40
Total	320	330

* 40 addresses were issued, 2 refused to participate by contacting the office in advance and the addresses were then withdrawn because of COVID-19 restrictions.

2.3.6 Contacting the sample

Advance letters were sent to all sampled addresses before the interviewer made contact (found in Appendix A). This letter included a brief summary of the project aims, who was conducting the research (Ipsos MORI on behalf of the DCMS), and what was involved if they chose to take part. The reverse of the letter provided information on Building Digital UK and DCMS web pages, links to the Privacy Notice and contact details for the survey (email, freephone and FAQ portal).

Following this mailing, interviewers attempted to make contact with residents at the sampled addresses. Initial contact was made face-to-face on the doorstep to discuss the survey and secure appointments for an interview by telephone or MS Teams. Any resident adult aged 18 years or older was eligible to take part in the survey and no method was applied to select from among those who were resident in households at addresses.

2.3.7 Ineligible addresses

An analysis of the outcome codes recorded in the interviewers' electronic contact sheets (ECS), as well as direct feedback from interviewers, has been used to assess the accuracy of the sample. As shown in Table 2.6, 12 percent of all addresses issued were coded as ineligible (defined as non-residential, vacant, inaccessible, or not found). Eleven percent of the not delivered to sample was coded as ineligible. One interviewer working in North Yorkshire found 10 addresses were holiday lets, coding these as 'non-residential'.

Table 2.6: Ineligible addresses in not delivered to areas

Outcome codes (selection)	Sample not delivered to areas - Cambs	Sample not delivered to areas - North Yorks	Sample not delivered to areas - Shropshire	Sample not delivered to areas - South Yorks	Sample not delivered to areas - Warks	Sample not delivered to areas - Norfolk	Total (n)	Total (%)
Total addresses issued	40	120	40	40	40	40	320	100
Productive (achieved interviews)	4	15	9	10	8	10	56	18
Ineligible	2	15	1	4	10	3	35	11
Non-residential/institution	0	10	0	2	0	0	12	4
Property vacant	1	5	1	2	0	0	9	3
Address not found	0	0	0	0	0	3	3	1
Address inaccessible	1	0	0	0	10	0	11	3
Other	0	0	0	0	0	0	0	0

As shown in Table 2.7 below, 13 percent of the sample in delivered to areas was coded as ineligible by interviewers. 23 of the 44 ineligible addresses were coded as 'address inaccessible' (i.e. not found), 15 of these addresses were in Norfolk. The interviewer working in this sample area achieved 9 interviews from 24 addresses; as fieldwork ended 11 days earlier than scheduled, they did not have time to return to the 'not found' addresses to reach their target. We cannot state with certainty how many of these addresses were coded correctly or if these addresses could have been located if time allowed.

Table 2.7: Ineligible addresses in delivered to areas

Outcome codes (selection)	Sample delivered to areas - Cambs	Sample delivered to areas - East Yorks	Sample delivered to areas - North. Yorks	Sample delivered to areas - Shropshire	Sample delivered to areas - South Yorks	Sample delivered to areas - Suffolk	Sample delivered to areas - Warks	Sample delivered to areas - Norfolk	Total (n)	Total (%)
Total addresses issued	72	72	2	40	24	40	40	40	330	100
Productive (achieved interviews)	18	23	0	17	3	8	9	9	87	26
Ineligible	0	7	0	8	0	5	8	16	44	13
Non-residential/institution	0	0	0	0	0	0	1	0	1	*
Property vacant	0	1	0	6	0	1	0	0	8	3
Address not found	0	3	0	0	0	3	2	15	23	7
Address inaccessible	0	2	0	2	0	1	2	1	8	2
Other	0	1	0	0	0	0	3	0	4	1

*less than 0.5%

2.3.8 Interviewer feedback

Interviewers found locating addresses challenging because of the rurality of some of the sample points. In these rural areas, journey times were longer because of the distance between properties.

“It would have been challenging to find 40 disparate rural addresses in one journey (even though all were very local to me and the routes were mainly fairly familiar) as some were down their own unmarked private potholed tracks for up to 3/4 mile each way. Evening calls added the extra challenges of darkness in unlit areas.”

Fieldwork: lessons and recommendations for mainstage

- Allow extra time for additional sample checks, e.g. to exclude non-residential addresses (businesses, holiday lets), to verify UPRN/postcode data accuracy.
- To achieve the desired response, review the number of issued addresses to reflect that c12 percent of addresses may be ineligible (depending on the areas sampled).
- Ensure reserve sample is extracted to cover local ‘lockdowns’.
- Where no sample is available in specific areas, reallocate across a range of sample points to mitigate any risks that may arise in one area.
- Add an ECS outcome code to track the impact of holiday lets on the eligibility of addresses.
- Explore the options (and any associated costs) of providing more detailed maps and/or mapping software to interviewers to make locating residences more efficient.

2.4 Main survey

The fieldwork methods used for the main survey were adapted in response to COVID-19 restrictions. The main changes were that the survey was administered by telephone or MS Teams at a pre-agreed time, and not carried out face-to-face in the home or on the doorstep. To minimise the number of documents that were shared between the interviewer and respondent, hard copies of showcards were not provided to respondents but were instead accessible via a weblink to a PDF document.

This section provides feedback on the fieldwork materials, processes and procedures. It is based on a range of sources:

- General process data, including number of contacts made
- Paradata (interview method, length and use of showcards)
- Questionnaire data
- Insights from the interviewer debrief, completed interviewer feedback forms and comments made in the ECS

2.4.1 Contact and making appointments

Interviewers were required to contact any resident (aged 18+) at an address to secure an appointment to complete the main survey. The contact strategy required a minimum of four face-to-face attempts at each

address, with one during the evening (after 5pm) plus one weekend during the day. Once an appointment had been secured, the survey would be administered by telephone or MS Teams. 101 (of the 143) interviews were completed following one or two visits to the address, with 46 completed after just one visit.

Table 2.8: Number of visits made to each address by sample type

Number of visits	Not delivered to	Delivered to
One	102	125
Two	91	98
Three	31	39
Four	5	26
Five or more	18	3

Once the appointment had been made, interviewers left an appointment card with the details of the time and date of the interview. This card also included contact details for anyone needing to rearrange or cancel their appointment. Interviewers felt that these appointment cards could have provided more information, including the weblinks for the showcards, the broadband speed test and the follow-up survey. They felt it would have been easier for respondents to have the information to hand at the start of the interview, or to have had the opportunity to complete the broadband speed test in advance.

“When I made the appointment, I gave the respondent a card but wrote on the back the different URL addresses, i.e. for the showcards, for the test and for the follow-up survey. I found this made things much easier as when I phoned, he had the download number ready and had the showcards ready to do the interview.”

2.4.2 Participation

Interviewers reported that no specific concerns were raised by respondents about COVID-19. They felt the interview was well-received and respondents who took part were willing to do so because the topic was of interest to them.

“I didn't get the impression that COVID-19 had a significant impact on the doorstep reaction, but I think everyone was broadly happy to be interviewed by phone and some would have happily invited me in.”

“The response was generally positive. I felt we were cautious enough with the safety procedures and it helped reassure those we spoke to that we adhered to social distancing, etc.”

Interviewers reported that the alternative approach of pre-booking appointments and administering the interview when it was convenient for respondents had a positive impact on participation rates. Although a proportion of appointments were broken – 11 percent of all addresses issued – it provided greater flexibility to both the interviewer and respondent.

“I think that the lack of insistence on doing it 'now' helped somewhat in getting participation.”

Eighteen percent of the 320 addresses issued in not delivered to areas and 15 percent of the 330 addresses issued in delivered to areas refused to take part when contact was made by the interviewer (see Table 3.1 for more detail).

2.4.3 Interview methods

Respondents were offered the choice of completing the main survey over the telephone or on MS Teams. The CAPI script was tailored to display different interviewer instructions depending on the mode of completion selected by the respondent.

As per standard practice, the interviewers have the option of attaching a keyboard to their tablet to help navigate the interview; 94 percent of completed interviews were completed in this way.

MS Teams

Only 1 interview was completed using MS Teams. Interviewers reported that MS Teams was not chosen in some cases because the household internet connection was not able to support the software⁸, the respondent was not familiar with MS Teams, or the respondent felt less comfortable completing the interview on this platform. Although there was limited take-up of MS Teams, interviewers thought offering a choice of methods was beneficial both to themselves when encouraging participation and the respondents.

Telephone interview

A total of 142 of the completed interviews were administered by telephone. Where showcards were used in this mode, respondents were given a weblink to a PDF document that contained showcards for questions that consisted of a long list of response options or collected personal or sensitive data, such as household income.

The showcards were used by only 27 percent of respondents. Older respondents, those aged 55+, were less likely to refer to the showcards; 63 percent of this group did not use showcards, compared with 37 percent of respondents aged under 55. Those in the delivered to sample were also less likely to use the showcards (17 percent, compared with 42 percent of the not delivered sample).

Interviewers reported that some respondents struggled to access the showcards, either because they could not download the document or because they found it challenging being on their telephone and referring to the showcards at the same time.

“Some people failed to find the showcards or perhaps did not have acrobat reader app in correct format/version on their device. Some had looked at the showcards in advance.”

One interviewer also highlighted that some of their respondents had read through the showcards and response options in advance.

Interviewers suggested that having a spare set of showcards would have been useful for respondents who could not access them electronically. We could review providing single-use showcards for respondents (either on request, or for all respondents); to maintain a COVID-safe approach, the interviewer would be required to leave these on the doorstep (for appointments that had been scheduled, as well as those with the potential of being scheduled), rather than handing them directly over to the respondent.

⁸ 44% of respondents living in not delivered to areas and 29% of respondents living in delivered to areas rated the speed of their internet connection as fairly or very poor. Based on the broadband speed test, the median speed of the internet connection was reported to be 20.00Mbps in not delivered to and 24.55Mbps in delivered to areas.

“Showcards could be printed for each potential respondent so that they have a physical set of cards to refer in case they have issues connecting to the web page for showcards.”

Where showcards were used, this increased the median length of the interview by two minutes (29 minutes, compared to a median completion time of 27 minutes without showcards).

Nonetheless, the use of showcards appeared to have a positive effect for sensitive questions. For example, respondents were asked to tell the interviewer which band their total household income per year from all sources falls into, before tax and other deductions. Among respondents who did not use showcards, 34 percent of respondents refused to answer this question (which is similar to the proportion of refusals typically recorded in a traditional telephone survey). Where showcards were used, however, the refusal rate decreased to 10 percent.

