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Older People and Frailty

Full Report

Preference for new models of care research study: variations and trade-offs

Phase Two

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Context

The population of England is ageing. The number of people aged 65 and over is projected to increase from 10.1 million in 2018 to 14.3 million in 2038; and those aged 85 and over from 1.4 million in 2018 to 2.3 million in 2038 (1). Ageing is associated with an increase in need of care and support in activities of daily living (ADLs). The estimated number of older people unable to perform at least one basic ADL is projected to rise by 48% over the same period, from 3.5 million in 2018 to 5.2 million in 2038. The number of older people with four or more long-term conditions is projected to more than double between 2015 and 2035 (2). Some projections estimate that there will be differences by gender, with a greater increase in the proportion of older women who need help with ADLs compared to the proportion of older men (2).

Demand for social care services and supported housing options is expected to rise in line with population growth. As the number of older people with multiple long-term conditions and disability increases, a range of options will be required to enable them to live independently and meet their preferences for support (2). Different models of care have been developed in England, acknowledging the need for flexible, integrated ways of responding to individual needs and preferences (4), and involving older people, carers and family members in decision-making about support arrangements.

Previous studies have looked at public preferences for different components of care for older people with high care needs (3-7). People value person-centred models that respect their independence and dignity, and that allow them to have more control over their lives. However, given the devastating impact of COVID-19 in many care homes, preferences for future models of care may now have changed.

In the first phase of this study, we conducted a scoping review of the literature on new models of care implemented in England. This was followed by five focus groups to explore preferences relating to the different components of these models of care. We found that people value person-centred models that respect their independence and dignity and allow them to have control over their lives. People prefer to live in settings that enable them to maintain social connections with family, friends and neighbours, and to have access to community assets such as public transport (8).

There were differences in the preferences for some components of care between people from different socioeconomic and ethnic groups. For example, when care needs increase, people from lower socioeconomic groups would consider moving to other housing settings as a way to improve the quality of their living environment. People from Black African-Caribbean descent expressed preferences about specific aspects of care provision, such as food and hygiene. These examples illustrate the importance of addressing and understanding how preferences for care can vary across the population.

In this second stage of our study, we sought to understand how preferences from different components of care are shaped by individual demographic, socioeconomic and needs-related factors. Building on evidence from the first phase and from previous research, we conducted a survey to understand *variations* in preferences.

We addressed three research questions:

- How do preferences vary with individual characteristics, particularly age, gender, ethnicity, sexual identity, health status, socioeconomic status, region of residence, need for care, experience of care?
- What relative importance do people aged 50 and above attach to specific features of care, such as its setting and location?
- What trade-offs do people aged 50 and above make between these features? How much are people willing to pay for models of care they prefer, such as living nearer family and friends)?

Methods

We conducted a survey of a sample of people aged 50 years or older living in England, drawn from the general population. (Some participants may have had care needs or provide unpaid care; our purpose was to get a representative sample of the whole adult population in this age group). We included questions about demographic and socioeconomic characteristics, location and other relevant topics to explore variations in circumstances, experiences and preferences. The survey included several general questions about preferences relating to care and support. Specific questions formed a discrete choice experiment (DCE) to explore how participants would trade-off different features of social care arrangements when thinking about their own (current or future) circumstances, if they were to have high care needs (See Supplementary material for full list of topics and questions).

DCEs are used in health services research, particularly by health economists, but have seldom been applied to social care studies. They enable researchers to measure the strength of preferences between alternative scenarios or types of service provision (9). Each alternative is described by several attributes or components of care. Survey participants are invited to choose between different models of care, each described in terms of those attributes. Participants' choices indicate how their preferences are influenced by, and the relative importance they attach to, each attribute. A DCE thus provides a measure of the relative value attached to the different alternatives. It also provides information on how much individuals are willing to accept compromises in some attributes to gain more of other attributes that they value.

Study Advisory Group

We established a Study Advisory Group (SAG) to advise on the development of the survey instrument and interpretation of results and ensure that our work is relevant to policy discussion. Members included representatives from service commissioners and providers, DHSC officials and third sector and stakeholder organisations providing care and support for older people. The SAG helped prioritise the survey questions and attributes to include in the DCE.

Involvement of People, Community Involvement and Engagement (PCIE) group

We convened a PCIE group recruited via our established strategic partnerships and networks. These include the Greater Manchester Older People's Network, Voice global platform and the Manchester Institute for Collaborative Research on Ageing. The project PCIE group helped prioritise survey questions and items for the DCE, as well as supporting interpretation of results and dissemination of findings. All contributors were reimbursed for their time.

Survey design

The design of the survey questionnaire, including DCE questions and other sections, comprised several stages following the steps laid out in standard guidelines (10).

Development of survey questions, attributes and levels for the DCE

A key stage in the design of the survey and DCE was ensuring that relevant questions, as well as DCE attributes and response categories (levels), are included and that these are described in a meaningful way (9). We used evidence from previous research (3, 5), findings from the first phase of our study (8) and consultation with people who currently draw on social care support, our SAG and others (Age UK, National Care Forum, service commissioners and providers, DHSC officials and researchers). Drawing on these sources and consultations, we prepared an initial list of questions for the survey, including attributes and levels as a draft choice set for the DCE (see appendix). Subsequently, a meeting with 3-4 people who currently draw on social care support was convened to refine the list of questions, the attributes and levels, and the relevant choice set formats to include in the survey and DCE.

Design and construction of choice sets for the DCE

The survey agency Kantar was commissioned, through competitive tendering, to construct and run the online survey. For the DCE, the attributes and levels were combined to create care provision scenarios and paired into choice sets. We used NGENE software (ChoiceMetrics) to generate the choice sets.

We conducted cognitive testing of the questionnaire with individuals who participated in the focus groups during the first phase of our study. This testing helped to identify whether respondents understood the questions and instructions, whether they each had the same understanding of them, the time needed to complete them, and

whether the online format would work or whether assistance was needed for survey completion. The online platform enabled to explain the attributes of care that respondents would be asked to consider, such as housing, technology, access to services (Table 1). To reduce respondent burden in the online survey, participants were assigned randomly to one of the two sets. For the DCE, the attributes and levels (Table 1) were combined to create care provision scenarios and paired into choice sets, inviting participants to choose between these two choice sets (Figure 1). The order of choice sets within each group was randomised. Each respondent was presented with five choice sets presented using visual aids to promote understanding. Participants were asked to suggest revisions to the survey and to comment on the survey clarity, length and structure and on the format of the questions, including the DCE task. Participants were compensated for their time.

Some constraints were applied to combinations of attributes (see Table S1 in Supplementary material) to ensure that, for example, an attribute that implies a costly model of care is not combined with a low level of cost, under the cost attribute.

Table 1: Attributes in the discrete choice experiment and their levels

Attributes	Levels	Coding
Housing	Own home with appropriate adaptation if required.	0
	Family member of friend's home.	1
	Retirement village.	2
	Sheltered housing.	3
Location	Continue to live in your current neighbourhood.	0
	Move to live in another neighbourhood or city.	1
Provider	Receiving support from either family members or friends only.	0
	Receiving support from carers arranged by your local authority.	1
	From carers arranged by you using a direct payment scheme or your own resources.	2
	From both family members and carers (type of arrangement may vary).	3
Respect for their identity	Receiving care from someone that respect your beliefs and values.	0
	No.	1
Access to community services	Within 10 minutes walking distance to community services	0
	Within 20 minutes …	1
	Within 30 minutes …	2
	More than 30 minutes …	3

Attributes	Levels	Coding
Technology	No use of technology devices.	0
	Yes, but only non-wearable sensors such as pressure mats or smoke alarm.	1
	Yes, including wearable devices to monitor vital signs such as smart watches.	2
	Yes, including cameras to monitor home environment.	3
Social care cost to the service user (£ per week)	Up to £25	0
	£35	1
	£75	2
	£100 or more	3

Figure 1: Example of choice sets in the discrete choice experiment

Quantitative pilot and main survey

The survey agency Kantar conducted a pilot to assess if responses to the questionnaire were broadly in line with a priori expectations and identify any problems with face validity that would have suggested a need for amendments to the questionnaire followed by further piloting. Conversely, if no changes were required, the pilot could be considered an internal pilot, with the responses treated as part of the main sample for analysis. The methods for the pilot and main survey were the

same as described previously, where each respondent was presented with five choice sets in random order. We included an additional repeated choice task as a consistency check to assess the stability and reliability of participants' preferences and choices across repeated instances of the task.

Participants for the pilot and main survey were identified and recruited by Kantar. The questionnaire was administered as an online survey to members of the general public aged 50 years or older, living in England. There were quotas based on age, gender, ethnicity and region to produce a nationally representative sample, with particular care taken not to over-recruit people with higher levels of education or from higher socioeconomic groups. Respondents were compensated for their participation. This approach sought to ensure the reliability and relevance of the data collected, contributing valuable insights into the preferences and perspectives of the target population regarding social care for older individuals with high care needs.

Sample size

Sample size for the cognitive testing (the 'think aloud virtual interviews') was determined by saturation and was 10 participants (11). The sample size for the survey was calculated based on the size required for the DCE using Louviere's formula for choice proportions to approximate the minimum sample size (10). Based on previous literature, we expected to need 100 individuals to pilot the DCE questionnaire and statistical model (12). For the main analysis, given that we aimed to explore heterogeneity of preferences, we estimated a sample size of 2000 respondents.

Statistical analysis

We described the sample using mean and standard deviation for all normally distributed continuous measures, and proportion (percentage) of the total number in the group being described for discrete and categorical outcomes. Variables relating to sociodemographic and health characteristics included: gender, age, ethnicity, region, religion, sexual orientation, education, presence of disability, marital status, children, employment status, income, place of residence, housing tenure, retired, adequacy of income for future pension. The care-related variables included in the survey were: use of formal care, receipt or provider of unpaid care, whether participants had information on choice of care and support, and where to get the information related to their choices of care and support. Variables included as preferences were related to future living (preferred place to live) when looking at community settings (e.g., retirement villages and sheltered housing), whether participants would prefer to live with co-residents of same age or mixed ages, whether people would want as much flexibility of care as possible, and whether respondents would want to have as much control over daily routine as possible. We conducted logistic regression analyses to look at the relationship of preferences (dependent variables) with sociodemographic characteristics and care-related variables independent variables).

The analysis of the DCE questions employed a statistical model based on a standard random utility framework, with a multinomial logit (MNL) model fitted to the data. This model allowed for the examination of which attributes were valued by participants and their relative importance. The statistical significance and magnitude of the coefficients provides insights into survey participants' preferences and the trade-offs they were willing to make between different aspects of care for older people with high care needs.

Trade-offs were examined in terms of participants' willingness to pay (WTP) in pounds (£) per week for a specified change in a given attribute, for example living further from rather than near to local facilities. This metric quantified the monetary value participants assigned to specific changes in the attributes under consideration. However, the WTP findings need to be treated with some caution, since weekly costs in the response categories to the question about costs were illustrative. The actual cost of care to the service user would depend on many factors, including the person's income and savings. In addition, the concept of acceptable walking distance (AWD) was explored, measuring the walking time in minutes to local community facilities that individuals were willing to accept for a specified change in other attributes.

A mixed logit (MXL) model was employed to control for (unmeasured) heterogeneity in the characteristics of survey participants. Subgroup analyses were conducted to examine the variation in preferences by participants' characteristics for which data *were* collected, with a particular focus on age, income, and experience of receipt of care as driving factors identified in our first phase work.

The output from the preferred regression modelling was used to calculate the probability of selecting alternative care models. In this context, probability calculations were based on the assumption that individuals are inclined to choose alternatives associated with higher utility values. Utility values represent the perceived satisfaction associated with each care option.

The computed probabilities served as a basis for modelling the expected adoption rates of different care options. This involved comparing two specific options in each iteration of the analysis. The first option, denoted as option A, remained constant throughout the comparisons and represented the preferred choice with the highest utility attached. The second option, denoted as option B, was subject to variation in one attribute level at a time during each comparison.

By systematically varying one attribute at a time of option B while keeping option A constant, the analysis aimed to understand how changes in specific attributes influenced the likelihood of choosing different care options. This approach allowed for a detailed examination of the impact of individual attributes on the overall perceived utility and, consequently, the predicted adoption rates of various care models.

The survey questionnaire was analysed using STATA 16. The DCE choice data was analysed using NLOGIT V.6 software. Statistical significance was set at p<0.05. Ethics approval for this study was obtained under LSE ethics processes.

Results

A total of 3,946 participants responded to at least some of the survey questions. Of this total, 1,842 were excluded from analysis either because they did not complete the DCE questionnaire or they were in excess of the target subsample (quotas) for their set of characteristics. (For example, if the target for men aged 50-64 was X, any respondents in that group who completed the survey after the target number X was reached, were excluded.) The distribution of the sample across the key variables is shown in supplementary Table S2. The distributions of the sociodemographic characteristics of the participants, including age, ethnicity, place of residence and marital status, were similar to the Census 2021 distributions (Table S2).

Care need and care-related findings

The description of participants in relation to their care need or care-related variables is presented in Table 2.

Table 2: Description of survey participants' care-related characteristics

Sample (N = 2104)	Categories	Percentages*
Disabilities	Yes	37.9%
	No	60.1%
Care needs among those who report disability**	Yes, a little	57.9%
	Yes, a lot	22.2%
	No, not at all	19.6%
Whether current user of care (full sample)	Yes	6.2%
	No	92.7%
Whether current user of care (subsample with disability)	Yes	13.8%
	No	84.8%
Receive unpaid care	Yes	9.4%
	No	89.8%
Provide unpaid care	Yes	15.5%
	No	83.6%
Information on choice of care and support	Enough information	30.3%
	Not enough information	47.1%
Knowing where to find information on choice of care and support***	Yes	28.2%
	No	58.5%

* Percentages do not add to 100 because we excluded responses categorised as 'prefer not to say' or 'don't know' from the table to enhance clarity and facilitate interpretation of the results.
**High care needs defined as: Do any of the conditions you have reduce your ability to carry out your day-to-day activities?
*** For those who responded, "I do not have enough information about my choices" or "don't know".

Preferences for care

Participants' stated preferences for care findings are presented in Table 3. A high proportion of participants responded *don't know* when asked about their preferences for care.

