



NHS Lothian Public Health Survey 2023

Technical report

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Introduction

This document provides detailed technical information on the design, methodology and analysis of NHS Lothian's 2023 Public Health Survey, accompanying a summary report of the survey's findings.

The Lothian Public Health Survey 2023 was commissioned by NHS Lothian in partnership with the University of Edinburgh and designed with and delivered by the Scottish Centre for Social Research (ScotCen). The survey provides a snapshot of health and wellbeing of people living in Lothian, and the social and economic building blocks of health outcomes. The survey complements intelligence available through existing local and national routine data sources and provides data that can be interpreted both at the overall Lothian level and at the local authority (LA) level for the four LAs which make up the Lothian area:

- City of Edinburgh,
- East Lothian,
- Midlothian
- West Lothian.

The survey consisted of a short self-completion questionnaire either online, or on paper. A total of 14,825 usable responses were received between March and September 2023.

Questionnaire

Questionnaire design

The questionnaire was developed by NHS Lothian and the University of Edinburgh with advice from ScotGen researchers. Once the questionnaire was developed it underwent review as part of the ethical review process (see Ethics and Governance).

The survey questionnaire addressed 11 main sections as below. Full copies of the web and paper surveys are provided in Appendix 1 (web) and 2 (paper).

1. **About you:** demographic questions including confirmation of address, age, sex and ethnicity.
2. **Exercise, diet and smoking:** including frequency of physical exercise, typical daily consumption of fruit and vegetables, food insecurity, alcohol consumption and smoking, and support to stop smoking.
3. **Mental well-being:** including life satisfaction, the shortened Warwick-Edinburgh Mental Wellbeing Scale ([sWEMWBS](#)), and questions on loneliness and social support.
4. **Your health:** including rating of health, EQ-5D¹ questions on mobility, self-care, usual activities, pain / discomfort and anxiety / depression and self-rated health, and health conditions lasting or expected to last more than 12 months.
5. **Accessing health services:** including services accessed, participation in health screening (including cervical, bowel, breast, diabetic eye, abdominal aortic aneurysm and pregnancy screening, as well as new-born hearing test and / or bloodspot / heel-prick test) and barriers to accessing these services.
6. **Where you live:** including questions on accommodation, neighbourhood and safety after dark.
7. **Your time:** including caring responsibilities, work status and reasons for not being in paid employment.
8. **Work and employment:** including whether temporary or permanent, on zero-hours contract, satisfaction with work and stress related to work.

¹ EQ-5D™ is a trademark of the EuroQol Research Foundation. UK (English) v1.2. <https://euroqol.org/eq-5d-instruments/eq-5d-5l-about/>

9. **Coronavirus:** whether have had COVID-19, whether experienced Long-COVID (symptoms for longer than 4 weeks), ever had vaccine, and if not, reasons why not.
10. **Water fluoridation:** a single question with preceding statement about being open to the possibility of water fluoridation in local area.
11. **Final questions about you:** final set of demographic questions, including household composition, tenure and household income, qualifications, height and weight, household income, fuel poverty and trans history.

To aid comparability of data collection across modes, for the web survey almost all questions contained an on-screen “Don’t know” or “Prefer not to answer” category and for the paper survey, almost every question contained a “Don’t know” response, with the instruction “If you do not want to answer a particular question you can leave the question blank”.

Questionnaire issues

The survey questionnaire and materials were reviewed before they were used, however there were a number of issues which were identified after survey fieldwork began.

The paper survey instructions contained two minor errors related to the instructions for ‘don’t know’ and declined responses:

Firstly, the fifth bullet in the ‘How to fill in this questionnaire’ section on the front page of the survey included the text noted below (bold italics), which should not have been present since all relevant questions included a ‘Don’t know’ answer code:

“If you do not want to answer a particular question, ***do not know or are unsure of an answer***, you can leave the question blank.”

Second, the example question provided should not have included a “Prefer not to answer” option, as this was not available on the paper questionnaire.

The paper questionnaire had an error where the answer scales for Q26 (rating of condition of accommodation) and Q25 (rating of neighbourhood as a place to live) were swapped in the paper questionnaire by mistake. The web and paper data for these questions could not be reconciled because one had a four-point scale and the other a five-point scale for the respective questions. Responses for both questions were recoded to reflect the proportion reflecting their accommodation or community as “fairly good” or “very good”. Throughout this document, where question numbers are given, this pertains to the question number in the paper questionnaire document, available as Appendix 2. Note that question numbers on the web and paper versions of the questionnaire do not coincide with each other.

The water fluoridation question (Q40) was the subject of a complaint from a respondent who felt that the question was leading as we presented the beneficial case for water

fluoridation before the question itself: “*There is strong recent evidence and support from UK Chief Medical Officers that adding fluoride to water supplies will help reduce tooth decay*”. Additionally, the “*Don’t know what water fluoridation is*” answer category could have included the additional text “*or enough about the subject*”. As the design of the questionnaire item may have led to biased results, we have excluded this question from our summary report.

The questions about work status included in the survey were adopted from other surveys, such that the survey data could be compared with other datasets. However, the question about work-status contains a logical inconsistency in relation the time-periods asked about: Q29 (employment status) asks whether, in the last 7 days, the respondents has done any of the listed activities. The follow-up question Q30 asked of those who were not undertaking any of the listed activities in the last 4 weeks, what was the main reason they were not in paid employment.

Differences between web and paper questionnaires

The paper survey was designed to replicate the web survey as closely as possible and consisted of a 20 page A4 booklet. There were, however, some necessary differences between the web and paper questionnaire, owing to question routing:

- **Q48:** trans history: for the web survey this question was asked after Q3 (sex) at the start of the survey, since it was used to route some of the later health screening questions (for example, Q23 for cervical screening). For the paper survey, it was not possible to replicate this routing, so Q48 was asked at the end of the paper survey in the final demographics section.
- **Q23:** participation in cervical, breast or pregnancy screening: these questions were routed for the web questionnaire to not be asked of males except those with a trans history (Q48), but in the paper questionnaire this was asked of all respondents (a not applicable option was present for cervical, breast, pregnancy and newborn screening).
- **Q30:** main reason for not being in employment: for routing simplicity, the paper survey included those who said that they were *working unpaid for own or family’s business (or temporarily away)* as per the answer to Q29, whereas the web survey did not.
- **Q32:** job security: the web survey only asked those who were employed full time or part time as per the answer to Q29 but, for routing simplicity, the paper questionnaire also asked those who were self-employed or doing any other kind of paid work as per the response to Q29.

Ethics and governance

Guidance and assistance with ethical review and survey protocols was provided by ACCORD (the Academic and Clinical Central Office for Research and Development), a partnership between the University of Edinburgh and NHS Lothian Health Board. The survey design and fieldwork methodology received ethical approval from the [NHS Nottingham 1 Research Ethics Committee](#) on 11 October 2022.

The design and implementation of this survey involves the use of confidential data extracted from NHS Lothian data on the Community Health Index (CHI) database (name, address, postcode, date of birth, and sex). As it was not possible to obtain consent from individuals listed on the CHI database in advance, approval was obtained from the NHS Lothian Caldicott Guardian prior to fieldwork (granted on 31 August 2022). The lawful basis for this is provided by GDPR Article 6(1)(e) “processing is necessary for the performance of a task carried out in the public interest or in the exercise of official authority vested in the controller”.

As part of the ethical approval process, the survey was delivered on the basis of a carefully designed survey protocol. This included a detailed consideration of the process for sharing of data between NHS Lothian, University of Edinburgh and ScotCen, ensuring that survey data could not be linked back to a respondent’s CHI record, and that the survey dataset utilised by the University of Edinburgh for further analysis could not be linked to the NHS Lothian file which contained the survey respondent’s full postcode (retained for the purpose of allowing of publicly available administrative data to be appended to the survey dataset).

All data were transferred securely using NHS Scotland SWAN Secure Electronic File Transfer. NHS Lothian are the Data Controller for the survey data, with ScotCen acting to collect and process the data in accordance with a data processing agreement between NHS Lothian and ScotCen.

Sampling

The sample for the survey consisted of stratified random sampling of named individuals drawn from the NHS Scotland Community Health Index (CHI) population register (which records every person registered with a General Practice in Scotland). As the sample consisted of named individuals, a letter inviting them to take part in the survey could be sent directly addressed to them. The sample was processed such that at no point could information such as age and sex be linked to name and address by anyone outside of a limited number of authorised staff within NHS Lothian.

Sample design

The sample design for the survey aimed to provide representative survey results for the population of interest, while ensuring that analysis was feasible both within each Lothian local authority (LA) and for Lothian as a whole. The population of interest was adults aged 16 and over, resident in Lothian, living in both residential and institutional accommodation. The design incorporated oversampling of LAs outside City of Edinburgh, with the aim of achieving at least 2,500 responses from each LA. Individuals aged 16-24 were also oversampled, due to lower response rates being expected among this group.

Sample frame

The survey sampling frame was derived from the CHI database. NHS Lothian's Public Health Intelligence Team constructed the sampling frame by selecting all individuals from a full CHI database extract who met the following inclusion criteria:

1. individuals who have all of the following fields completed: date of birth, sex, first name, surname, address and postcode
2. individuals aged 16 or over (at time of extraction – 07/02/2023)
3. individuals with a postcode within one of the Lothian council areas
4. individuals who have a valid postcode that has not been deleted / removed from service

AND removing any individuals who met the following exclusion criteria:

1. duplicated CHI records
2. individuals with null CHI numbers
3. individuals who have no fixed abode (determined using address fields)
4. individuals who are also included within the National Records of Scotland (NRS) deaths data from January 2021 to January 2023 (extract of CHI database generated in February 2023 and deaths data lags by ≈2 weeks).

The resulting anonymised sampling frame, containing each individual's age, sex, local authority (LA), Scottish Index of Multiple Deprivation (SIMD) decile within Lothian, SIMD quintile within LA, and a unique identifier (unique identifier A) was then securely supplied to ScotGen.

The CHI database is believed to cover the vast majority of Scotland's population, and hence of the survey's target population. It does however contain records for more individuals than are estimated to reside in Scotland. For instance, an extract from the CHI database in August 2020 contained 5,828,951 people with address details, 7% higher than the estimated mid-year population of Scotland in 2020 (5,466,000). Its level of over-coverage appears to be even greater in Lothian LAs; the number of records in the sampling frame was 17% higher than estimates of the population aged 16 or more in Lothian LAs based on the 2022 Census. There could be several reasons behind the differences seen in population figures between the CHI dataset and the census. Individuals who have died or have moved out of Scotland may remain within the CHI dataset for some time, meanwhile the volume of people moving into new build homes might not be taken into account within some population projection models. Also, the student population within the City of Edinburgh area in particular is transient and fluctuates depending on the time of year students become registered with a GP.

Due to anonymisation, the only method of estimating the rate of ineligible cases within the sampling frame was comparison with the most recent population estimates for Lothian (at the time, National Records of Scotland 2021 mid-year population estimates). This comparison was used to estimate ineligibility rates for 16-24s and over-25s in each LA, which were incorporated into the calculations of how many cases to draw. Besides the inclusion and exclusion criteria listed above, there were no data in the sampling frame that allowed ineligible cases to be dropped during sample selection or to determine precisely how many there were.

Several steps were taken in an attempt to record ineligibility:

1. The invitation envelope had a printed 'return to sender' address for cases where the address was incorrect or where the addressee was no-longer at the address.
2. The invitation letter itself requested that the recipient inform ScotCen if the person the letter was addressed to was no longer resident at the address.
3. Questions at the start of the survey established if the respondent had moved outside the Lothian area, and if so, the survey ended, explaining that the survey was for those living in City of Edinburgh and the Lothians.

Sample selection

ScotCen statisticians drew a systematic probability sample of individuals from the sampling frame. This was stratified by local authority (LA) and age group (16-24 versus 25+) and sorted within strata by sex and LA-level SIMD quintiles before selection. A main and reserve sample were drawn together, then the main sample was selected as a proportionate systematic sample, stratified using the same strata.

Table 1: Sampling frame populations and drawn sample by local authority

Local authority	Frame total population	Frame aged 16-24	Sampled aged 16-24 *	Frame aged 25+	Sampled aged 25+ *	Total sampled
City of Edinburgh	542,022	81,437	10,360	460,585	25,024	35,384
East Lothian	96,783	11,109	2,588	85,674	9,570	12,158
Midlothian	82,232	9,069	3,061	73,163	11,456	14,517
West Lothian	162,048	19,360	2,376	142,688	9,637	12,013
TOTAL	883,085	120,975	18,385	76,2110	55,687	74,072

* Note that the sampled numbers in the table above include a 20% reserve sample, which was only issued for Midlothian and West Lothian.

Due to deliberate oversampling, smaller LAs account for a higher proportion of the sample than their share of the population, as do the strata containing those aged 16-24. Sample sizes were also adjusted to reflect the estimated levels of ineligible cases in the sampling frame, after comparison with 2021 mid-year population estimates for each LA. The sample was therefore expected to contain a proportion of cases that would be ineligible.

Unique identifiers for the selected individuals were securely sent back to NHS Lothian, along with their selection probabilities, in separate files for the main and reserve samples. NHS Lothian then extracted names and addresses for these individuals and provided them to ScotCen, along with the selection probabilities, attached to a new unique identifier (unique identifier B). This was to ensure these details could not be linked by ScotCen to the demographic variables used for sample selection. The selection probabilities were required for the weighting calculations to adjust for oversampling.