2.4.4 Interview length

The median length of the completed telephone interviews was 30 minutes, while the one MS Teams interview was recorded as taking 69 minutes to complete⁹. The length of interview is recorded by the script itself, with the timer starting as the script has been launched and stopping once the interviewer has finished the script. It is possible that an interviewer does not start the interview promptly after launching it. Similarly, an interviewer may not finish and submit the script promptly after completing the interview with the respondent. Interviewers did not report any feedback from respondents regarding the length of the interview.

“I didn’t have anyone asking me when we would finish at any point during it which also meant it held good interest for the respondents. It flowed well.”

2.4.5 Broadband speed test

As mentioned, all respondents were asked to complete a broadband speed test at the end of their interview, which involved accessing a weblink and following the instructions provided. The rationale for collecting this data was to avoid relying on respondent recall and knowledge of their broadband speed. It is essential to capture information about actual broadband speed at each household to support the wider evaluation and to allow for analysis of outcomes and impact.

In total 85 respondents completed the broadband speed test and 58 respondents refused. The survey did not include any follow-up question to understand respondents’ reasons for refusal – this is not typically done within a survey question – but interviewers have indicated that there were some challenges with completing the survey over the telephone and accessing other information via separate weblinks. Notably, seven of the respondents who declined to take part in the broadband speed test said in responses to other questions that they did not access the internet, meaning that for the mainstage the routing for this question should be updated to exclude ineligible respondents.

Nonetheless, 36 percent of respondents with access to the internet chose not to complete the broadband speed test. Those living in not delivered to areas were less likely to take part (52 percent refused, compared to 33 percent of those living in delivered to areas). Older respondents were also less likely to take part; almost half (46 percent) of respondents aged 55+ did not complete the speed test, compared to 33 percent of those aged under 55. One interviewer highlighted that one of their respondents was unable

⁹ This is longer than expected, but as only one interview was completed on MS Teams, we cannot determine whether this is an anomaly.

to take part in the broadband speed test as the interview was conducted while the respondent was not at home.

“Respondent unable to go online and check speed due to the fact this interview was conducted while he was at work... he phoned me when he had a slot he could speak to me...”

Interviewers reported that they tried to provide information to respondents in advance in case they needed more time and additional help.

“I gave everyone the address on the back of the card and suggested they try to do it before I called to save time on the call by not having technical issues and waiting times. This worked well, especially as some older people needed assistance from a relative or time to get to grips with it.”

Overall, the interviewers found the instructions they were provided were easy to follow, which allowed them to provide support to respondents.

“The instructions were easy to follow for us both and the web page was a fairly short and simple address to type in for them.”

It should be noted that completing the broadband test extended the interview length from a median of 23 minutes without the broadband test to a median of 30 minutes when it was undertaken. While there may have been other factors at play, it seems that the test placed greater burden on the respondent relative to the alternative i.e. an interviewer conducting the test within the respondent’s property. That said, it would be challenging to conduct the test online, whether it was administered by interviewer or respondent, in a geography where the speed of online connection can cause difficulties.

The implication is that the broadband test added seven minutes to interview length. While it may be possible to shorten this if interviewers conducted the test within the respondent’s property (which may be possible in the future if social distancing restrictions are eased sufficiently), this has cost implications. Omitting the broadband test involves a trade-off in that there is no other means of reliably establishing whether an individual has taken up a superfast connection.

This would not be necessarily problematic for the purposes of understanding the impacts of the programme as the focus should be on the effects of making superfast available. However, it would limit the extent to how far it will be possible to understand whether the impact of the programme was driven by take-up of superfast services. This has been a priority issue for DCMS in the past and the findings of other analyses focusing on the impact of making superfast services available have produced ambiguous results (partly because it has not been possible to discriminate between changes driven by changes in the composition of the relevant population and changes driven by take-up of the service).

2.4.6 Options for the broadband speed check

One option we could consider is to provide more information about the broadband speed test in advance of the interview – for example, leaving behind or sending instructions to those who have agreed to take part and/or asking respondents to source their broadband connection speed before the interview, either via a test or by checking information they have about their connection and speed on bills/other documentation. Both of these options would help to reduce the interview length.

One consideration, even with suitable reassurances about interviewer assistance at the point of interview, would be that this might be off-putting and impact negatively on motivation to take part. It may also be that

it creates some ‘conditioning’ effects – that is, those who have investigated their speed in advance of the interview may respond differently to questions about its performance.

It might also be difficult to predict the success of this approach, meaning a less predictable interview length and creating some challenges for the organisation and resourcing of fieldwork. However, testing this could be a focus of the development work described in chapter 4 (section 4.4.6).

2.4.7 Respondent recall of household broadband speed

In addition to the broadband speed test, respondents who accessed the internet at home were asked to estimate their connection speed. Nearly two-fifths (39 percent) did not know or could not provide a best estimate of their connection speed.

Don’t know was proportionately higher among those living in a not delivered to area (45 percent, compared to 35 percent of those living in a delivered to area) but when asked to estimate their connection speed 12 months ago, 41 percent of both sample types could not provide a figure. One interviewer told us:

“Most people had no idea what their download speed was supposed to be and had never measured it before even if they had upgraded.”

As shown in Table 2.9 below, when comparing the self-reported connection speeds (those volunteered by respondents) to the broadband test data, the speeds broadly aligned.

Table 2.9: Broadband speed reported

	Total (% of respondents)	Total (% of respondents)	Delivered to (% of respondents)	Delivered to (% of respondents)	Not delivered to (% of respondents)	Not delivered to (% of respondents)
	Estimate	Test	Estimate	Test	Estimate	Test
10Mbps or less	20	20	18	18	27	27
Above 10 Mbps but below 24 Mbps	28	23	31	27	20	13
24 Mbps or above but below 80 Mbps	47	50	47	49	47	53
80 Mbps or	5	6	4	6	5	7

	Total (% of respondents)	Total (% of respondents)	Delivered to (% of respondents)	Delivered to (% of respondents)	Not delivered to (% of respondents)	Not delivered to (% of respondents)
	Estimate	Test	Estimate	Test	Estimate	Test
above but below 330 Mbps						

Base: Respondents who gave an estimate of their broadband speed and completed the speed test: total 64, delivered to 49, not delivered to 15

As can be seen in the highlighted cells in Table 2.9 above, many respondents in not delivered to areas for whom we have data, reported/recorded broadband speeds of 24 Mbps or higher. The speed tests also confirmed that 25 percent of those in not delivered to areas were able to access speeds of 30Mbit/s or more (speeds that should only be attainable if upgrades had been delivered under Phase 3 of the programme).

On further investigation, all these properties were on the same street as properties that had been claimed as delivered to in the C3 reports (and in one case, the same block of flats). The likelihood is that these properties had been upgraded but had not been claimed by the network provider. To preserve the integrity of the analysis, a comparison sample should only be drawn from streets or postcodes where no upgrade had been completed.

2.4.8 Survey content

The main interviewer-led survey was designed to collect data on the following:

- Satisfaction with local area and length of time at address.
- Frequency of internet usage in and outside the home and access to internet enabled devices.
- Use of the internet (social media, communicating with family/friends, what’s on information, volunteering, work/study, household administration).
- Reasons for not accessing the internet.
- Attitudes toward the internet, rating and speed of internet connection, expenditure on internet service, upgrading (reasons for or against, awareness of improvements, impact of upgrading).
- Health in general, exercise, use of health services (use of GPs, accessing health services via internet).
- Demographics (household composition, age, gender, work status, income, home ownership, social grade).
- Willingness to complete follow-up online survey and to be re-contacted for future study.

We did not receive any feedback or queries from interviewers or respondents regarding the overall content of the survey, however, at the end of the script, interviewers were able to leave comments for the research team. These comments included the following question-specific feedback:

- Email validation – two respondents received error messages that would not allow them to proceed with the interview; these checks will need reviewing for the mainstage.
- Number of hours worked per week – one respondent wanted to input 168 hours (i.e. 24/7), but the upper limit is currently 100 hours; review limit parameters ahead of the mainstage.
- Occupation – one respondent did not wish to disclose their occupation, but the interviewer was unable to proceed without entering a message into the open text-box and selecting a social grade; ensure this question provides a clear opt-out process.
- Showcard L on the URL link – line 7 is a duplicate and needs updating.
- In addition, and as noted in Appendix B, we think there is scope to improve Q32.¹⁰

2.5 Online wellbeing survey

In addition to the main survey, we used a follow-up survey comprising a ‘wellbeing module’; these questions were included because wellbeing is a primary outcome measure for the wider evaluation. This comprised five standardised ONS questions (four on wellbeing, and a fifth question on loneliness) and the short (7-statement) version of the Warwick-Edinburgh Mental Wellbeing Scale (SWEMWBS). The Warwick-Edinburgh questions were included in this pilot study as a complement to the ONS questions. Both sets of questions (ONS and SWEMWBS) were perceived to be potentially sensitive due to their personal nature, and therefore best suited to a self-completion mode. Both sets of questions were included in the pilot to explore which set of questions provided a higher response rate and would provide the most robust / useful findings for the outcomes highlighted in the Theory of Change.

Similarly, in a traditional face-to-face interview, sensitive questions are normally asked in a separate self-completion module. By using a confidential method of responding, it is hoped that more accurate responses will be captured. At this point in a face-to-face interview, the interviewer would hand over their tablet to the respondent so that they can answer the sensitive questions privately themselves.

The shift to the COVID-friendly method of an interviewer-administered telephone or MS Teams interview meant a self-completion module was no longer viable. To address this, the pilot featured a follow-up online survey which replicated the opportunity for respondents to answer privately. All respondents were therefore invited to take part in a short online survey following the completion of their main interview (via telephone or MS Teams). In practice, this involved:

- including information about this online survey in the advance letter;
- during the main interview, respondents were asked whether they would be happy to take part in a short follow-up survey; those who consented to complete the online survey were given a link to the survey and a unique login ID, with interviewers asking respondents to write these details down or to take a screenshot;

¹⁰ As far as you know, have you ever upgraded your internet connection whilst living here at this address? By upgraded I mean chosen to pay for a faster or better internet connection.

- to make it easier for respondents to access the survey interviewers asked if they would be willing to receive an invitation and potentially some reminders by text or email and their email address and/or telephone number was recorded;
- respondents could then choose to take part in the online survey during their own time, accessing it through the survey link and submitting their unique login ID, or through the direct link provided in the subsequent email or SMS communications.