Table 3: Preferences for different care settings and arrangements

Sample (N = 2104)	Categories	Percentages
Stay in own home with appropriate adaptation if required[*]	Yes	39.9%
	No	23.4%
	Don't know	36.3%
Preference about moving home[**]	Move to live with family member or friend	5.2%
	Invite family member or friend to live with you	3.9%
	Invite a full-time carer to live with you	1.7%
	Move to another house or flat more suitable for your needs	29.7%
	Move to a community setting (e.g., retirement village or sheltered housing)	13.5%
	Move to a residential care or nursing home	3.1%
	Don't know	40.1%
Preference for age of neighbours in community setting: flats[***]	Live with people of mixed ages	27.8%
	Live with people of your own age group	46.5%
	Don't know	24.8%
Preference for age of neighbours in community setting: village[****]	Live with people of mixed ages	35.7%
	Live with people of your own age group	46.0%
	Don't know	17.7%
Flexibility of care	I would need to have substantial choice over my care and support services	72.7%
	I don't need to have substantial choice over my care and support services as a high priority	27.1%
Control and routine	I would need to have as much control over my daily routines as practically possible	89.3%
	I don't need to have control over my daily routine as a high priority	10.7%

*Specific question was: If you were to need more care and support in the future, do you plan to adapt your current home to make it more suited to your needs before considering moving elsewhere?
**Specific question was: If you do not plan to adapt your current home, or if you were to need more care and support such that even with adaptations it was no longer suitable for your needs, do you plan to?
***Development of flats with communal spaces
****Community village comprising bungalows with communal spaces

When comparing between groups about the care-related variables, there was no statistically significant difference in age between those who do or do not receive unpaid care (mean 65.6 versus 65.3, respectively; p=0.68). However, people who provide unpaid care to family members or friends are younger than those who do not provide unpaid care (mean 62.1 versus 65.9, respectively; p<0.001).

A high proportion of respondents reported that they did not have enough information about their choices on care and support services (47.1%). Of this group, 58.5% did not know *where* to find information on choice of care and support. When looking at the subgroup of respondents who reported having a disability, only 33.2% responded that they had enough information about their choices over care and support services. Furthermore, when asked if they knew *where* to find information on choice of care and support, only 28.6% responded yes.

Regression analysis looking at characteristics associated with having enough information about choices of care showed a significant gradient between socioeconomic groups, as summarised in the first column of figures in Table 4. People with a higher income are more likely to have enough information about their care choices compared to people with lower incomes. Similarly, people from Asian background were significantly more likely to have enough information about their care choices compared to white British people (Table 4 and Figure S1).

Table 4: Association between individual characteristics and information about care choices and preferences for care

Variables	Having enough information about care	Preference for living with neighbours of similar age (flats)	Preference for living with neighbours of similar age (villages)	Preference for substantial choice over care and support
Age	**1.02***	**0.98**	**0.99**	**0.99***
Gender (female)	1.07	**1.28**	**1.21***	**2.04***
Ethnic group				
- Any other white	0.74	1.43	1.19	0.54
- Black background	1.22	0.50	0.96	0.98
- Asian background	**2.68***	**0.36**	**0.54**	0.83
Income				
- £20,001 – 30,000	1.11	0.98	0.95	**1.45**
- £30,001 – 40,000	**1.49***	0.91	1	**1.56**
- £40,001 – 50,000	**1.54***	0.77	**0.72***	**1.69**
- >£50,001	**1.80***	**0.69**	**0.67**	**2.72***

Variables	Having enough information about care	Preference for living with neighbours of similar age (flats)	Preference for living with neighbours of similar age (villages)	Preference for substantial choice over care and support
Sexual orientation (Gay, lesbian or bisexual)	0.79	1.04	1.09	1.32
Marital status - Separated or divorced - Married - Widowed	1.12 0.91 0.91	0.92 1.25 1.01	0.97 **1.37*** 1.15	1.01 1 0.99
Children (yes)	0.88	**0.72****	**0.79***	0.94
Disability (yes)	0.95	0.97	0.99	1.2
User of care (yes)	**1.66****	0.97	0.94	**1.64****

*Significant at 0.1 level. **Significant at 0.05 level. ***Significant at 0.001 level. Association between sociodemographic, care use, disability and dependent variables: (1) having enough information about people's care choices; (2) preference to live with neighbours of same age group (versus mixed ages) in development of flats with communal spaces; (3) preference to live with neighbours of same age group (versus mixed ages) in community village formed by bungalows with communal spaces; and (4) preference for substantial choice over care and support services. Reference categories: Sexual orientation: heterosexual; Marital Status: single; Income: <£20,000; Gender: male; Ethnicity: white British; Disabilities: no; Care use: no.

We explored differences in preferences for care between different groups of participants. There was a statistically significant difference in age between those who prefer to live with people of mixed ages rather than people of the same age group, if moving to a development of flats with communal spaces (mean 66.2 versus 65.1, p=0.02). After adjusting for other sociodemographic and care-related variables, greater age, living in London, having an Asian background and having children were significantly associated with a preference for living with people of mixed ages rather than the same age group. Moreover, we found a significant gradient between socioeconomic groups. People with higher income tend to prefer to live with people of mixed ages rather than same age group, if moving to a development of flats with communal spaces (Table 4 and Figure S2).

These associations were similar when looking at preferences for living in a mixed ages community, in the case of moves to a community village comprising bungalows and communal spaces. However, these findings were only statistically significant for living in London, having income over £50,000 and being from Asian background (Table 4 and Figure S3).

We explored the association between sociodemographic and care-related variables and people's preferences to have substantial choice over their care and support services (Table 4 and Figure S4). The findings show that there were some differences in preference by region, gender and receipt of care. Again, we found a significant gradient between socioeconomic groups. People with higher income are more likely to report needing substantial choice over their care and support services, compared to people with lower income (Table 4 and Figure S4).

Community assets

We explored the association between the importance people attach to ease of access to different community assets and sociodemographic variables. Men and women placed similar importance on different community assets, but with some variations that we explored further in regression analyses (Table S3). There were few differences in preferences between people who were or were not retired. The details of the regression analyses are in the supplementary material (Figures S5 to S14). Here we present the main findings and significant differences between groups (Table 5).

When looking at the association between ready access to community assets and sociodemographic and care-related variables, we found that women attached higher importance to transport than men. Users of care and people with disabilities had significantly lower preference for ready access to transport than non-users of care and people without disabilities, respectively (Table 5 and Figure S5).

People from any other white, Black and Asian backgrounds, women and older people attached significantly more importance to living near to places of worship than white British people, men and younger people, respectively (Table 5 and Figure S6). Younger people, women, people from Back and Asian backgrounds and higher income groups reported significantly higher preference for nearby access to cultural spaces (e.g., community centre for social activities and events, swimming pool) compared to older people, men, white British people and people with lower income, respectively (Table 5 and Figure S8).

There were also significant associations between the importance of access to sports grounds and sociodemographic variables. Older people within the sample and people from Asian and Black backgrounds attach significantly higher importance to living near sports grounds, compared to younger people and White British people. In contrast, women and people with disabilities are significantly less likely to consider access to sports facilities important, compared to men and people without disabilities (Table 5 and Figure S10). An income gradient was observed in preferences for being near to pubs, restaurants and coffee shops. People with higher incomes attached significantly higher importance to this than people on lower incomes (Table 5 and Figure S11).

Table 5: Associations between individual characteristics and preferences for a range of community assets

Variables	Reliable transport	Places of worship	Shops	Cultural facilities	Leisure spaces	Sports grounds	Pubs, cafes	Green spaces	Healthcare facilities	Prof. services
Age	1.00	**1.02****	**0.98****	**0.99****	**0.96*****	**0.97*****	**0.97*****	**0.97*****	1.00	0.99
Gender (female)	**1.26****	**1.39****	**1.49****	**1.54*****	**1.30****	**0.29*****	1.19	**1.76*****	**1.45****	**1.79*****
Ethnic group										
- Any other white	**2.1***	**2.43****	1.15	1.51	**1.65***	0.94	**0.58***	1.78	1.31	1.00
- Black background	1.22	**5.99*****	3.43	**2.79****	**2.93****	1.61	1.60	2.46	0.94	**5.00****
- Asian background	0.65	**7.23*****	0.57	**1.69****	**1.93****	**2.41****	1.26	0.94	0.53	1.38
Income										
- £20,001 – 30,000	0.85	0.96	1.12	1.11	1.21	**1.61****	1.24	1.03	0.98	0.88
- £30,001 – 40,000	0.97	0.87	1.23	1.14	**1.59****	1.10	**1.51****	1.08	1.48	1.20
- £40,001 – 50,000	0.76	0.93	1.42	**1.97*****	**1.79*****	0.99	**1.62****	1.15	1.29	0.97
- >£50,001	1.07	1.14	1.29	**1.63****	**2.25*****	**1.47***	**2.43*****	1.43	1.38	0.91
Sexual orientation (Gay, lesbian or bisexual)	0.97	0.67	1.07	1.01	**0.59***	0.90	**0.63***	0.8	1.9	0.77
Marital status										
- Separated or divorced	**0.66***	0.84	1.08	0.93	1.05	1.49	1.12	0.96	1.58	1.15
- Married	**0.60****	0.67	1.08	0.76	0.95	1.15	1.08	1.05	1.27	1.13
- Widowed	0.72	1.11	1.19	1.08	1.42	1.13	1.35	1.35	1.04	1.15
Children (yes)	0.89	0.99	1.05	0.92	1.02	**1.35*****	1.14	1.08	1.04	0.88
Disability (yes)	**0.64*****	1.23	0.89	0.89	0.89	**0.69****	**0.75****	**0.70****	1.20	0.96
User of care (yes)	**0.71****	1.25	0.78	0.99	0.80	1.41	0.77	**0.66****	1.04	1.09

*Significant at 0.1 level. **Significant at 0.05 level. ***Significant at 0.001 level. Association between sociodemographic, care use, disability and having access to different community assets. Reference categories: Sexual orientation: heterosexual; Marital Status: single; Income: <£20,000; Gender: male; Ethnicity: white British; Disabilities: no; Care use: no.

DCE responses, study participants and internal consistency

Of the 2,104 participants who completed the DCE (cohort 1), 88% (1,820 participants, cohort 2) passed an internal consistency test and were included in the main analysis of the DCE. Their responses to the consistency test question showed the expected preference. However, 241 participants (12%, cohort 3) did not pass the internal consistency test and were excluded from the analysis. This careful selection process aimed to ensure the reliability and validity of the data for the main analyses. The three cohorts did not differ greatly by age, gender, income or experience of receiving care, except that members of cohort 3 were somewhat less likely to have received care (Table S4 and Figure S15).

DCE main analysis (pooled data cohort 2)

The MNL model exhibited a better goodness of fit, as evidenced by the AIC test, than the MXL model. Notably, the MXL standard deviations were not statistically different from zero, suggesting little evidence of unobserved preference heterogeneity in the dataset. Therefore, we present results from the MNL modelling (Table 6).

Direction of preferences. We looked at the coefficients for each variable. If a coefficient is positive, it suggests that, as those variables increase, the likelihood of choosing the option also increases. For example, in terms of housing setting, respondents showed a preference to primarily 'own a home with appropriate adaptations if required', as opposed to opting for other options. If the coefficient is negative, the likelihood decreases. For example, for the cost variable, a negative sign (β=-0.08) indicated that the smaller the cost, the greater the likelihood of choosing a care option. Overall, the signs on the coefficients aligned with our prior expectations from previous research and the first phase of the study.

Characteristics of care that are important when making decisions of care options. We examined the p-values associated with each coefficient. All care attributes covered by the DCE, apart from location (staying in the same neighbourhood or moving elsewhere), were statistically significant with the cut-off point of 0.05 used. Thus, housing setting, provider of care, identity, use of technology devices, access to community services and costs of care significantly influence decisions between different care options.

Relative importance of characteristics. We considered the size of the coefficients. Larger coefficients indicate a stronger impact on choices compared to smaller coefficients. The main factor influencing people's choice is who provides support with the care task (preferred option: receiving support from carers arranged by the local authority), followed (in order of importance) by receiving care from someone who respects their beliefs and values, housing setting (preferred option: own home with appropriate adaptation if required), not using technology devices, lower weekly cost, and closer access to community facilities.

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Trade-off between attributes. We can compare options in terms of willingness to pay (WTP) for the preferred option or the distance participants are willing to walk to community assets to enjoy their preferred option, rather than a specified alternative (AWD). Participants were willing to pay a substantial amount (over £100 per week indicatively) or to live beyond walking distance (over 30-minute walk) to receive support from carers arranged by their local authority rather than care from family members or friends (only). More details of other trade-offs are reported in Table 6.

Table 6: Preferences for characteristics of care derived from the analysis of the DCE data from pooled cohort 2

Attribute		Coeff β (95% CI)	WTP (95% CI)	AWD (95% CI)
Housing setting	Own home with appropriate adaptations if required	**0.81 **** (0.69, 0.93)	**9.53** (8.40, 10.66)	**12.25** (10.84, 13.67)
	Compared with other options			
Location	Move to live in another neighbourhood or city	-0.05 (-0.13; 0.03)	**N/A**	**N/A**
	Compared with continue to live in your current neighbourhood			
Provider of support with personal care task	Receiving support from carers arranged by your local authority	**10.10***** (9.33, 10.9)	**118.95** (117.25, 120.64)	**152.89** (145.50, 160.28)
	Receiving support from carers arranged by you using a direct payment scheme or your own	**3.97***** (3.59, 4.35)	**46.72** (44.57, 48.87)	**60.05** (57.86, 62.24)
	Receiving support from both family member(s) and carers	**6.96***** (6.44, 7.49)	**81.93** (80.68, 83.18)	**105.31** (99.77, 110.86)
	Compared with family members or friends only			
Identity	Yes, from someone that respect your beliefs and values	**1.62 ***** (1.47, 1.78)	**19.11** (18.30, 19.93)	24.57 (23.12, 26.02)
	Compared with no			
Use of technology devices	No use of technology devices	**0.54 ***** (0.47, 0.62)	**6.40** (5.52, 7.28)	**8.23** (6.88, 9.57)
	Compared with use			

Attribute		Coeff β (95% CI)	WTP (95% CI)	AWD (95% CI)
Access to community services (*in minutes*)	Walking distance from community services treated as a continuous variable	**-0.07 ***** (-0.07, -0.06)	**-0.78** (-0.82, -0.74)	*-1.00*
Social care costs met by the person per week (*in £*)	Cost treated as a continuous variable	**-0.08 ***** (-0.09, 0.08)	*-1.00*	**-1.29** (-1.35, -1.22)

Probability of uptake for different care options. In the analysis presented in Table 7 we used the DCE data (as shown in Table 6) to model the probability of uptake for different care options. We compare participants' preferred set of attributes of care (referred to as option A) with an alternative set (option B) which differs from option A on only one attribute. The set of attributes (option A) which participants valued most highly comprised: living in their own home with appropriate adaptation if required; living in their current neighbourhood; the care provider is a carer arranged by the local authority; care received from someone who respects their beliefs and values; not using technology devices; able to access community services within 10 minutes walking distance; and social care costs met by the person are up to £25 per week. In option B, just one of these attributes is varied at a time.