Fieldwork

Survey fieldwork took place between March and September 2023. The survey was designed as a 'push-to-web' or 'web-first' survey where selected potential respondents were sent a letter inviting them to complete the survey via a web link. A second reminder letter was sent a week or so after the first letter, again asking those who had not yet responded to the survey to do so. A final letter was then sent to all respondents who had not completed the web survey (and who had not contacted ScotCen to opt out): a paper copy of the survey was included with this final letter (as well as the web survey link). In June 2023, it was decided to issue the reserve sample in two LAs – Midlothian and West Lothian – due to lower response rates in these areas.

The invitation letters contained: a unique reference number for each respondent (for quoting if contacting ScotCen); information on the length and purpose of the survey and the survey commissioners; instructions on how to take part (including a unique web survey access code specific to each respondent); a note that the survey was voluntary and that someone else could help a respondent complete the survey if required; and details of the NHS Lothian survey website (containing information on the purpose of the survey, the questionnaire content, and sources of support) and ScotCen email and freephone contacts for any questions about the survey, or requests for the letter in a different format or language. The letter also requested that the recipient inform ScotCen if the person the letter was addressed to was no longer resident at the address.

The reverse of the letter contained a 'frequently asked questions' section which included information on the survey's purpose, governance, content, sampling methodology, voluntary nature and confidentiality.

The first two invitation letters were sent to all cases in the sample one week apart to encourage response. The second invitation letter contained the same information as the first with the exception of the introduction:

“We recently wrote to ask you to take part in the Lothian Public Health Survey 2023, a major research study commissioned by NHS Lothian and the University of Edinburgh which is crucial to obtaining an accurate picture of the health and wellbeing of people who live in Edinburgh and the Lothians area. If you have already completed the survey online, thank you!

If not, time is running out to get involved as the survey will close in April”

The envelope in which the invitations were sent also included a ScotCen return address and a note:

“If addressee unknown, please write “RETURN TO SENDER” on the envelope and post”

This allowed the sample where the named person had moved or passed away to be removed from the third (final) survey mailing, and for a more accurate response rate to be calculated.

Whilst owing to costs it was not possible to provide the survey in languages other than English, provision was made to complete the survey in another language via ScotCen’s panel of trained telephone interviewers. No requests were made to utilise this service however, or for survey documentation in a different format. Survey materials made it clear that respondents could ask someone to help them complete the survey, but that the answers should only be about their details and experiences. Therefore, it may have been that those who could not complete the questionnaire themselves due to language or other accessibility issues, received help in this way.

While survey participation required a named invitation, a modest communications campaign was conducted during fieldwork. The objectives were to raise awareness, provide assurance of the survey's legitimacy and encourage those who received an invitation to participate. A number of the communications linked to an NHS web-page with information about the study. Communications were predominantly via social media posts from NHS Lothian, University of Edinburgh and ScotGen. NHS Lothian also used their internal digital staff newsletter and an intranet news article to ensure NHS staff could support the legitimacy of the survey.

Response Rates

The adjusted survey response rate across all four LAs was 24.3%, with the highest response rate being in East Lothian (27.7%) and the lowest in West Lothian (22.3%). These adjusted response rates account for identified ineligible invitees, though it should be noted that eligibility could not be established for the vast majority of the issued sample (since no response, correspondence, or returned mail was received for most of those invited). Ineligibility was highest in the City of Edinburgh, where 13.7% of the issued sample was recorded as ineligible.

Table 2: Response rate calculations by local authority

	City of Edinburgh	East Lothian	Midlothian	West Lothian	Lothian Total	Lothian %
Responded	6,051	2,669	2,961	3,144	14,825	22.4%
Complete interview	5,938	2,625	2,901	3,068	14,532	22.0%
Usable partial interview	113	44	60	76	293	0.4%
Refusals / partial / unable	421	75	76	109	681	1.0%
Refusal by target respondent	16	6	5	9	36	0.1%
Unusable partial interview	371	41	36	72	520	0.8%
Unable to respond due to illness / hospital stay	16	15	17	15	63	0.1%
Other non-response	18	13	18	13	62	0.1%
Known ineligible	4,039	499	305	393	5,236	7.9%
Named person deceased	18	5	9	7	39	0.1%
Named person not at address	2,646	309	204	288	3,447	5.2%
Returned as undeliverable	1,375	185	92	98	1,750	2.6%
Unknown eligibility						
No response of any kind	18,975	6,889	8,671	10,871	45,406	68.6%
Grand Total	29,486	10,132	12,013	14,517	66,148	100.0%
Unadjusted response rate	20.5%	26.3%	24.6%	21.7%	22.4%	
Adjusted response rate	23.8%	27.7%	25.3%	22.3%	24.3%	
Known ineligible	13.7%	4.9%	2.5%	2.7%	7.9%	

Weighting

Survey weights play a vital role in controlling various forms of bias, enabling analysis to provide representative results. ScotCen statisticians undertook the weighting after the technical approach to weighting was discussed and agreed with the NHS Lothian and University of Edinburgh research teams.

Two sets of weights were originally discussed:

- One using within-Scotland (i.e., datazones ranked across the whole of Scotland) SIMD (Scottish Index of Multiple Deprivation) percentiles: Local Authority-level population estimates for within-Scotland SIMD percentiles are published by National Records of Scotland (NRS).
- One using local (within-Lothian and within-LA) SIMD percentiles. Within-Lothian and within-LA level SIMD percentile population estimates could be taken from the sampling frame, as these data are not available publicly and frequency tables for the sample stratification variables in the frame were saved during the sample selection process.

The appropriateness of adjusting weights to match sampling frame estimates (the second approach) depends upon the extent to which the sampling frame matches the population of interest. After exploring the second approach, ScotCen statisticians recommended it would not be appropriate to use the sampling frame population estimates of age, sex, and SIMD in weighting. As discussed in the sampling section, during the sampling process a potentially high level of ineligible cases was identified in the frame by comparison with NRS 2021 mid-year population estimates. At the weighting stage, the sampling frame population totals were also compared with Census 2022 population estimates, as these had since become available. The sampling frame contained 17% more records than the Census 2022 estimate for Lothian residents aged 16+, a difference of 127,713. Census estimates are prepared using not just the census itself but a number of administrative data sources including NHS records.²

² Further detail can be found in this report: <https://www.scotlandscensus.gov.uk/documents/scotland-s-census-2022-rounded-population-estimates-quality-assurance-report/>

Further evidence of ineligibility in the sample could be found in responses from the issued sample. Approximately 8% of invitations to participate in the survey were returned as undeliverable or because the invited individual was not at the address. Given this evidence of potentially ineligible cases in the sample and sampling frame, we take the view that Census 2022 and mid-year 2021 population estimates are a more reliable measure of the population of interest than the sampling frame. We could not be confident that weights calibrated to sampling frame population totals would give accurate weighted estimates of survey outcomes. Consequently the final weights have been calibrated to population estimates from national statistics, including within-Scotland SIMD percentiles, rather than within-Lothian or within-LA SIMD percentiles.

ScotCen's usual approach to weighting for push-to-web surveys incorporates three stages:

- **Stage 1: Selection probabilities**

Inverse probability weights were calculated as the reciprocal of the selection probability for each individual in the issued sample. These weights control for the oversampling of individuals from LAs outside City of Edinburgh and of individuals aged 16-24. They ranged from 3.8 to 22.1, and produce a design effect of 1.19.

- **Stage 2: Non-response**

For push-to-web surveys, adjusting for differential non-response is crucial. A significant proportion of individuals in the sample are also expected to have been ineligible for the survey. Except for a small proportion (0.1%) of people who were deceased, ineligibility could not be definitively distinguished from non-response. Some invitation letters were undeliverable, at least to the named individual, but it was unclear whether the individual was still eligible (i.e. still living in the Lothians). The largest outcome category (69%) was of letters for which no response or return of any kind was received during the survey period. It is again unclear which of these cases were in fact eligible or ineligible. Ineligibility and non-response have thus been modelled jointly and adjusted for simultaneously.

Forward and backward stepwise regression weighted by the selection weights were used to fit the model, using a range of potential predictor variables. These were largely area characteristics and included:

- The local authority (LA)
- How many times this individual's address appeared in the sample (capped at 3)
- SIMD deprivation quintiles (defined at a national level using 2020 SIMD)
- Urban / rural classification (from Census 2011)
- Output Area classification groups or supergroups (from Census 2011)
- Population density at postcode sector level, grouped into quintiles
- The proportion of white people residing in the area (from Census 2011)
- The proportion of people residing in the area who were born in the UK (from Census 2011)
- The proportion of people residing in the area who were disabled (from Census 2011)
- The proportion of households in the area owned (wholly or partly) by a resident (from Census 2011)
- The proportion of households in the area in detached or semi-detached houses (from Census 2011)
- The proportion of households in the area with more than two rooms per resident (from Census 2011).

The area classifications and variables 6 – 12 listed above were based on 2011 Census figures because 2022 Census topic data had not yet been released at the time the weighting was undertaken. Area variables were matched using postcodes from the issued sample, except for a small proportion of respondents (1.3%) who stated that they had moved within the Lothian area and provided a valid new postcode. For these respondents their updated postcode was used.

Both forward and backward stepwise regression methods produced the same model, which included all the variables listed above except the proportion of people residing in the area who were born in the UK. The model's predicted probabilities that each individual would be eligible and respond were stored. An adjustment factor was calculated as the reciprocal of these probabilities and multiplied by each individual's selection probability to give a non-response adjusted weight. The distribution of these weights included outlying top weights, so to improve efficiency they were trimmed at the 99th percentile. The resulting trimmed non-response adjusted weights have a design effect of 1.45 and efficiency of 69%.

- **Stage 3: Population calibration**

The third step in the weighting process was calibration to population estimates for national SIMD percentiles, age-sex categories, and LA. Population estimates were taken from 2022 Scottish Census first release (rounded sex and age group by LA)³ and most recent SIMD population estimates (age and sex by LA and national SIMD decile, based on 2021 mid-year population estimates).⁴ The Census 2022 and 2021 MYEs have slightly different population totals and age profiles; Census 2022 results were prioritised as the most recent and robust estimates available after comparing LA and age-sex distributions. The Census estimates for age group 15-19 were adjusted using 2021 MYE proportions of 15-year olds by sex within each LA to produce estimates for ages 16-19, as the eligible population for LPHS is 16+. SIMD population estimates were slightly rescaled so that their total matched the 2022 Census estimate of 755,372 persons aged 16+ resident in Lothian.

The weights were calibrated to three variables: LA population, national SIMD deciles in Lothian, and age-sex with 14 categories. Calibration to within-LA age-sex, within-SIMD age-sex, and within-LA SIMD was attempted and found not to be necessary. Missing values in age and sex survey data were assigned to the overall population

³ Source: <https://www.scotlandscensus.gov.uk/2022-results/scotland-s-census-2022-rounded-population-estimates/>

⁴ Source: <https://www.nrscotland.gov.uk/statistics-and-data/statistics/statistics-by-theme/population/population-estimates/2011-based-special-area-population-estimates/population-estimates-by-simd-2016>

distribution using imputation. These imputed values were used for calibration of the weights but were not included as part of the dataset.

The distribution of weights was checked post-calibration for the variables within the calibration and more detailed breakdowns of LA, age-sex, and SIMD. This was found to be closely in line with population estimates, as shown in the calibration table in Appendix 3.

After calibration, the weights were finalised by trimming one outlying top weight and rescaling to the responding sample size of 14,825. The final weights have a design effect (which reflects the degree of inflation in the variance of survey responses) of 1.72, efficiency of 58%, and an effective sample size of 8,619.

Data Processing

Partially complete questionnaires

The survey dataset contains 293 partially completed questionnaires, all of which were web survey responses. Partial interviews were only included where respondents had provided answers to at least one of the main sections of the questionnaire. Respondents (n. 520) who had started the survey but not met this criterion were excluded and coded as *unusable partial interviews* (see Table 2).

All partial interviews were web surveys which had been paused or stopped, and where the respondent has not gone back to answer the remaining questions: no paper partials were received, as would be expected on the basis that if a respondent was interrupted in completing the paper survey and then forgot to complete it, they would therefore be very unlikely to return the questionnaire in the post.

SIMD

National SIMD rankings were assigned based on the participant's postcode, as present in the CHI database at the point the extract was taken. Where the participant had provided a new postcode, this was used to assign a national SIMD ranking and a local authority (if within Lothian). For analytical purposes SIMD deciles were used where the data allow, or quintiles if analysis needs to be aggregated to a higher level (as is the case when we break down by local authority).

Deriving the eligible cohort

The survey response dataset contained responses from 14,825 participants. However, some participants had not provided information about their age, sex, or whether they had moved from the address that the questionnaire was sent to, therefore these responses (264 in total) had to be excluded. Age and sex information was essential for defining our strata (see section on analysing weighted data) and information on whether they had moved was essential to ensure that all data used was from Lothian residents. This left an eligible cohort of 14,561 participants.

Recoded and derived variables

For most questions, any responses within the following list were recoded as N/A; "Refused", "Don't know", "Prefer not to answer", "Not applicable", "HideNA". The exception to this is the question on screening, where "Not applicable" provides useful information.

A list of derived variables is provided in Appendix 4.

Free text responses

There were six questions where it was possible to select “Other” and then provide a free text response; ethnicity (Q4), smoking support (Q12), barriers to smoking support (Q13), long term health conditions (Q21), barriers to screening (Q24), and reason for not wanting a COVID19 vaccination (Q39). These responses were not analysed for inclusion in the summary report; however they were used to inform the analysis and further work will be done to analyse and understand these responses.

Analysis Approach

Analysing weighted data

The weighted survey response data were analysed in R 4.3.2 (via Posit Workbench) using the package “[srvyr](#)”, which is a wraparound for another package called “[survey](#)”. “[survey](#)” supports analysis of complex survey data, while “[srvyr](#)” provides more user-friendly outputs.

