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Equal access for equal need:

Eliciting public preferences for access to health treatment by employment status

Naomi Gibbs[1], Philip A Powell[1,2]*, Aki Tsuchiya[1,2]

1. School of Health and Related Research, University of Sheffield, Regent Court, 30 Regent Street, Sheffield, S1 4DA, UK

2. Department of Economics, University of Sheffield, 9 Mappin Street, Sheffield, S1 4DT, UK

* Corresponding author: Phillip Powell, School of Health and Related Research, University of Sheffield, Regent Court, 30 Regent Street, Sheffield, S1 4DA, UK. Telephone: (+44) (0)114 222 0794. Email: p.a.powell@sheffield.ac.uk

1   **Abstract**

2   The National Health Service in the UK is set up under the principle of "equal access for equal need",

3   where those with identical *medical* needs should be given equal priority in receiving health care. However,

4   *non-medical* needs may also be relevant in health care decision-making. This paper considers how

5   members of the general public value access to a health service given equal medical needs, where some

6   service users have additional non-medical needs. There are three primary research questions. First, are

7   public preferences regarding access to a health care service symmetric and inequality averse? Second, are

8   public preferences asymmetric across different needs groups? And third, which individual characteristics of

9   respondents are predictive of different public preferences in this domain? An online survey of the UK

10   general public was conducted in January 2017 using binary choice questions. The hypothetical scenarios

11   involved allocating extra resources from a social perspective, to reduce the waiting time to access a mental

12   health service for the unemployed, for the employed, or for both groups. Based on a valid sample of 662

13   respondents, the study found that the three main preference categories were: inequality averse and

14   symmetric, inequality averse and asymmetric in favour of the unemployed, and inequality seeking and

15   asymmetric in favour of the unemployed, with the first group being the largest. Respondents' current

16   labour market status was found to explain their preferences so that those who were currently job-seeking

17   were more likely to demonstrate preferences that favoured the unemployed, and those who were

18   currently unemployed were less likely to demonstrate asymmetric preferences that favoured the

19   employed. The implications from these findings are that health policies in the UK that support equal access

20   for equal medical need are likely to be received most favourably, yet a non-trivial minority may support

21   policies favouring those with other, non-medical needs.

22

23   **Keywords**

24   United Kingdom; equal access for equal need; public preferences; social perspective; equity-efficiency

25   trade-off; work and health; unemployment; mental health

26

Introduction

28   1.1 Background

29   One of the seven key principles that guide the National Health Service (NHS) in England states that

30   "Access to NHS services is based on clinical need, not an individual's ability to pay" (NHS England, 2015a),

31   and this is often rephrased as "equal access for equal need" (Department of Health, 2017). The principle

32   implies that those with identical medical need should be given equal priority in receiving health care.

33   However, while this principle rules out access based on ability to pay, it does not say anything about access

34   based on non-medical need. There is a large academic literature discussing what is (or should be) meant by

35   "need" – but while the debate has focused on what constitutes *medical* need (for example, pre-treatment

36   health status, or capacity to benefit; see Culyer & Wagstaff, 1993; Oliver, 2004), much less attention has

37   been devoted to *non-medical* need.

38   This paper considers how members of the UK general public value equal access to a mental health

39   service where some service users have additional, defined non-medical needs. To the best of our

40   knowledge, this is the first study that attempts to elicit public preferences regarding possible aversion to

41   unequal access to health care services.

42   1.2 Conceptual framework

43   To explore public preferences regarding *access* to health care, this work builds on research

44   methodology from the existing consequentialist literature that captures the distributional preferences in

45   health *outcomes* (Abásolo & Tsuchiya, 2004; 2013; Dolan & Tsuchiya, 2009). One distributional preference

46   is "aversion to inequality", which means that if a given level of total good is distributed unequally, then

47   there is another distribution that is equally good as the first which distributes a smaller level of total good

48   more equally (Atkinson, 1970). Another distributional preference is "symmetry", which means that if

49   people's situations were reshuffled, this should have no impact on the resulting social welfare.