With our model, we start with the optimal scenario (A, fixed), and then we introduce changes to it (scenario B). When in option B, we change care provider arrangements (from receiving support from carers arranged by your local authority to receiving care from carers arranged by the person using a direct payment scheme or their own resources) whilst everything else remains the same, and we find that the probability of participants choosing option B over option A is zero. Zero probability for a particular option means that the survey participants would not choose that option even if the person was living in their own home with appropriate adaptation if required; their location is the current neighbourhood; they receive care from someone who respects the person's beliefs and values; they do not use technology devices; they can access community services within 10 minutes walking distance; and the social care costs met by the person are below £25 a week. More detail is given in Table 7.

Table 7: Probability of uptake for different care options derived from the analysis of the DCE data from pooled cohort 2

Option A: Preferred option*	Option B: Change of one attribute level …		Prob A	Prob B
Constant	Housing setting	… from own home to other options	0.69	0.31
Constant	Location	… from your current neighbourhood to another neighbourhood or city	0.49	0.51
Constant	Provider	… from receiving support from carers arranged by your local authority to receiving care from carers arranged by you using a direct payment scheme or your own	1.00	0.00
Constant		… from receiving support from carers arranged by your local authority to receiving care from both family member(s) and carers	1.00	0.00
Constant		… from receiving support from carers arranged by your local authority to receiving care from family members or friends only	0.95	0.00
Constant	Identity	… receiving care from someone who respects to someone who does not respect your beliefs and values	0.83	0.17
Constant	Use of technology devices	… from no use to use of technology devices	0.64	0.36
Constant	Access to community services – in minutes	… from within 10 minutes to within 20 minutes walking distance	0.66	0.34
Constant		… from within 10 minutes to within 30 minutes walking distance	0.79	0.21
Constant		… from within 10 minutes to within 40 minutes walking distance	0.88	0.12
Constant	Social care costs met by the person per week - in £	… from £25 to £35	0.70	0.30
Constant		… from £25 to £75	0.99	0.01
Constant		… from £25 to £100	1.00	0.00

*Care option A is defined as follows: Living in the person's own home with appropriate adaptation if required; Location is current neighbourhood; Provider describes carers arranged by your local authority; Identity is receiving care from someone that respects the person's beliefs and values; No use of technology devices; Access to community services within 10 minutes walking distance; Social care costs met by the person are up to £25 per week.

Subgroup analyses (cohort 2)

Analyses by age group, gender and other participant characteristics revealed differences in preferences between subgroups. However, none of the differences in the subgroup analyses reached statistical significance, with overlapping confidence intervals between subgroups.

Comparison by age (50-59, 60-69, 70-79, 80+). Comparisons showed a trend that older people have stronger preferences than younger people (within our sample of people aged 50+) for living in their own homes with appropriate adaptations if required and for not using technology. In contrast, their preferences are likely to be less strong for: receiving care from other sources beyond family members or friends; receiving care from someone who respects their beliefs and values; and access to community services. Younger participants are willing to pay to receive care from a source other than their preferred carer or to receive care from someone who respects their beliefs, but they are not willing to accept longer walking times to local amenities for these same changes. For the other attributes, the age group willing to pay more is also willing to accept longer walking times.

The likelihood of adopting different care options (option B) compared to the preferred option (option A, held constant) remains consistent across various groups. This indicates that, regardless of the specific group characteristics or attributes, the probabilities of choosing alternative care options relative to the preferred option are comparable between population subgroups and do not exhibit significant variations.

Comparison by income (low ≤ £30,000, medium = £30,001-70,000 and high ≥ £70,000). Trends in the data showed that the higher the income group the greater the likelihood that individuals would be willing to pay more for receiving care from someone who respects their beliefs and values, as opposed to not having this characteristic; for receiving support from both family members and carers (or other carer arrangements), in contrast to relying solely on family members or friends; and for living in their own home with appropriate adaptations if needed, compared to considering other options.

Individuals in higher income groups expressed a marginal preference (as evidenced by very low WTP) to relocate to another neighbourhood or city, as opposed to continuing to reside in their current neighbourhood. Conversely, those in low-to-medium income groups expressed a slight preference to stay in their current neighbourhood compared to moving to another neighbourhood or city.

Moreover, individuals in higher income groups demonstrate a lower likelihood of selecting a care model without technology when compared to individuals in other income groups. However, WTP to live closer to community services is consistent across all income groups.

The findings are consistent between WTP and AWD to community services, except for provider of care. In this case, individuals in higher income groups demonstrate

less flexibility and are unwilling to accept longer walking times to local amenities in order to receive care solely from family and friends rather than receiving support from both family members and carers' (or other carer arranged by the local authority). In most cases, preferences between different care options are similar across income groups. This finding suggests that the factors influencing choices between specific care models are relatively consistent and do not show significant variability by income group.

Comparison by experience of care (not care user, care user). Individuals with experience of care are likely to value slightly more any other care arrangement (compared with relying solely on family members or friends) with people willing to pay more to receive support from carers arranged by the local authority (compared with care by family members or friends only). However, the direction of the results was the opposite when we consider AWD: those with experience of care are less willing to walk further to local amenities for the same change. Other preferences are comparable across groups, using both WTP and AWD metrics.

Discussion

Our study showed that participants gave the highest priority to choice of provider of care when asked to choose between different models of care. The majority wanted care provided by their local authority. This was followed in order of importance by receiving care from someone who respects their beliefs and values, and then location of care. Participants expressed a preference for living in their own home with appropriate adaptations if required. These three top prioritised preferences were followed by choice relating to technology, for which the preference was not to use technology devices, and then lower weekly cost and living closer to community facilities.

These findings align with conclusions from other studies. Previous research has emphasised the weight that people put on building a relationship with a care provider based on trust and confidence. This has been seen as essential to receiving good quality care. Findings from previous studies have also shown the strong preference that people express for receiving care from someone who respects their spiritual, cultural, religious and sexual identities (13). This includes receiving care from staff who understand and are able to provide care that responds to the different or specific needs of individuals from diverse cultural and ethnic backgrounds, or with diverse religious beliefs and sexual identities (4, 14).

The findings of our study showed that there are important variations in preferences for care between people with different individual characteristics, particularly age, gender, ethnicity, sexual identity, marital status, socioeconomic status, region of residence, need for care and experience of care. Our quantitative findings resonated

with qualitative data (8) and align with, for example, the Preference-Based Model of Care, which suggests how the expression of individual preferences shapes behaviour and how these preferences are shaped by individual and cultural differences, within a particular social, cultural, and political context (15).

A sizeable proportion of people reported that they do not have enough information about their care choices or where to find that information. Moreover, we found a significant gradient between socioeconomic groups associated with having enough information about choices of care. People with higher incomes are more likely to have enough information about their care choices compared to people with lower incomes. We also found a significant gradient between socioeconomic groups in reported need for choice over their care. People with a higher income are more likely to report needing substantial choice over their care and support services compared to people with lower income.

The findings from our study emphasise the importance of access to community assets and infrastructure when people plan their care, such as having reliable public transport and good access to healthcare facilities, shops, parks and green spaces. We found important variations between groups (gender, ethnic and socioeconomic groups) that need to be considered when planning models of care. Community assets can be key factors encouraging people to want to remain in their own home, which emphasises the importance of considering the diversity in needs and preferences to support participation in community life and access to local facilities (16, 17), thereby enabling a sense of belonging (18). This has obvious implications for investment in neighbourhood/place-based infrastructure to ensure that key assets are available and accessible to people in older age groups.

The survey data showed variation in the strength of preferences between older and younger survey participants (all of whom were aged 50 or above). Older people within this age group are likely to have stronger preferences for living in their own homes and for not using assistive technology. There is mixed evidence from previous studies regarding preferences for the use of technology for care. Some studies have shown that technology has facilitated older people to stay safe while isolated, receive care and maintain their social connections (19, 20). It has also facilitated older people's care, improving their psychological well-being, reducing anxiety and helping people to feel optimistic about the future (21, 22). However, evidence has also shown the cost barriers and 'technological divide' that can limit use of such technology, especially by older people (22-24), highlighting the importance of training and providing regular support for better uptake and more widespread use (25).

A few studies have employed a discrete choice experiment approach to explore preferences and priorities in care across diverse settings and among individuals with different care needs. As we found in our study, the DCE approach is a reliable tool to quantify the order and strength of people's preferences between different models of care. For example, Tunnard et al. explored the preferences of older people with

frailty and multiple long-term conditions regarding care processes to manage clinical uncertainty in community hospitals in England (26). Others have examined the preferences of people living with early-stage dementia for home support, highlighting the importance of receiving support from an experienced counsellor who addresses personal feelings and concerns (27). Nieboer et al. explored the preferences of people with long-term care needs showing the significance of receiving care from consistent providers and the availability of transportation services (28). There have also been studies of preferences regarding different care settings, such as nursing homes (29), home and community-based care (30, 31) emphasising the importance of feeling at home (in the case of care home residents, feeling at home in their own rooms), the provider of care, and flexibility in care routines.

Strengths and limitations

Our study has both strengths and limitations. One strength is the use of DCE when examining preferences for care offers a structured approach for quantifying preferences, enabling analysis of how people trade-off different choices of care when making decisions. The design of the survey questionnaire and DCE followed the steps laid out in standard guidelines (10) and was informed by the findings of previous qualitative work (8). We recruited a large sample to obtain a sufficient sample size for the DCE (16) and used quotas based on age, gender, ethnicity and region to ensure a nationally representative sample. This meant that the survey sample was representative of the population aged 50 and over by age, gender and region, although there was considerable over-representation of people with higher education suggesting an over-representation of people with higher incomes, which is a common issue with online surveys. We conducted cognitive testing and a pilot test before the main survey fieldwork, seeking to ensure that the survey questions were clear and worked successfully. For our analysis of the DCE data, we excluded participants who had provided an internally inconsistent response to a test question, based on the standard guidelines for this methodological approach to ensure the reliability and validity of the data considered for the main analysis.

A limitation of the study arises from the fact that the cost attribute levels (weekly cost of care to the person receiving it) were inevitably illustrative: the actual cost to the service user would vary depending on where the person lives, and on their income and savings, since public funding of adult social care is means tested. This use of illustrative levels of costs may have impacted the reliability of our WTP findings. To address this issue, we assessed not only willingness to pay for a preferred model of care but also the distance from community assets, in terms of walking time, that the person was willing to accept for the preferred care model. The results demonstrated in almost all cases consistency across these two metrics.

A more general limitation is that the survey questions required careful consideration of options and preferences relating to future models of care. That this was demanding is indicated by the level of 'don't' know' responses to some questions.

However, the majority – in most cases the great majority – of respondents provided substantive responses rather than 'don't know'.

Conclusions and policy implications

Our study provides new, post-COVID evidence on the views of people aged 50 and over about the care of older people that can inform policies for the care of individuals with high care needs. Our study provides novel evidence on the importance people attach to their preferences for care, by quantifying their order and strength of preference. The main factor influencing people's choice is who provides support with the care task. People prefer receiving support from carers arranged by the local authority suggesting a need for policies that prioritise accessible and well-coordinated publicly funded care services. Also, our findings highlight the significance of enabling older people to maintain independence and control over their lives. Participants in this study preferred care options that allow them to stay in their own home for as long as possible, followed by moving to another home or flat more suitable for their needs and then moving to a community setting such as sheltered housing or a retirement village. We found differences in the strength of preference related to housing settings, where people with higher incomes were willing to pay more to stay in their own homes. This finding aligns with our previous work showing that people with lower incomes are more likely to consider moving from their current homes to a better care environment (8).

We also found differences between age groups in the strength of preferences. For example, older people have stronger preferences than younger people (within this 50 and over age group) for continuing to live in their own homes with appropriate adaptations if required and for not using assistive technology. Further research is needed to explore whether these differences between age groups reflect changes in preferences as people age (age effect) or a generational difference (cohort effect).

Our study found important differences in preferences for some components of care between sociodemographic groups, such as between males and females, and between participants from different ethnic and income groups. These differences highlight the need for planning and commissioning of care services to ensure that a range of care models are available to reflect differences in preferences. They also highlight the importance of assessment and care management that ascertains and takes account of personal preferences in view of the diversity of people's individual preferences, beliefs and values.

There is an important social gradient related to availability and access to information that could indicate some inequalities between socioeconomic groups. There is a need for more research to understand the drivers of this variation across the population. Nevertheless, our current finding underscores the importance of targeted outreach and support initiatives to ensure equitable access to care resources. There is also a need to ensure that information on care services is more accessible to people from lower socioeconomic groups.

Importantly, people with experience of care had a significant preference for having substantial choice over their care and support services. When people reach the stage of requiring care support, they value having flexibility in their choices of care, allowing them to maintain as much control and independence as possible over their lives.