First, the variables that define the survey’s structure are specified as per the example code below:

```
survey_object_cal <- survey::svydesign(data = survey_subset,
                                     ids = ~1,
                                     weights = ~final_wt,
                                     strata = ~strata,
                                     fpc = ~n_pop,
                                     calibrate.formula = ~local_authority + simd_decile_nat + age_sex)
```

The argument “ids” is used to define clusters. Since there was no clustering in the sampling for this survey, this argument is set to 1. The final survey weights are specified in “weights”. “strata” is used to define the stratification structure of the sample. We had eight true strata based on two age groups (16-24 and those aged 25 and over) and four local authorities (City of Edinburgh, East Lothian, Midlothian, and West Lothian) reflecting the sampling methodology in the sampling section. Within these strata, we also had ten pseudo-strata based on binary sex (male and female) and within local authority SIMD quintile (1-5). The permutations of true- and pseudo-strata offer 80 distinct strata. “fpc” is where we define the population of each our strata, in order to allow R to perform finite population correction. The population size for each stratum was calculated from the original CHI database extract used to create the survey sample (i.e., the sampling frame).

“Calibrate.formula” allows *survey* to take into account how the final weight variable was calibrated by local authority, national SIMD decile and age-sex category (see weighting section above). Once the structure of the survey had been defined, data were analysed using functions from the “*srvyr*” package, which calculates weighted proportions or means with 95% confidence intervals.

Age standardisation

It was decided not to routinely age standardise estimates, chiefly as the ambition for the survey was to demonstrate the current profile of risk and protective factors as they are distributed across Lothian, reflecting the underlying demographic characteristics such as age. Where average age is likely to differ across groups of individuals, we discuss the results of exploratory analyses into the effect of age and highlight the potential role that age may play in any differences observed (e.g., between local authority areas).

In a small number of instances (e.g., for fruit and vegetable consumption and caring responsibilities analysed by local authority), age standardisation was conducted for exploratory or illustrative purposes. The [PHEindicatormethods R package](#) was used to calculate direct standardised rates. Five-year age bands were used to calculate the age standardised rates, starting with age 16-24 and ending with a 75 or over category. Lothian mid-year population estimates from 2021 were used to create the reference populations for each age group. The *PHEindicatormethods* package calculates directly standardised rates with confidence limits.

Appendix 1: Web questionnaire

This document provides a record of the questions asked in the survey in an easily readable format with the specifications for the web version of the survey.

A separate version of the questionnaire formatted for paper self-completion is available as appendix 2.

Questions are in the format:

{ASK ALL} ← Routing on first line, bold red text and curly brackets around the condition, for example **{ASK ALL}** or **{IF PdWrk = 2}**. A text description in brackets follows any routing to make the routing easier to follow. Eg **(ASK IF IN PAID WORK)**

PdWrk ← Variable name on next line, bold blue text. Additional instructions: [FLIP SCALE] or [RANDOMISE] or [GRID] etc.

“Did you do any paid work in the seven days ending Sunday...” ← question text in bold.

(Select one option only) ← instructions to respondent in bracketed italics, if applicable.

1. Yes ← answer categories, all numbered, *except Don't know and Prefer not to answer*
2. No
Don't know
Prefer not to answer

Some questions have write-in codes where respondents can provide detail – typically these are where an answer does not fit into the existing codeframe – bracketed text : ‘Other *(please write in)*’

All questions have ‘Don't know’ and ‘Prefer not to answer’ categories (un-numbered)

Some questions have help boxes with additional text which respondents can click on:

HELP:

How do I answer this question?

Some questions contain text substitutions which pull through answers from prior questions, or text varies according to those answers. These are displayed in red bold text with curly brackets – for example:

You said that you are **{#Age} years old. Can I just check is this correct?**

Questions where the respondent can selected more than one answers (multicoded) have the instruction *(Please select all that apply)*. However, this may not apply to all answer categories; those for which it does not apply have the text **[EXCLUSIVE]** after them.

1.1 INTRODUCTION

{ASK ALL}

Intro0

Please enter your unique access code (it is the eight-character/digit code starting with 'DR' from the 'How to take part' section your letter) in the box below and click 'NEXT'.

If you are experiencing any problems logging in or other technical problems, then please get in touch using our contact details below:

Email: LPHS@scotcen.org.uk

Freephone: 0800 652 0601

NOTE: IF THE RESPONDENT PRESSES THE 'STOP' BUTTON DURING THE INTERVIEW THEN THEY GET THE FOLLOWING TEXT:

You have stopped the survey by pressing the 'Stop' button. The answers to the questions have been saved.

We would be very grateful if you could finish the survey when you have time.

To do this now, please click this link, re-enter your access code and it will take you back to where you stopped.

To do this later please go to the survey home page (survey.natcen.ac.uk/LPHS), re-enter your access code and it will resume the survey where you stopped.

If you are having any problems with the survey, please contact us and we can help:

Email: LPHS@scotcen.org.uk

Freephone: 0800 652 0601

Click 'NEXT' to continue.

{ASK ALL}

Intro1

Thank you for taking the time to complete this survey. Your answers will help the NHS to improve the services we provide for people living in Lothian.

The survey should take 10-15 minutes to complete.

Your answers will be treated as strictly confidential. If you do not want to answer a question, you can move on to the next question.

Further information about the survey can be found at:

<https://services.nhsllothian.scot/LothianPublicHealthSurvey>

More information about ScotCen is also available on the ScotCen project website:

<https://natcen.ac.uk/s/lothian-public-health-survey-2023>

PLEASE TICK THE BOX BELOW TO INDICATE THAT YOU HAVE READ THE INFORMATION PROVIDED TO YOU ABOUT THE SURVEY AND ARE HAPPY TO PROCEED.

1. Continue

2.1 ABOUT YOU

{ASK ALL}

Move

Firstly, can we just check, is the address we sent the survey invitation letter to is your current address?

1. Yes, I am living at the address the letter was sent to
2. No, I have moved
3. Prefer not to answer

{IF Move = 2} (ASK IF MOVED)

NewAdd

Can we please take your new postcode? This is just so we can use it to analyse the survey data by different types of area.

1. ENTER POSTCODE
2. Don't know
3. Prefer not to answer

{IF NewAdd = 2, 3 or not EH or TD13 postcode} (ASK IF DON'T KNOW OR REFUSED NEW POSTCODE, OR IF POSTCODE IS NOT IN THE LOTHIANS)

NewLA

Can you tell us which Local Authority you are now living in?

1. Edinburgh
2. East Lothian
3. Midlothian
4. West Lothian
5. Elsewhere
6. Don't know
7. Prefer not to answer

{IF NewLA = 5, 6 or 7} (ASK IF NOT LIVING IN EDINBURGH OR THE LOTHIANS)

ScreenOut1

Thank you for your time. The survey is only for those living in Edinburgh and the Lothians so we can plan for the future. {Survey ends}

{ASK ALL}

Age

Firstly, we would like to ask you a few questions about you to help us understand how health and wellbeing varies across different groups of people living in the Lothians.

What was your age last birthday?

(IF 97+ CODE AS 97)

- 0 - 97
- Don't know
- Prefer not to answer

{IF Age = 2 or 3} (ASK IF DON'T KNOW OR REFUSED AGE IN YEARS)

Ageband

Knowing your age would really help us understand how health is related to age.

Which of the following age groups best applies?

1. Under 16
 2. 16-24
 3. 25-34
 4. 35-44
 5. 45-54
 6. 55-64
 7. 65-74
 8. 75 or over
 9. Don't know
- Prefer not to answer

{IF Age<16 or AgeBand=1} (ASK IF UNDER 16 YEAR OLD)

AgeChk

You said that you are {#Age} years old. Can I just check is this correct?

1. Yes
2. No, I entered my age incorrectly

[IF AgeChk = 2, ASK AGE AGAIN]

{IF AgeChk = 1} (ASK IF UNDER 16 YEARS OLD)

ScreenOut2

Unfortunately, only those aged 16 or above are able to take part. Thank you for your time.

{Survey ends}

{ASK ALL}

Sex

What is your sex?

(Select one option only)

HELP:

How do I answer this question? If you are transgender the answer you give can be different from what is on your birth certificate. You do not need a Gender Recognition Certificate (GRC). If you are non-binary or you are not sure how to answer, you could use the sex registered on your official documents, such as your passport. A voluntary question about trans status or history will follow. You can respond as non-binary at that question.

1. Female
 2. Male
- Don't know
Prefer not to answer

{ASK ALL}

Trans

Do you consider yourself to be trans, or have a trans history?

Trans is a term used to describe people whose gender is not the same as the sex they were registered at birth.

(Select one option only)

HELP:

How do I answer this question? If your gender is the same as the sex you were registered at birth and you do not consider yourself to be trans or have a trans history, tick 'No'. If you consider yourself to be trans or have a trans history, tick 'Yes' and you can write in the term you use to describe your trans status.

Why is this question asked? As there is little data on the size and location of the trans population in the Lothian area, your answer to this question allows NHS Lothian to plan and design services. It is also used for equality monitoring.

1. No
2. Yes
- Don't know
- Prefer not to answer

{IF Trans = 2} (ASK IF TRANS OR TRANS HISTORY)

TransStat

Please describe your trans status:

1. Non-binary
2. Trans man
3. Trans woman
4. Other (*please write in*)
- Don't know
- Prefer not to answer

{ASK ALL}

Ethn

What is your ethnic group?

1. White
2. Mixed or multiple ethnic groups
3. Asian, Scottish Asian or British Asian
4. African, Scottish African or British African
5. Caribbean or Black
6. Other ethnic group
- Don't know
- Prefer not to answer

{IF ethn=1} (White)

EthnW

1. Scottish
2. Other British
3. Irish
4. Polish
5. Gypsy/Traveller
6. Roma
7. Showman / Showwoman
8. Other white ethnic group (*please write in*)

{IF ethn=2} (Mixed or multiple)

EthnM

1. Any mixed or multiple ethnic groups (*please write in*)

{IF ethn=3} (Asian)

EthnAs

1. Pakistani, Scottish Pakistani or British Pakistani
2. Indian, Scottish Indian or British Indian
3. Bangladeshi, Scottish Bangladeshi or British Bangladeshi
4. Chinese, Scottish Chinese or British Chinese
5. Other (*please write in*)

{IF ethn=4} (African)

EthnAf

1. Please write in (for example, Nigerian, Somali)

{IF ethn=5} (Caribbean or black)

EthnCB

1. *Please write in*

{IF ethn=6} (Other group)

EthnO

1. Arab, Scottish Arab or British Arab
2. Other (for example, Sikh, Jewish) (*please write in*)

3.1 EXERCISE, DIET AND SMOKING

{ASK ALL}

Active

Now thinking about your health and lifestyle ...

In the past 7 days, how much time did you spend doing physical activity which was enough to raise your breathing rate? For example, brisk walking, cycling, housework, gardening, playing sports, doing an exercise class, etc.

1. Not at all in the last 7 days
 2. Less than half an hour
 3. Between half an hour and 1 hour
 4. Over 1 hour up to 1 ½ hours
 5. Over 1 ½ hours up to 2 hours
 6. Over 2 hours up to 2 ½ hours
 7. More than 2 ½ hours
- Don't know
Prefer not to answer

{ASK ALL}

Diet

How many portions of fruit or vegetables do you eat in a typical day (fresh, frozen, canned or dried)? Examples of a portion size are: 1 cereal bowl of salad; or 3 tablespoons of vegetables; or 1 medium sized apple; or 2 plums.

1. None
 2. 1 portion
 3. 2 portions
 4. 3 portions
 5. 4 portions
 6. 5 portions or more
- Don't know
Prefer not to answer

{ASK ALL}

FoodIns

During the last 12 months, was there a time when you were worried you would run out of food because of a lack of money or resources?

1. Yes
2. No
3. Don't know
4. Prefer not to answer

{ASK ALL}

Alc12M

In the last 12 months, how often have you had a drink containing alcohol?

1. Never
 2. Monthly
 3. Two to four times a month
 4. Two to three times a week
 5. Four or more times a week
- Don't know
Prefer not to answer

{IF Alc12M > 1} (ASK IF DRANK ALCOHOL IN THE LAST 12 MONTHS)

AlcDay

How many standard drinks containing alcohol do you have on a typical day when you are drinking?

(A standard drink is half a pint of beer, a single measure of spirits or a small glass of wine.)

1. One or two
 2. Three or four
 3. Five or six
 4. Seven, eight, or nine
 5. Ten or more
- Don't know
Prefer not to answer

{IF Alc12M > 1} (ASK IF DRANK ALCOHOL IN THE LAST 12 MONTHS)

AlcBnge

Thinking about your drinking in the last 12 months, how often do you have six or more drinks on one occasion?

1. Never
2. Less than monthly
3. Monthly
4. Weekly
5. Daily or almost daily
6. Don't know
7. Prefer not to answer

{ASK ALL}

Smoke

Do you smoke or vape nowadays?

(Select all that apply)

1. Yes: cigarettes or roll-ups (not including e-cigarettes)
2. Yes: cigars
3. Yes: a pipe
4. Yes: Heat-not-burn cigarette (e.g. IQOS with HEETS, heatsticks)
5. Yes: an e-cigarette or vaping device
6. No **[EXCLUSIVE]**
Don't know **[EXCLUSIVE]**
Prefer not to answer **[EXCLUSIVE]**

{IF Smoke = 1-5} (ASK IF SMOKES OR VAPES)

SmkSupp

During the past 12 months, have you used any of the following to help you stop smoking?

(Select all that apply).