50   Imagine two homogeneous groups X and Y, of equal size, that have the same levels of medical

51   need: group X has no other need(s), while group Y has additional non-medical need(s). If non-medical

52   needs are not relevant to the decision-maker, then X and Y are interchangeable, so that horizontal equity

53 (equal treatment of equals) requires that groups X and Y be treated equally (equal access for equal medical

54 need): we refer to this as symmetry. If non-medical needs are also relevant, then X and Y are not

55 interchangeable, so that vertical equity (unequal treatment of unequals) requires that group Y be given

56 priority over group X (unequal access for unequal overall, medical plus non-medical, need): we refer to this

57 as asymmetry.

58   Thus, this study applies the above framework to examine whether people support aversion to

59 unequal access to health care, and whether they support asymmetric access to health care when one party

60 has additional non-medical needs. To illustrate, Figure 1(a) is an abstract representation of levels of access

61 to services, where the horizontal and vertical axes represent the level of access for groups X and Y,

62 respectively. Point E represents a situation where both groups have some equal level of access. Point 1

63 represents a situation where the total level of access across the two groups is the same as at point E, but

64 group Y has better access than group X. The three downward sloping lines represent different social

65 welfare contours through point E, and illustrate that a symmetric social welfare contour needs to be

66 inequality seeking in terms of access (s) if point 1 is to be preferred to point E. Figure 1(b) represents two

67 social welfare contours that are *asymmetric* regarding access in favour of group Y. This illustrates that if

68 the contours are asymmetric, point 1 can be ranked above point E, regardless of attitudes to inequality

69 (unless strongly inequality averse to cancel out the asymmetry). Thus, in this space "equal access for equal

70 *medical* need" implies a symmetric and inequality averse social welfare contour, while "unequal access for

71 unequal *medical and non-medical* need" implies either (i) a symmetric and inequality seeking contour or (ii)

72 an asymmetric contour in favour of those with additional needs. The last two contours may both rank

73 point 1 above point E, but their ranking of point 2 (where levels of access of groups X and Y at point 1 are

74 swapped) will disagree: (i) a symmetric and inequality seeking contour will rank points 1 and 2 equally

75 better than point E; while (ii) an asymmetric contour in favour of those with additional needs will rank point

76 1 above 2.

77 1.3 Aims of the paper

78   To operationalise this, we use access to cognitive behavioural therapy (CBT), and a hypothetical

4

79 policy programme that, amongst those waiting to receive CBT, identifies those who are also unemployed in

80 order to fast-track their access ahead of those who are in employment. Thus, group X consists of those

81 who are seeking CBT, but have no other apparent needs, while group Y consists of those who have the

82 same medical needs as those in group X, but who are also unemployed. There are three main possibilities.

83 If the public interprets "equal need" to mean medical need only, then the hypothetical policy would be

84 rejected in favour of equal access regardless of employment status – this would be "symmetric inequality

85 aversion". On the other hand, if the public interprets "equal need" to include wider non-medical need,

86 then it may be acceptable to give the unemployed better access to CBT – in other words, "asymmetry in

87 favour of the unemployed". However, the public may prefer instead to give higher priority to those holding

88 down a job despite similar mental health difficulties – viz. "asymmetry in favour of the employed".

89   Thus, this paper reports on an attempt to elicit public preferences for equal access to CBT by

90 employment status. There are three research questions:

91 1. Are public preferences regarding access to CBT symmetric and inequality averse?

92 2. Are public preferences regarding access to CBT asymmetric across employment groups?

93   -   And if so, is it asymmetric in favour of the unemployed, or in favour of the employed?

94 3. Which respondent characteristics are predictive of different public preferences in this domain?

95   The study elicits public or societal preferences regarding access to health care by asking respondents to

96 make judgements across alternative policies based on what they regard is best for society, as opposed to

97 which policy would personally benefit them most (Tsuchiya & Watson, 2017). The study conducts an online

98 survey of the UK public, where the main decision tasks are designed to distinguish between the relevant

99 public preferences.

100 **Method**

101 2.1 The online questionnaire

102 *2.1.1 Introduction to the survey and practice tasks*

103   The survey was developed through a pilot phase with ten non-academic staff recruited at the

104 University of Sheffield (mean age = 44.4 years, SD age = 11.0 years, 50/50 gender split) in December 2016.

105   These participants completed the survey on a range of devices (laptop, tablet, and smartphones) in the

106   presence of a researcher, followed by a 30-minute interview about the topic. They were invited to

107   comment on their understanding of the survey and its adequacy for the research purposes. Several

108   changes were made in light of this pilot work, including revisions to the graphical aids, revisions to survey

109   questions, and the survey being made unavailable for completion on smartphone devices, due to legibility

110   of the graphical aids.

