Office for National Statistics

Article

ONS review of the future design options for the Health Survey for England: March 2026

The Department of Health and Social Care commissioned the ONS to review the Health Survey for England. This is to explore alternative design options that modernise and innovate, while ensuring highquality data are delivered to monitor population health.

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1 . Overview of Health Survey for England design review

The Department of Health and Social Care (DHSC), which currently funds the Health Survey for England (HSE), recently commissioned the Office for National Statistics (ONS) to explore future delivery options for the survey, with a focus on modernisation and innovation. In response, the ONS conducted a Discovery Phase to assess potential approaches for transforming the survey.

We conducted this Discovery Phase during a period in which data collection activities have been increasingly moving towards online-first design. This includes large health-based surveys, such as the GP Patient Survey (GPPS) and the National Diet and Nutrition Survey (NDNS), adopting digital-first methodologies to align with the NHS's ambitions of digital transformation. As a result, this report focuses on the steps required to move the HSE to an online-first data collection model, implemented through a three-phased approach to ensure a stable transition.

This builds upon findings from the Health Survey for England 2020 to 2021 Feasibility Study, which demonstrated that alternative and mixed-mode data collection approaches are possible, while providing insight into the practical considerations involved in moving the survey online.

We also reviewed other aspects of survey delivery, and this report presents suggestions on possible ways forward in these areas. It is important to acknowledge that the suggestions in this report present both opportunities and challenges, and that alternative solutions may also meet DHSC's needs.

The suggestions made in this report were informed by desk-based research, stakeholder engagement with topic experts and users of the HSE, and input from survey design experts. The ONS is grateful to all stakeholders who have taken time to contribute to the Discovery Phase, including those who peer reviewed survey design suggestions, and to DHSC and NHS England (the current commissioner of the survey) for their expertise and advice throughout.

This Discovery Phase also considered whether the ONS could take on future commissioning responsibilities for the HSE on behalf of the DHSC. However, outcomes from an internal ONS prioritisation exercise concluded that future involvement in commissioning the HSE would not be prioritised.

As a result, ONS involvement in the HSE will conclude upon publication of this report, and commissioning responsibilities for the HSE will remain with the DHSC.

For future updates on the HSE, refer to the Health Survey for England website.

2 . About the Health Survey for England

Background to the survey

The Health Survey for England (HSE) is an annual national survey that monitors the health and health-related behaviours of people living in private households in England. It covers adults aged 16 years and over, and children aged 0 to 15 years. Respondents in selected households are invited to participate in a face-to-face interview covering survey questions, followed by a biomedical nurse visit for those who consent to collect physical measurements and biological samples.

The objectives of the HSE are outlined by NHS England, which currently commissions the survey, and are available on the NHS England website.

Throughout this report, the term "current HSE design" refers to the survey design and methodology used for the HSE 2024.

Core requirements for a future Health Survey for England

A range of requirements emerged from both the Department of Health and Social Care (DHSC) and wider stakeholders during the Discovery Phase.

In summary, the requirements were to consider modernising the survey design and delivery, while continuing to capture reliable data on ongoing and emerging health needs. This includes maintaining high-quality data and core content to support long-term trend analysis. The design should also facilitate the joining of the survey data with existing administrative sources via data linkage and offer different ways for respondents to take part, where appropriate, to improve accessibility.

3 . Important considerations around survey design

A three-phased approach to implementing a future Health Survey for England

A three-phased approach (testing, parallel-run and transition) to transforming the Health Survey for England (HSE) to an online-first survey design is recommended to allow a more sustainable implementation period.

This approach is informed by stakeholder input and lessons learned from similar transformation programmes delivered by the Office for National Statistics (ONS), for example, lessons learned from the ONS's recent review into the Transformed Labour Force Survey. It would also help ensure that impact on data quality and disruption to the long-running time series is understood and managed effectively, while a gradual transition provides the opportunity to investigate the main causes of any differences.

The phases are described throughout this report. The initial two phases would involve extensive testing to ensure that the survey would be ready to transition to online-first data collection. Within the phases, the standard face-to-face cycles would be run at the same time to maintain a stable flow of data while improvements are being developed.

Survey mode

The current HSE uses face-to-face interviews with paper questionnaires for sensitive topics and optional face-to-face biomedical follow-ups. Developing an online-first data collection should be done in a phased approach.

Phase 1

This phase maintains face-to-face collection while testing an online pilot and alternative modes, such as telephone or paper, to reach digitally excluded groups.