1. Nicotine replacement products (e.g. gum, patches, mouth or nasal spray, inhalator, lozenges, microtabs)
2. Medication (e.g. Champix, Varenicline, Zyban, Bupropion)
3. e-cigarettes or vaping devices
4. Support over the phone
5. Support via online chat
6. An in-person support group
7. 1 to 1 in-person support (e.g. from a GP or pharmacy)
8. Self-help (e.g. a mobile phone app, book, podcast etc.)
9. Alternative medicine (e.g. acupuncture, hypnotherapy)
10. Other (*please write in*)
11. None of the above **[EXCLUSIVE]**
Don't know **[EXCLUSIVE]**
Prefer not to answer **[EXCLUSIVE]**

{IF Smoke = 1-5} (ASK IF SMOKES OR VAPES)

SmkBarrs

Have any of the following prevented you from accessing support to help you stop smoking?

(Select all that apply).

1. I do not know who to ask for support
2. I feel uncomfortable or embarrassed
3. I have tried in the past and found it didn't work for me
4. It is difficult to find the time/I am too busy
5. It is difficult for me to access support because of mobility or accessibility issues
6. In-person support is not at a convenient place or time
7. I don't know what free services are available/I am concerned about the cost
8. I do not want to stop smoking
9. Other *(please write in)*

Don't know **[EXCLUSIVE]**

Prefer not to answer **[EXCLUSIVE]**

4.1 MENTAL WELL-BEING

{ASK ALL}

LifeSat

Now we'd like to ask some questions about your wellbeing and how you have been feeling.

Overall, how satisfied are you with your life nowadays?

1. 0 - not at all
2. 1
3. 2
4. 3
5. 4
6. 5
7. 6
8. 7
9. 8
10. 9
11. 10 – completely
Don't know
Prefer not to answer

{ASK ALL}

WellB

Below are some statements about feelings and thoughts. Please select the option that best describes your experience of each over the last 2 weeks.

WellB_Opt

1. **I've been feeling optimistic about the future**
 1. None of the time
 2. Rarely
 3. Some of the time
 4. Often
 5. All of the time
 - Don't know
 - Prefer not to answer

WellB_Use

2. **I've been feeling useful**
 1. None of the time
 2. Rarely
 3. Some of the time
 4. Often
 5. All of the time
 - Don't know
 - Prefer not to answer

WellB_Relx

3. I've been feeling relaxed

1. None of the time
 2. Rarely
 3. Some of the time
 4. Often
 5. All of the time
- Don't know
Prefer not to answer

WellB_Prbs

4. I've been dealing with problems well

1. None of the time
 2. Rarely
 3. Some of the time
 4. Often
 5. All of the time
- Don't know
Prefer not to answer

WlbB_Clear

5. I've been thinking clearly

1. None of the time
 2. Rarely
 3. Some of the time
 4. Often
 5. All of the time
- Don't know
Prefer not to answer

WellB_Close

6. I've been feeling close to other people

1. None of the time
 2. Rarely
 3. Some of the time
 4. Often
 5. All of the time
- Don't know
Prefer not to answer

WellB_Mind

7. I've been able to make up my own mind about things

1. None of the time
 2. Rarely
 3. Some of the time
 4. Often
 5. All of the time
- Don't know
Prefer not to answer

{ASK ALL}

Lonely

How much of the time during the past week have you felt lonely?

1. None or almost none of the time
 2. Some of the time
 3. Most of the time
 4. All or almost all of the time
- Don't know
Prefer not to answer

{ASK ALL}

SocSupp

If you had a serious personal crisis, how many people, if any, do you feel you could turn to for comfort and support?

1. 0
 2. 1-2
 3. 3-5
 4. 6-9
 5. 10+
- Don't know
Prefer not to answer

5.1 YOUR HEALTH

{ASK ALL}

Hlth

Now thinking about your physical and mental health ...

How is your health in general? Would you say it was ...

1. Very good
 2. Good
 3. Fair
 4. Bad
 5. Very bad
- Don't know
Prefer not to answer

{ASK ALL}

Hlth_Mob

Please select the ONE that best describes your health TODAY.

MOBILITY

1. I have no problems in walking about
 2. I have slight problems in walking about
 3. I have moderate problems in walking about
 4. I have severe problems in walking about
 5. I am unable to walk about
- Don't know
Prefer not to answer

{ASK ALL}

Hlth_Self

Please select the ONE that best describes your health TODAY.

SELF-CARE

1. I have no problems washing or dressing myself
 2. I have slight problems washing or dressing myself
 3. I have moderate problems washing or dressing myself
 4. I have severe problems washing or dressing myself
 5. I am unable to wash or dress myself
- Don't know
Prefer not to answer

{ASK ALL}

Hlth_Usual

Please select the ONE that best describes your health TODAY.

USUAL ACTIVITIES (e.g. work, study, housework, family or leisure activities)

1. I have no problems doing my usual activities
 2. I have slight problems doing my usual activities
 3. I have moderate problems doing my usual activities
 4. I have severe problems doing my usual activities
 5. I am unable to do my usual activities
- Don't know
Prefer not to answer

{ASK ALL}

Hlth_Pain

Please select the ONE that best describes your health TODAY.

PAIN / DISCOMFORT

1. I have no pain or discomfort
 2. I have slight pain or discomfort
 3. I have moderate pain or discomfort
 4. I have severe pain or discomfort
 5. I have extreme pain or discomfort
- Don't know
Prefer not to answer

{ASK ALL}

Hlth_Depr

Please select the ONE that best describes your health TODAY.

ANXIETY / DEPRESSION

1. I am not anxious or depressed
 2. I am slightly anxious or depressed
 3. I am moderately anxious or depressed
 4. I am severely anxious or depressed
 5. I am extremely anxious or depressed
- Don't know
Prefer not to answer

{ASK ALL}

HlthScaleIntro

Please be aware that the next question may take a few moments to load.

Please press 'next' below to continue.

{ASK ALL}

HlthScale

We would like to know how good or bad your health is TODAY.

You will see a scale numbered from 0 and 100.

100 means the best health you can imagine.

0 means the worst health you can imagine.

Please indicate on the scale how your health is TODAY.

NUMERIC: 0..100

Don't know

Prefer not to answer

{ASK ALL}

HlthCond

Do you have any of the following, which have lasted or are expected to last, at least 12 months? (Select all that apply).

1. Deafness or partial hearing loss
2. Blindness or partial sight loss
3. Full or partial loss of voice or difficulty speaking (a condition that requires you to use equipment to speak)
4. Learning disability (a condition that you have had since childhood that affects the way you learn, understand information and communicate)
5. Learning difficulty (a specific learning condition that affects the way you learn and process information)
6. Developmental disorder (a condition that you have had since childhood which affects motor, cognitive, social and emotional skills, and speech and language)
7. Physical disability (a condition that substantially limits one or more basic physical activities such as walking, climbing stairs, lifting or carrying)
8. Mental health condition (a condition that affects your emotional, physical and mental wellbeing)
9. Long-term illness, disease or condition (a condition, not listed above, that you may have for life, which may be managed with treatment or medication)
10. Other condition (*please write in*)
11. None of the above **[EXCLUSIVE]**
Don't know **[EXCLUSIVE]**
Prefer not to answer **[EXCLUSIVE]**

6.1 ACCESSING HEALTH SERVICES

{ASK ALL}

HlthServ

We would now like to ask you about your access to and experiences of health services in the Lothians.

During the past 12 months have you used any of the following for advice or treatment for your own health? Please include phone, online or video appointments. (Select all that apply).

1. Dentist
2. Pharmacy (not including for a vaccination)
3. Contacted/used NHS Inform or NHS 24 (111)
4. General Practice doctor appointment (not including for a vaccination)
5. An appointment with a nurse based at a General Practice
6. Home visit from a doctor, nurse, or midwife
7. An optician/optometrist appointment
8. A physiotherapy appointment
9. Hospital appointment, not including an overnight stay
10. Hospital appointment including an overnight stay
11. Accident and emergency or ambulance
12. An appointment/session with a mental health professional
13. None of the above **[EXCLUSIVE]**
Don't know **[EXCLUSIVE]**
Prefer not to answer **[EXCLUSIVE]**

{ASK ALL}

Scrn

Depending on your age, sex, and medical history, you may have been invited to participate in screening run by the NHS. Have you been invited to take part in any of the following?

{IF NOT Sex = 2 and Trans = 1} (ASK ALL EXCEPT MALE WITHOUT TRANS HISTORY)

Scrn_Cerv

Cervical screening, in the last 5 years

1. Invited and took part
2. Invited and intend to take part
3. Invited but did not take part
4. Not invited
Don't know/Prefer not to answer
Not applicable

{ASK ALL}

Scrn_Bwl

Bowel screening, in the last 5 years

1. Invited and took part
2. Invited and intend to take part
3. Invited but did not take part
4. Not invited
- Don't know/Prefer not to answer

{IF NOT Sex = 2 and Trans = 1} (ASK ALL EXCEPT MALE WITHOUT TRANS HISTORY)

Scrn_Brst

Breast screening, in the last 5 years

1. Invited and took part
2. Invited and intend to take part
3. Invited but did not take part
4. Not invited
5. NOT APPLICABLE
- Don't know/Prefer not to answer

{ASK ALL}

Scrn_Diab

Diabetic eye screening, in the last 5 years

1. Invited and took part
2. Invited and intend to take part
3. Invited but did not take part
4. Not invited
- Don't know/Prefer not to answer

{ASK ALL}

Scrn_AAA

Abdominal aortic aneurysm (AAA) screening, in the last 5 years

1. Invited and took part
2. Invited and intend to take part
3. Invited but did not take part
4. Not invited
- Don't know/Prefer not to answer

{IF NOT Sex = 2 and Trans = 1} (ASK ALL EXCEPT MALE WITHOUT TRANS HISTORY)

Scrn_Preg

Pregnancy screening (blood tests and ultrasound scans) in the last 5 years

1. Invited and took part
2. Invited and intend to take part
3. Invited but did not take part
4. Not invited
5. NOT APPLICABLE
Don't know/Prefer not to answer

{ASK ALL}

Scrn_NewB

If you are/were the parent or carer of a new-born baby in the last 5 years, did they have a new-born hearing test and/or bloodspot/heel-prick test?

1. Invited and took part
2. Invited and took part
3. Invited but did not take part
4. Not invited
5. NOT APPLICABLE
Don't know/Prefer not to answer

{ASK ALL}

ScrnBarrs

Please tell us what, if anything, has prevented you from participating in any of these screening programmes?

If you nothing has prevented from attending, please select the first answer.

(Select all that apply).

1. I HAVEN'T BEEN PREVENTED FROM ATTENDING **[EXCLUSIVE]**
2. It is too difficult to book an appointment
3. It is difficult to get an appointment at a convenient time
4. My appointment was cancelled
5. I have caring responsibilities that prevented me from attending
6. It is difficult to get time off work to attend/I am too busy
7. It is difficult for me to arrange transport/find parking nearby
8. The appointment location was too difficult to get to
9. It is difficult for me to participate because of mobility or accessibility issues
10. I feel uncomfortable or embarrassed about taking part
11. I am worried about what the doctor might find
12. I am worried about being examined by someone of the opposite sex
13. I am concerned about catching coronavirus (COVID-19)
14. My partner or other family member discouraged me
15. I don't see the need for screening
16. Other *(please write in)*
Don't know **[EXCLUSIVE]**
Prefer not to answer **[EXCLUSIVE]**

7.1 WHERE YOU LIVE

{ASK ALL}

HouseQ

We would now like to ask some questions about where you live.

Overall, how do you rate the general condition of the accommodation you live in?

1. Very good
 2. Fairly good
 3. Average/alright
 4. Fairly poor
 5. Very poor
- Don't know
Prefer not to answer

{ASK ALL}

Comm

Thinking about the neighbourhood you live in, how would you rate it as a place to live?

1. Very good
 2. Fairly good
 3. Fairly poor
 4. Very poor
- Don't know
Prefer not to answer

{ASK ALL}

Crime

How safe would you feel walking alone in your neighbourhood after dark?

1. Very safe
 2. Fairly safe
 3. A bit unsafe
 4. Very unsafe
- Don't know
Prefer not to answer

8.1 YOUR TIME

{ASK ALL}

Caring

Now thinking about work and other commitments you may have ...

Do you look after, or give any help or support to family members, friends, neighbours or others because of long-term physical / mental ill-health / disability or problems related to old age?

Do not count anything you do as part of your paid employment

1. No
 2. Yes, up to 4 hours a week
 3. Yes, 5 to 19 hours a week
 4. Yes, 20 to 34 hours a week
 5. Yes, 35 to 49 hours a week
 6. Yes, 50 or more hours a week
- Don't know
Prefer not to answer

{ASK ALL}

Employ

In the last 7 days, have you done any of the following, even if only for one hour?

(select all that apply):

Note: if you are away from work ill, on maternity leave or on holiday leave this counts as temporarily away. If you are temporarily laid off but still have an employment contract, this also counts as temporarily away. If you have been laid off and no longer have an employment contract then select 'None of the above'.

1. Working as a full-time employee (30 hours or more per week) (or temporarily away)
2. Working as a part time employee (fewer than 30 hours per week) (or temporarily away)
3. On a Government sponsored training scheme (or temporarily away)
4. Self-employed or freelance (or temporarily away)
5. Working unpaid for own or family's business (or temporarily away)
6. Doing any other kind of paid work (or temporarily away)
7. None of the above **(EXCLUSIVE)**
Don't know **(EXCLUSIVE)**
Prefer not to answer **(EXCLUSIVE)**

{IF Employ = 7} (ASK IF DOING NONE OF LISTED THINGS AT Employ)

Unpaid

If you were not in paid employment in the last 4 weeks, what was the main reason?