111   At the start of the survey, participants were given some background information on the known

112   relationship between mental health and unemployment and that anybody may become unemployed

113   through no fault of their own. Following a brief description on the effectiveness of CBT, participants were

114   asked to imagine they were being consulted by the government on decisions to allocate extra funds for the

115   provision of CBT, which could not be used for anything else. They were introduced to the idea of the

116   government helping the unemployed by giving them access to CBT through reduced waiting times from

117   referral to treatment, and told about the various policy options that they could demonstrate a preference

118   for in this survey: viz. either to benefit the employed and unemployed equally, or to target the support at

119   either the unemployed or employed groups unequally. The two groups were described as follows:

120   -   The *employed*: "working age adults who are in-work, are not claiming any unemployment benefits, and

121   have been diagnosed with a common mental health problem that is responsive to CBT".

122   -   The *unemployed*: "working age adults who are not in-work, are claiming unemployment benefits, and

123   have been diagnosed with a common mental health problem that is responsive to CBT. Due to their

124   diagnosis they are identified as at-risk for long-term unemployment (of 12 months or more)".

125   Participants were told that there were no right or wrong answers, and that the questions were not

126   about which policy would benefit them more, but about what kind of public services they thought the

127   government ought to provide (the full instructions given to participants are provided in the online

128   Supplement [INSERT LINK TO ONLINE FILE C]).

129   For simplicity, participants were asked to assume for the purpose of this survey that the two groups

130   were equal in size, and that the two programmes cost the same. With a graphical aid, participants were

131   presented with sequential decision tasks between two policy options (i.e., Option A and Option B) that

132   differed in the reduction (in weeks) in waiting time for CBT for each group from a common baseline. In

133   each task, participants were asked to choose whether they preferred Option A, Option B, or if they thought

134   Option A and Option B were equally good. Upon selecting an option, participants were given real-time

135   feedback on-screen that quantified what their choice meant for CBT waiting times for the employed and

136   unemployed groups. They were then asked to confirm their choice, before moving on to the next task.

137   Two practice questions featuring graphical aids with additional annotations (see Figure 2) preceded the

138   actual tasks.

139   *2.1.2 The main tasks*

140   An overview of the structure of the main tasks is in Figure 3. Following the practice questions,

141   participants were provided with two different baseline frames in waiting times for CBT of 6 and 18 weeks.

142   These were taken from the latest UK NHS Improving Access to Psychological Therapies (IAPT) published

143   targets of (i) 75% people to begin treatment within 6 weeks of referral, and (ii) 95% within 18 weeks (NHS

144   England, 2015b). To control for ordering/learning effects across the baseline frames, half the participants

145   were given the 6-week frame first followed by the 18-week frame, and half were given the opposite.

146   Within each frame, participants completed between three and four decision-making tasks,

147   following different dynamic piping (or routing) depending on their answers. The piping was designed to

148   identify social preferences at the individual respondent level. Figure 4 (not shown to respondents)

149   illustrates the set of options used in the 6-week frame: the number of weeks of wait for the employed

150   group is plotted along the horizontal axis, and for the unemployed group along the vertical axis. Assuming

151   waiting to access CBT is undesirable, the best situation is no wait, which is the top right hand corner (0,0).

152   The baseline wait, in this case 6 weeks for both groups, is the bottom left hand corner (-6,-6). Throughout,

153   Option A always entailed a reduction of 3 weeks for both groups: A (-3,-3).

154   Each frame had two modules: in the first module, represented by blue circles, Option B always

155   involved a reduction of 2 weeks for the employed group, and varied the reduction to the unemployed

156   group between 3 and 5 weeks; and in the second module, represented by green circles, Option B always

7

157 involved a reduction of 2 weeks for the unemployed group and varied the reduction to the employed

158 groups between 4 and 5 weeks. (The same set of absolute reductions in waiting times across decision tasks

159 was used for the 18-week frame.) The aim is to identify (or at least, narrow down) for each respondent the

160 shape of the social welfare indifference curve through point A. For example, a respondent indifferent

161 between A and B11 and between A and B23 has an inequality averse and symmetric social preference. In

162 the first task in the first module, Option B involved reductions of 2 weeks for the employed and 4 weeks for

163 the unemployed (B12). Thus, the two policies, A and B, were equal in terms of overall number of weeks of

164 wait reduced, but differed in the distribution of reduction in waiting times (A reduced by equal amounts for

165 both; B reduced more for the unemployed). If the respondent preferred Option A, then Option B was made

166 more attractive by increasing the reduction in waiting times for the unemployed (B11). Alternatively, if the

167 respondent preferred Option B, then Option B was made less attractive by reducing the reduction in

168 waiting times for the unemployed (B13). Once indifference is reached, or a maximum of two tasks per

169 module were answered, the respondent moved on to the next module (B22), and then to the next frame.