Overall, 61 of the 92 eligible¹¹ respondents took part in the online wellbeing module. For a summary of their responses, please see Appendix C. Section 3.4 in the following chapter additionally describes lessons in respect of the wellbeing module.

Fieldwork: lessons and recommendations for the mainstage:

- Continue to use a system of pre-booking appointments to increase participation rates.
- Consider providing a set of single-use showcards for all respondents or those who are unable to access the PDF document online, or removing all showcards to ensure that a consistent approach is taken for all respondents.
- We recommend retaining the broadband speed test question for use alongside respondent recall of speed (and upgrade) but reform this as follows:
- As far as possible, encourage completion of the test by respondents in advance of the interview.
- Include additional question codes to better understand reasons for refusing to complete the broadband speed test, e.g. lack of time, did not understand the instructions, difficulties around access.
- It may be necessary to undertake further testing of this method to understand feasibility and the best approach (described in chapter 3, section 3.4.6).
- We have shown some evidence that some upgrades had occurred but were not visible in the data at the point of sampling. This is something we would need to find a way of addressing with BDUK for the mainstage surveys if at all possible.
- Review and action the question-specific feedback provided. Discuss the merits of using a small-scale cognitive testing exercise to validate feedback from interviewers about comprehension (this might be used to test other elements including changes to the broadband speed test).

¹¹ Eligible is defined as respondents who gave consent to take part in the follow-up online survey.

3 Response

This chapter outlines the response we received from those reached by the pilot, looking separately at the main survey and the online wellbeing module. We also consider recontact rates which are important given the proposed longitudinal design. Again, reflecting the objectives set for the pilot, this chapter summarises the implications of our findings and key lessons in relation to the mainstage.

3.1 Response – main survey

Fifty-six interviews were achieved in not delivered to areas and 87 interviews were achieved in delivered to areas. This equates to a response rate of 18 percent in not delivered to areas, and 26 percent in delivered to areas.

When adjusting the response rates to exclude ineligible addresses, they are as follows:

- Not delivered to areas: 21 percent
- Delivered to areas: 30 percent

When further adjusting the response rates to exclude ineligible addresses and addresses that were impacted by COVID-19 'lockdown' restrictions and fieldwork postponements (impacts were more keenly felt in not delivered to areas):

- Not delivered to areas: 23 percent
- Delivered to areas: 34 percent

As context, our pilot was designed (and costed) on the basis of an assumed, aggregate, 25 percent adjusted response rate, with 35 percent assumed for our first baseline survey. These assumptions were developed based on precedent surveys but also in advance of COVID-19.

Tables 3.1 and 3.2, below, summarise the outcome codes for the 320 addresses issued in not delivered to areas and 330 addresses issued in delivered to areas. Participation in the survey varied by sample type, as well as by area.

Table 3.1: Outcomes for not delivered to areas

Outcome codes (selection)	Cambs	North Yorks	Shropshire	South Yorks	Warks	Norfolk	Total (n)	Total (%)
Total addresses issued	40	120	40	40	40	40	320	100
Productive (achieved interviews)	4	15	9	10	8	10	56	18
Unproductive	18	34	31	55	22	27	185	58
Contact but no appt made/broken appointment	16	9	0	29	5	3	48	19
Non-contact	0	10	18	3	7	15	53	17
Office refusal	1	2	2	2	0	2	9	3
Refusal to interviewer	0	10	11	20	10	7	58	18
Ill at home during fieldwork/ Mental/physical impairment/ In hospital during fieldwork	0	3	0	0	0	0	3	1
Other reason	0	0	0	0	0	0	0	0
Ineligible	2	15	1	4	10	3	35	11
Non-residential/institution	0	10	0	2	0	0	12	4
Property vacant/address not found/address inaccessible	1	5	1	2	10	3	23	7
COVID halted fieldwork¹²	16	17	0	11	0	0	44	14

¹² Interviewers used this outcome code for addresses that they had not been able to make contact with or addresses they would have visited again if the fieldwork had continued until 13 November, as originally planned.

Table 3.2: Outcomes for delivered to areas

Outcome codes (selection)	Sample delivered to areas - Cambs	Sample delivered to areas - East Yorks	Sample delivered to areas - North. Yorks	Sample delivered to areas - Shropshire	Sample delivered to areas - South Yorks	Sample delivered to areas - Suffolk	Sample delivered to areas - Warks	Sample delivered to areas - Norfolk	Total (n)	Total (%)
Total addresses issued	72	72	2	40	24	40	40	40	330	100
Productive (achieved interviews)	18	23	0	17	3	8	9	9	87	26
Unproductive	47	30	2	15	13	32	21	9	169	51
Contact but no appt made/broken appointment	29	10	0	2	8	4	3	1	57	17
Non-contact	14	0	0	0	0	15	9	0	38	12
Office refusal	4	2	2	0	5	3	0	2	18	5
Refusal to interviewer	0	17	0	12	0	8	9	6	52	16
Ill at home during fieldwork/ Mental/physical impairment/ In hospital during fieldwork	0	1	0	0	0	1	0	0	2	1
Other reason	0	0	0	1	0	0	0	0	1	*
Ineligible	0	7	0	8	0	6	7	16	44	13
Non-residential/institution	0	0	0	0	0	0	1	0	1	*
Property vacant/address not found/address inaccessible	0	6	0	8	0	3	4	16	39	11
Other	0	1	0	0	0	3	0	0	4	1
COVID halted fieldwork	7	13	0	0	8	0	0	3	31	9

* less than 0.5%

In both sample area types, 21 percent of cases refused by contacting the office or when speaking to the interviewer. Table 3.3 shows the refusal codes used by respondents who opted out when contacted by an interviewer; the most common reason for not taking part was not being interested in the subject matter. Among those who selected 'other', three respondents reported that they had no broadband and one respondent cited poor broadband as their reason.

Table 3.3: Reasons for refusal (given to interviewers)

Reason	Delivered to Frequency	Not delivered to Frequency	Total Frequency
Not interested in subject matter	21	29	50
Other*	17	19	36
Never does surveys	13	1	14
Too busy at this time	6	3	9
Always too busy	4	4	8
Nothing in it for me	1	1	2
Takes too long		2	2
Worried about safety/security	2		2
Self-isolating/fear of or symptoms of Coronavirus	1		1

*Other reasons included not being willing to engage or disclose, not wishing to help the government and personal issues (such as having a new baby at home or unwell family).

3.2 Socio-demographic and geographic profiles of the achieved sample

3.2.1 Profiles

Over two-fifths (41 percent) of our achieved sample were aged 65 years or older. In both delivered to and not delivered to areas, respondents were more likely than not to be male, owner-occupiers i.e. outright owners or buying their property with the help of a mortgage/loan, and in (self-reported) good health.

As shown in Table 3.4 below, respondents in delivered to areas were slightly younger (with a median age of 59 compared with 62 in not delivered to areas). The not delivered to sample also comprised more lower income groups and social housing tenants relative to the delivered to sample (further information is available in Appendix C).

Table 3.4: Age profile of achieved sample (Q49)

	Delivered to (% of respondents)	Not delivered to (% of respondents)	Total (%)
18-24	0	7	2
25-34	4	9	6
35-44	10	13	11
45-54	29	11	23
55-64	18	15	17
65+	39	46	41
Refused	0	0	0

	Delivered to (% of respondents)	Not delivered to (% of respondents)	Total (%)
18-34	4	16	8
35-54	39	24	34
55+	57	61	58

Base: 97 delivered to, 46 not delivered to, 143 total

This may be a reflection of the demographic composition of the sample areas selected or the types of areas within the delivered to and not delivered to categories, rather than the availability of household members but we cannot validate this against Census data given the bespoke nature of our sampling units which were not coterminous with Output Areas (the lowest level of geography for which Census data is available).

3.2.2 The consequences of socio-demographic and geographic imbalance

If this were replicated during the mainstage, such differences would pose challenges to the evaluation. While we would want to analyse longitudinal changes within both sample areas, we would want to be sure that the programme's coverage and subsequent take-up of Superfast Broadband connections was responsible for any recorded differences in survey measures rather than being the product of variation in the profiles of achieved samples in delivered to and not delivered to areas. Problems would arise if there are differential trends (e.g. economic impacts) that affect different groups over the period we are interested in, and if our delivered to and not delivered to areas have very different make-ups. We would be at risk of falsely attributing an improvement in wellbeing, for example, to the broadband when it was in fact caused by something else.

We can address this at the *analysis stage* by matching individuals where they share similar characteristics in the baseline survey. In practice, this involves dropping responses obtained from respondents that are outliers, but we want to keep this to minimum because it reduces statistical power so the more closely the samples are matched in the first place, the better – i.e. our focus would be on the *issued* sample in the first instance and making sure it matches.

In response, we propose running a matching exercise at the *sampling stage* (it did not make sense to do this for the pilot as we wanted to test the achieved sample composition within delivered to and not delivered to areas). This would be used to ensure that at least the neighbourhoods from which the samples are drawn are comparable. We would balance the delivered to and not delivered to areas in aggregate across the socio-economic characteristics or area-level variables we think are important such as age distribution, house prices, rurality etc. While this will not eliminate risk, it will minimise it. There would also need to be some discretion here; the matches do not need to be exact, we can tighten or loosen the criteria to balance the trade-offs between balancing the samples and limiting sample coverage. We would also propose to look at the demographics of local populations, to explore the possibility of oversampling areas with a younger population, to ensure we get a larger share of responses from younger respondents.

3.2.3 Selection process

We did not use a selection process as part of our contact strategy, something we may wish to review as part of the mainstage. This could take the form of collecting information about the household (e.g. establishing the individual whose birthday is next), and then carrying out a random selection. It would have the benefit of overcoming 'gatekeepers' - people more inclined to take part on behalf of the household - and mitigating selection bias, i.e. certain types of people taking part, and not, and their having different experiences of improved broadband connection. Introducing a selection process would, however, add

complexity and cost by making assignments harder for interviewers, and for these reasons we do not recommend introducing a selection process for the mainstage survey.

We could additionally explore adding an interviewer-led screening process to target someone best placed to answer certain questions such as the person with responsibility for household bills and/or the broadband service. This will, however, serve a different purpose and will not impact on the profile of those taking part.