1. Waiting for the results of an application for a job/being assessed by a training agent
2. Unemployed and looking for work
3. Student or school pupil
4. Looking after family/home
5. Unpaid carer
6. Long-term sick or disabled
7. Believe no jobs are available
8. Unemployed and not looking for work
9. Do not need or want employment
10. Retired from paid work
11. Any other reason
 - Don't know
 - Prefer not to answer

WORK AND EMPLOYMENT

This section is asked of respondents who, in the last 7 days (Employ) have been:

- Working as an employee (full or part-time) (codes 1 or 2 at Employ)
- Self-employed (code 4 at Employ)
- Doing any other kind of paid work (code 6 at Employ)

{IF Employ = 1, 2, 4 or 6} (ASK IF IN PAID EMPLOYMENT, SELF-EMPLOYED OR DOING OTHER PAID WORK)

NumJobs

How many paid jobs did you have in the week ending last Sunday?

OPEN-NUMERIC

1. 1
 2. 2
 3. 3
 4. 4
 5. 5 or more
- Don't know
Prefer not to answer

{IF Employ = 1 or 2} (ASK IF IN PAID EMPLOYMENT)

JobSec

Leaving aside your own personal intentions and circumstances, is your main job...?
By 'main' we mean the job you consider to be your main job if you have more than one and/or the one you spend the most time working in.

1. Permanent
 2. Temporary (e.g. casual or seasonal work, a fixed-term contract, employed through an employment agency)
- Don't know
Prefer not to answer

{IF Employ = 1, 2, 4 or 6} (ASK IF IN PAID EMPLOYMENT, SELF-EMPLOYED OR DOING OTHER PAID WORK)

ZeroHrs

Are you employed on a zero hours contract in your main job? (i.e., one where you are not guaranteed any work or a minimum number of hours)

1. Yes
 2. No
- Don't know
Prefer not to answer

{IF Employ= 1, 2, 4 or 6} (ASK IF IN PAID EMPLOYMENT, SELF-EMPLOYED OR DOING OTHER PAID WORK)

JobSat

Overall, how satisfied are you with your main job?

1. Very dissatisfied
 2. Dissatisfied
 3. Not sure
 4. Satisfied
 5. Very satisfied
- Don't know
Prefer not to answer

{IF Employ= 1, 2, 4 or 6} (ASK IF IN PAID EMPLOYMENT, SELF-EMPLOYED OR DOING OTHER PAID WORK)

WrkStress

In general, how do you find your main job?

1. Not at all stressful
 2. Mildly stressful
 3. Moderately stressful
 4. Very stressful
 5. Extremely stressful
- Don't know
Prefer not to answer

10.1 CORONAVIRUS

{ASK ALL}

HadCov

We would now like to ask some health questions related to coronavirus or COVID-19.

Have you had coronavirus (COVID-19)?

If you have tested positive for coronavirus (COVID-19) on more than one occasion, please answer based on your most recent experience.

1. Yes, tested positive and recovered
 2. Yes, tested positive and still unwell
 3. Suspected, but have never tested positive
 4. No, not as far as I am aware
- Don't know
Prefer not to answer

{IF HadCov = 1 – 3} (ASK IF HAD OR SUSPECTED COVID)

LongCov

Have you ever experienced coronavirus (COVID-19) symptoms for more than 4 weeks, which are not explained by something else? e.g. cough, shortness of breath, extreme tiredness, changes to sense of taste or smell, muscle and joint pain, low mood, 'brain fog', loss of concentration or memory.

1. Yes, for 4 to 12 weeks (one to three months)
 2. Yes, for more than 12 weeks (three months)
 3. No
- Don't know
Prefer not to answer

{ASK ALL}

Vaxed

Have you received at least one coronavirus (COVID-19) vaccination?

1. Yes
 2. No, but I am planning to have the vaccine
 3. No, I do not want the vaccine
 4. No, I have not been offered the vaccine
- Don't know
Prefer not to answer

{IF Vaxed = 3} (ASK IF DO NOT WANT VACCINE)

NoVax

What is the reason you do not want the vaccine?

(select all that apply)

1. I am worried about side effects of the vaccine
2. I don't trust vaccines
3. I believe I am unlikely to become seriously unwell with the virus
4. I believe the impact of the coronavirus is being greatly exaggerated
5. I don't think it would be effective at stopping me catching the coronavirus
6. I have a condition which would make it unsafe for me
7. Other (*please write in*)
Don't know **[Exclusive]**
Prefer not to answer **[Exclusive]**

11.1 WATER FLUORIDATION

{ASK ALL}

WaterFI

There is strong recent evidence and support from UK Chief Medical Officers that adding fluoride to water supplies will help reduce tooth decay. This question is only intended to explore your attitude towards this. The issue would be subject to formal public consultation before any future decisions were taken.

Do you agree or disagree with the following statement?

I am open to the possibility of water fluoridation in my local area.

1. Agree
 2. Neither agree nor disagree
 3. Disagree
- Don't know what water fluoridation is
Prefer not to answer

12.1 FINAL QUESTIONS ABOUT YOU

{ASK ALL}

HHComp

Finally, some more questions about you that will help us to understand the health and wellbeing of different people living in the Lothians.

Thinking about the address you live at all or most of the time, how many people (including yourself) live there as their main home?

1. Adults (aged 18 years or over): *enter number*
 2. Children aged 14-17 years: *enter number*
 3. Children aged 0-13 years: *enter number*
- Don't know
Prefer not to answer

{ASK ALL}

Tenure

In which of these ways does your household occupy the house/flat you live in?

1. Buying with mortgage/loan
 2. Own it outright
 3. Part rent / part mortgage
 4. Rent from a private landlord or letting agency
 5. Rent from the Council
 6. Rent from a Housing Association / Housing co-operative or charitable trust (including Scottish Homes)
 7. Living here rent free
 8. Other
- Don't know
Prefer not to answer

{ASK ALL}

Quals

Which of these qualifications do you have?

Tick *all* that apply.

1. O Grade, Standard Grade, National 3, 4, or 5, Intermediate 1 or 2, GCSE, CSE or equivalent
2. Higher, Advanced Higher, SCE Higher Grade, CSYS, A Level, AS Level or equivalent
3. Apprenticeship (trade or equivalent)
4. Apprenticeship (Foundation or equivalent)
5. Apprenticeship (Modern or equivalent)
6. Apprenticeship (Graduate or equivalent)
7. GSVQ Foundation or Intermediate, SVQ level 1 or 2, SCOTVEC Module, City and Guilds Craft or equivalent
8. GSVQ Advanced, SVQ level 3, ONC, OND, SCOTVEC National Diploma, City and Guilds Advanced Craft or equivalent
9. HNC, HND, SVQ level 4 or equivalent
10. Other school qualifications not already mentioned (including foreign qualifications)
11. Other post-school but pre-Higher Education qualifications not already mentioned (including foreign qualifications)
12. Degree, postgraduate qualifications, Masters, PhD, SVQ level 5 or equivalent
13. Professional qualifications (for example, teaching, nursing, accountancy)
14. Other Higher Education qualifications not already mentioned (including foreign qualifications)
15. No qualifications
- Don't know
- Prefer not to answer

{ASK ALL}

HghtUnit

We would like to know how tall you are. Would you prefer to tell us your height in metres and centimetres or feet and inches?

1. Metres and centimetres
 2. Feet and inches
- I don't know my height
I'd prefer not to give my height

{IF HghtUnit=1} (METRIC)

HghtMet

What is your height without shoes?

Please enter a number in each box. If you are unsure, please give your best estimate.

meters: *write in*

cm: *write in*

{IF HghtUnit=2} (IMPERIAL)

HghtImp

What is your height without shoes?

Please enter a number in each box. If you are unsure, please give your best estimate.

feet: *write in*

inches: *write in*

{ASK ALL}

WghtUnit

We would like to know how much you weigh. Would you prefer to tell us your weight in kilograms or stones and pounds?

1. Kilograms
 2. Stones and pounds
- I don't know my weight
I'd prefer not to give my weight

{IF WghtUnit=1} (METRIC)

WghtMet

How much do you weigh? If you are unsure, please give your best estimate.

kg: *write in*

{IF WghtUnit=2} (IMPERIAL)

WghtImp

How much do you weigh? Please enter a number in each box. If you are unsure, please give your best estimate.

st: *write in*

lbs: *write in*

{ASK ALL}

Income

What is your household's total income from all sources over the last 12 months (before tax)? Please include earnings, benefits or tax credits, pension and any other income.

1. Less than £5,200
 2. £5,200 to £10,399
 3. £10,400 to £15,599
 4. £15,600 to £20,799
 5. £20,800 to £25,999
 6. £26,000 to £36,399
 7. £36,400 to £51,999
 8. £52,000 to £77,999
 9. £78,000 to £103,999
 10. £104,000 or more
- Don't know
Prefer not to answer

{ASK ALL}

FuelPov

During the last 12 months, was there a time when you felt unable to heat your home or cook food, because of a lack of money or resources?

1. Yes
2. No
3. Don't know
4. Prefer not to answer

13.1 PERMISSION TO RECONTACT

{ASK ALL}

Recon

Researchers working for or on behalf of NHS Lothian may wish to speak to some people in more detail to get a fuller picture of the health and wellbeing of people living in the Lothians.

If you agree to be recontacted, you will be given more details about the specific research being undertaken at the time you are contacted and you will be free to change your mind at that time if you wish to.

If you agree to be recontacted, your contact details will be held for up to five years before being securely destroyed. Your details will be stored securely by the research team at NHS Lothian and only shared with approved researchers working on their behalf for the purposes of this research. Your contact details will be stored securely, separate from the results of the survey and only shared with the organisation undertaking the research for the purposes of inviting you to take part.

Are you happy to be contacted for this follow up research?

1. Yes
2. No
- Don't know
- Refused

{IF Recon = 1} (ASK IF WILLING TO BE RECONTACTED)

ReconDet

It is important that we have the correct details for you.

Is your name correct on the letter we sent you?

1. Yes
2. No

{IF ReconDet = 2}

Name

Can you please provide us with your name?

1. Title
2. First name
3. Surname

{IF Recon = 1} (ASK IF WILLING TO BE RECONTACTED)

ReconEm

What is your email address so we can contact you directly about the follow up research if we need to?

Note that your email address will only be used to contact you as part of this research.

Please enter your email below:

OPEN FREETEXT

{IF Recon = 1} (ASK IF WILLING TO BE RECONTACTED)

ReconTel

What is the best phone number to contact you on? Your phone number will only be used to contact you as part of this research.

OPEN 2

{ASK ALL}

FinalC

Thank you for taking the time to complete our survey. We value the information you have provided.

Please now close this browser window.

[DOC ENDS]

Appendix 2 – Paper version of survey



P17343 / <Serial> / <CKL>
<BARCODE>

Lothian Public Health Survey 2023

How to fill in this questionnaire:

- Most questions simply require you to place a cross (x) in one or more of the boxes.
- On most pages you should answer ALL questions but sometimes you will find an instruction next to the box you have crossed telling you to skip to another question, **otherwise you should go to the next question.**
- There are two columns of questions per page.
- If you have made a mistake, please completely fill the box to show this was a mistake and then cross the correct answer.
- If you do not want to answer a particular question, do not know or are unsure of an answer, you can leave the question blank.

REMEMBER, if you would prefer, you can complete the questionnaire online instead:

1. Go to: <https://survey.natcen.ac.uk/LPHS>
2. Type in the unique access code printed on the letter
3. Answer the questions and then click submit.

You can access the survey on a computer, laptop, tablet or mobile phone.

How do I return my completed paper questionnaire?

Please return the survey using the pre-paid envelope provided, or post it to:

The Scottish Centre for Social Research
PO Box 162
69 North Street
Brighton
BN41 9EL

Example

Please see an example of how to fill out this questionnaire below:

In the last 12 months, how often have you had a drink containing alcohol?

CROSS(X) ONE BOX

Never → go to Q3

Monthly

Two to four times a month

Two to three times a week

Four or more times a week

Don't know

Prefer not to answer

P17343 LPHS Participant questionnaire Mailing 3, version 2.0 28/02/2023 IRAS project ID: 316914

Qa. Firstly, can we just check, is the address we sent the survey invitation letter to your current address?

1. Yes, I am living at the address the letter was sent to → **go to Q1** 050

2. No, I have moved → **go to Qb**

Qb. Can you tell us which Local Authority you are now living in?

1. City of Edinburgh → **go to Qc**

2. East Lothian → **go to Qc**

3. Midlothian → **go to Qc** 051

4. West Lothian → **go to Qc**

5. Elsewhere ↓

IF YOU ARE NO LONGER LIVING IN EDINBURGH OR THE LOTHIANs THANK YOU FOR YOUR TIME – THERE IS NO NEED TO ANSWER THE REMAINDER OF THE QUESTIONNAIRE

Qc. Can we please take your new postcode? This is just so we can use it to analyse the survey data by different types of area.

Please write in

052-058

About you

Q1. What was your age ON YOUR last birthday?

Please write in

years 059-061

Q2. If you have not given us your age in years, could you tell us which age-band you are in? Knowing your age would really help us understand how health is related to age.

CROSS(X) ONE BOX

16-24

25-34

35-44

45-54 062

55-64

65-74

75 or over

Q3. What is your sex?

CROSS(X) ONE BOX

Female 063

Male

How do I answer this question? If you are transgender, the answer you give can be different from what is on your birth certificate. You do not need a Gender Recognition Certificate (GRC). If you are non-binary or you are not sure how to answer, you could use the sex registered on your official documents, such as your passport. **A voluntary question about trans status or history is included at the end of the questionnaire.** You can respond as non-binary at that question.

Page 2 of 20

Q4. What is your ethnic group?

Choose **ONE** section from A – F, then **CROSS (X) ONE BOX** which best describes your ethnic group or background.