170 In total, there were 14 different pipings per frame (full details are available from authors on request).

171   Finally, participants from the main launch (see below) completed a catch task that was designed to

172 catch-out participants who may have been responding carelessly. Participants completed a task where

173 Option B (a reduction of 4 weeks for both groups) was clearly superior to Option A (a reduction of 3 weeks

174 for both groups), either in a 6-week or 18-week framing, consistent with the last framing they had seen.

175 *2.1.3 Background measures*

176   The main tasks were followed by a series of background questions. We also recorded information

177 on the time taken to complete the survey, and the device used to complete the survey.

178   Demographic/survey variables. We collected data on participants' gender, age, region of

179 residence, employment status, and experiences in oneself and in family or close friends of: unemployment,

180 mental health diagnoses, mental health treatment, and cognitive behavioural therapy.

181   Attitudinal questions. Ten questions were designed, based on pilot work, to probe the underlying

182 attitudes of survey respondents towards mental health and unemployment on a 5-point Likert scale (1 =

183   strongly agree, 5 = strongly disagree). The order these questions were presented to participants was

184   randomised.

185   <u>Life satisfaction</u>. Four questions from the Understanding Society: UK Household Longitudinal Study

186   (UKHLS; University of Essex, 2016) were used to assess participants' self-reported satisfaction with their

187   health, job (if applicable), household income, and life overall, on a 7-point Likert scale (1 = not satisfied at

188   all, 7 = completely satisfied).

189   <u>General health</u>. One question from the UKHLS was used to assess participants' overall perception

190   of their health on a 5-point Likert scale (1 = excellent, 5 = poor).

191   <u>Psychological distress</u>. Psychological distress was measured using the 6-item Kessler Psychological

192   Distress Scale (K6; Kessler et al, 2002) covering six symptoms of psychological distress (nervousness,

193   hopelessness, depression, etc) on a 5-point Likert scale (1 = all of the time, 5 = none of the time).

194   <u>Disclosure question.</u> Participants from the full launch (see below) were explicitly asked at the end

195   of the survey which of three non-mutually-exclusive statements described how they made their decisions in

196   the main decision tasks (whether on the basis of what would benefit them personally; on what they

197   thought the government ought to do; and/or as quickly and with as little effort as possible). They were

198   reassured that their participation or reward would not be affected by their answer to this question.

199   2.2 The procedure

200   Ethical approval was granted by the Department of Economics Ethics Sub-Committee at the

201   University of Sheffield, in accordance with the University of Sheffield Research Ethics procedure prior to

202   data collection (project reference number: 011967). Following piloting, recruitment for the main survey

203   was conducted using an online commercial survey panel, ResearchNow, in January 2017, with a target of

204   1000 participants who reside and are eligible to vote in the UK. The only quotas applied were a 50/50

205   gender split, and a roughly equal distribution into three age-bands of: 18-35, 36-55, and ≥ 56 years.

206   Data collection had two phases. In the first phase (or soft-launch) the data for 101 participants

207   were collected and screened by the researchers. The soft-launch participants gave their informed consent,

208   before providing their age, gender, and the device they were completing the survey on (screening

209 questions). Eligible participants then completed the main tasks before completing the background

210 measures above, and questions about experience of unemployment, mental health diagnoses, treatment,

211 and CBT in themselves and in somebody close to them. Respondents who completed the whole survey in

212 less than a third of the median time (as set by the survey company) were regarded as speeding and were

213 excluded.