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Supplementary material

Survey questions

1. Age

2. Gender

1	Male
2	Female
3	Prefer to self-describe (please type in) *Open
4	Prefer not to say

3. Ethnicity

1	English/Welsh/Scottish/Northern Irish/British
2	Irish
3	Gypsy or Irish Traveller
4	Any other White background (please describe) *Open
5	White and Black Caribbean
6	White and Black African
7	White and Asian
8	Any other Mixed/Multiple ethnic background (please describe) *Open
9	Indian
10	Pakistani
11	Bangladeshi
12	Chinese
13	Any other Asian background (please describe) *Open
14	African
15	Caribbean
16	Any other Black/African/Caribbean background (please describe) *Open
17	Arab
18	Any other ethnic group (please describe) *Open
19	Don't know
20	Prefer not to say

4. Sexual orientation

1   Straight or Heterosexual

2   Gay or Lesbian

3   Bisexual

4   Other sexual orientation (please specify) *Open*

5   Prefer not to say

5. Religion

1   No religion

2   Christian (including Church of England, Catholic, Protestant and all other Christian denominations)

3   Buddhist

4   Hindu

5   Jewish

6   Muslim

7   Sikh

8   Any other religion (please specify) *Open*

9   Prefer not to say

6. Marital status

1   Single

2   Married or in a civil partnership

3   Co-habiting

4   Separated, but still legally married or in civil partnership

5   Divorced or civil partnership dissolved

6   Widowed or surviving partner of civil partnership

7   Don't know

8   Prefer not to say

7. Region

1   North East

2   North West

3   Yorkshire and the Humber

4   East Midlands

5   West Midlands

6   East of England

7   London

8   South East

9   South West

998 Don't know

997 Prefer not to say *Fixed *Exclusive*

8. Children

1   Yes

2   No

3   Prefer not to say

9. Housing tenure

1   Own it outright

2   Buying it with the help of a mortgage/loan

3   Part own and part rent (shared ownership)

4   Rent from local authority / housing association

5   Rent privately

6   Live rent-free (i: Including living rent-free in relative's/friend's property but not squatting)

7   Other (please specify using the text box below) *Open*

8   Don't know

9   Prefer not to say

10. Education

1   A postgraduate degree or doctorate, NVQ/SVQ Level 5 or equivalent

2   A degree or higher degree, HND, HNC, NVQ/SVQ Level 4 or equivalent

3   A-levels, SCE higher, NVQ/SVQ Level 3 or equivalent

4   GCSEs, O Levels, SCE standard, NVQ/SVQ Level 2 or equivalent

5   No formal qualifications

6   Prefer not to say *Fixed*

11. Employment

1   Paid work for 30 or more hours a week

2   Paid work for between 16 and 29 hours a week

3   Paid work for less than 16 hours a week

4   Paid work with irregular hours (e.g. a zero hours contract)

5   Self-employed

6   Not in paid work / looking after home or family

7   Temporarily not working due to maternity or long-term illness leave

8   Full-time student at a university or college

9   Unemployed

10   Retired from paid employment

11   Unable to work due to a health condition

12   Other (please specify using the text box below) *Open*

13   Prefer not to say

12. Income

1	Below £10,000
2	£10,001 to £20,000
3	£20,001 to £30,000
4	£30,001 to £40,000
5	£40,001 to £50,000
6	£50,001 to £60,000
7	£60,001 to £70,000
8	£70,001 to £80,000
9	£80,001 to £90,000
10	£90,001 to £100,000
11	£100,001 or more
12	Prefer not to say *Fixed*

13. Place of residence

1	My own home (i.e. including ownership, buying with mortgage, local authority or private renting)
2	With family member(s) or friend(s) after moving from my own home
3	Within a community setting. For example, retirement village (mixture of houses, bungalows and apartments in a retirement village) or sheltered housing (standalone block of flats)
4	Residential care (i.e. a nursing home or residential home)
5	Don't know
6	Prefer not to say

14. Pension (a): If you have retired from work, do you regard your income to be…

1	More than enough to meet your needs
2	Just about enough to meet your needs
3	Less than enough to meet your needs

15. Pension (b): If you have not yet retired, looking to the future, once you have stopped working for good, or when you reach State Pension age, do you expect your income to be…

1	More than enough to meet your needs
2	Just about enough to meet your needs
3	Less than enough to meet your needs

16. User of care (a): Are you a current user of care and support services?

1   Yes

2   No

3   Don't know

4   Prefer not to say

17. User of care (b): Do you currently receive unpaid care from your family or friends?

1   Yes

2   No

3   Don't know

4   Prefer not to say

18. User of care (c): Are you a carer of an adult family member, partner, or friend in need of support or services?

1   Yes

2   No

3   Don't know

4   Prefer not to say

19. Disabilities (a): Do you have any physical or mental health condition(s) or illnesses lasting, or expected to last, 12 months or more?

1   Yes

2   No

3   Don't know

4   Prefer not to say

20. Disabilities (b): Do any of these conditions reduce your ability to carry out your day-to-day activities?

1   Yes, a little

2   Yes, a lot

3   No, not at all

4   Prefer not to say

21. **Future living (a):** If you were to need more care and support in the future, do you plan to adapt your current home to make it more suited to your needs before considering moving elsewhere?

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

22. **Future living (b):** If you do not plan to adapt your current home, or if you were to need more care and support such that even with adaptations it was no longer suitable for your needs, do you plan to…

1	Move to live with family member(s) or friend(s)
2	Invite family member(s) or friend(s) to live with you
3	Invite a full-time carer to live with you
4	Move to another house or flat more suitable for your needs
5	Move to a community setting (i.e. part of a development that usually includes shared amenities and communal spaces such as gardens, laundry room, or lounge which would enable you to live independently at home. For example, retirement village, sheltered housing)
6	Move to a residential care or nursing home
7	Other (please specify) *Open*
8	Don't know
9	Prefer not to say

23. **Community living (a):** If you were to live in a development of flats with communal spaces in the future, would you prefer to…

1	Live with people of mixed ages (children, young people and older adults)
2	Live with people of your age group only
3	Don't know
4	Prefer not to say

24. **Community living (b):** If you were to live in a community village formed by bungalows and communal spaces in the future, would you prefer to…

1	Live with people of mixed ages (children, young people and older adults)
2	Live with people of your age group only
3	Don't know
4	Prefer not to say

25. Information on choice of care and support (a)

1   I have enough information about my choices over care and support services

2   I do not have enough information about my choices on care and support services

3   Don't know

4   Prefer not to say

26. Information on choice of care and support (b): Do you know where to find information about your choices of care and support?

1   Yes

2   No

3   Don't know

4   Prefer not to say

27. Flexibility of care

1   I would need to have substantial choice over my care and support services

2   I don't need to have substantial choice over my care and support services as a high priority

3   Don't know

4   Prefer not to say

28. Control over daily routine

1   I would need to have as much control over my daily routine as practically possible

2   I don't need to have control over my daily routine as a high priority

3   Don't know

4   Prefer not to say

29. Community assets: how important would it be for you to be able to easily access each of the following…

	Not at all important	Somewhat important	Quite important	Very important	Don't know	Prefer not to say
Reliable public transport						
Place of worship						
Cultural facilities (e.g. Art galleries, Museums, Library)						
Leisure facilities (e.g. Community Centre for social activities and events, Swimming pool)						
Local pub, coffee shop, restaurants						
Shops, such as grocery store						
Sports grounds (e.g. Local Football, Rugby or Cricket clubs / ground)						
Health care facilities (e.g. GP surgery, pharmacy, hospital)						
Professional services (e.g. Post office, Bank, Citizens Advice Bureau, Legal or Financial services)						
Parks and green spaces						

Discrete choice experiment

Attributes	Levels
Housing	Own home with appropriate adaptation if required. Family member of friend's home. Retirement village. Sheltered housing.
Location	Continue to live in your current neighbourhood. Move to live in another neighbourhood or city.
Provider	Receiving support from either family members or friends only. Receiving support from carers arranged by your local authority. From carers arranged by you using a direct payment scheme or your own resources.

	From both family members and carers (type of arrangement may vary).
Respect for their identity	Receiving care from someone that respect your beliefs and values. No.
Access to community services	Within 10 minutes walking distance to community services Within 20 minutes … Within 30 minutes … More than 30 minutes …
Technology	No use of technology devices. Yes, but only non-wearable sensors such as pressure mats or smoke alarm. Yes, including wearable devices to monitor vital signs such as smart watches. Yes, including cameras to monitor home environment.
Social care cost to the service user (£ per week)	Up to £25 £35 £75 £100 or more

Table S1: DCE design and restrictions applied.

Cost attribute: levels excluded	When:		
	Housing	**Provider**	**Technology**
2 and 3	0 or 1	0	Any
only 0	0 or 1	1 or 2 or 3	Any
0 and 3	2 or 3	0	Any
0 and 1	2 or 3	1 or 2 or 3	Any

Table S2: Characteristics of the participants and comparison with Census 2021 data

Sample (N = 2104)	Categories	Mean (SD), Percentage	Census 2021
Gender	Female Male	48.9% 51.1%	52.5% 47.5%
Age	Age	65.3 (9.4)	Not available
Ethnicity*	White British Any other white Mixed/Multiple ethnic groups Asian/Asian British	90.3% 2.5% 1.0% 4.5% 1.1%	White 90.2% Others 9.8%

	Black/African/Caribbean/Black British	0.6%	
	Other ethnic group		
Place of residence	North East	4.7%	5.1%
	North West	13.1%	13.4%
	East Midlands	9.4%	9.4%
	East of England	10.0%	11.6%
	London	11.3%	11.9%
	South East	18.0%	17.1%
	South West	11.6%	11.4%
	West Midlands	10.8%	10.6%
	Yorkshire and the Humber	10.1%	9.9%
Religion	No religion	38.5%	24.3%
	Christian	53.9%	64.0%
	Buddhist	1.1%	Others 6.2%
	Hindu	0.8%	
	Jewish	1.1%	
	Muslim	0.7%	
	Sikh	0.4%	
	Any other	1.1%	
	Prefer not to say	1.5%	
Sexual orientation	Heterosexual	94.8%	91.5%
	Gay or lesbian	2.9%	Others 1.2%
	Bisexual	1.0%	
	Other sexual orientation	0.2%	
	Prefer not to say	1.1%	
Educational level**	No formal qualification	7.8%	27.1%
	Level 1 and 2	31.6%	29.8%¬
	Level 3	22.3%	11.1%¬¬
	Level 4	28.1%	
	Level 5	9.6%	
	Prefer not to say	0.6%	
Marital status***	Single	16.3%	12.0%
	Married	54.9%	58.4%
	Co-habiting	7.3%	-
	Separated	2.0%	2.4%
	Divorced	11.0%	14.4%
	Widowed	8.2%	12.8%
	Prefer not to say	0.4%	
Have children	Yes	73.5%	-
	No	26.1%	
	Prefer not to say	0.4%	

Employment status	Paid job	39.0%	Different categorisation used
	Unpaid job	4.2%	
	Unemployed	3.2%	
	Retired	53.0%	
	Other or prefer not to say	0.7%	
Income	<£10,000	6.7%	-
	£10,001-£20,000	21.6%	
	£20,001-£30,000	20.5%	
	£30,001-£40,000	15.8%	
	£40,001-£50,000	10.1%	
	£50,001-£60,000	6.4%	
	£60,001-£70,000	3.8%	
	£70,001-£80,000	3.0%	
	£80,001-£90,000	1.5%	
	£90,001-£100,000	1.1%	
	>£100,000	2.19%	
	Prefer not to say	7.3%	
Place of residence	Own home	93.3%	-
	With family members or friends	2.1%	
	Within a community setting	2.4%	
	Residential care	0.1%	
	Don't know or prefer not to say	2.0%	
Housing tenure	Own it outright	62.0%	54.0%
	Buying with help of a mortgage/loan	12.6%	22.5%[#]
	Shared ownership	1.0%	
	Rent from local authority/housing association	13.8%	14.1%
	Rent privately	9.4%	9.4%
	Other or prefer not to say	1.5%	-
Current or future pension****	More than enough to meet needs	27.1%	-
	Just about enough to meet needs	51.3%	
	Less than enough to meet needs	21.6%	

*Others: include Arabs or any other group. Mixed/multiple ethnic groups: White and Black Caribbean, White and Black African, White and Asian, Any other Mixed/Multiple ethnic background.

**Educational levels are defined as: Level 1 or 2: GCSEs, O Levels, SCE standard, NVQ/SVQ Level 2 or equivalent; Level 3: A-levels, SCE higher, NVQ/SVQ Level 3 or equivalent; Level 4: A degree or higher degree, HND, HNC, NVQ/SVQ Level 4 or equivalent; Level 5: A postgraduate degree or doctorate, NVQ/SVQ Level 5 or equivalent.

*** Married or in a civil partnership; Separated but still legally married or in civil partnership; Divorced or civil partnership dissolved; Widowed or surviving partner of civil partnership

**** Adequacy of income for current or future pension

¬Includes Level 1, Level 2 and apprenticeship

¬¬Level 4 and above.