3.3 Recontact

Overall, similar levels of recontact consent were achieved in both sample type areas, as shown in Table 3.5; 83 percent of the delivered to and not delivered to sample consented to take part in another survey in 6-12 months. Almost all the sample provided their telephone number, while around three-quarters provided an email address. These are healthy consent rates and suggest a longitudinal approach is viable. To illustrate this further, our assumptions when designing and costing the second wave survey and its overall sample size of 1,000, included a response rate of 55 percent of those interviewed in the baseline survey (allowing for consent rates). This would equate to reaching and interviewing 78 of the 118 who gave their consent in the pilot i.e. a 67 percent response rate.

Table 3.5: Recontact consent to take part in another survey in 6-12 months

Participated in main interview	Total (n=143)	Delivered to (n=97)	Not delivered to (n=46)
% recontact consent	83	83	83
Consented to recontact	Total (n=118)	Delivered to (n=80)	Not delivered to (n=38)
% provided their email address	76	79	68
% provided their telephone number	97	96	100

3.4 Response – online survey

3.4.1 Online survey consent

Respondents who took part in the main interview were asked whether they would be happy to take part in a short online survey in their own time. Overall, 64 percent of respondents consented to this separate module of questions. This means that over a third of respondents (36 percent) said they were *not* happy to take part in the follow-up survey.

Table 3.6 summarises the response to the follow-up online survey. Consent varied by sample type, with respondents living in delivered to areas being more likely than respondents living in not delivered to areas to agree to take part. 72 percent of those living in delivered to areas consented to take part, compared with 52 percent of those living in not delivered to areas

Table 3.6: Follow-up online survey response

Participated in main interview	Total (n=143)	Delivered to (n=87)	Not delivered to (n=56)
% consent to take part in the online survey	64	72	52
Consented to take part in the follow-up online survey	Total (n=92)	Delivered to (n=63)	Not delivered to (n=29)

Participated in main interview	Total (n=143)	Delivered to (n=87)	Not delivered to (n=56)
% consented to email reminders	49	54	38
% consented to SMS reminders	45	44	45
% refused to receive any reminders	20	18	24
% took part in the online survey	66	64	72
Participated in the online survey	Total (n=62)	Delivered to (n=41)	Not delivered to (n=21)
No. of full completions	61	40	21
No. of partial completions	1	1	0

Although the interview did not include any questions to understand why consent was not forthcoming, interviewers considered that respondents had already freely given their time to participate in the main interview and were not incentivised to complete an additional element. It was also noted that some respondents did not feel confident or comfortable going online, due to their level of computer literacy or their low usage of the internet in general. Moreover, broadband quality may potentially impact on respondents' comfort and/or ability to participate in surveys online.

3.4.2 Contact details

Respondents who did consent to taking part in the follow-up survey were also asked for their permission to send them an invitation and potentially some reminders by text or email. Respondents could consent to receiving reminders by one or both modes, or not at all. Overall, 80 percent of eligible respondents gave consent to receiving reminders by text and/or email. Thus, 20 percent of those who consented to take part in the follow-up survey would not receive any further communications about it; notably, a direct link to the survey was included as part of these communications, and so, this subgroup of respondents could only access the survey by actively going to the survey link and entering their unique login ID.

Interviewers reported that contact details were straightforward to collect, and that the script featured several checks to minimise the risk of inaccurate information being inputted by interviewers. In total, 74 respondents consented to reminders, but only 62 respondents gave relevant contact details (such as a valid mobile number) to receive them. Based on the availability of consent and relevant contact details, the following reminder mode strategies were set up:

Table 3.7: Reminder mode strategies for the online survey

Reminder method	No. of respondents
SMS, SMS, EMAIL, SMS	6
SMS only	23
Email only	32
No contact details/permission for reminders	31
Total	92

3.4.3 Reminders

Where contact details were provided, respondents received an invitation and up to three reminders. The invitation was sent within 24 hours of the main interview. Non-respondents were sent a first reminder four days after the invitation, and a second reminder an additional four days after that. Due to the low levels of

response, part-way through fieldwork the gap between reminders was reduced¹³: the first reminder was then sent two days after the initial invitation, and a second reminder was sent three days after that. As a final boost to response, a third and final reminder was sent to respondents who were yet to complete the survey and had not received any reminders that particular week (w/c 9 November).

Overall, 65 percent of online completions were obtained following a reminder. However, this means a reasonable proportion of completions were achieved without reminders (35 percent). To contextualise this; the response rate for respondents who were excluded from the reminder strategy (due to the absence of consent/contact details) was 65 percent, while the response rate for respondents who were part of the reminder strategy was 67 percent.

Table 3.8: Online completions by reminder

	No. of completions	% of completions
No contact details/ permission for reminders	20	33
Before invite	1	2
After invite	17	28
After reminder #1	13	21
After reminder #2	5	8
After reminder #3	5	8
Total	61	100

Table 3.9 shows response rates among different modes of reminder. We cannot draw firm conclusions about the efficacy of reminders though – for example, it could be the case that those more minded to respond chose to provide email addresses.

Table 3.9: Online completions by reminder mode strategy

	No. of completions	No. of respondents	Response rate (%)
SMS/email	4	6	67
SMS only	12	23	52
Email only	26	32	81
No contact details/permission for reminders	19	31	61
Total	61	92	66

Given the proportion of respondents who took part in the online survey without receiving reminders, it is unsurprising that 43 percent of completions accessed the survey by going to the survey link and entering their unique login ID. The remaining 57 percent of completions accessed the survey through the direct link provided in one of their SMS/email reminders.

¹³ We are unable to compare the impact of this on response due to very small sample sizes: only 13 respondents were added to the reminder strategy following this change.

3.4.4 Completions

In total, 61 respondents completed all questions in the online survey: 40 in delivered to areas and 21 in not delivered to areas. One respondent (based in a delivered to area) started the survey, but broke-off part-way through. They responded 'don't know' for the first three questions and did not to continue with the survey. An additional five respondents entered the survey but did not answer any questions.

Of those who completed the online survey, 74 percent completed the survey the first time they accessed it. The remaining completions took multiple restarts, with one respondent completing the survey on their sixth entry. The median completion length was 3 minutes 10 seconds. Based on the data collected by the survey software, the respondents who completed the survey most commonly did so on their desktop or laptop computer.

Table 3.10: Online completions by device type

	No. of completions	% of completions
Desktop or laptop computer	35	58
Smartphone	17	28
Tablet	8	13
Total	60*	100

**Unable to identify device type for one completion*

As mentioned previously, interviewers highlighted that one barrier to completion was low levels of computer literacy/confidence. This potentially reflects the demographics of the sample for the main interview, where 41 percent of those who took part were aged 65+. In line with this, respondents aged 65+ were less likely to consent to take part in the online survey (53 percent), compared with the average across all respondents (64 percent).

Ipsos MORI did not receive any respondent communications relating to any difficulties accessing or completing the survey. One respondent made contact to say they had completed the survey but queried how the questions about their mental health had anything to do with their broadband. A response was provided, which may be beneficial to communicate more widely at the mainstage to demonstrate the value of answering these potentially personal questions.

3.4.5 Implications of moving the wellbeing module to the main interview

Given the above findings, we could consider moving the online self-completion module so that it is undertaken as part of the main interview. However, given interviewer feedback regarding the challenges moving between the main interview and online showcards, and some respondents' discomfort in using the internet, we do not consider this to be a suitable solution.

An alternative mode of self-completion would be achieved through administration of a paper questionnaire which could be either left with respondents or posted out to them. While this might tackle the issue of low computer literacy/confidence, it introduces additional logistics (in terms of hand-over and collection) and, we think, is unlikely to improve the consent and response rates.

Another, better option would be to move the wellbeing module to the main interview so that these questions would be interviewer-administered. There are, however, four main points which should be considered:

1. Mode effects

Studies have shown substantial differences in responses to scalar questions when asked by telephone versus visual modes, in that more positive responses are given in the telephone mode. For example, analysis of ONS' Annual Population Survey¹⁴ found that people interviewed by telephone give higher wellbeing ratings on average than people interviewed face-to-face, but the size effects are small (e.g. an increase of around 0.2 points in 'life satisfaction' ratings when interviewed by telephone compared to face-to-face). In this study, it is important to note that this effect would be consistent across all respondents. However, it would present issues for comparability to surveys where the wellbeing module is administered in another mode. To ensure comparability across waves, the questions will need to be administered in the same mode at both waves.

There is no evidence which shows any difference in responses to the ONS loneliness measures due to their relative novelty. The research team will explore with the ONS whether there are likely to be any differences in responses when the questions are asked by telephone versus visual modes. As with the wellbeing module, the questions will need to be administered in the same mode at both waves.

2. Sensitivity

Although asking about wellbeing is perceived as a potentially personal and sensitive topic, these questions have previously been interviewer-administered in other large-scale surveys (and telephone surveys can offer an increased sense of anonymity, which can help facilitate the discussion of sensitive topics). Drawing on Ipsos MORI's extensive experience of conducting telephone surveys on sensitive topics, we would use several procedures:

- As part of the interviewer briefing, we would clarify why these questions are important and how to respond to respondents who query why they're being asked or who seem unhappy to answer them.
- In the script, we would review how the questions are introduced and add further instructions to interviewers to use where necessary (such as additional reassurances to respondents).
- Where showcards are used, the response lists will be presented so that scalar responses are not in linear order (e.g. reading out letter A would not indicate the lowest/highest rating).
- We would ensure that signposting for support is available for all respondents – for example, we could review adding a section on this as part of the thank you leaflet.

3. Acceptability

The wellbeing module comprises of standardised measures, which have already undergone user testing. For example, ONS' testing of the direct measure of loneliness¹⁵ highlighted that some respondents may feel uncomfortable answering this question over the telephone as it would be more challenging to 'get [their] message across to someone properly'. One option would be to review whether a follow-up question would be beneficial to provide respondents with the opportunity to clarify their response; the ONS testing feedback indicated concerns that saying they felt lonely would be perceived (inaccurately) as an absence of friends.

Although previous rounds of testing have been carried out for the standardised questions, it may be sensible to build in further testing to explore acceptability more widely (e.g. how the questions are

¹⁴ Mode effects analysis of ONS' Annual Population Survey:

<https://webarchive.nationalarchives.gov.uk/20160105231902/http://www.ons.gov.uk/ons/rel/wellbeing/measuring-national-well-being/what-matters-most-to-personal-well-being-in-the-uk/art-what-matters-most-to-personal-well-being-in-the-uk-.html>

¹⁵ ONS testing of the direct measure of loneliness:

<https://www.ons.gov.uk/peoplepopulationandcommunity/wellbeing/compendium/nationalmeasurementofloneliness/2018/cognitivetestingoflonelinessquestionsandresponseoptions>

introduced, testing the reassurances and explanations offered, testing whether showcards are necessary and whether a follow-up question would be beneficial). That said, the SWEMBWS statements are positively-worded, which minimises the risk that respondents will find these particular wellbeing questions unacceptable to answer in an interviewer-administered mode.