214 In the second phase (or full survey), two changes were made as a result of screening the soft-

215 launch data, where Option A (equal split between the groups) was the modal response. First, this modal

216 preference for Option A may have reflected genuine preferences or a bias towards the left/first option. In

217 order to address this concern, the catch task described above was included. Second, this modal preference

218 for Option A may have represented the cognitively easiest strategy rather than a genuine preference. In

219 order to address concern, the disclosure question (see above) was added. In both phases, participants who

220 completed the survey were rewarded with a pre-set incentive from the online survey panel.

221 2.3 Analyses

222 *2.3.1 The valid sample*

223 Respondents were excluded for the following reasons: failing the catch task, straight-lining the attitudinal

224 questions (i.e. giving the same response to all questions), and admitting to answering the survey "as quickly

225 and with as little effort as possible". The main analyses are carried out using the remaining, valid sample.

226 (For reference, all results of the full sample are reported in the online supplement [INSERT LINK TO ONLINE

227 FILE B]). *2.3.2 Dependent variable: the nine categories of public preferences*

228 Of the 14 pipings (per frame), 11 allow categorising the responses with respect to the three

229 inequality preferences (averse/neutral/seeking) and the three symmetry preferences (asymmetric in favour

230 of the unemployed/symmetric/asymmetric in favour of the employed), resulting in nine possible mutually

231 exclusive combinations (e.g. inequality averse and asymmetric in favour of the unemployed), representing a

232 particular type of social welfare indifference curve through point A. Each respondent can be classified in

233 only one category per frame. Due to the limited number of tasks asked in each frame to limit participant

234 burden, three of the 11 pipings were tentative (e.g. "inequality averse and *possibly* symmetric"), and each

235   of these was allocated to one of the nine categories based on judgement.

236   To answer the first and second research questions on the nature of public preferences regarding

237   access to CBT, frequencies of the responses are reported by these nine categories. To answer the third

238   research question concerning the individual characteristics that predict differences in public preferences,

239   multinomial logit regressions were used to model the distribution of the preferences across the nine

240   categories, in terms of the respondent's background characteristics and attitudes. Stata v.15 (StataCorp)

241   was used.

242   *2.3.3 Explanatory variables: individual level background characteristics*

243   To capture current employment status five dummy variables were used: student, job seeking, sick

244   or disabled, retired; and not in the labour force. This left the base as employed. Broader experience of

245   unemployment, either in the past or via friends and family, were also included as dummy variables.

246   Personal experience of mental health difficulties was modelled via dummy variables for ever being

247   diagnosed, or having friends or family who have ever been diagnosed, with a mental health problem.

248   Subjective measures of the respondent's self-reported levels of general health and life satisfaction were re-

249   coded into three categories, with the base being the highest level of health or satisfaction. Age, age

250   squared and a dummy for belonging to one of the attitude clusters (see below) were also included.

251   *2.3.4 Explanatory variables: clustered attitudes*

252   In order to make sense of the ten item attitudinal responses, data from the valid sample were

253   subjected to a two-step cluster analysis on SPSS v. 22 (IBM Corp., Armonk, NY, USA), whereby the optimal

254   number of clusters was defined empirically (using the BIC), and then an algorithm determined which cluster

255   a participant best fit into. This produced two attitudinal clusters (see results). A dummy variable for

256   membership of cluster 2 was included in the multinomial regressions.

257   *2.3.5 Multinomial logit regression*

258   A multinomial logit specification was chosen to accommodate the categorical dependent variable

259   with no natural ordering. Following the results of a likelihood ratio test, the baseline analysis used

260   observations from the 6-week and 18-week frames pooled (with a dummy to indicate the frame). As the

261 errors were likely to be correlated at an individual level across the frames, the model was clustered by

262 personal identification number.

263 **Results**

264 3.1 Descriptive statistics

265   A total of 1254 participants attempted the survey. Of these, 116 participants' data were deleted as

266 they failed to fully complete the survey. There were an additional 38 who completed the survey but were

267 not included in the sample either for speeding (n=34) or for possible duplication (n=4), resulting in 1000

268 respondents in the full sample. The mean age of the full sample was 45.81 years (SD = 15.07 years). The

269 majority (622) were in employment of some form; 814 had some experience of unemployment, either

270 personally or through a family member or close friend; and 489 had either received, or had a family

271 member or close friend who received, a diagnosis of a mental health problem. Furthermore, 254

272 participants had either received, or had a family member or close friend who received, CBT for a mental

273 health problem. See Table 1 for details.