Phase 2

Phase 2 runs a full parallel online and face-to-face survey, using insights from Phase 1 to refine methods and assess comparability. Alternative modes, such as telephone or paper, should continue to improve accessibility.

Phase 3

This phase, subject to the parameters outlined in the acceptance criteria, transitions the survey fully to an online-first model with continued face-to-face biomedical follow-up, and alternative modes if required, subject to ongoing review and stakeholder alignment. Any potential adverse effects on data quality should be identified and acknowledged, and considered when progressing to Phase 3.

Survey length

The current median interview length for the HSE is 52 minutes for a single adult face-to-face interview, and 29 minutes for the biomedical follow-up. Maintaining these timings during the face-to-face surveys in Phases 1 and 2 would preserve continuity and ensure data comparability.

For the online testing, it is necessary to consider the feasibility of administering a full-length HSE online, or whether a shorter survey would be required. This testing should draw upon evidence on survey length from other social surveys. For example, recent research conducted by the ONS, as part of the Transformed Labour Force Survey (TLFS) design review, has highlighted the benefits of a shorter online survey (taking around 15 minutes per household to complete). However, the European Social Survey (ESS) demonstrates that longer online data collection exercises can be successful with appropriate design and testing.

Online testing during Phases 1 and 2 should assess the impact of survey length on data quality, coverage, respondent fatigue, drop-off rates and "satisficing" behaviour (whereby respondents select responses for convenience rather than carefully considering the most accurate or honest answer). For the biomedical fieldwork, no assessment of change of survey length was undertaken as part of the Discovery Phase.

Findings from this testing should inform the design in Phase 3. During this phase, continuous review of feedback, engagement metrics and completion time should be used to maintain data quality and support long-term participation.

Modularisation of survey content

A shorter survey could be achieved through implementing a modularised design, in which all adults complete a core set of demographic and health questions, while additional "non-core" health topics are asked of respondents through random sampling principles. A larger issued sample would be required to ensure that each module achieves a level of statistical precision comparable with the current HSE, while the core questions benefit from increased precision, resulting from a larger combined sample size.

Implementing a modularised approach would require consideration of questionnaire routing, weighting and comparability with topics currently asked of all respondents. This approach would help maintain a similar number of topics currently covered in the survey, manage respondent burden and maintain overall statistical power. However, this approach would reduce the facility to assess comorbidities, as not all respondents would answer every question.

A modularised design would need to be tested and run in parallel with the face-to-face survey, as outlined in the phased approach, before any implementation decisions are made. This approach could also facilitate the inclusion of one-off modules on emerging or time-limited topics that do not need to be repeated annually.

Sampling

Target population

The current HSE target population comprises adults aged 16 years and over, and children aged 0 to 15 years, living in private households in England. For the face-to-face components, the target population would remain the same for continuity. However, for the online surveys, the target population would initially include adults aged 16 years and over living in private households in England.

Although children aged 0 to 15 years are usually included in the target population, collecting data from children online may require further consideration around ethics and data quality. As a result, the inclusion of children may benefit from a phased implementation when the online design is established and where resources allow.

Although this Discovery Phase has focused on maintaining the survey's emphasis on data collection in England, continued engagement with devolved governments across the UK would support the alignment of health measures where feasible. This should be done while acknowledging the challenges of integrating UK-wide data, given the differences between national surveys and devolved responsibilities.

Sampling unit

In the current HSE, the household is used as the sampling unit, allowing all members within a household to be invited to participate. Retaining this household-based sampling approach across both face-to-face and online surveys in all phases would support trend continuity, enable household-level analysis and facilitate more efficient biomedical data collection.

Sampling frame

The current HSE uses the Postcode Address File (PAF) as its sampling frame. PAF is the official UK postal address database, containing over 30 million addresses, and is maintained by Royal Mail. It supports household-level sampling; therefore, continuing with PAF for both face-to-face and online surveys would provide stability and maintain continuity with previous cycles.

Across all phases, exploring the linkage of the sample to the Personal Demographics Service (PDS), subject to legal and ethical approval, could improve response rates by enabling named invitations and reminder letters, and would also support future linkage to health records. In Phase 3, PDS integration may also enhance the analytical potential of the survey, for example, by enabling linkage to other health records, where feasible. However, using the PDS introduces risks, including incomplete coverage and data quality concerns. This approach would therefore require careful testing and assessment.

Sample size

To support the transition to an online-first model, the issued face-to-face sample size in Phases 1 and 2 could be temporarily reduced, with the resulting financial savings redirected to fund the online survey test, including the use of incentives to encourage participation and support strong response rates. The size of the reduction should be agreed jointly by DHSC and the contractor at the commissioning stage, and would apply only for the purposes of testing, rather than representing a permanent change.