4. Length of the survey

By moving these questions into an interviewer-administered survey, we are effectively increasing the length of the main interview. As questions take slightly longer to be interviewer-administered, compared to self-completion, we should assume this will increase the survey length by around five minutes. We will need to review the implications of this on the overall survey length e.g. this would likely require removal of several other questions to make room.

3.4.6 Further development work

Reflecting the discussion above, a piece of development work was undertaken. This involved sending the advance letter and the broadband speed test instructions to a sample of pre-recruited respondents, and asking them to complete the broadband speed test in advance of a telephone or MS Teams interview. As part of this interview we probed around their impressions of the communications, how easy the instructions were to follow, etc. We also used the interview to cognitively test the wellbeing module, and particularly the question on loneliness. This was a small-scale piece of research, which involved interviews with 10 participants.

Response: lessons and recommendations for mainstage

- For the main stage survey, we propose using a longitudinal survey design, but to run the longitudinal survey over two samples, one sample where the Superfast Broadband Programme is about to deliver (collecting baseline and after delivery observations) and one in areas where superfast broadband connections are unavailable and the Superfast Broadband Programme is not delivering (a comparator group).
- We would recommend running a matching exercise at the sampling stage to maximise (but not guarantee) our chances of securing balanced achieved sample profiles for delivered to and not delivered to areas, strengthening the conclusions drawn by the evaluation. Additionally, we would look at the local populations in potential sample areas to examine whether it is possible to potentially increase the number of younger respondents to the survey.
- We recommend including the wellbeing module as part of the main interview i.e. as part of the MS Teams or telephone interview, but only after consultation and discussion with BDUK and advisers.
- If designing an interviewer-administered module, we would draw on the ONS wellbeing questions that have been asked using a telephone method in previous studies (e.g. ONS' Annual Population Survey) as well as extensive in-house experience asking sensitive questions over the telephone.

4 Survey findings and use

This chapter presents the content of the questionnaire, its contribution to answering the evaluation questions, a summary of key findings plus discussion of the use of the survey to generate evidence to help monetise the benefits of the Superfast Broadband Programme.

4.1 Survey findings and the Theory of Change

The questionnaire was designed with the Theory of Change and evaluation questions in mind (described in section 1.1). It collected data via several modules (sets of questions) covering the following topics:

- Residence and local area
- Everyday internet use – general
- Everyday internet use – specific:
 - Keeping in touch with friends and family who do not live with you
 - Watching entertainment programmes and content
 - Finding out what is going on in your local area
 - Taking part in activities locally including volunteering
 - Helping with work (including commuting
 - Helping with studying
 - Managing day-to-day life, for example paying bills, everyday shopping and running a household
- Broadband connection
- Upgrading, including impact on the above plus:
 - Physical health
 - Wellbeing
 - The amount of free time
- Non-internet use
- Classification (including commuting time, health and fitness)
- Consent for recontact

Measures of wellbeing and loneliness were collected via the follow-up online survey.

We have summarised findings from a selection of questions in Appendices B-D and summarised below. In our view the findings (constrained by sample sizes), do not provide any reason for doubting the questionnaire and the mainstage survey will generate the evidence required, nor that we should revise the

current Theory of Change. It should be noted that due to the small sample sizes used for the pilot, there were no statistically significant differences between the delivered to and not delivered to groups, therefore the results below should be interpreted with caution.

- Half of respondents living in not delivered to areas report they are accessing the internet more now. The proportion of respondents who say there has been no change in how often they access the internet did not differ significantly between delivered to areas (57 percent) and not delivered to areas (43 percent).
- Those living in not delivered to areas are more likely to rate their home internet broadband connection as fairly poor or very poor. This is the case when rating it overall, it's speed, reliability and value for money but these are not statistically significant differences.
- Almost 7 in 10 in not delivered to areas report they have upgraded their internet connection (N.B. we suggest revisiting this question and improving clarity about what we mean by upgrading i.e. improved speed, and not simply changing provider).
- Almost 4 in 10 in delivered to areas strongly agree or tend to agree that upgrading their broadband connection has made a positive difference to their life. Two thirds would recommend upgrading broadband connection to anyone who can afford it.
- Overall, respondents living in not delivered to areas reported higher levels of life satisfaction than respondents living in delivered to areas (8.69 compared to 7.91 respectively). In terms of other measures of wellbeing, no statistically significant differences were found between the two samples. This included their self-reported rating of how worthwhile their lives are, as well as their levels of happiness, anxiety and loneliness. In addition, respondents in both sample types reported similar levels of wellbeing based on the Warwick-Edinburgh Mental Wellbeing Scale.
- As shown in Table 4.1 below, in delivered to areas, 8 in 10 (78 percent) of those who have upgraded said upgrading their broadband connection has made no difference to their physical health, but 14 percent said it had had a positive difference. 7 in 10 (68 percent) said it made no difference to their wellbeing with 29 percent saying it had.
- Positivity in terms of impacts was highest for helping work and study (both 51 percent), managing day-to-day life (58 percent), and keeping in touch with friends and family (also 58 percent), watching entertainment programmes and content (66 percent).

Table 4.1: Whether upgrading broadband connection has had a positive or negative impact on the following... (Q38)

	Delivered to (% of respondents)	Not delivered to (% of respondents)	Total (%)
Physical health - Positive impact	15	14	15
Physical health - Negative impact	7	0	5
Physical health - Made no difference	78	86	81
Physical health -Don't know	0	0	0
Wellbeing - Positive impact	29	18	25
Wellbeing - Negative impact	3	0	2
Wellbeing - Made no difference	68	82	72
Wellbeing - Don't know	0	0	0
Amount of free time - Positive impact	20	11	17
Amount of free time - Negative impact	7	4	6
Amount of free time - Made no difference	73	86	77
Amount of free time - Don't know	0	0	0
To keep in touch with friends and family who do not live with you - Positive impact	58	46	54
To keep in touch with friends and family who do not live with you - Negative impact	0	0	0
To keep in touch with friends and family who do not live with you - Made no difference	42	54	46
To keep in touch with friends and family who do not live with you - Don't know	0	0	0
To watch entertainment	66	57	63

	Delivered to (% of respondents)	Not delivered to (% of respondents)	Total (%)
programmes and content - Positive impact			
To watch entertainment programmes and content - Negative impact	2	0	1
To watch entertainment programmes and content - Made no difference	29	43	33
To watch entertainment programmes and content - Don't know	3	0	2
To find out what is going on in your local area - Positive impact	37	29	35
To find out what is going on in your local area - Negative impact	0	0	0
To find out what is going on in your local area - Made no difference	61	71	64
To find out what is going on in your local area - Don't know	2	0	1
To take part in activities locally including volunteering - Positive impact	24	11	20
To take part in activities locally including volunteering - Negative impact	0	0	0
To take part in activities locally including volunteering - Made no difference	75	89	79
To take part in activities locally including volunteering - Don't know	2	0	1

	Delivered to (% of respondents)	Not delivered to (% of respondents)	Total (%)
Helping you with work - Positive impact	51	43	48
Helping you with work - Negative impact	0	0	0
Helping you with work - Made no difference	49	54	51
Helping you with work - Don't know	0	4	1
Help with studying - Positive impact	51	36	46
Help with studying - Negative impact	0	0	0
Help with studying - Made no difference	49	61	53
Help with studying - Don't know	0	4	1
Manage day-to-day life, for example paying bills, everyday shopping and running a household - Positive impact	58	54	56
Manage day-to-day life, for example paying bills, everyday shopping and running a household - Negative impact	0	0	0
Manage day-to-day life, for example paying bills, everyday shopping and running a household - Made no difference	42	46	44
Manage day-to-day life, for example paying bills, everyday shopping and running a household - Don't know	0	0	0

Base: All those who go online in the home and have upgraded, 59 delivered to, 28 not delivered to, total 87

4.2 Mainstage analysis

The ability to derive robust findings about the impact of the Superfast Broadband Programme on wellbeing outcomes will be dependent on whether it is possible to construct a robust quasi-experimental design:

- **Baseline data.** A robust evaluation requires observations to be taken before the upgrade is delivered to provide baseline data against which change will be measured. As noted above, there were some issues with the data used to identify whether premises had been upgraded at the time of the survey. This resulted in a reallocation of some respondents from the comparison group ('not delivered to') to the treatment group ('delivered to') once the survey was completed, but it is anticipated that these issues can be managed with co-operation with BDUK.

However, even after post-hoc checks, 24 percent of those among the comparison group who are online said they received broadband speeds in excess of 24 Mbps (this group were significantly more likely to refuse to participate in the broadband speed test). It is possible that these respondents received superfast coverage from commercial deployments (which would not be problematic from the point of view of evaluating the programme). However, there is also a risk that these respondents benefitted from subsidised coverage that was not yet captured in BDUK monitoring data (e.g. due to reporting lags). This could be problematic as these respondents would also need to be reallocated to the treatment group. These issues are addressable in analysis but would reduce the size of comparison sample and oversampling areas in 'not delivered to' areas merits consideration.

- **Comparability of treatment and comparison groups.** The treatment ('delivered to') and comparison ('not delivered to') groups would also need to be broadly equivalent. The findings of the pilot – albeit based on small sample sizes – signalled the presence of systematic differences between the two groups. Again, these issues are addressable in analysis (e.g. through using statistical matching methods to minimise differences between the two groups at the baseline stage). However, as highlighted elsewhere, the efficiency of the exercise would be improved if the samples are drawn from areas that share similar socio-economic characteristics.