#Owns with a mortgage or loan or shared ownership

Figure S1: Association between whether people have enough information about their care choices and sociodemographic and other care-related variables.
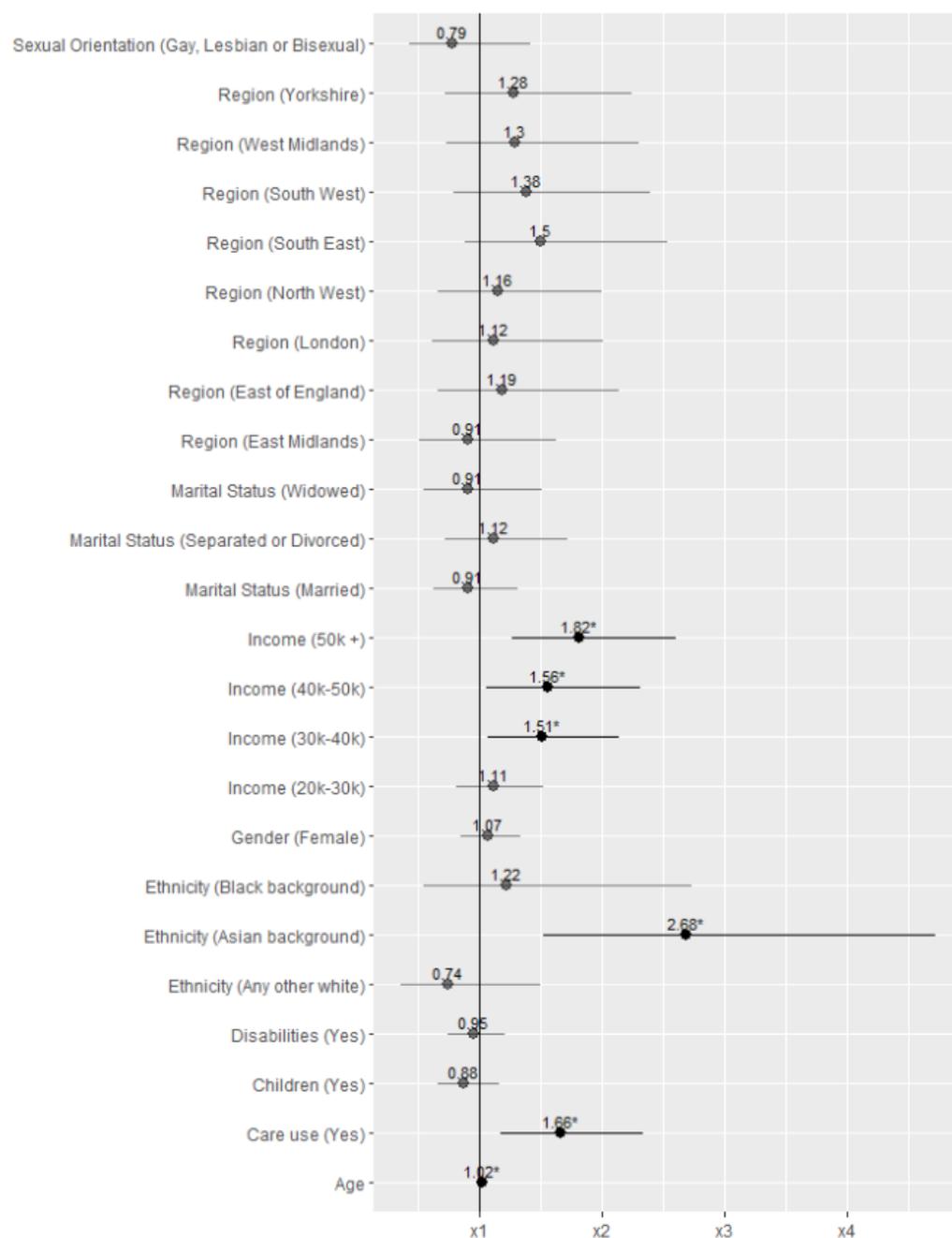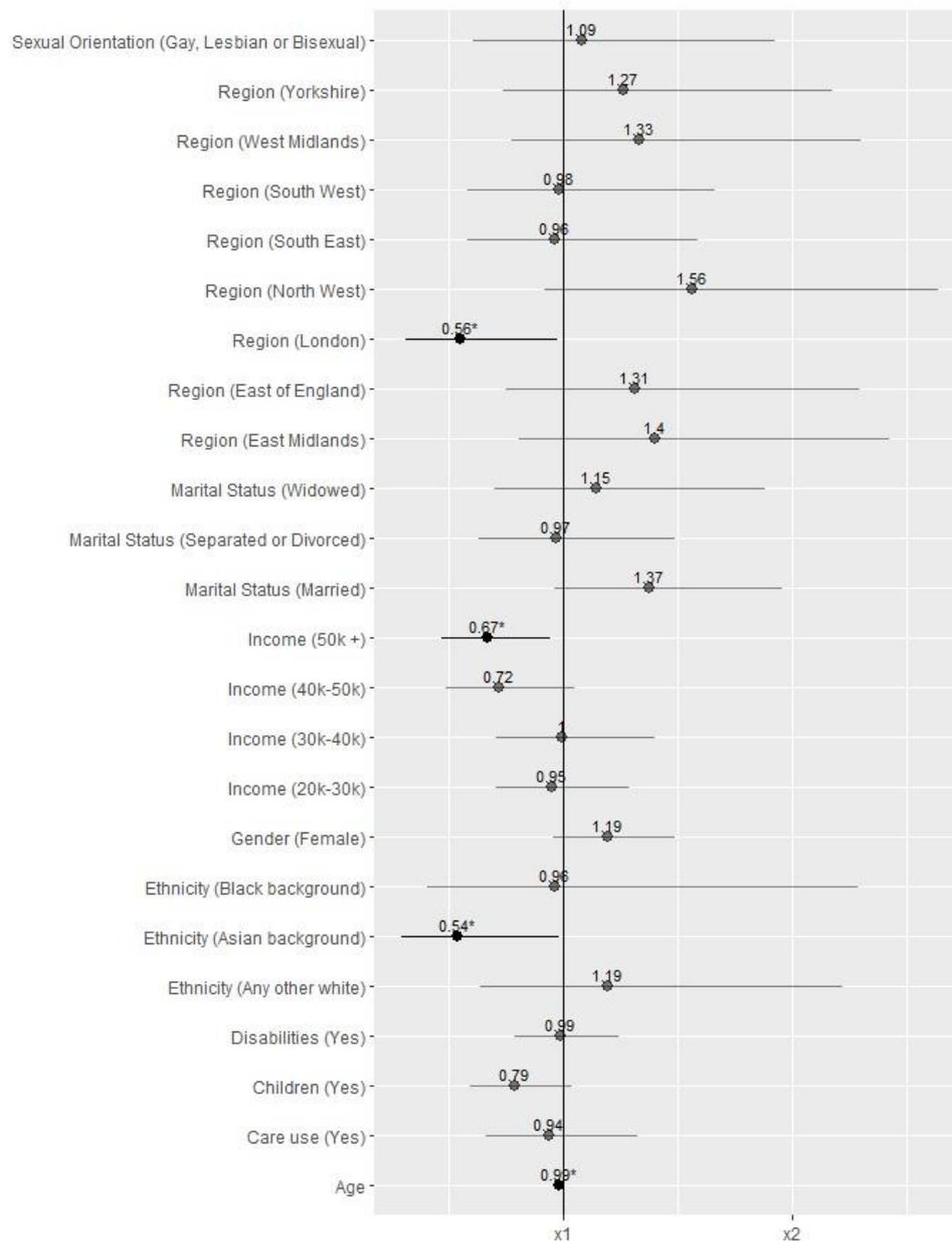

Association between sociodemographic, care use, disability and having enough information about people's care choices (dependent variable). Reference categories: Sexual orientation: heterosexual; Region: North East; Marital Status: single; Income: <£20,000; Gender: male; Ethnicity: white British; Disabilities: no; Care use: no. The lines represent 95% confidence intervals.

Figure S2: Preference for age of neighbours in community setting: Development of flats with communal spaces
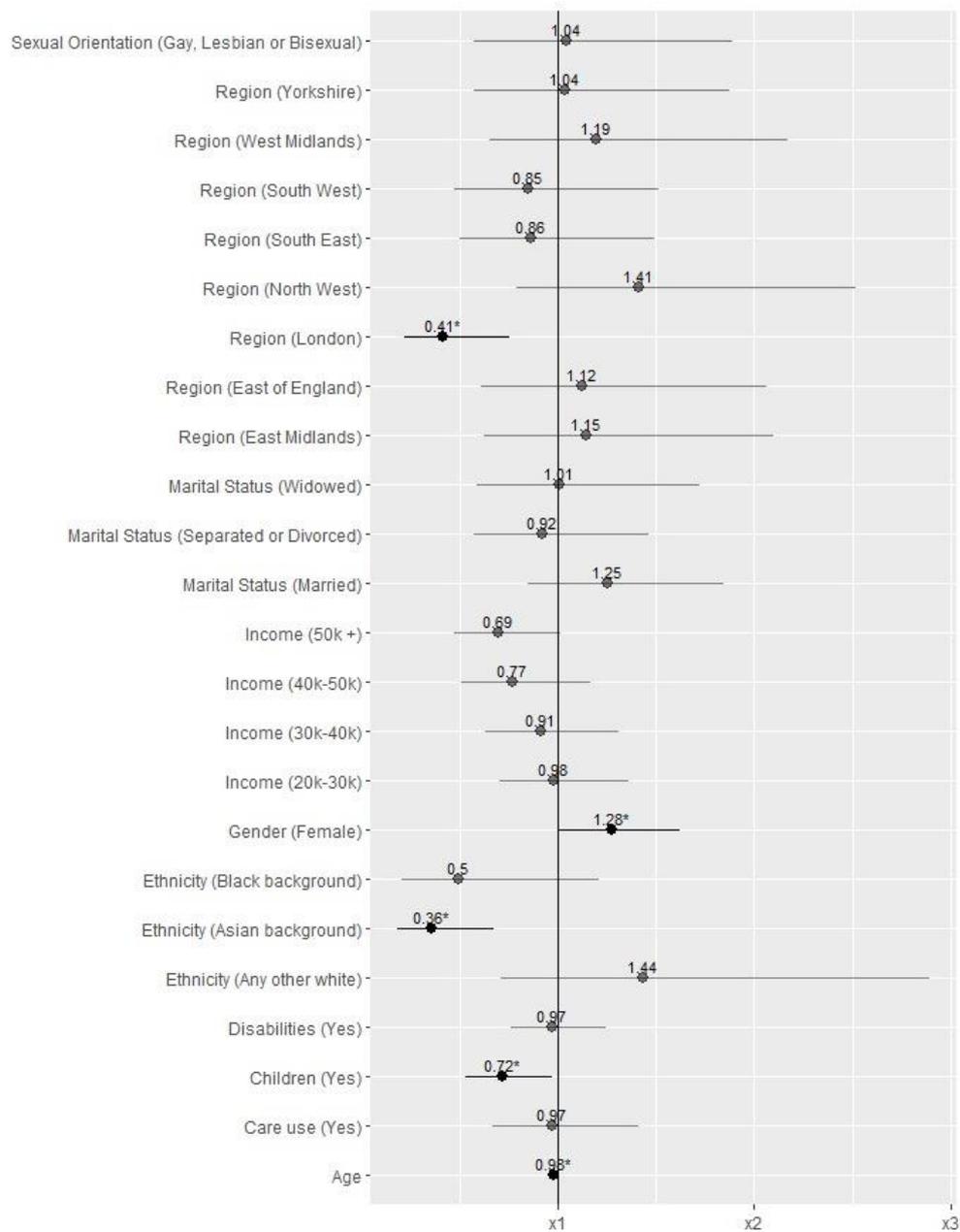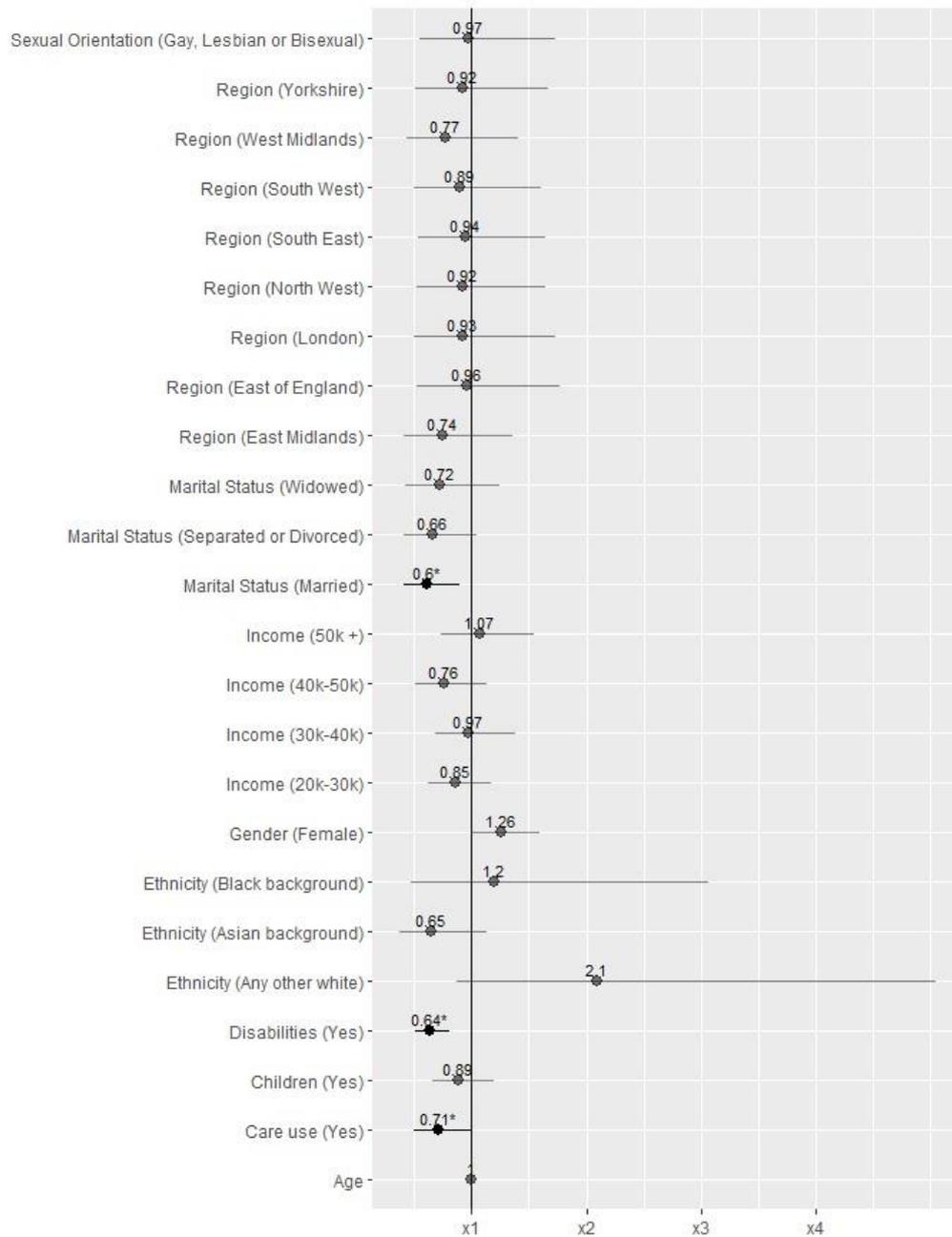

Association between sociodemographic, care use, disability and preference to live with neighbours of same age group (versus mixed ages) in development of flats with communal spaces. Preference for same age groups = 1, for mixed age group = 0. Reference categories: Sexual orientation: heterosexual; Region: North East; Marital Status: single; Income: <£20,000; Gender: male; Ethnicity: white British; Disabilities: no; Care use: no. Lines represent 95% confidence intervals.

Figure S3: Preference for age of neighbours in community setting: Community village formed by bungalows with communal spaces

Association between sociodemographic, care use, disability and preference to live with neighbours of same age group (versus mixed ages) in community village formed by bungalows with communal spaces. Preference for same age groups = 1, for mixed age group = 0. Reference categories: Sexual orientation: heterosexual; Region: North East; Marital Status: single; Income: <£20,000; Gender: male; Ethnicity: white British; Disabilities: no; Care use: no. Lines represent 95% confidence intervals.