It will be important to ensure that any reduction in the face-to-face sample size does not substantially affect the quality or precision of the resulting data, while still enabling a sufficiently large online sample to assess online survey performance against the acceptance criteria. The assessment approach should consider impacts on:

- confidence intervals
- significance testing
- sample bias
- the feasibility of subgroup analysis

In Phase 3, if acceptance criteria are met, the survey would transition to a fully online-first model with a face-to-face biomedical follow-up. Observed response rates from earlier phases would inform the required issued sample sizes, ensuring reliable data collection. As online-first approaches typically reduce data collection costs, there should be opportunities to increase issued sample sizes, leading to a higher number of achieved interviews on the HSE and increased statistical precision of the survey estimates.

Sampling method

The current HSE design involves a multi-stage clustered and stratified probability sampling approach, in which a random sample of primary sampling units (PSUs), based on postcode sectors, are selected, followed by a random sample of postal addresses within each PSU. Retaining this approach throughout Phases 1 to 3 would:

- ensure comparability and continued representation across subgroups
- support efficient biomedical fieldwork
- provide a controlled environment for testing changes in survey mode

Local area-level estimates

The current HSE is nationally representative and not intended to produce reliable local-level estimates because of limited annual sample sizes. Although combining several years of data has occasionally supported local analysis, such aggregation reduces timeliness, and in practice, most local insights are obtained from separately commissioned surveys. During Phases 1 and 2, this reliance on alternative sources should continue, as sample sizes will remain too small for reliable local estimates.

In Phase 3, once the survey moves to a fully online design, larger annual sample sizes may become feasible because of lower data collection costs. This could enable timelier local-level estimates by pooling data across fewer years. With sufficient investment, it may be possible to produce annual local estimates by expanding the online sample, though this would introduce higher costs and greater operational complexities.

Sample boosts

In the current HSE, a boost sample is not included. To maximise comparability with previous survey years and maintain cost-effectiveness, boost samples would not be included in Phase 1. However, administrative data sources could be explored to help identify specific population subgroups (for example, ethnic minority groups), so that the survey can sample more people from those underrepresented groups if needed.

If feasible, this approach could be further developed in Phase 2 and potentially implemented in Phase 3. Furthermore, the larger numbers of achieved cases made possible by an online HSE would enable more granular analysis of some population subgroups that is not currently possible.

Weighting

The HSE currently applies a rigorous weighting strategy to ensure that results are representative of the population living in private households in England. This incorporates:

- probability of selection in sample
- non-response
- calibration
- stage-specific weights

Retaining this core approach, while adapting it to suit different survey designs, would support continuity and comparability. Simpler weighting approaches may be appropriate for the online tests in Phase 1, while more comprehensive methods should be applied to larger online surveys in Phases 2 and 3.

The use of administrative data sources should also be explored to improve bias adjustment and representativeness. Although weighting accounts for mode effects, any changes in survey mode should be clearly communicated to stakeholders to manage expectations around trend comparability.

Incentives

The current HSE incentive strategy includes a £10 unconditional voucher sent with the advance letter. This practice has been in place since 2014. Continuing this unconditional incentive for the face-to-face surveys in Phases 1 and 2 would help to maintain response rates.

For the online pilot in Phase 1, an unconditional incentive of up to £10 could be offered, with the final value determined by the contractor. Non-monetary incentives (for example, notepads or tote bags) should also be explored during this phase.

In Phase 2, a split-sample incentive trial could be carried out to test the effectiveness of different incentive structures. This trial should be conducted independently of other tests to ensure a fair comparison. Outside of the trial, the existing £10 unconditional incentive should continue to be used. This approach provides a cost-efficient way to assess engagement across stages and informs decision-making for Phase 3.

In Phase 3, the incentive model should be based on the findings from Phase 2. The contractor should assess response rates and engagement across sample groups to determine the most effective and sustainable approach. Continued monitoring of the chosen model is recommended as part of routine survey operations.

4 . Survey content

Socio-demographic characteristics

The current Health Survey for England (HSE) collects detailed socio-demographic data through face-to-face interviews, using harmonised and adapted questions to support rigorous analysis across demographic groups. Sensitive topics are covered via self-completion, and geographical indicators are derived from postcode data. Retaining this socio-demographic content within the face-to-face surveys during Phases 1 and 2 would ensure continuity with previous cycles.