The recommended approach of undertaking pre and post upgrade surveys with a treatment and comparator area will allow a robust comparison of the impact of Superfast Broadband availability on a variety of key outcomes. In particular, the questions in the survey will allow a robust analysis of the impact of Superfast Broadband on:

- The level of consumption of online services, including health services, social media and communication services etc.
- Commuting time / leisure time
- Time spent volunteering
- Take-up and completion of training / learning activities (including qualifications)
- Health outcomes
- Level of subjective wellbeing

To establish the impact of Superfast Broadband on these indicators, the following analysis will be undertaken:

- A calculation of the change in these indicators between the baseline and follow-up surveys, creating new variables for each household involved in both the baseline and follow-up survey

- Comparing the mean values of these changes, and identifying if there were any statistically significant differences between the treated and comparator group.
- Given the large sample sizes, it should also be possible to undertake a Propensity Score Matching (PSM) exercise to increase the robustness of the analysis. PSM involves estimating the likelihood that each household in the survey is in the treatment group (their propensity score). Propensity scores are generated by applying a probit model that sought to explain the likelihood each household is in the treatment group based on a vector of control variables. These control variables would include household characteristics at the baseline survey (for example number of people in the household, age, socio-demographic indicators, propensity to use online services at the baseline, connection speeds etc.). The Propensity Scores would then be matched to increase the comparability of the treatment and comparator group at the baseline. This will allow the analysis to control for any socio-economic differences between the two groups.
- The same analysis as described above would then be undertaken with the two matched groups.

The analysis will also include an equity assessment of the wellbeing outcomes of Superfast Broadband. This will be undertaken by exploring whether the wellbeing outcomes differ for different groups of individuals – for example demographic indicators, socio-economic status, and household composition.

4.3 Benefits monetisation

One objective of a mainstage survey will be to use the findings to generate evidence to help monetise the benefits of the Superfast Broadband Programme for residents (complementing the existing cost-benefit analysis of the programme).¹⁶ The pilot findings have the following implications:

4.3.1 Evaluation design

As described above, there is a need to implement a robust quasi-experimental design, involving collecting baseline data for a treatment and comparator group.

4.3.2 Wellbeing

Two measures of overall wellbeing were included in the questionnaire – the ONS Life Satisfaction questionnaire and the Warwick Edinburgh Mental Wellbeing Scale. Any effects of the programme in raising these subjective measures of wellbeing can be monetised, drawing on research exploring the causal relationship between increases in income and wellbeing.

The findings of the pilot suggested that the responses given by respondents were slightly lower than population norms (perhaps predictably, given that these norms were measured prior to the COVID-19 pandemic). There were no statistically significant differences between the two groups on either measure, though this might be expected given the small sizes and systematic differences between the two groups (and the results do not give any guidance on whether an effect might be detected in a main-stage study). The findings indicated that the main threat to a mainstage study is the low response rates to an online wellbeing module if data were collected in this way again (this will both reduce statistical power and introduce possible issues of non-response bias).

¹⁶ One important factor to consider in addition to the findings from the pilot study is that HM Treasury are currently revising their supplementary guidance around the valuation of wellbeing in the Green Book (<https://www.gov.uk/government/publications/the-green-book-appraisal-and-evaluation-in-central-government>). Any changes to the recommended approaches to monetising wellbeing effects will need to be reflected in the analysis of wellbeing outcomes. However, it is our understanding that the proposed changes to the Green Book reflect the methodologies outlined in this paper.

Changes in subjective wellbeing can be monetised by utilising two approaches:

- **Utilising data sources which collect financial and wellbeing information to derive monetary values for changes in wellbeing.** This process uses the results of studies that have established the causal relationship between income and wellbeing. These empirical studies provide a direct estimate of the level of income an individual would need to receive to be compensated for a reduction in wellbeing (or vice versa).¹⁷ These provide a set of 'ready-reckoners' which can then be applied to the observed effects on wellbeing. This approach is recognised in the HM Treasury Green Book and has been used elsewhere in the Superfast Broadband evaluation to explore the public value outcomes using secondary data sources (as described in section 1.1.2).¹⁸
- **Using Quality Adjusted Life Years (QALYs) as an intermediate step to derive monetary values for changes in wellbeing.** The approach involves attributing wellbeing values to QALY values, and then using the monetary values associated with QALYs to monetise changes in wellbeing (via Wellbeing Adjusted Life Years). This is an emerging area and the foundation papers were unpublished at the time of writing, and some questions will need to be explored over the course of the study, including:
 - The strength of the empirical relationship between subjective wellbeing and health states. The validity of the proposed rule of thumb will be linked to the strength of the correlation between the life satisfaction and QALYs.
 - The approach assumes that the value of disease burden (as embodied in willingness to pay for QALYs) is equivalent to the value of improvements in subjective wellbeing. However, while subjective wellbeing will be influenced by states of mental and physical health, it will also be influenced by other factors unrelated to health states (e.g. levels of consumption) and values may not be equivalent. Some consideration will need to be given to how far it is valid to assume that willingness to pay for 'WELLBYS' and QALYs are equivalent.
 - The approach is based on the valuation of the QALYs at the estimated marginal cost to the public sector for producing a QALY. This would provide a good approximation of the social welfare gain in a competitive market where, in equilibrium, the marginal cost is equal to marginal willingness to pay. However, it is not entirely clear this applies in this context and DHSC guidance highlights that the estimated social value of QALY is considerably higher than the marginal cost of producing an additional QALY. The published studies also seem to suggest that the differences in valuations produced by the WELLBY approach and those using income equivalence approaches are driven by this choice (i.e. if the marginal cost of producing QALYs is replaced by the social value of QALYs then differences in results are apparently negligible).
- **Indirect valuation:** Some literature has put forward an alternative approach to valuing QALYS in which 'ready reckoners' are applied to intermediate outcomes, based on the prior estimates of the causal effect of those outcomes on life satisfaction or other measures of wellbeing (sometimes termed a 'wellbeing weighting'. While the study will establish the impact of the programme on intermediate outcomes, it is not considered appropriate to do so in this context as the study will establish overall effects on wellbeing. As an example, if the study found that broadband led to reduced loneliness but no overall effect on wellbeing, it is likely that there are 'bads' that offset the

¹⁷ <http://cep.lse.ac.uk/pubs/download/dp1233.pdf>

¹⁸ <https://www.gov.uk/government/publications/the-green-book-appraisal-and-evaluation-in-central-government>

wellbeing benefits associated with reduced loneliness. However, there are some intermediate outcomes that can be valued directly, as described below.

4.3.3 Leisure time

Gains in leisure time resulting from reductions in journey times are conventionally included in DfT's appraisals of transport schemes. Superfast broadband infrastructure may produce similar benefits if it enables people to work from home (at all or more frequently), reducing the time they spend commuting. These benefits can be understood as a subset of any improvement in overall wellbeing described above.

Measures of time spent commuting were included in the pilot survey to aid the monetisation of those benefits, including:

- how much time in total, in hours, the respondent spent working during the last week they worked (all time, whether working at home or not including their commute if they worked while travelling);
- how much time in total, in hours, they spent commuting last week;
- how much time, in hours, they spent commuting in a typical week 12 months ago.

The pilot survey findings found that amongst those in work in delivered to areas (55 percent of the achieved sample in those areas), average commuting times reportedly fell to 2.2 hours per week in the week preceding the interview from 5.6 hours per week 12 months beforehand. This compared to a fall from 4.9 to 1.9 hours per week amongst those who are resident in areas that were not delivered to, over the same period.

The findings do not provide any reason for thinking the findings of mainstage survey could not be used to drive a cost-benefit analysis. However, it is important to note that the survey was completed during the COVID-19 pandemic – a period in which many individuals were forced to work from home. We will follow the latest guidance on evaluating the impacts of COVID-19 (from the cross-governmental evaluation group) when analysing the effects of the pandemic.

4.3.4 Internet access costs

The pilot survey captured measures of the monthly costs incurred by respondents to obtain internet access (costs that should be included on the cost side of the CBA equation if consumer benefits are to be included). The survey suggested that those benefitting from subsidised coverage paid slightly more than those who were yet to benefit (£49 vs £45). The quality of the data collected appeared reasonably high and only 15 percent of respondents were unable to provide a response. Again, findings did not provide any reason for thinking the findings of mainstage survey could not be used to drive a cost-benefit analysis.

4.3.5 Distributional weights

As noted above, the study will seek to establish differential effects across income groups. This will support a distributional analysis based on the distributional weights set out in the Green Book (which assume diminishing marginal utility to consumption, such that benefits accruing to lower income groups carry a greater weight than those accruing to those with higher incomes). This will be presented alongside unweighted estimates of the benefits of the programme as a form of sensitivity analysis.

4.3.6 Benchmarking

Finally, the estimated effects of the programme on wellbeing will be compared to the effects of other life events. This will relate the average gain in wellbeing associated with the provision of superfast broadband to the estimated effects of other events (e.g. transition from employment to unemployment). The estimated

wellbeing benefits will also be incorporated into the broader cost-benefit analysis of the programme (alongside the economic benefits of the programme) to support comparisons against other interventions.

Response: lessons and recommendations for mainstage

- In our view the survey's findings, albeit constrained by sample sizes, sufficiently demonstrate that the questionnaire and the mainstage survey will generate the evidence required, and that we do not need to revise the current Theory of Change.
- There were no statistically significant differences between delivered and not delivered to areas in terms of the two measures of overall wellbeing (results do not give any guidance on whether an effect might be detected in a main-stage study). The findings indicated that the main threat to a mainstage study is the low response rates to an online wellbeing module if data were collected in this way again (this will both reduce statistical power and introduce possible issues of non-response bias).
- The findings did not provide any reason for thinking the findings of mainstage survey could not be used to drive a cost-benefit analysis.

5 Appendix

Appendix A: Advance letter



Ipsos MORI

{ Address }



Department for
Digital, Culture,
Media & Sport

Reference number: {ID no.}

October 2020

Help shape the future of local broadband internet and digital technology services

You have been selected to take part in a project about the use of digital technology and the role the internet plays in the everyday life of people in your community. This project is being carried out by Ipsos MORI (an independent research organisation) on behalf of the UK Government's Department for Digital Culture Media and Sport (DCMS) and the results will play an important part in the future planning of your local broadband internet and digital technology services.

It does not matter how often you use the internet. We are interested in hearing from as many people as possible.

It is easy to take part



Step 1. An Ipsos MORI interviewer will be in touch with you to arrange a short interview



Step 2. You complete the 30-minute interview over the telephone or MS Teams



Step 3. You complete a 5-minute follow-up survey online

It is up to you whether you take part and you can change your mind at any point. If you would prefer not to be contacted, please use the contact details on the back of this letter.

Your safety and Covid-19

Our priority is your safety and the safety of our team. In line with official guidance on Coronavirus, all interviewers have been assessed and confirmed as healthy and fit. They have also been trained in undertaking socially distant interviewing and will not complete this interview on your doorstep or in your home.

For more information about the survey please see the back of this letter.

Thank you very much for your help with this research.

Yours faithfully,

Ben Marshall
Project Director



Please turn over

Additional information



Who is carrying out the survey?