A. White

- Scottish
 - Other British
 - Irish
 - Polish
 - Gypsy / Traveller
 - Roma
 - Showman / Showwoman
 - Other white ethnic group *(please write in)*
-

B. Mixed or multiple ethnic groups

- Any mixed or multiple ethnic groups *(please write in)*
-

C. Asian, Scottish Asian or British Asian

- Pakistani, Scottish Pakistani or British Pakistani
 - Indian, Scottish Indian or British Indian
 - Bangladeshi, Scottish Bangladeshi or British Bangladeshi
 - Chinese, Scottish Chinese or British Chinese
 - Other *(please write in)*
-

D. African, Scottish African or British African

- Please write in (for example, Nigerian, Somali)*
-

E. Caribbean or Black

- Please write in (for example, Caribbean, Black, Scottish Caribbean, Black Scottish)*
-

F. Other ethnic group

- Arab, Scottish Arab or British Arab
 - Other *(please write in (for example, Sikh, Jewish))*
-

054-065

SPARE: 073-079

Exercise, diet and smoking

Q5. In the past 7 days, how much time did you spend doing physical activity which was enough to raise your breathing rate?

For example, brisk walking, cycling, housework, gardening, playing sports, doing an exercise class, etc.

CROSS(X) ONE BOX

- Not at all in the last 7 days
- Less than half an hour
- Between half an hour and 1 hour
- Over 1 hour up to 1 ½ hours
- Over 1 ½ hours up to 2 hours
- Over 2 hours up to 2 ½ hours
- More than 2 ½ hours
- Don't know

080-081

Q6. How many portions of fruit or vegetables do you eat in a typical day (fresh, frozen, canned or dried)?

Examples of a portion size are: 1 cereal bowl of salad; or 3 tablespoons of vegetables; or 1 medium sized apple; or 2 plums.

CROSS(X) ONE BOX

- None
- 1 portion
- 2 portions
- 3 portions
- 4 portions
- 5 portions or more
- Don't know

082

Q7. During the last 12 months, was there a time when you were worried you would run out of food because of a lack of money or resources?

CROSS(X) ONE BOX

- Yes
- No
- Don't know

083

Q8. In the last 12 months, how often have you had a drink containing alcohol?

CROSS(X) ONE BOX

- Never → go to Q11
- Monthly
- Two to four times a month
- Two to three times a week
- Four or more times a week
- Don't know

084

Q9. How many standard drinks containing alcohol do you have on a typical day when you are drinking?

(A standard drink is half a pint of beer, a single measure of spirits or a small glass of wine.)

CROSS(X) ONE BOX

- One or two
- Three or four
- Five or six
- Seven, eight, or nine
- Ten or more
- Don't know

085

Q10. Thinking about your drinking in the past 12 months, how often do you have six or more drinks on one occasion?

CROSS(X) ONE BOX

- Never
- Less than monthly
- Monthly
- Weekly
- Daily or almost daily
- Don't know

086

Q11. Do you smoke or vape nowadays?

Please select all that apply

- Yes: cigarettes or roll-ups (not including e-cigarettes)
- Yes: cigars
- Yes: a pipe
- Yes: Heat-not-burn cigarette (e.g. IQOS with HEETS, heatsticks)
- Yes: an e-cigarette or vaping device
- No → go to Q14 on page 6 (Mental well-being)
- Don't know

087-093

Q12. During the past 12 months, have you used any of the following to help you stop smoking?

Please select all that apply

- Nicotine replacement products (e.g. gum, patches, mouth or nasal spray, inhalator, lozenges, microtabs)
- Medication (e.g. Champix, Varenicline, Zyban, Bupropion)
- E-cigarettes or vaping devices
- Support over the phone
- Support via online chat
- An in-person support group
- 1 to 1 in-person support (e.g. from a GP or pharmacy)
- Self-help (e.g. a mobile phone app, book, podcast etc.)
- Alternative medicine (e.g. acupuncture, hypnotherapy)
- Other (please write in)

118

- NONE OF THE ABOVE
- Don't know

094-117

SPARE: 119-129

Q13. Have any of the following prevented you from accessing support to help you stop smoking?

Please select **all** that apply

- I do not know who to ask for support
- I feel uncomfortable or embarrassed
- I have tried in the past and found it didn't work for me
- It is difficult to find the time / I am too busy
- It is difficult for me to access support because of mobility or accessibility issues
- In-person support is not at a convenient place or time
- I don't know what free services are available / I am concerned about the cost
- I DO NOT WANT TO STOP SMOKING
- Other (please write in)

- Don't know

130-140

SPWE: 151-150

Mental well-being

Q14. Overall, how satisfied are you with your life nowadays?

CROSS(X) ONE BOX

- 0 - not at all
- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10 - completely
- Don't know

160-161

Q15. Below are some statements about feelings and thoughts.

Please *CROSS(X) ONE BOX* that best describes your experience of each over the last **TWO WEEKS** for each statement.

	None of the time	Rarely	Some of the time	Often	All of the time	Don't know
I've been feeling optimistic about the future	<input type="checkbox"/> 162					
I've been feeling useful	<input type="checkbox"/> 163					
I've been feeling relaxed	<input type="checkbox"/> 164					
I've been dealing with problems well	<input type="checkbox"/> 165					
I've been thinking clearly	<input type="checkbox"/> 166					
I've been feeling close with other people	<input type="checkbox"/> 167					
I've been able to make up my own mind about things	<input type="checkbox"/> 168					

Q16. How much of the time during the past week have you felt lonely?

CROSS(X) ONE BOX

- None or almost none of the time
- Some of the time
- Most of the time
- All or almost all of the time
- Don't know

169

Q17. If you had a serious personal crisis, how many people, if any, do you feel you could turn to for comfort and support?

CROSS(X) ONE BOX

- 0
- 1-2
- 3-5
- 6-9
- 10+
- Don't know

170

SPARE-171-179

Your health

Q18. How is your health in general? Would you say it was ...

CROSS(X) ONE BOX

- Very good
- Good
- Fair
- Bad
- Very bad
- Don't know

180

Q19. The following questions ask how you feel about different aspects of your health.

Under each heading, please *CROSS (X) the ONE BOX* that best describes your health today.

MOBILITY

- I have no problems in walking about
- I have slight problems in walking about
- I have moderate problems in walking about
- I have severe problems in walking about
- I am unable to walk about
- Don't know

181

SELF-CARE

- I have no problems washing or dressing myself
- I have slight problems washing or dressing myself
- I have moderate problems washing or dressing myself
- I have severe problems washing or dressing myself
- I am unable to wash or dress myself
- Don't know

182

USUAL ACTIVITIES (e.g. work, study, housework, family or leisure activities)

- I have no problems doing my usual activities
- I have slight problems doing my usual activities
- I have moderate problems doing my usual activities
- I have severe problems doing my usual activities
- I am unable to do my usual activities
- Don't know

183

PAIN / DISCOMFORT

- I have no pain or discomfort
- I have slight pain or discomfort
- I have moderate pain or discomfort
- I have severe pain or discomfort
- I have extreme pain or discomfort
- Don't know

184

ANXIETY / DEPRESSION

- I am not anxious or depressed
- I am slightly anxious or depressed
- I am moderately anxious or depressed
- I am severely anxious or depressed
- I am extremely anxious or depressed
- Don't know

185

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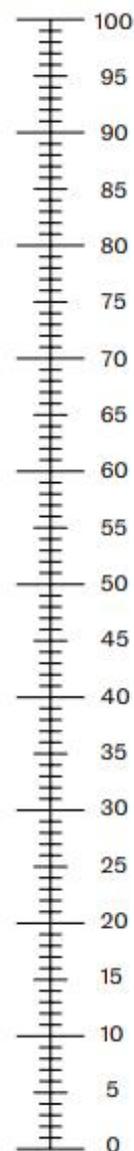
Q20.

- We would like to know how good or bad your health is **TODAY**.
- This scale is numbered from 0 to 100.
- 100 means the best health you can imagine.
0 means the worst health you can imagine.
- Please mark an X on the scale to indicate how your health is **TODAY**.
- Now, write the number you marked on the scale in the box below.

YOUR HEALTH TODAY =

186-188

The best health
you can imagine



The worst health
you can imagine

SHAPE: 189-199

Q21. Do you have any of the following, which have lasted or are expected to last, at least 12 months?

Please select **all** that apply

- Deafness or partial hearing loss
- Blindness or partial sight loss
- Full or partial loss of voice or difficulty speaking (a condition that requires you to use equipment to speak)
- Learning disability (a condition that you have had since childhood that affects the way you learn, understand information and communicate)
- Learning difficulty (a specific learning condition that affects the way you learn and process information)
- Developmental disorder (a condition that you have had since childhood which affects motor, cognitive, social and emotional skills, and speech and language)
- Physical disability (a condition that substantially limits one or more basic physical activities such as walking, climbing stairs, lifting or carrying)
- Mental health condition (a condition that affects your emotional, physical and mental wellbeing)
- Long-term illness, disease or condition (a condition, not listed above, that you may have for life, which may be managed with treatment or medication)
- Other condition (*please write in*)

- NONE OF THE ABOVE
- Don't know

200-223

SPARE: 225-229

Page 10 of 20

Accessing health services

We would now like to ask you about your access to and experiences of health services in the Lothians.

Q22. During the past 12 months have you used any of the following for advice or treatment about your OWN health? Please include phone, online or video appointments.

Please select **all** that apply

- Dentist
- Pharmacy (not including for a vaccination)
- Contacted / used NHS Inform or NHS 24 (111)
- General Practice doctor appointment (not including for a vaccination)
- An appointment with a nurse based at a General Practice
- Home visit from a doctor, nurse, or midwife
- An optician / optometrist appointment
- A physiotherapy appointment
- Hospital appointment, not including an overnight stay
- Hospital appointment including an overnight stay
- Accident and emergency or ambulance
- An appointment / session with a mental health professional
- NONE OF THE ABOVE
- Don't know

230-257

Q23. Depending on your age, sex, and medical history, you may have been invited to participate in screening run by the NHS. Have you been invited to take part in any of the following in the last 5 years?

CROSS(X) ONE BOX in each row

	Invited and took part	Invited and intend to take part	Invited but did not take part	Not invited	Not applicable	Don't know
Cervical screening	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> ²⁵⁸
Bowel screening	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/> ²⁵⁹
Breast screening	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> ²⁶⁰
Diabetic eye screening	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/> ²⁶¹
Abdominal aortic aneurysm (AAA) screening	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/> ²⁶²
Pregnancy screening (blood tests and ultrasound scans)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> ²⁶³
If you are/were the parent or carer of a new-born baby in the last 5 years, did they have a new-born hearing test and/or bloodspot/heel-prick test?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> ²⁶⁴

Please turn over to Q24

Q24. Please tell us what, if anything, has prevented you from participating in any of these screening programmes?

Please select **all that apply**. If nothing has prevented you from participating, **CROSS (X)** the first box.

- I HAVEN'T BEEN PREVENTED FROM ATTENDING
- It is too difficult to book an appointment
- It is difficult to get an appointment at a convenient time
- My appointment was cancelled
- I have caring responsibilities that prevented me from attending
- It is difficult to get time off work to attend / I am too busy
- It is difficult for me to arrange transport / find parking nearby
- The appointment location was too difficult to get to
- It is difficult for me to participate because of mobility or accessibility issues
- I feel uncomfortable or embarrassed about taking part
- I am worried about what the doctor might find
- I am worried about being examined by someone of the opposite sex
- I am concerned about catching coronavirus (COVID-19)
- My partner or other family member discouraged me
- I don't see the need for screening
- Other (please write in)

Don't know

285-298
SPARE: 300-309

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Where you live

Q25. Thinking about the neighbourhood you live in, how would you rate it as a place to live?

CROSS(X) ONE BOX

- Very good
- Fairly good
- Average / alright
- Fairly poor
- Very poor
- Don't know

310

Q26. Overall, how do you rate the general condition of the accommodation you live in?

CROSS(X) ONE BOX

- Very good
- Fairly good
- Fairly poor
- Very poor
- Don't know

311

Q27. How safe would you feel walking alone in your neighbourhood after dark?

CROSS(X) ONE BOX

- Very safe
- Fairly safe
- A bit unsafe
- Very unsafe
- Don't know

312

Your time

Q28. Do you look after, or give any help or support to family members, friends, neighbours or others because of long-term physical / mental ill-health / disability or problems related to old age?

Do not count anything you do as part of your paid employment.

CROSS(X) ONE BOX

- No
- Yes, up to 4 hours a week
- Yes, 5 to 19 hours a week
- Yes, 20 to 34 hours a week
- Yes, 35 to 49 hours a week
- Yes, 50 or more hours a week
- Don't know

Q29. In the last 7 days, have you done any of the following, even if only for one hour?

Note: if you are away from work ill, on maternity leave or on holiday leave, this counts as temporarily away. If you are temporarily laid off but still have an employment contract, this also counts as temporarily away. If you have been laid off and no longer have an employment contract then select "None of the above".

Please select **all** that apply

- Working as a full-time employee (30 hours or more per week) (or temporarily away) → **Go to Work and employment section on page 15**
- Working as a part-time employee (fewer than 30 hours per week) (or temporarily away) → **Go to Work and employment section on page 15**
- On a Government sponsored training scheme (or temporarily away) → **Go to Q36 (Coronavirus)**
- Self-employed or freelance (or temporarily away) → **Go to Work and employment section on page 15**
- Working unpaid for own or family's business (or temporarily away) → **Go to Q30**
- Doing any other kind of paid work (or temporarily away) → **Go to Work and Employment section on page 15**
- NONE OF THE ABOVE → **Go to Q30**
- Don't know → **Go to Q36**

313

314-329

Q30. If you were NOT in paid employment in the last 4 weeks, what was the main reason?