For the online survey, contractors should explore streamlining the socio-demographic questions and optimising them for online data collection, while ensuring that all core data are still captured. The use of administrative data sources should also be explored to reduce respondent burden, for example, by identifying which socio-demographic questions could be removed from the survey and instead obtained through data linkage, while still retaining complete data. Findings from administrative data exploration and cognitive testing should inform any changes carried forward into Phase 3.

Topic priorities

As with any HSE cycle, a prioritisation exercise should be undertaken, with input from stakeholders via the Health Survey for England Steering Group, to agree the final survey content. This exercise should consider existing topic areas alongside emerging policy and research priorities, ensuring that the survey remains relevant and aligned with user needs at the time of data collection.

In Phase 1, topics with greater cognitive complexity and those where adaptations would be beneficial, should be prioritised for online testing, supported by validation exercises to ensure suitability for digital formats. Phase 2 would involve testing questions in both face-to-face and online modes, allowing for refinement of content and assessment of mode effects. By Phase 3, the full questionnaire would be implemented, consisting of a concise core and topic-specific modules, some of which may be included on a rotating basis.

Moving survey questions online

Besides the need to agree the content for HSE, special consideration will be required when moving content currently collected through face-to-face interviews to an online-first mode.

There are established frameworks that can support this transition. One such framework, the Measurement Effect Risk Framework (outlined in the Survey Practice Guide 2: How to mitigate against measurement effects when surveys move online (PDF, 1162KB)), provides an approach for identifying risks associated with mode changes and the potential mitigations. Furthermore, the Health Survey for England 2020 to 2021 Feasibility Study also provides evidence on the practicality and data quality implications of moving to an online-first format.

Alongside this, survey content should also be assessed using a range of quality assurance methods, such as cognitive testing and piloting content (see Section 7: Quality) for more information. Together, these approaches help identify risks arising from the transition to online data collection and mitigate any impact on data quality where possible.

5 . Data collection

Communication materials

Making first contact

The current Health Survey for England (HSE) uses postal invitations and leaflets to introduce the survey, ensuring respondents are well-informed and reassured through consistent NHS branding. Continuing this approach for the face-to-face cycles, and during the online test in Phase 1, would maintain operational consistency.

In Phase 2, a split-sample trial could compare postal invitations with digital invitations (email or SMS), subject to successful linkage to the Personal Demographics Service (PDS) to obtain digital contact details. Where digital contact details are not available through the PDS, postal invitations will remain necessary. Communications should remain personalised, concise, and where possible, NHS-branded, to enhance credibility and response rates. Findings from Phase 2 should inform the transition to a fully online approach in Phase 3, with ongoing monitoring of respondent engagement throughout.

Reminders

The current HSE uses in-person delivery of follow-up letters to notify respondents of planned revisits, particularly when initial contact attempts have been unsuccessful. Continuing this approach for the face-to-face surveys in Phases 1 and 2 would maintain consistency with existing practice.

For the online pilot in Phase 1, postal reminder letters should be used to reinforce messaging and remain aligned with current procedures. In Phase 2, a split-sample trial could be conducted to test four reminder strategies:

- no reminder
- digital reminders (email or SMS)
- in-person visits
- postal reminders

This would be subject to successful linkage to the PDS, as digital reminders would only be possible where valid contact details are available. This trial should assess effectiveness, cost-efficiency and accessibility across these approaches.

The "first-contact" and "reminder" trials should be combined to identify the optimal contact strategy. Findings from Phase 2 should then inform the reminder approach in Phase 3, with ongoing monitoring recommended to ensure continued effectiveness.

Measurements and assessments

The current HSE uses computer-assisted personal interviewing (CAPI), administered by interviewers and biomedical fieldworkers. Physical measurements, including height and weight, are taken during the face-to-face interview, while biomedical fieldworkers collect blood pressure, waist and hip measurements, and biological samples.

Continuing this approach for the face-to-face data collection in Phases 1 and 2 would maintain continuity with the current design. It is recommended that self-completed height and weight are piloted in Phase 1, supported by cognitive testing to optimise self-reporting methods.

In Phases 2 and 3, self-reported height and weight should continue to be collected online, verified in the biomedical follow-up for consenting respondents. However, measurements collected by biomedical fieldworkers should be used for final estimates.

From Phase 3 onwards, online self-reporting of height and weight should continue periodically on an ad hoc basis, with verification during the biomedical follow-up.

6 . Data processing, analysis, linkage and management

Data processing and analysis

The current Health Survey for England (HSE) design involves a comprehensive coding and editing process to reconcile data from multiple sources, including interviewer-administered questionnaires, self-completion modules and biomedical measurements. Maintaining these well-established systems in Phases 1 and 2 would ensure continuity and safeguard data quality.