Figure S4: Preference of people wanting to have substantial choice over their care and support services
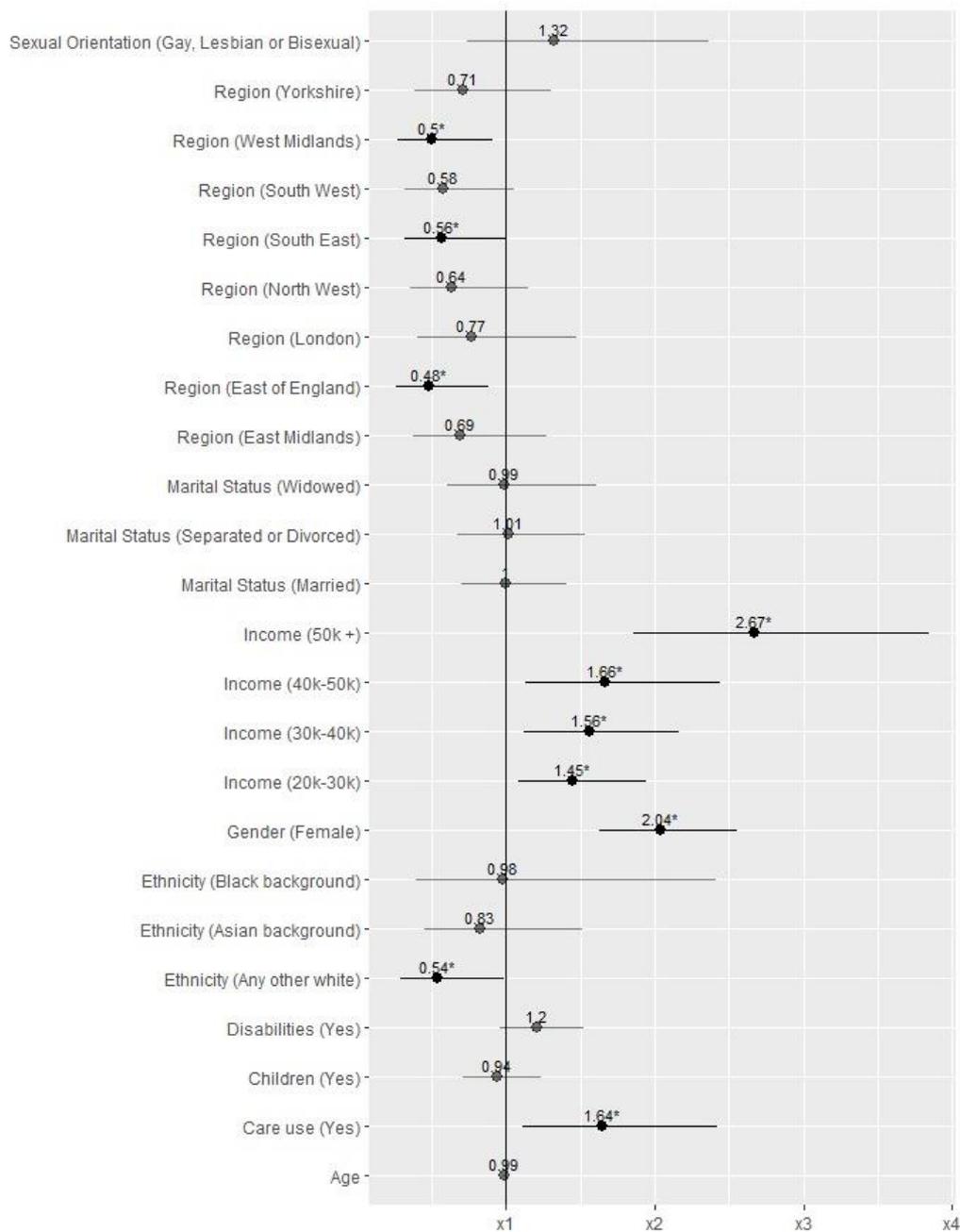
Association between sociodemographic, care use, disability and preference to live with neighbours of same age group (versus mixed ages) in community setting. Reference categories: Sexual orientation: heterosexual; Region: North East; Marital Status: single; Income: <£20,000; Gender: male; Ethnicity: white British; Disabilities: no; Care use: no. Lines represent 95% confidence intervals.

Table S3: Having good access to community assets between men and women

| Community assets	Men	Women
Reliable Transport	Not at all important 8.38% Somewhat important 17.23% Quite important 23.84% Very important 45.90% Don't know 4.66%	Not at all important 5.17% Somewhat important 15.12% Quite important 20.49% Very important 54.83% Don't know 4.39%
Place of Worship	Not at all important 71.36% Somewhat important 9.42% Quite important 8.86% Very important 7.00% Don't know 3.36%	Not at all important 67.42% Somewhat important 10.99% Quite important 9.32% Very important 8.73% Don't know 3.53%
Cultural facilities	Not at all important 35.17% Somewhat important 29.20% Quite important 22.85% Very important 9.98% Don't know 2.80%	Not at all important 28.20% Somewhat important 27.61% Quite important 26.44% Very important 15.32% Don't know 2.44%
Leisure facilities	Not at all important 27.87% Somewhat important 29.92% Quite important 25.72% Very important 13.51% Don't know 2.98%	Not at all important 21.46% Somewhat important 28.29% Quite important 28.29% Very important 19.71% Don't know 2.24%
Local pub, coffee shop, restaurants	Not at all important 10.72% Somewhat important 20.78% Quite important 31.13% Very important 35.51% Don't know 1.86%	Not at all important 7.70% Somewhat important 19.30% Quite important 31.09% Very important 40.06% Don't know 1.85%
Shops, such as grocery store	Not at all important 1.49% Somewhat important 12.12% Quite important 23.02% Very important 61.60% Don't know 1.77%	Not at all important 0.58% Somewhat important 8.58% Quite important 19.98% Very important 69.79% Don't know 1.07%
Sports grounds	Not at all important 57.00% Somewhat important 17.35% Quite important 14.93% Very important 8.40% Don't know 2.33%	Not at all important 75.02% Somewhat important 13.56% Quite important 6.44% Very important 3.02% Don't know 1.95%
Health care facilities	Not at all important 1.21% Somewhat important 7.74% Quite important 18.27%	Not at all important 0.78% Somewhat important 5.66% Quite important 14.15%

	Very important 71.58% Don't know 1.21%	Very important 78.54% Don't know 0.88%
Professional services	Not at all important 6.34% Somewhat important 19.66% Quite important 35.23% Very important 36.91% Don't know 1.86%	Not at all important 2.92% Somewhat important 13.26% Quite important 34.99% Very important 47.76% Don't know 1.07%
Parks and green spaces	Not at all important 5.03% Somewhat important 15.56% Quite important 31.87% Very important 45.67% Don't know 1.86%	Not at all important 2.83% Somewhat important 9.36% Quite important 26.32% Very important 60.33% Don't know 1.17%

Figure S5: Importance of having reliable transport

Association between sociodemographic, care use, disability and importance of having reliable transport. Reference categories: Sexual orientation: heterosexual; Region: North East; Marital Status: single; Income: <£20,000; Gender: male; Ethnicity: white British; Disabilities: no; Care use: no.
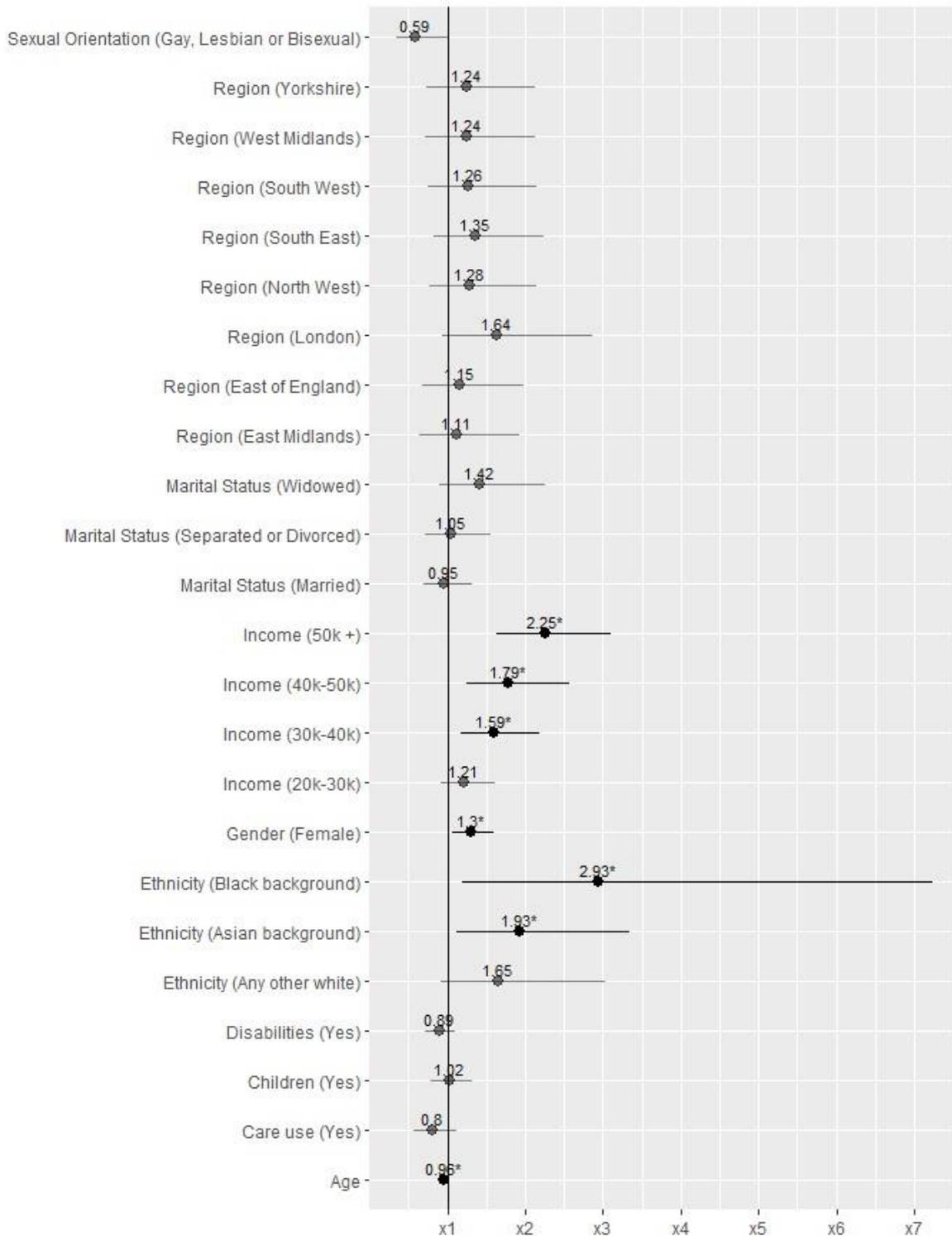
Figure S6: Importance of having access to places of worship
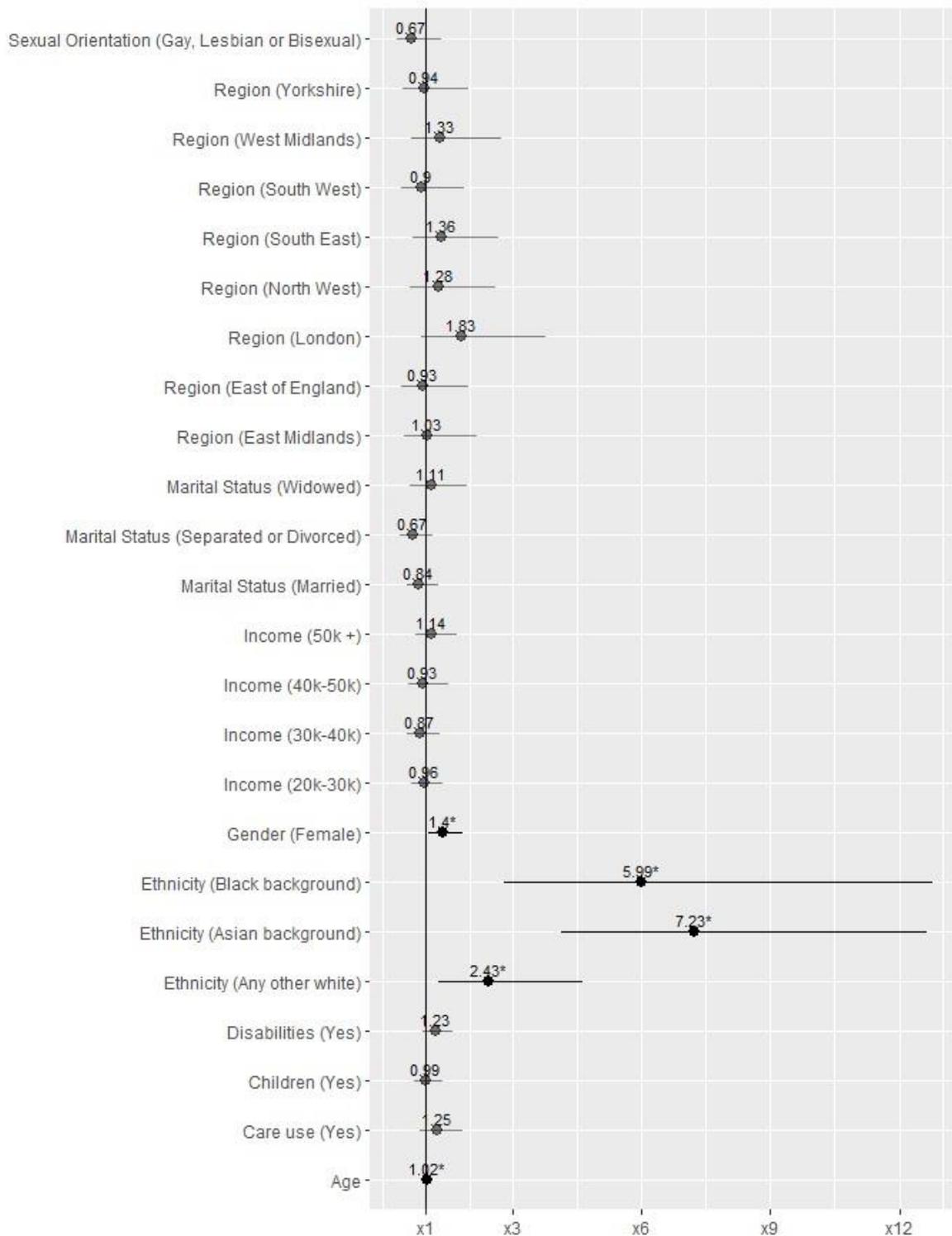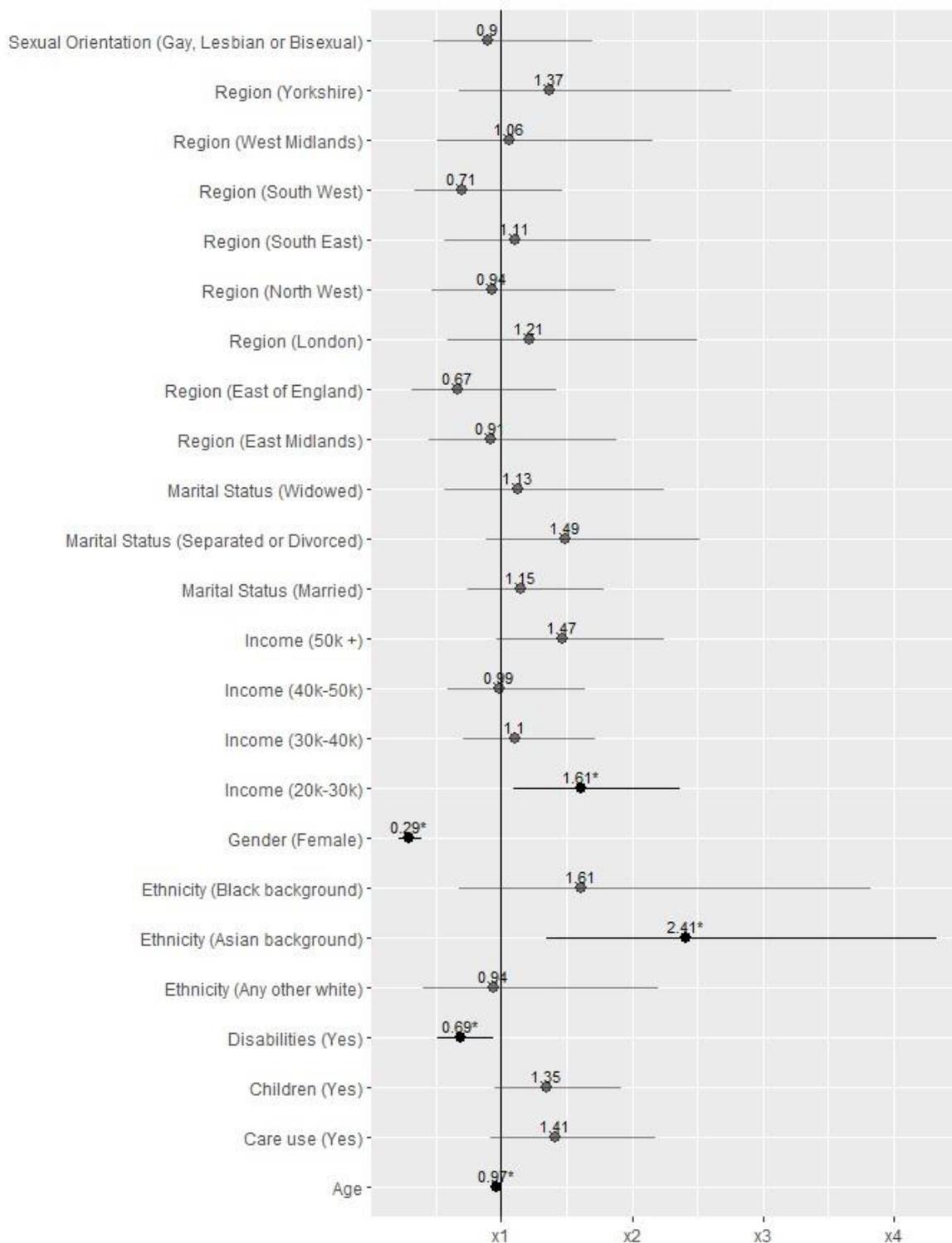