This survey is being carried out by Ipsos MORI, an independent survey agency, on behalf of the Building Digital UK (BDUK), a directorate of UK's Government Department for Digital, Culture, Media and Sport (DCMS).

Further information about Ipsos MORI can be found at: www.ipsos-mori.com

Further information about BDUK, its Superfast Broadband programme and DCMS can be found at:

<https://www.gov.uk/guidance/building-digital-uk#current-fixed-broadband-infrastructure-projects>
<https://www.gov.uk/government/organisations/department-for-digital-culture-media-sport>



How was I chosen for the survey?

This survey is being carried out across the UK and your address was randomly selected from the Postcode Address File (PAF) so we can gather views and experiences in your local area.



How do I take part in a socially distanced interview?

You can either choose to take part over the telephone, or online using MS Teams. To take part in an MS Teams interview, you will need internet access (and the free app if you are joining on a mobile device). You will be sent an invitation link to join the interview at your scheduled time. You can join as a 'guest' if you do not have a MS Teams account. The camera settings have been deactivated, so you will not be visible during the interview. The interviewer may at times share their computer screen with you to show you a list of possible answers. If you are taking part over the telephone, the interviewer will either read out the questions or offer you the option to view some of them online via a separate URL link <https://ipsos.uk/broadbandcards>



Your privacy

This research fully complies with General Data Protection Regulations (GDPR). Taking part in this survey is voluntary and the legal basis on which we will process the responses you provide in the survey will be your consent. Once you have given consent, you can withdraw it at any point by contacting Ipsos MORI. The contact details are listed below.

Ipsos MORI will store your information securely and keep it confidential. Your name, address and other personal details will not be passed to DCMS or any other organisation and will be securely deleted 12 months following completion of this phase of the survey. You will not receive any 'junk mail' as a result of taking part.

Your answers will be used for research purposes only and will be combined with those of others that take part in the survey. Only anonymous statistics will be reported.

Our research is carried out in line with the MRS Code of Conduct and everything that you tell us will be treated in complete confidence. You have the right to contact the MRS or ICO if you wish to complain about any aspect of this research.

A full Privacy Policy, setting out your rights including accessing, amending and deleting data, is available at <https://ipsos.uk/broadbandPrivacy> or on request.



If you have any questions or wish to opt out, please contact us or see our FAQs

Email: broadbandsurvey@ipsos-mori.com **Freephone:** 0808 1012067

Online link / FAQs: { LINK }

Data Protection Officer contact details: compliance@ipsos.com

Appendix B: Responses for selected questions (main survey)

N.B. As described in section 2.3.1 we identified an issue during the data analysis stage with the sampling for not delivered to areas. Responses collected via interviews at 10 addresses were reallocated to the delivered to group where routing allowed (some questions were asked of certain types of area).

Almost 8 in 10 go online more than once a day. The difference in the proportion of respondents who never go online nowadays between delivered to areas (2 percent) and not delivered to areas (11 percent) is not statistically significant.

Table 5.1: Frequency of online use nowadays (Q4)

	Delivered to (% of respondents)	Not delivered to (% of respondents)	Total (%)
More than once a day	79	76	78
Once a day	14	4	11
2-3 times per week	4	9	6
Never	2	11	5

Base: 97 delivered to, 46 not delivered to, total 143

Of those who go online, 8 in 10 do so at home more than once a day and this did not differ significantly between those living in the delivered to area and not delivered to area.

Table 5.2: Frequency of online use in the home (Q5)

	Delivered to (% of respondents)	Not delivered to (% of respondents)	Total (%)
More than once a day	80	85	82
Once a day	13	2	10
2-3 times per week	7	12	9

Base: All those who go online, 95 delivered to, 41 not delivered to, total 136

Half of respondents living in not delivered to areas report they are accessing the internet more now. The proportion of respondents who say there has been no change in how often they access the internet did not differ significantly between delivered to areas (57 percent) and not delivered to areas (43 percent).

Table 5.3: Accessing the internet in the home – six months ago (Q6a)

	Delivered to (% of respondents)	Not delivered to (% of respondents)	Total (%)
I access the internet at home more often now	40	50	43
I access the internet at home less often now	3	8	4
There has been no change in how often I access the internet	57	43	53

Base: All those who go online, 95 delivered to, 40 not delivered to, total 135

Those living in not delivered to areas are more likely to rate their home internet broadband connection as fairly poor or very poor. This is the case when rating it overall, it's speed, reliability and value for money. Although these percentages are higher they are not statistically different when compared with respondents in delivered to areas

Table 5.4: Rating of home internet connection (Q23a)

	Delivered to (% of respondents)	Not delivered to (% of respondents)	Total (%)
Speed of internet connection - Very good	20	23	21
Speed of internet connection - Fairly good	48	38	45
Speed of internet connection - Fairly poor	22	20	22
Speed of internet connection - Very poor	10	20	13
Reliability of internet connection - Very good	20	25	22
Reliability of internet connection - Fairly good	55	48	53
Reliability of internet connection - Fairly poor	15	15	15
Reliability of internet connection - Very poor	11	13	11
Value of money of your internet connection - Very good	19	18	19

	Delivered to (% of respondents)	Not delivered to (% of respondents)	Total (%)
Value of money of your internet connection - Fairly good	55	47	53
Value of money of your internet connection - Fairly poor	19	18	19
Value of money of your internet connection - Very poor	8	16	10
Overall rating of your home internet connection - Very good	18	20	19
Overall rating of your home internet connection - Fairly good	54	40	50
Overall rating of your home internet connection - Fairly poor	19	25	21
Overall rating of your home internet connection - Very poor	10	15	11

Base (excludes 'Don't know'): Speed and Reliability - 95 delivered to, 40 not delivered to, total 135. Value for money - 91 delivered to, 38 not delivered to for value for money total 129. Overall rating - 95 delivered to, 40 not delivered to, total 135

Among those who go online, more than 4 in 10 (46 percent) of respondents in not delivered to areas do not know the current speed of their home internet connection (36 percent in delivered to areas don't know). Respondents in both types of area provided similar estimates for the speed of their home internet connection.

Table 5.5: Current speed of home internet connection (Q27)

	Delivered to (% of respondents)	Not delivered to (% of respondents)	Total (%)
10 Mbps or less	14	15	14
Above 10 Mbps but below 24 Mbps	20	15	18
24 Mbps or above but below 80 Mbps	28	22	26
80 Mbps or above but below 330 Mbps	2	2	2
Don't know	36	46	39

Base: All those who go online, 95 delivered to, 41 not delivered to, total 136

Among those who go online, 4 in 10 do not know what the speed of the home internet connection was 12 months ago. Respondents in delivered to areas are more likely to say the speed of their home internet connection is 24 Mbps or above but this difference is not statistically significant.

Table 5.6: Speed of home internet connection 12 months ago (Q28)

	Delivered to (% of respondents)	Not delivered to (% of respondents)	Total (%)
10 Mbps or less	23	24	24
Above 10 Mbps but below 24 Mbps	14	20	15
24 Mbps or above but below 80 Mbps	22	12	19
80 Mbps or above but below 330 Mbps	0	2	1
Don't know	41	41	41

Base: All those who go online, 95 delivered to, 41 not delivered to, total 136

Over 4 in 10 living in not delivered to areas say they have the fastest connection available in their local area (44 percent in delivered to areas). The proportion who said there are faster speeds available in their local area but they do not have it in their household did not differ significantly between not delivered to areas (34 percent) and delivered to areas (32 percent).

Table 5.7: Description of internet connection (Q29)

	Delivered to (% of respondents)	Not delivered to (% of respondents)	Total (%)
Fastest connection available in our local area	44	46	45
There are faster speeds available in our local area but we don't have this in our household	32	34	32
Don't know	24	20	23

Base: All those who go online, 95 delivered to, 41 not delivered to, total 136

The average spends on internet access per month did not differ significantly between respondents living in delivered to areas (£48.56) and respondents living in not delivered to areas (£45.45).

Table 5.8: Internet access spend per month (Q30)

	Delivered to	Not delivered to
Mean (average)	£48.56	£45.45
Mean (median)	£39.00	£35.00
Don't know	16%	15%
Prefer not to say	1%	2%

Base: All those who go online, 97 delivered to, 46 not delivered to, total 136

Almost 7 in 10 in not delivered to areas report they have upgraded their internet connection (see note below on question wording).

Table 5.9: Have households upgraded their internet connection...? (Q32)

	Delivered to (% of respondents)	Not delivered to (% of respondents)	Total (%)
Yes – we have upgraded our internet connection	62	68	64
No – we have not upgraded our internet connection	37	29	35
Don't know	1	2	1

Base: All those who go online, 95 delivered to, 41 not delivered to, total 136

N.B. we suggest revisiting this question and improving clarity about what we mean by upgrading i.e. improved speed, and not simply changing provider.

Almost 4 in 10 respondents in delivered to areas strongly agree or tend to agree that upgrading their broadband connection has made a positive difference to their life. Two thirds would recommend upgrading broadband connection to anyone who can afford it.

**Table 5.10: To what extent do you agree or disagree with the following?
(Q37)**

	Delivered to (% of respondents)
Upgrading my broadband connection has made a positive difference to my life - Strongly agree	16
Upgrading my broadband connection has made a positive difference to my life - Tend to agree	22
Upgrading my broadband connection has made a positive difference to my life - Neither agree nor disagree	25
Upgrading my broadband connection has made a positive difference to my life - Tend to disagree	5
Upgrading my broadband connection has made a positive difference to my life - Strongly disagree	6
Upgrading my broadband connection has made a positive difference to my life - Don't know	25
I would recommend upgrading broadband connection to anyone who can afford it - Strongly agree	39
I would recommend upgrading broadband connection to anyone who can afford it - Tend to agree	27
I would recommend upgrading broadband connection to anyone who can afford it - Neither agree nor disagree	7
I would recommend upgrading broadband connection to anyone who can afford it - Tend to disagree	7
I would recommend upgrading broadband connection to anyone who can afford it - Strongly disagree	2
I would recommend upgrading broadband connection to anyone who can afford it - Don't know	17

Base: All those who go online and live in delivered to areas, 95

In delivered to areas, 8 in 10 of those who have upgraded said upgrading their broadband connection has made no difference to their physical health. 7 in 10 said it made no difference to their wellbeing or taking part in activities locally including volunteering. Three-quarters said it made no difference to the amount of free time they have and 6 in 10 said it made no difference to finding things out in their local area.

There are no statistically significant differences between areas.