For the online pilot in Phase 1, analytical consistency with the current approach should be preserved while trialling enhancements, such as monitoring partial completions and developing Reproducible Analytical Pipelines (RAPs). RAPs can improve analytical efficiency, timeliness and reduce the risk of error by standardising data processing.

Phase 2 should build on these insights by further testing RAPs, as well as assessing potential mode effects. In Phase 3, established processes and systems should continue to be used, supported by ongoing review and quality assurance, to enable timely and reliable outputs.

Data linkage

The current HSE collects consent for data linkage, although routine linkage has not occurred in recent years. Embedding data linkage across the entire survey lifecycle, from sampling and design through to data processing and analysis, would help ensure linkage becomes an integrated component rather than a post-collection activity. Incorporating linkage considerations early on can enhance the analytical value of the survey, support targeted sampling and improve weighting strategies.

Data management

Data management is critical and must comply with the necessary standards for secure storage, processing, and compliance with data protection regulations, particularly given the sensitive nature of HSE data. For HSE, this also includes specific requirements for the secure handling and storage of biological samples, ensuring these are clearly tracked, ethically managed and governed by consent-based protocols with defined retention periods.

Archived datasets should continue to be made accessible via the UK Data Service, with consideration given to hosting sensitive data on secure research platforms. This would help maintain controlled access for accredited researchers, while reducing the resource burden associated with manual data-release processes.

7 . Quality

Acceptance criteria

The quality of the Health Survey for England (HSE) data should be central to decision-making when determining whether to progress with any of the suggestions outlined in this report, particularly in Phase 3 when considering a full transition to an online-first data collection model.

The suggestions in this report will introduce some discontinuities in survey design and, as a result, in published estimates, resulting in breaks in the existing time series. While some of these can be mitigated through testing and methodological adjustments, some will persist, for example, measurement error arising from differences between data collection modes.

Phases 1 and 2 should therefore seek to assess potential differences, and where possible the reason for those differences, to help mitigate against these potential sources of discontinuity.

Areas that should be considered during Phases 1 and 2 include:

- sample representativeness – consider whether any changes are seen in the online participating sample compared with the face-to-face sample
- response rates – assess the response rates achieved through online data collection, and determine whether they are sufficient enough to provide the required statistical power
- measurement error – examine the evidence for any changes in unit and item non-response
- operational feasibility – identify any barriers to moving the survey online during Phases 1 and 2, and assess whether these can be addressed within available funding

Ultimately, progression to a fully online-first model should occur only when acceptance criteria are met and the survey can remain reliable, responsive and fit for purpose.

Cognitive testing

Cognitive testing should be undertaken during Phases 1 and 2 to ensure that new or adapted questions are clear, inclusive and suitable for online completion. This testing should also extend to survey communications, such as the invitations and reminder materials, given that respondent participation in an online model will rely heavily on the effectiveness of these materials in the absence of an interviewer.

Cognitive testing will help identify potential misinterpretations and inform final decisions on question wording, formatting and topic inclusion, ahead of implementation in Phase 3.

Pilot testing and "dress rehearsal"

The current HSE design includes a "dress rehearsal" before each survey year to test:

- interview flow
- fieldwork procedures
- any new or returning modules

Continuing this approach for the face-to-face surveys in Phases 1 and 2 would help ensure that content and systems are thoroughly tested.

Phase 1 introduces an opportunity to pilot the online version of the HSE, generating early insights into usability and question performance. These findings should inform Phase 2, during which online and face-to-face surveys will run side by side to assess mode effects and refine content.

In Phase 3, annual pilots should continue, scaled according to the extent of changes being introduced. These pilots will test new modules, estimate survey timings and support refinement of data-processing systems.

8 . Ethics

Ethical approval for the Health Survey for England (HSE), 2022 to 2025, was granted by the East Midlands Nottingham 2 Research Ethics Committee. All phases of the redesigned survey will require ethical review (for both the face-to-face and online surveys). Additional consideration should be given to changes in safeguarding procedures and the processes for obtaining informed consent, both within an online survey environment and during in-person biomedical follow-up visits.

9 . Related links

Health Survey for England – NHS England
Web page | Updated regularly
Important information about the Health Survey for England (HSE), including background to the survey, latest updates, information for participants and links to previous publications.

10 . Cite this article

Office for National Statistics (ONS), released 11 March 2026, ONS website, article, ONS review of the future design options for the Health Survey for England: March 2026.