Association between sociodemographic, care use, disability and importance of having access to places of worship. Reference categories: Sexual orientation: heterosexual; Region: North East; Marital Status: single; Income: <£20,000; Gender: male; Ethnicity: white British; Disabilities: no; Care use: no.
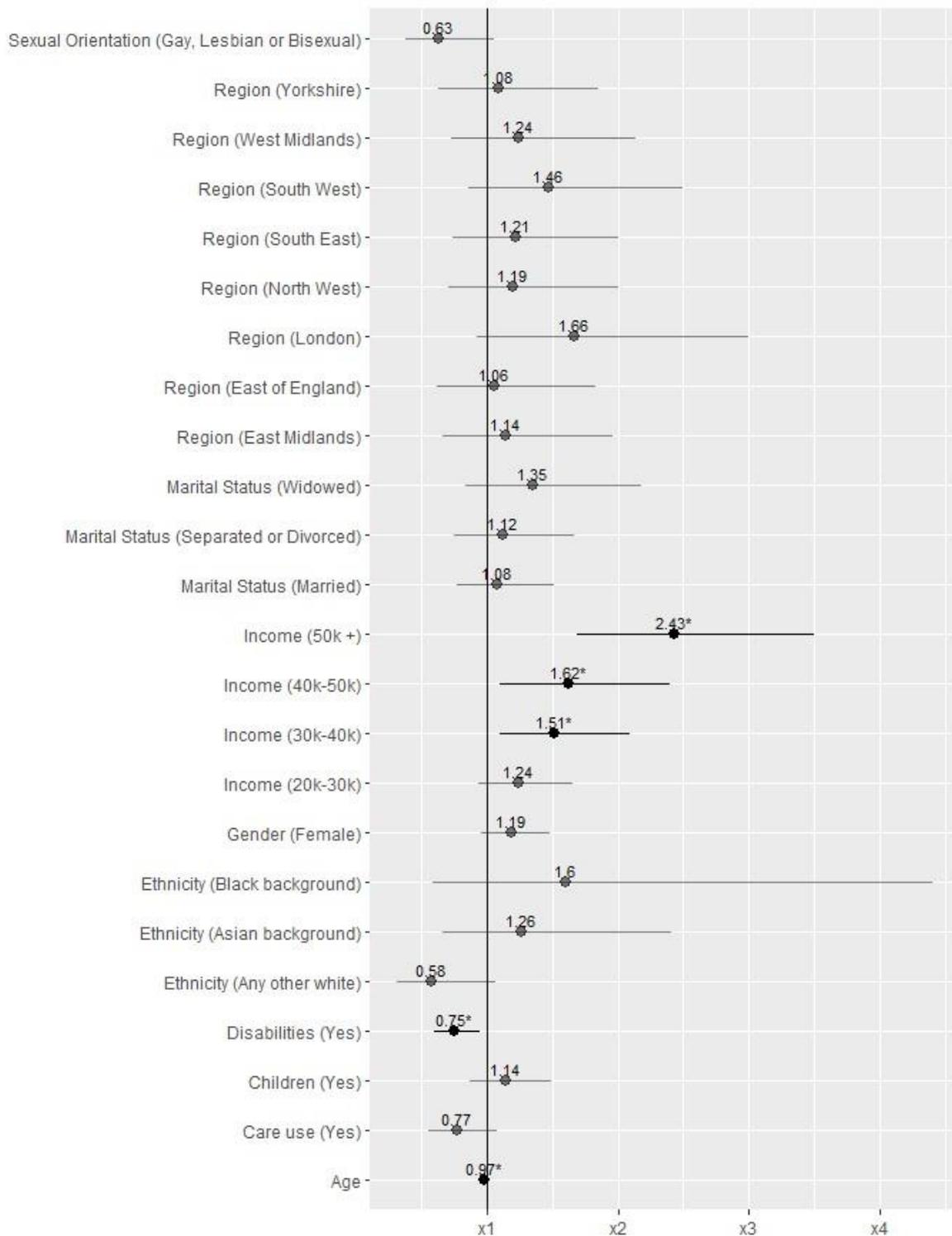
Figure S7: Importance of having access to shops
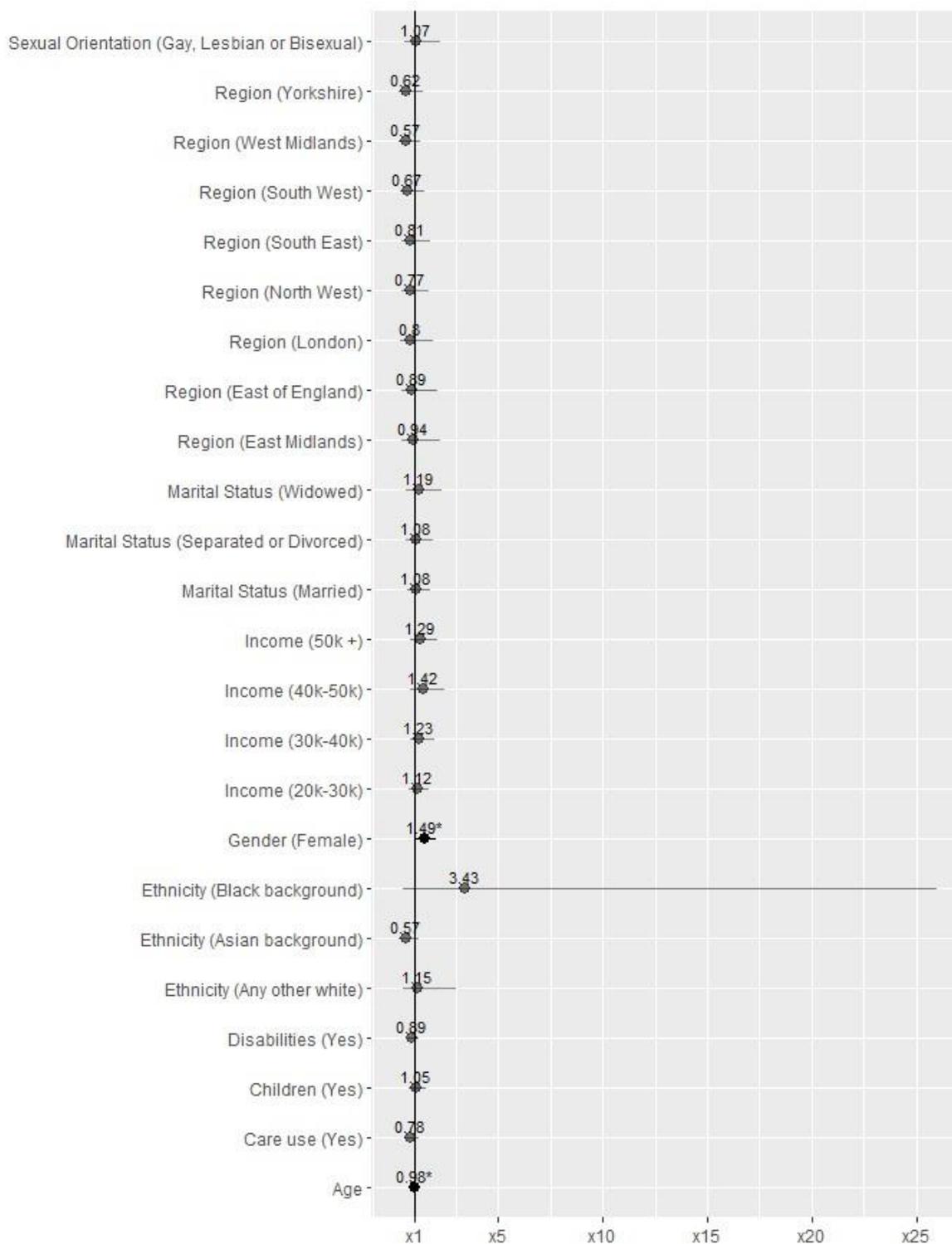
Association between sociodemographic, care use, disability and importance of having access to shops. Reference categories: Sexual orientation: heterosexual; Region: North East; Marital Status: single; Income: <£20,000; Gender: male; Ethnicity: white British; Disabilities: no; Care use: no.

Figure S8: Importance of having access to cultural facilities
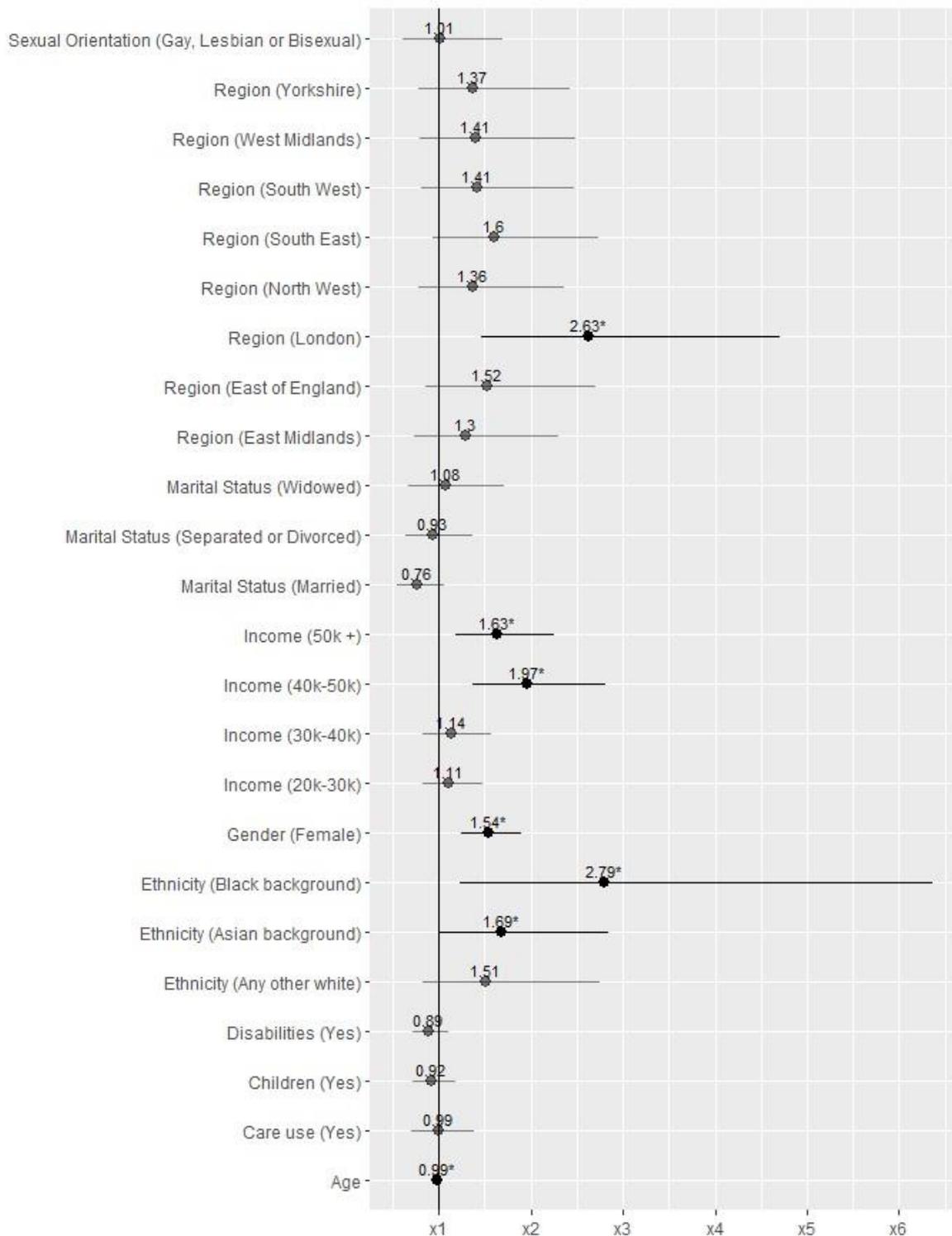
Association between sociodemographic, care use, disability and importance of having access to cultural facilities. Reference categories: Sexual orientation: heterosexual; Region: North East; Marital Status: single; Income: <£20,000; Gender: male; Ethnicity: white British; Disabilities: no; Care use: no.