CROSS(X) ONE BOX

- Waiting for the results of an application for a job / being assessed by a training agent
- Unemployed and looking for work
- Student or school pupil
- Looking after family / home
- Unpaid carer
- Long-term sick or disabled
- Believe no jobs are available
- Unemployed and not looking for work
- Do not need or want employment
- Retired from paid work
- Any other reason
- Don't know

PLEASE NOW GO TO Q36 (CORONAVIRUS)

330-331
SPARE: 332-339

Work and employment

ONLY ANSWER THIS SECTION IF YOU ARE IN PAID EMPLOYMENT, SELF-EMPLOYED OR DOING PAID WORK. IF YOU ARE NOT WORKING THEN PLEASE PLEASE GO TO Q36 (CORONAVIRUS)

Q31. How many paid jobs did you have in the week ending last Sunday?

CROSS(X) ONE BOX

- 1
- 2
- 3
- 4
- 5 or more
- Don't know

340

Q32. Leaving aside your own personal intentions and circumstances, is your main job...

By 'main' we mean the job you consider to be your main job if you have more than one and/or the one you spend the most time working in.

CROSS(X) ONE BOX

- Permanent
- Temporary (e.g. casual or seasonal work, a fixed-term contract, employed through an employment agency)
- Self-employed
- Don't know

341

Q33. Are you employed on a zero hours contract? (i.e. one where you are not guaranteed any work or a minimum number of hours)

CROSS(X) ONE BOX

- Yes
- No
- Don't know

342

Q34. Overall, how satisfied are you with your main job?

CROSS(X) ONE BOX

- Very dissatisfied
- Dissatisfied
- Not sure
- Satisfied
- Very satisfied
- Don't know

343

Q35. In general, how do you find your main job?

CROSS(X) ONE BOX

- Not at all stressful
- Mildly stressful
- Moderately stressful
- Very stressful
- Extremely stressful
- Don't know

344

SPARE: 345-349

Coronavirus

Q36. Have you had coronavirus (COVID-19)?

If you have tested positive for coronavirus (COVID-19) on more than one occasion, please answer based on your most recent experience.

CROSS(X) ONE BOX

- Yes, tested positive and recovered
- Yes, tested positive and still unwell
- Suspected, but have never tested positive
- No, not as far as I am aware → Go to Q38
- Don't know

350

Q37. Have you ever experienced coronavirus (COVID-19) symptoms for more than 4 weeks, which are not explained by something else? e.g. cough, shortness of breath, extreme tiredness, changes to sense of taste or smell, muscle and joint pain, low mood, 'brain fog', loss of concentration or memory.

CROSS(X) ONE BOX

- Yes, for 4 to 12 weeks (one to three months)
- Yes, for more than 12 weeks (three months)
- No
- Don't know

351

Q38. Have you received at least one coronavirus (COVID-19) vaccination?

CROSS(X) ONE BOX

- Yes → Go to Q40
- No, but I am planning to have the vaccine → Go to Q40
- No, I do not want the vaccine → Go to Q39
- No, I have not been offered the vaccine → Go to Q40
- Don't know → Go to Q40

352

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Q39. What is the reason you do not want the vaccine?

Please select **all that apply**

- I am worried about side effects of the vaccine
- I don't trust vaccines
- I believe I am unlikely to become seriously unwell with the virus
- I believe the impact of the coronavirus is being greatly exaggerated
- I don't think it would be effective at stopping me catching the coronavirus
- I have a condition which would make it unsafe for me
- Other (please write in)

359

- Don't know

353-358
SPARE: 370-379

Water fluoridation

There is strong recent evidence and support from UK Chief Medical Officers that adding fluoride to water supplies will help reduce tooth decay. This question is only intended to explore your attitude towards this. The issue would be subject to formal public consultation before any future decisions were taken.

Q40. Do you agree or disagree with the following statement?

I am open to the possibility of water fluoridation in my local area.

CROSS(X) ONE BOX

- Agree
- Neither agree nor disagree
- Disagree
- Don't know what water fluoridation is

380

Final questions about you

Finally, some more questions about you that will help us to understand the health and wellbeing of different people living in the Lothians.

Q41. Thinking about the address you live at all or most of the time, how many people (including yourself) live there as their main home?

Please write in

- | | | |
|--------------------------|--------------------------------|---------|
| <input type="text"/> | adults (aged 18 years or over) | 382-383 |
| <input type="text"/> | children aged 14-17 years | 384-385 |
| <input type="text"/> | children aged 0-13 years | 386-387 |
| <input type="checkbox"/> | Don't know | 381 |

Q42. In which of these ways does your household occupy the house/flat you live in?

CROSS(X) ONE BOX

- Buying with mortgage / loan
- Own it outright
- Part rent / part mortgage
- Rent from a private landlord or letting agency
- Rent from the Council
- Rent from a Housing Association/ Housing co-operative or charitable trust (including Scottish Homes)
- Living here rent free
- Other
- Don't know

388-389

Q43. Which of these qualifications do you have?

Please select **all that apply**

- O Grade, Standard Grade, National 3, 4, or 5, Intermediate 1 or 2, GCSE, CSE or equivalent
- Higher, Advanced Higher, SCE Higher Grade, CSYS, A Level, AS Level or equivalent
- Apprenticeship (trade or equivalent)
- Apprenticeship (Foundation or equivalent)
- Apprenticeship (Modern or equivalent)
- Apprenticeship (Graduate or equivalent)
- GSVQ Foundation or Intermediate, SVQ level 1 or 2, SCOTVEC Module, City and Guilds Craft or equivalent
- GSVQ Advanced, SVQ level 3, ONC, OND, SCOTVEC National Diploma, City and Guilds Advanced Craft or equivalent
- HNC, HND, SVQ level 4 or equivalent
- Other school qualifications not already mentioned (including foreign qualifications)
- Other post-school but pre-Higher Education qualifications not already mentioned (including foreign qualifications)
- Degree, postgraduate qualifications, Masters, PhD, SVQ level 5 or equivalent
- Professional qualifications (for example, teaching, nursing, accountancy)
- Other Higher Education qualifications not already mentioned (including foreign qualifications)
- NO QUALIFICATIONS
- Don't know

390-421

Q44. What is your height without shoes?

You can give your height in either metres or feet. If you are unsure, please give your best estimate.

Please write in

- | | | | | | | | | |
|--------------------------|------------|----------------------|----|----|----------------------|----|----------------------|----|
| <input type="text"/> | m | <input type="text"/> | cm | OR | <input type="text"/> | ft | <input type="text"/> | in |
| 423 | | 424-426 | | | 427 | | 428-429 | |
| <input type="checkbox"/> | Don't know | | | | | | | |
| 422 | | | | | | | | |

Q45. How much do you weigh? You can give your weight in either kilograms or stones. If you are unsure, please give your best estimate.

Please write in

kg **OR** st lbs

431-433

434-435

436-437

Don't know

430

SPARE: 438-440

Q46. What is your household's total income from all sources over the last 12 months (before tax)? Please include earnings, benefits or tax credits, pension and any other income.

CROSS(X) ONE BOX

- Less than £5,200
- £5,200 to £10,399
- £10,400 to £15,599
- £15,600 to £20,799
- £20,800 to £25,999
- £26,000 to £36,399
- £36,400 to £51,999
- £52,000 to £77,999
- £78,000 to £103,999
- £104,000 or more
- Don't know

450-451

Q47. During the last 12 months, was there a time when you felt unable to heat your home or cook food, because of a lack of money or resources?

CROSS(X) ONE BOX

- Yes
- No
- Don't know

452

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Q48. Do you consider yourself to be trans, or have a trans history?

Trans is a term used to describe people whose gender is not the same as the sex they were registered at birth.

How do I answer this question? If your gender is the same as the sex you were registered at birth and you do not consider yourself to be trans or have a trans history, *CROSS (X)* 'No'. If you consider yourself to be trans or have a trans history, *CROSS (X)* 'Yes' and you can write in the term you use to describe your trans status.

Why is this question asked? As there is little data on the size and location of the trans population in the Lothian area, your answer to this question allows NHS Lothian to plan and design services. It is also used for equality monitoring.

CROSS(X) ONE BOX

- No → **Go to 'Permission to recontact' section**
- Yes
- Don't know

453

Q49. Please describe your trans status:

CROSS(X) ONE BOX

- Non-binary
- Trans man
- Trans woman
- Other (please write in)

455

- Don't know

454

SPARE: 456-459

Permission to recontact

Researchers working for or on behalf of NHS Lothian may wish to speak to some people in more detail to get a fuller picture of the health and wellbeing of people living in Edinburgh and the Lothians.

If you agree to be recontacted, you will be given more details about the specific research being undertaken at the time you are contacted and you will be free to change your mind at that time if you wish to.

If you agree to be recontacted, your contact details will be held for up to five years before being securely destroyed. Your details will be stored securely by the research team at NHS Lothian and only shared with approved researchers working on their behalf for the purposes of this research. Your contact details will be stored securely, separate from the results of the survey and only shared with the organisation undertaking the research for the purposes of inviting you to take part.

Q50. Are you happy to be contacted for this follow up research?

- Yes → **Go to Q51**
- No – **Thank you for your help – please now place this questionnaire in the return envelope, seal and post (postage is already paid).**

460

Q51. It is important that we have the correct details for you. If your name is incorrect on the letter we sent you, please provide us with the correct details.

Title

461

First name

462

Surname

463

Q52. What is your email address so we can contact you directly about the follow up research if we need to? Note that your email address will only be used to contact you as part of this research.

Please enter your email below:

464

Q53. What is the best phone number to contact you on? Your phone number will only be used to contact you as part of this research.

Please enter your phone number below:

465

Thank you for taking the time to complete our survey. We value the information you have provided. Please now place this questionnaire in the return envelope, seal and post (postage is already paid).

If you have any queries or questions, please contact us (the Scottish Centre for Social Research - ScotCen) by

Email: LPHS@scotcen.org.uk or

Call Freephone: **0800 652 0601**

Appendix 3: Post-calibration weighted responses

This table provides a breakdown of the responses by local authority, age/sex category and deprivation category after weighting was applied. These are compared to population estimates taken from the [2022 Scottish census](#) and most recent [SIMD population estimates](#).

Table 1 – Population and respondent breakdown by local authority

Local authority	Population estimate (n)	Population estimate (%)	Respondents weighted by final weight (n)	Respondents weighted by final weight (%)
East Lothian	92,397	12.2	1,814	12.2
Midlothian	78,357	10.4	1,538	10.4
Edinburgh	437,001	57.9	8,575	57.8
West Lothian	147,617	19.5	2,898	19.5

Table 2 – Population and respondent breakdown by age and sex

Age and sex	Population estimate (n)	Population estimate (%)	Respondents weighted by final weight (n)	Respondents weighted by final weight (%)
Males 16-24	51,986	6.9	988	6.8
Males 25-34	65,200	8.6	1,263	8.6
Males 35-44	61,200	8.1	1,186	8.1
Males 45-54	57,800	7.7	1,123	7.7
Males 55-64	55,800	7.4	1,084	7.4
Males 65-74	40,500	5.4	787	5.4
Males 75+	29,800	3.9	580	4.0
Females 16-24	55,986	7.4	1,065	7.3
Females 25-34	69,300	9.2	1,339	9.2
Females 35-44	63,600	8.4	1,230	8.4
Females 45-54	59,500	7.9	1,154	7.9
Females 55-64	59,000	7.8	1,143	7.8
Females 65-74	44,600	5.9	864	5.9
Females 75+	41,100	5.4	797	5.5

Table 3 – Population and respondent breakdown by local authority, age and sex

Local authority, age and sex	Population estimate (n)	Population estimate (%)	Respondents weighted by final weight (n)	Respondents weighted by final weight (%)
East Lothian males 16-34	10,665	1.4	202	1.4
East Lothian males 35-54	14,000	1.9	259	1.8
East Lothian males 55-74	14,100	1.9	274	1.9
East Lothian males 75+	4,800	0.6	98	0.7
East Lothian females 16-34	11,632	1.5	193	1.3
East Lothian females 35-54	15,500	2.1	319	2.2
East Lothian females 55-74	15,400	2.0	307	2.1
East Lothian females 75+	6,300	0.8	134	0.9
Midlothian males 16-34	10,453	1.4	200	1.4
Midlothian males 35-54	12,500	1.7	235	1.6
Midlothian males 55-74	11,000	1.5	207	1.4
Midlothian males 75+	3,500	0.5	76	0.5
Midlothian females 16-34	10,504	1.4	199	1.3
Midlothian females 35-54	13,500	1.8	263	1.8
Midlothian females 55-74	12,300	1.6	235	1.6
Midlothian females 75+	4,600	0.6	97	0.7
Edinburgh males 16-34	76,417	10.1	1,481	10.1
Edinburgh males 35-54	67,800	9.0	1,336	9.2
Edinburgh males 55-74	50,000	6.6	979	6.7
Edinburgh males 75+	15,800	2.1	284	1.9
Edinburgh females 16-34	83,284	11.0	1,652	11.3
Edinburgh females 35-54	67,800	9.0	1,323	9.1
Edinburgh females 55-74	53,400	7.1	1,004	6.9
Edinburgh females 75+	22,500	3.0	391	2.7
West Lothian males 16-34	19,651	2.6	369	2.5
West Lothian males 35-54	24,700	3.3	479	3.3
West Lothian males 55-74	21,200	2.8	411	2.8
West Lothian males 75+	5,700	0.8	121	0.8
West Lothian females 16-34	19,866	2.6	361	2.5
West Lothian females 35-54	26,300	3.5	478	3.3
West Lothian females 55-74	22,500	3.0	462	3.2
West Lothian females 75+	7,700	1.0	176	1.2