Table 5.11: Whether upgrading broadband connection has had a positive or negative impact on the following... (Q38)

	Delivered to (% of respondents)	Not delivered to (% of respondents)	Total (%)
Physical health - Positive impact	15	14	15
Physical health - Negative impact	7	0	5
Physical health - Made no difference	78	86	81
Physical health - Don't know	0	0	0
Wellbeing - Positive impact	29	18	25
Wellbeing - Negative impact	3	0	2
Wellbeing - Made no difference	68	82	72
Wellbeing - Don't know	0	0	0
Amount of free time - Positive impact	20	11	17
Amount of free time - Negative impact	7	4	6
Amount of free time - Made no difference	73	86	77
Amount of free time - Don't know	0	0	0
To keep in touch with friends and family who do not live with you - Positive impact	58	46	54
To keep in touch with friends and family who do not live with you - Negative impact	0	0	0
To keep in touch with friends and family who do not live with you - Made no difference	42	54	46
To keep in touch with friends and family who do not live with you - Don't know	0	0	0
To watch entertainment	66	57	63

	Delivered to (% of respondents)	Not delivered to (% of respondents)	Total (%)
programmes and content - Positive impact			
To watch entertainment programmes and content - Negative impact	2	0	1
To watch entertainment programmes and content - Made no difference	29	43	33
To watch entertainment programmes and content - Don't know	3	0	2

Table 5.12: Whether upgrading broadband connection has had a positive or negative impact on the following... (Q38)

To find out what is going on in your local area - Positive impact	37	29	35
To find out what is going on in your local area - Negative impact	0	0	0
To find out what is going on in your local area - Made no difference	61	71	64
To find out what is going on in your local area - Don't know	2	0	1
To take part in activities locally including volunteering - Positive impact	24	11	20
To take part in activities locally including volunteering - Negative impact	0	0	0
To take part in activities locally	75	89	79

including volunteering - Made no difference			
To take part in activities locally including volunteering - Don't know	2	0	1
Helping you with work - Positive impact	51	43	48
Helping you with work - Negative impact	0	0	0
Helping you with work - Made no difference	49	54	51
Helping you with work - Don't know	0	4	1
Help with studying - Positive impact	51	36	46
Help with studying - Negative impact	0	0	0
Help with studying - Made no difference	49	61	53
Help with studying - Don't know	0	4	1
Manage day-to-day life, for example paying bills, everyday shopping and running a household - Positive impact	58	54	56
Manage day-to-day life, for example paying bills, everyday shopping and running a household - Negative impact	0	0	0
Manage day-to-day life, for example paying bills, everyday shopping and running a household - Made no difference	42	46	44
Manage day-to-day life, for example paying bills, everyday shopping and running a household - Don't know	0	0	0

Base: All those who go online in the home and have upgraded, 59 delivered to, 28 not delivered to, total 87

Q40: Respondents were asked 'How likely or unlikely do you think you are to upgrade your internet connection within the next year?' Due to the routing (i.e. internet users who lived in not delivered to areas that had not upgraded their internet connection whilst living at their address, and had heard about improvements about internet connection in their area), only five respondents were asked this question.

Overall, the broadband speeds recorded in delivered to and not delivered to areas was not significantly different (30.00Mbps and 25.60 Mbps respectively). However, it is important to note that respondents living in not delivered to areas were significantly more likely to refuse to participate in the broadband speed test; the comparison of means is therefore based on relatively small sample sizes (particularly in not delivered to areas).

Table 5.13: Broadband speed test (Q73)

	Delivered to	Not delivered to
Agreed to take part	67%	44%
Mean (average)	30.00	25.60
Mean (median)	24.20	18.50
Refused	33%	57%

Base: 97 delivered to, 46 not delivered to, total 143

Appendix C: Wellbeing module responses (follow-up online survey)

Overall, respondents living in not delivered to areas reported higher levels of life satisfaction than respondents living in delivered to areas. In terms of other measures of wellbeing, no statistically significant differences were found between the two sample types. This included their self-reported rating of how worthwhile their lives are, as well as their levels of happiness, anxiety and loneliness. In addition, respondents in both sample types reported similar levels of wellbeing based on the Warwick-Edinburgh Mental Wellbeing Scale.

For the following findings, a national benchmark has been provided for reference but potential differences in comparability (e.g. reference periods or mode) have not been taken into account, and it should also be noted that these national benchmarks were collected in advance of the -COVID-19 pandemic.

Table 5.14: Average ONS wellbeing measures

	Mean (average) - Total	Mean (average) - Delivered to	Mean (average) - Not delivered to	Mean (average) - National benchmark
Life satisfaction	8.12	7.91	8.69	7.66
Worthwhile	8.62	8.64	8.56	7.86
Happiness	7.90	7.73	8.38	7.48
Anxiety	4.73	4.45	5.50	3.05

Benchmark: ONS Annual Population Survey (April 2019 – March 2020) i.e. pre-Covid.

Base (excludes those who answered 'Don't know' or 'Rather not say'): 44 delivered to, 16 not delivered to, total 60

Table 5.15: SWEMWBS measures

	Total	Delivered to	Not delivered to	National benchmark
Mean (average) score	22.1	22.1	22.2	23.6

Benchmark: SWEMWBS population norms in Health Survey for England data, 2011

Base (excludes those who answered 'Don't know' or 'Rather not say' to any of the 7 statements): 44 delivered to, 16 not delivered to, total 60

The proportion of respondents who reported feeling lonely 'often' or 'always' did not differ significantly between those living in delivered to areas (2.3 percent) and not delivered to areas (6.3 percent).

Table 5.16: ONS loneliness measure

	Total	Delivered to	Not delivered to	National benchmark
% reported feeling lonely 'often' or 'always'	3.3%	2.3%	6.3%	5.0%

Benchmark: ONS Opinions and Lifestyle Survey (3 April to 3 May 2020)

Base (excludes those who answered 'Don't know' or 'Rather not say'): 44 delivered to, 16 not delivered to, total 60

Appendix D: Demographics of the achieved sample

Overall, just under 6 in 10 respondents were male.

Table 5.17: Gender (Q50)

	Delivered to (% of respondents)	Not delivered to (% of respondents)	Total (%)
Male	55	61	57
Female	45	39	43
In another way	0	0	0
Prefer not to answer	0	0	0

Base: 97 delivered to, 46 not delivered to, 143 total

Over half of respondents in both delivered to and not delivered to areas were 55 years or older, 4 in 10 aged 65 or over.

Table 5.18: Age (Q49)

	Delivered to (% of respondents)	Not delivered to (% of respondents)	Total (%)
18-24	0	7	2
25-34	4	9	6
35-44	10	13	11
45-54	29	11	23
55-64	18	15	17
65+	39	46	41
Refused	0	0	0
18-34	4	16	8
35-54	39	24	34
55+	57	61	58

Base: 97 delivered to, 46 not delivered to, 143 total

Respondents in delivered to areas are significantly more likely to be managerial, administrative or professional, ABC1, social grades (79 percent) than in not delivered to areas (54 percent).

Table 5.19: Social grade (Q48)

	Delivered to (% of respondents)	Not delivered to (% of respondents)	Total (%)
A	6	0	4
B	39	24	34
C1	34	30	33
C2	14	20	16
D	2	22	8
E	4	4	4
ABC1	79	54	71
C2DE	20	46	28

Base: 97 delivered to, 46 not delivered to, 143 total

Table 5.20: Highest education or professional qualification obtained (Q56)

	Delivered to (% of respondents)	Not delivered to (% of respondents)	Total (%)
GCSE/ O-Level/ CSE	13	13	13
Vocational qualifications (=NVQ1+2)	13	7	11
A-Level or equivalent (=NVQ3)	16	2	11
Bachelor Degree or equivalent (=NVQ4)	24	37	28
Masters/ PhD or equivalent	14	9	13
Other	3	11	6
No formal qualifications	14	22	17
Still studying	1	0	1
Don't know	1	0	1

Base: 97 delivered to, 46 not delivered to, 143 total

Three in ten respondents have a combined household income of over £29,999 per year.

Table 5.21: Total household income per year (Q60)

	Delivered to (% of respondents)	Not delivered to (% of respondents)	Total (%)
Up to £4,499	0	0	1
£4,500 - £9,499	1	0	1
£9,500 - £14,499	8	11	9
£14,500 - £17,499	10	15	12
£17,500 - £29,999	16	2	12
£30,000 - £49,999	18	15	17
£50,000 or more	12	15	13
Don't know	5	17	9
Prefer not to say	29	24	27
<£14,500	9	11	10
£14,500 - £29,999	26	17	24
>£29,999	30	30	30

Base: 97 delivered to, 46 not delivered to, 143 total

Respondents in delivered to areas are more likely to own their home outright (60 percent) compared with those in not delivered to areas (46 percent). There are no statistically significant differences between each sample area.

Table 5.22: Accommodation (Q51)

	Delivered to (% of respondents)	Not delivered to (% of respondents)	Total (%)
Own it outright	60	46	55
Buying it with help of a mortgage or loan	32	26	30
Rent it from a private landlord	4	7	5
Rent it from a local council	1	11	4
Rent it from a housing association	1	9	4
Live here rent-free (including rent-free in relative's/friend's property but excluding squatters)	0	2	1
Occupy it in some other way*	2	0	1

Base: 97 delivered to, 46 not delivered to, 143 total

Three-quarters of respondents in delivered to and not delivered to areas rate their general health as good.

Table 5.23: General health (Q57)

	Delivered to (% of respondents)	Not delivered to (% of respondents)	Total (%)
Very good	37	35	36
Good	40	35	38
Fair	18	13	16
Bad	4	7	5
Very bad	1	9	3
Refused	0	2	1
Good	77	70	74
Bad	5	15	8

Base: 97 delivered to, 46 not delivered to, 143 total

Approaching four in ten respondents in both delivered to and not delivered to areas have a long-term physical or mental health condition or illness.

Table 5.24: Long-term physical or mental health condition or illness (Q59)

	Delivered to (% of respondents)	Not delivered to (% of respondents)	Total (%)
Yes	36	41	38
No	63	54	60
Refused	1	4	2

Base: 97 delivered to, 46 not delivered to, 143 total

Table 5.25: Frequency of online use nowadays (Q4)

	Delivered to (% of respondents)	Not delivered to (% of respondents)	Total (%)
More than once a day	79	76	78
Once a day	14	4	11
2-3 times per week	4	9	6
Never	2	11	5

Base: 97 delivered to, 46 not delivered to, total 143

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