Figure S9: Importance of having access to leisure spaces

Association between sociodemographic, care use, disability and importance of having access to leisure facilities. Reference categories: Sexual orientation: heterosexual; Region: North East; Marital Status: single; Income: <£20,000; Gender: male; Ethnicity: white British; Disabilities: no; Care use: no.
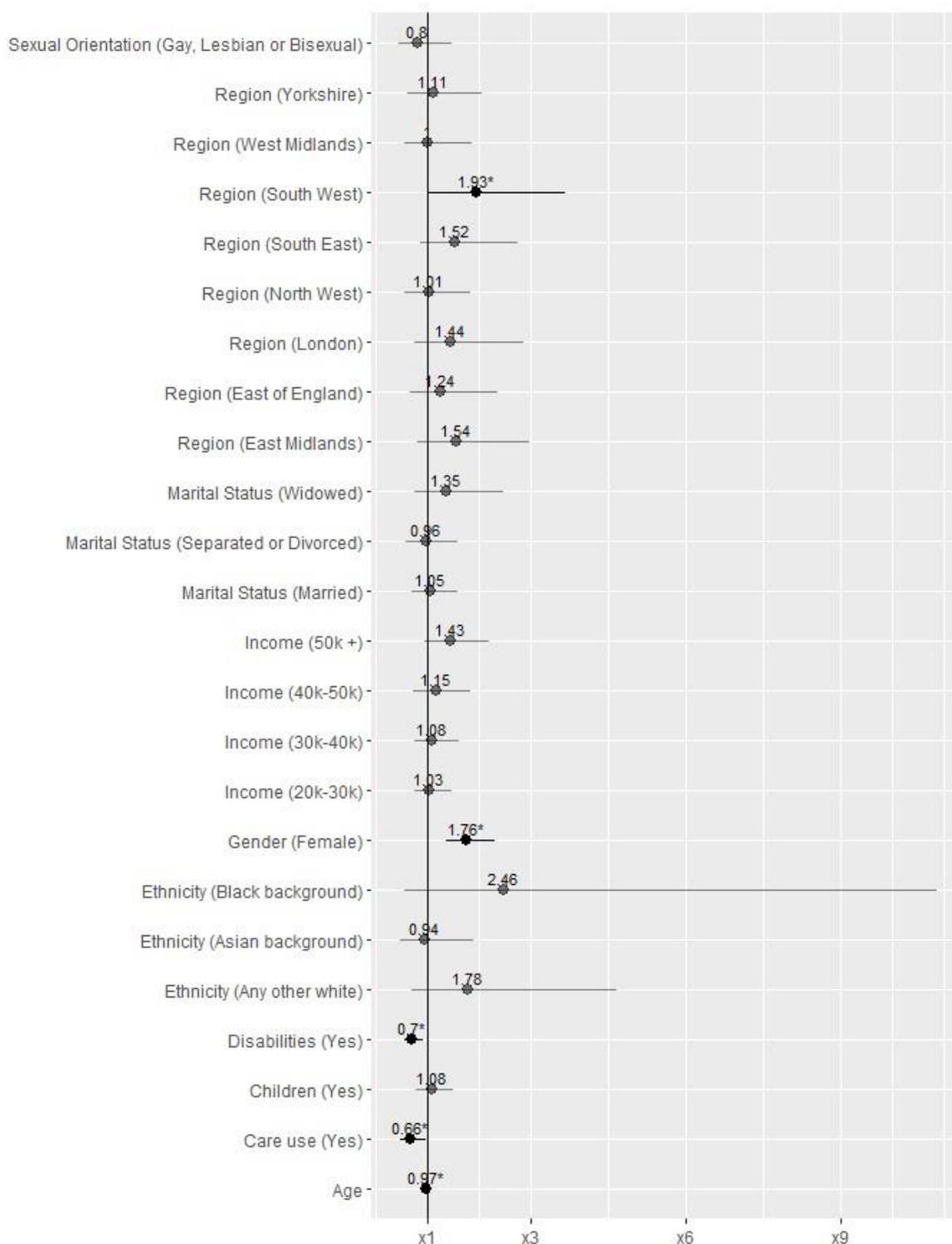
Figure S10: Importance to having access to sports grounds

Association between sociodemographic, care use, disability and importance of having access to sports grounds. Reference categories: Sexual orientation: heterosexual; Region: North East; Marital Status: single; Income: <£20,000; Gender: male; Ethnicity: white British; Disabilities: no; Care use: no.

Figure S11: Importance of having access to pubs, cafes and restaurants
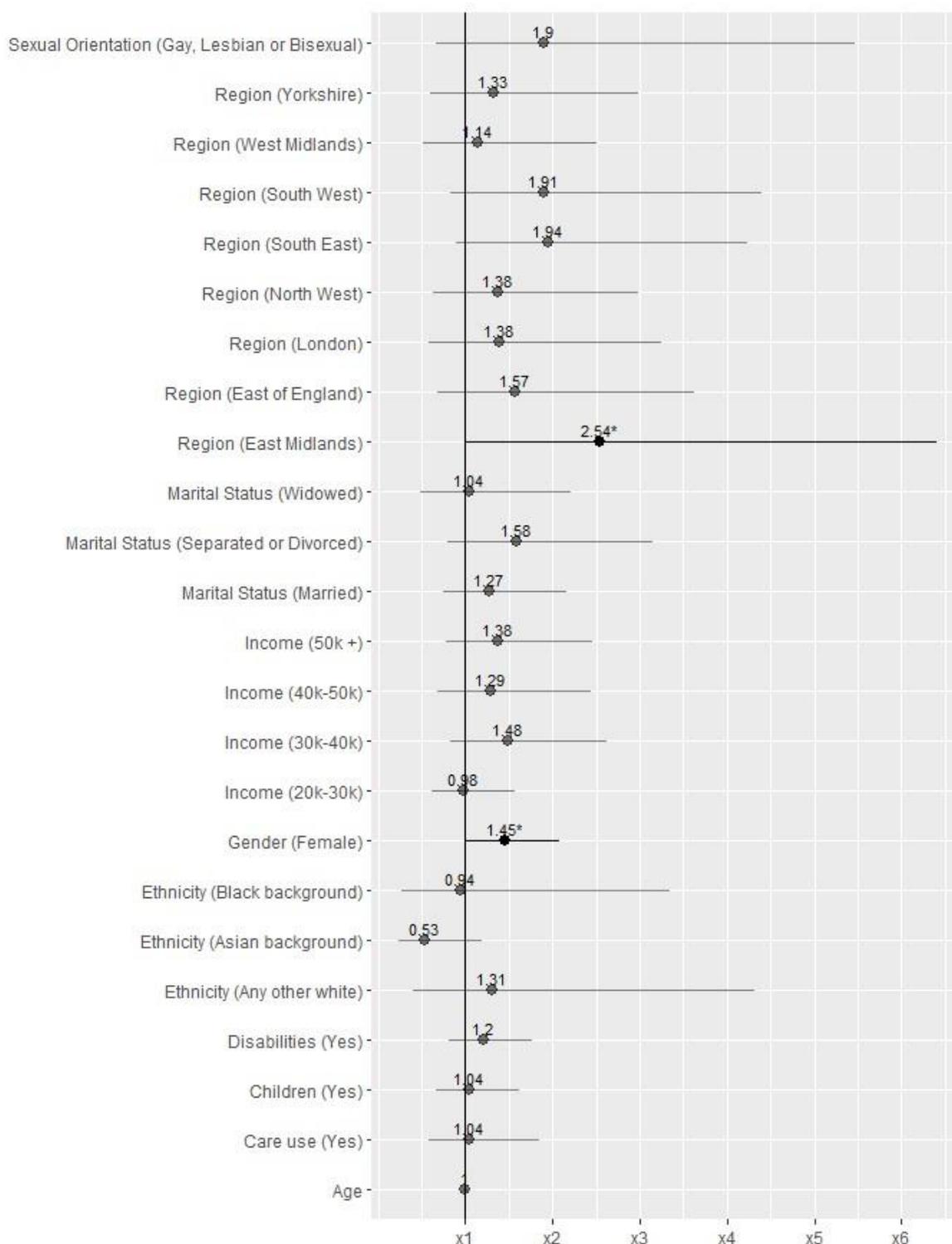

Association between sociodemographic, care use, disability and importance of having access to pubs, cafes and restaurants. Reference categories: Sexual orientation: heterosexual; Region: North East; Marital Status: single; Income: <£20,000; Gender: male; Ethnicity: white British; Disabilities: no; Care use: no.

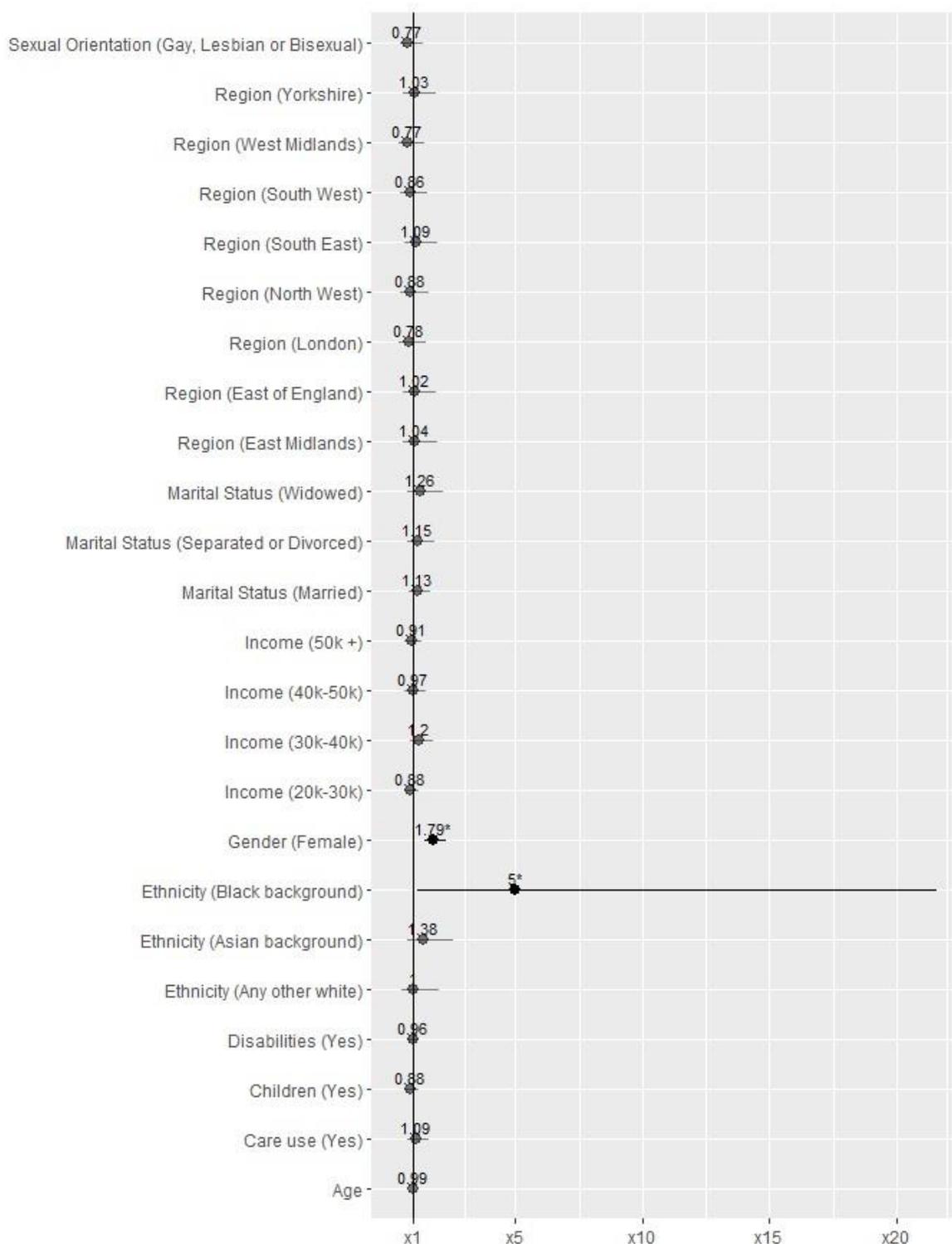# Figure S12: Importance of having access to parks and green spaces

Association between sociodemographic, care use, disability and importance of having access to parks and green spaces. Reference categories: Sexual orientation: heterosexual; Region: North East; Marital Status: single; Income: <£20,000; Gender: male; Ethnicity: white British; Disabilities: no; Care use: no.

Figure S13: Importance of having access to health care facilities

Association between sociodemographic, care use, disability and importance of having access to healthcare facilities (e.g. GP surgery, pharmacy, hospital). Reference categories: Sexual orientation: heterosexual; Region: North East; Marital Status: single; Income: <£20,000; Gender: male; Ethnicity: white British; Disabilities: no; Care use: no.

Figure S14: Importance of having access to professional services

Association between sociodemographic, care use, disability and importance of having access to professional services (e.g. Post office, Bank, Citizens Advice Bureau, Legal or Financial services). Reference categories: Sexual orientation: heterosexual; Region: North East; Marital Status: single; Income: <£20,000; Gender: male; Ethnicity: white British; Disabilities: no; Care use: no.

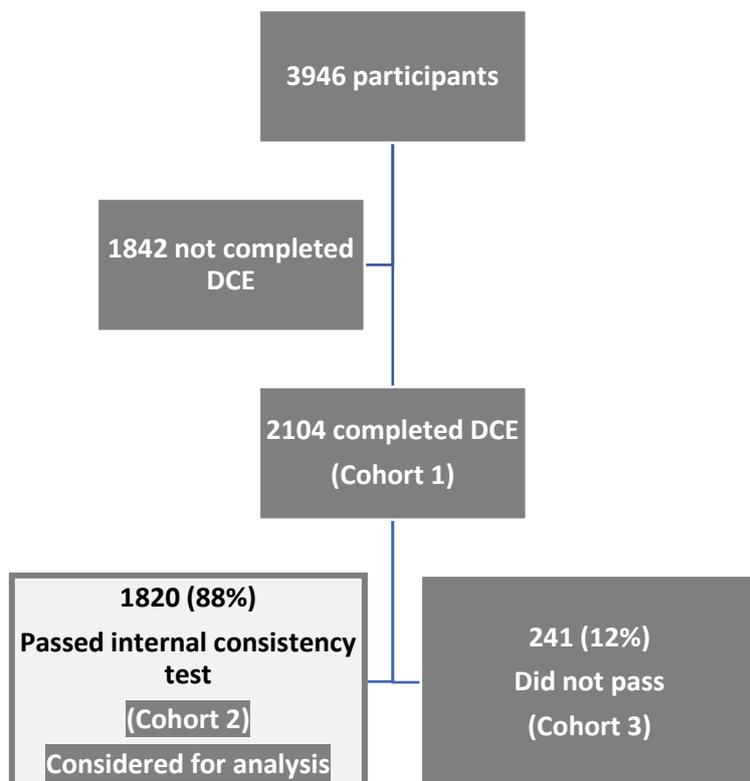**Figure S15: Flow diagram of participants' response rate to the DCE survey**

Table S4: DCE responses, study participants and internal consistency

	(Cohort 1)	(Cohort 2)	(Cohort 3)
Completed	2104	1820	241
Age (mean)	65.26	65.20	65.70
Gender (%) Male Female Prefer not to say	51.09% 48.81% 0.10%	50.99% 48.90% 0.11%	51.76% 48.24%
Income in GBP £ <30,000 30,001-70,000 >70,000	48.81% 36.08% 15.11%	49.39% 35.60% 15.01%	48.81% 36.08% 15.11%
Experience of care Yes No Prefer not to say	6.18% 92.68% 1.05%	6.37% 92.58% 1.04%	4.93% 93.31% 1.76%

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