Table 4 – Population and respondent breakdown by national SIMD deciles

National SIMD deciles	Population estimate (n)	Population estimate (%)	Respondents weighted by final weight (n)	Respondents weighted by final weight (%)
1	27,235	3.6	535	3.6
2	51,713	6.8	1,015	6.8
3	76,006	10.1	1,492	10.1
4	78,862	10.4	1,548	10.4
5	57,249	7.6	1,120	7.6
6	75,267	10.0	1,478	10.0
7	66,581	8.8	1,307	8.8
8	80,204	10.6	1,574	10.6
9	80,256	10.6	1,575	10.6
10	161,999	21.4	3,180	21.5

Table 5 – Population and respondent breakdown by national SIMD quintiles within local authorities

National SIMD percentiles within local authorities	Population estimate (n)	Population estimate (%)	Respondents weighted by final weight (n)	Respondents weighted by final weight (%)
East Lothian most deprived quintiles 1&2	28,996	3.8	570	3.9
East Lothian least deprived quintiles 3&4&5	59,719	7.9	1,243	8.4
Midlothian most deprived quintiles 1&2	30,244	4.0	641	4.3
Midlothian least deprived quintiles 3&4&5	45,268	6.0	897	6.1
Edinburgh most deprived quintiles 1&2	112,356	14.9	2,208	14.9
Edinburgh least deprived quintiles 3&4&5	330,089	43.7	6,367	42.9
West Lothian most deprived quintiles 1&2	62,221	8.2	1,170	7.9
West Lothian least deprived quintiles 3&4&5	86,479	11.4	1,728	11.7

Table 6 – Population and respondent breakdown by age and sex within national SIMD quintiles

Age and sex within SIMD quintiles	Population estimate (n)	Population estimate (%)	Respondents weighted by final weight (n)	Respondents weighted by final weight (%)
Males 16-34 SIMD quintile 1	13,454	1.8	260	1.8
Males 35-54 SIMD quintile 1	12,942	1.7	265	1.8
Males 55-74 SIMD quintile 1	9,191	1.2	185	1.3
Males 75+ SIMD quintile 1	2,322	0.3	52	0.4
Females 16-34 SIMD quintile 1	13,831	1.8	243	1.7
Females 35-54 SIMD quintile 1	14,030	1.9	250	1.7
Females 55-74 SIMD quintile 1	9,750	1.3	201	1.4
Females 75+ SIMD quintile 1	3,428	0.5	58	0.4
Males 16-34 SIMD quintile 2	25,750	3.4	489	3.4
Males 35-54 SIMD quintile 2	24,654	3.3	462	3.2
Males 55-74 SIMD quintile 2	18,754	2.5	368	2.5
Males 75+ SIMD quintile 2	5,695	0.8	110	0.8
Females 16-34 SIMD quintile 2	26,412	3.5	520	3.6
Females 35-54 SIMD quintile 2	25,163	3.3	487	3.3
Females 55-74 SIMD quintile 2	20,401	2.7	389	2.7
Females 75+ SIMD quintile 2	8,039	1.1	156	1.1
Males 16-34 SIMD quintile 3	21,806	2.9	387	2.6
Males 35-54 SIMD quintile 3	21,247	2.8	409	2.8
Males 55-74 SIMD quintile 3	16,319	2.2	357	2.4
Males 75+ SIMD quintile 3	4,597	0.6	96	0.7
Females 16-34 SIMD quintile 3	23,786	3.1	408	2.8
Females 35-54 SIMD quintile 3	20,974	2.8	425	2.9
Females 55-74 SIMD quintile 3	17,275	2.3	339	2.3
Females 75+ SIMD quintile 3	6,511	0.9	136	0.9
Males 16-34 SIMD quintile 4	22,832	3.0	407	2.8
Males 35-54 SIMD quintile 4	25,011	3.3	495	3.4

Age and sex within SIMD quintiles	Population estimate (n)	Population estimate (%)	Respondents weighted by final weight (n)	Respondents weighted by final weight (%)
Males 55-74 SIMD quintile 4	18,019	2.4	331	2.3
Males 75+ SIMD quintile 4	5,122	0.7	112	0.8
Females 16-34 SIMD quintile 4	24,483	3.2	482	3.3
Females 35-54 SIMD quintile 4	25,361	3.4	502	3.4
Females 55-74 SIMD quintile 4	19,046	2.5	380	2.6
Females 75+ SIMD quintile 4	6,910	0.9	138	0.9
Males 16-34 SIMD quintile 5	37,262	4.9	708	4.8
Males 35-54 SIMD quintile 5	37,100	4.9	679	4.6
Males 55-74 SIMD quintile 5	31,876	4.2	630	4.3
Males 75+ SIMD quintile 5	10,373	1.4	209	1.4
Females 16-34 SIMD quintile 5	37,621	5.0	752	5.1
Females 35-54 SIMD quintile 5	38,698	5.1	718	4.9
Females 55-74 SIMD quintile 5	34,477	4.6	700	4.8
Females 75+ SIMD quintile 5	14,848	2.0	309	2.1

Note that totals may not match exactly due to rounding and missing values in age and sex response data.

After calibration, weights were finalised by trimming one outlying top weight and rescaling to the responding sample size of 14825. The final weights have a design effect of 1.72, efficiency of 58%, and an effective sample size of 8619.

Appendix 4: Derived and recoded variables

Ethnicity - due to small numbers of respondents from some ethnic groups, for some analyses responses to the ethnicity question (Q4) were grouped - “Caribbean or Black” and “African, Scottish African or British African” were recoded as “African, British African, Caribbean or Black”

Meets activity recommendations – derived from responses to the physical activity question (Q5) and coded as follows; “More than 2.5 hours” was coded as “Yes”, anyone who responded “Don’t know” or did not answer the question was coded as NA, all other responses were coded as “No”.

Meets diet recommendations – derived from responses to the intake of fruit or vegetables question (Q6) and coded as follows; anyone who had responded “5 portions or more” was coded as “Yes”, anyone who responded “Don’t know” or did not answer the question was coded as NA, all other responses were coded as “No”.

AUDIT-C – responses to the three alcohol consumption questions (Q8, 9, and 10) were used to derive a variable used to assess the level of risk of active alcohol abuse or dependence (AUDIT-C). Details of the method are summarised briefly here:

- Responses to Q8 (In the last 12 months, how often have you had a drink containing alcohol?) were recoded as “Never” = 0, “Monthly” = 1, “Two to four times a month” = 2, “Two to three times a week” = 3, “Four or more times a week” = 4, non-response left blank.
- Responses to Q9 (How many standard drinks containing alcohol do you have on a typical day when you are drinking?) were recoded as “One or two” = 0, “Three or four” = 1, “Five or six” = 2, “Seven, eight, or nine” = 3, “Ten or more” = 4, non-response left blank.
- Responses to Q10 (In the past 12 months, how often do you have six or more drinks on one occasion?) were recoded as “Never” = 0, “Less than monthly” = 1, “Monthly” = 2, “Weekly” = 3, “Daily or almost daily” = 4, non-response left blank.
- The recoded responses to these three questions were summed (if one variable is missing then sum score is missing, but if the answer to Q8 is “Never” then the score

is set to 0) and the total used to determine risk of active alcohol abuse or dependence where:

- AUDIT-C ≤ 4 equals "Low risk",
- AUDIT-C ≤ 7 equals "Increasing risk",
- AUDIT-C ≤ 10 equals "Higher risk",
- AUDIT-C ≤ 12 equals "Possible dependence"

Smokes tobacco – anyone who had responded to the smoking question (Q11) with any of “cigarettes”, “cigars”, “a pipe”, and/or “heat-not-burn cigarettes” was coded as “Yes”, anyone who had responded “Don’t know” or “Prefer not to say” were left empty, all other responses (including “No” or “e-cigarettes” only) were coded as “No”.

Life satisfaction categories – derived from responses to the life satisfaction question (Q14) and coded as follows; 0-4 = “Low”, 5-6 = “Medium”, 7-8 = “High”, 9-10 = “Very high”.

Short Warwick-Edinburgh Mental Wellbeing Scale (SWEMWBS) – a metric score was derived from the responses to the SWEMWBS question (Q15), in accordance with the user guidance

(<https://s3.amazonaws.com/helpscout.net/docs/assets/5f97128852faff0016af3a34/attachments/5fe10a9eb624c71b7985b8f3/swemwbs-Scale.pdf>). The method is summarised here:

- Responses to the seven sub-questions were recoded as follows;
 - "None of the time" = 1
 - "Rarely" = 2
 - "Some of the time" = 3
 - "Often" = 4
 - "All of the time" = 5
 - Non-response left blank
- These responses were summed to create a SWEMWBS total for each respondent. If any answers were missing then the total was null
- The raw score was transformed to a metric score using a metric score conversion table provided in user guidance

Loneliness categories – derived from responses to the loneliness question (Q16) and coded as follows; "All or almost all of the time" and "Most of the time" recoded as "Most/ all of the time". All other responses not recoded ("Some of the time", "None/ almost none of the time", NA).

EQ-5D-5L – responses to the EQ-5D-5L question on quality of life (Q19) were recoded according to an EQ-5D-5L value set for England (<https://pubmed.ncbi.nlm.nih.gov/28833869/>). There is currently no EQ-5D-5L value set for Scotland. The recoded responses were then summed to provide an EQ-5D-5L index. The index was null if the responses to any of the five EQ-5D-5L questions were missing.

Paid employment – responses to employment question (Q29) recoded as NA if participant responded with "Don't know" or "Prefer not to say" or left the question blank, recoded as "Yes" if participant responded with "Full-time employee", "Part-time employee", "Self-employed", or "Any other kind of paid work", otherwise recoded as "No".

Not in paid employment – responses to employment question (Q29) recoded as NA if participant responded with "Don't know" or "Prefer not to say" or left the question blank, recoded with "Yes" if participant responded with "Working unpaid for own or family's business" or "None of the above", otherwise recoded as "No".

Accessed any health services – derived from responses to question on accessing health services (Q22), coded as NA if responded "Don't know" or "Prefer not to say", "No" if responded "None of the above", otherwise "Yes" (i.e. accessed any health services is the inverse of accessed none).

Screening eligibility – analyses of data from the screening participation question (Q23) were limited, where possible, to responses from participants who were eligible to participate in the relevant screening programme. Participants' responses to the questions regarding age, sex, and trans status were used to broadly determine eligibility, however we were missing other relevant information necessary to accurately determine eligibility, such as:

- whether they have had a screening before (AAA screening)
- whether they have diabetes (diabetic eye screening)
- whether they are taking hormones (breast screening, AAA screening)
- whether they have had breast surgery (breast screening)

- whether they have had a hysterectomy (cervical screening)
- whether they have been pregnant (pregnancy screening)
- whether they have been the parent/carer of a newborn baby (newborn screening)

If it was not possible to determine whether someone was eligible, it was assumed that they were e.g. everyone was deemed eligible for diabetic eye screening.

The question asked whether you were invited to take part in the last 5 years, therefore when calculating inclusion criteria 5 years was added to the upper eligibility age bracket (where applicable) to take into account people who are no longer eligible but would have been eligible in the last 5 years.

Eligibility for each screening type was calculated as follows:

- Cervical screening - eligibility criteria is women aged 25-64. Therefore respondents deemed eligible if aged 25-69 and not cisgendered male.
- Bowel screening - eligibility criteria is anyone aged 50-74. Therefore respondents deemed eligible if aged 50-79.
- Breast screening - eligibility criteria is women aged 50-70. Therefore respondents deemed eligible if aged 50-75 and not cisgendered male.
- Diabetic eye screening - eligibility criteria is anyone aged over 12 who has diabetes. All respondents are aged over 12 and we cannot determine who has diabetes therefore everyone is deemed eligible.
- Abdominal aortic aneurysm (AAA) screening - eligibility criteria is men aged 65 or over, and eligible patients are only invited once. Therefore respondents deemed eligible if 65-70 and not cisgendered female.
- Pregnancy screening (blood tests and ultrasound scans) - eligibility criteria is pregnancy. We do not have data on this therefore respondents deemed eligible if aged under 60 and not cisgendered male.
- Newborn screening - eligibility criteria is anyone who has been a parent or carer of a newborn baby. We do not have data on this therefore everyone is deemed eligible.

BMI – Body mass index (BMI) was calculated from participants responses to the height and weight questions (Q44 and 45). BMI is calculated by dividing weight by height squared. However, people in self-reported surveys have been found to underestimate their weight and overestimate their height. Public Health England have developed a model for adjusting self-reported measures (<https://digital.nhs.uk/data-and-information/areas-of-interest/public-health/health-survey-for-england-predicting-height-weight-and-body-mass-index-from-self-reported-data>), this method was used in the Scottish Health Survey (SHeS). This method was applied to our participants height and weight responses before calculating BMI. Data for height, weight and BMI were also cleaned based on 'plausible' measures [from the BMJ Health & Care Informatics] (<https://informatics.bmj.com/content/26/1/e000026>):

- Plausible height $\geq 1.2\text{m}$ & $\leq 2.2\text{m}$
- Plausible weight $\geq 30\text{kg}$ & $\leq 400\text{kg}$
- Plausible BMI ≥ 14 & ≤ 70

Any qualifications – derived from responses to question on qualifications (Q43), coded as “No” if responded “No qualifications”, otherwise “Yes” (i.e. any qualifications is the inverse of none).

Highest educational level – derived from responses to question on qualifications (Q43), coded as follows:

- If response included “Degree...”, “Professional qualifications...” or “Other Higher Education qualifications...” then coded as "Higher education"
- If response included any apprenticeship, “GSVQ Foundation or Intermediate...”, “GSVQ Advanced...”, “HNC...”, or “Other post-school qualifications...” then coded as "Post-school but pre-Higher education"
- If response included “O Grade...” or “Higher...” or “Other school qualifications...” then coded as "School education"
- Coded as "No qualification" if responded with “No qualifications”,
- Left blank if question was not answered.