274   Of these, 662 constitute the valid sample. The breakdown of excluded respondents is: failing the

275 catch task (n=321; see Supplemental Table 1 [INSERT LINK TO SUPPLEMENTAL TABLE 1 IN ONLINE FILE A]),

276 straight-lining the attitudinal questions (n=3; Table 2) and admitting to answering the survey "as quickly

277 and with as little effort as possible" (n=14; table 2). The valid sample has a higher proportion of those aged

278 56+ (ϕ = 1.11, p = .027), the retired (ϕ = 0.87, p = .083), and less young people (ϕ = 0.83, p = .095),

279 compared to the full sample (see Table 1 – full results available from the authors).

280   Table 2 illustrates that the valid sample may have slightly more left-wing attitudes than the full

281 sample, and reported higher psychological distress (d = 0.09, p = .069), but were similar in self-reported

282 health and life satisfaction. Participants in the valid sample on average spent longer on the survey than the

283 full sample, by 46 seconds (d = 0.08, p = .101). Furthermore, more participants in the valid sample (67%)

284 declared that they had answered the survey based on "what [they] thought the government ought to do",

285 as per the survey instructions, than the full sample (56%, ϕ = 2.03, p < .001).

286   In the cluster analysis, two clusters emerged as optimal for the valid sample data. The first (cluster

287 1) was more populous (n=432) and tended towards the right wing spectrum, with more agreement with

288 statements such as "Those in work and paying into the system should be given priority" and

289 "Unemployment benefits in the UK are too high and discourage people from finding jobs". The second

290 (cluster 2) tended towards the more left-wing spectrum, with more agreement with statements such as

291 "Anyone can experience long-term unemployment through no fault of their own" and "The government

292 has a responsibility to help everyone find a job who wants one". (See Supplemental Table 3 for details

293 [INSERT LINK TO SUPPLEMENTAL TABLE 3 IN ONLINE FILE A]).

294 3.2 The main results

295 Table 3 shows the distribution of observations across the nine preference categories of inequality

296 aversion and symmetry, for the valid pooled sample. One hundred and sixty observations in the 6-week

297 frame and 155 observations in the 18-week frame were not able to be categorised (see Supplemental Table

298 2 [INSERT LINK TO SUPPLEMENTAL TABLE 2 IN ONLINE FILE A]). Only a single observation (in the 6-week

299 frame) fell in category seven: this observation was therefore dropped for the multinomial logit model.

300 *3.2.1 Are stated public preferences averse to inequality in access to the service?*

301 Most observations (774, 76.7%) demonstrated a degree of inequality aversion, with a smaller

302 amount (218, 21.6%) demonstrating inequality seeking, and a negligible proportion categorised as

303 inequality neutral (17, 1.7%).

304 *3.2.2 Are stated public preferences symmetric across employment groups?*

305 The majority of observations (531, 52.6%) were classified as asymmetric in favour of the

306 unemployed, with a smaller amount categorised as symmetric (411, 40.7%), and a few responses as

307 asymmetric in favour of the employed (67, 6.6%). The modal response overall was one of symmetric

308 inequality aversion (393, 38.9%).

309 *3.2.3 What respondent characteristics predict differences in public preferences?*

310 The results of the multinomial logit model are displayed in Table 4. All estimates demonstrate

311 deviation from the baseline group of "equal access for equal need" (or symmetric inequality aversion).

312 There was a positive effect of age squared on being inequality averse and asymmetric in favour of the

13

313   unemployed ($b = 0.001$, $p < .05$). When combined with the age coefficient this indicates that participants

314   beyond middle age were increasingly less unlikely to fall in this category than symmetric inequality

315   aversion, although age does not appear in general to be highly predictive of preferences.

316   Students were less likely to be inequality neutral and symmetric ($b = -14.612$, $p < .001$). Jobseekers

317   were: more likely to be inequality averse and asymmetric in favour of the unemployed ($b = 0.972$, $p < .05$);

318   less likely to be inequality averse and asymmetric in favour of the employed ($b = -14.393$, $p < .001$); and

319   more likely to be inequality seeking, either in favour of the unemployed ($b = 1.556$, $p < .01$) or in favour of

320   the employed ($b = 2.076$, $p < .05$). People who were off work due to disability or sickness were more likely

321   to be inequality neutral than inequality averse and symmetric ($b = 2.031$, $p < .05$). This group were also less

322   likely to be inequality seeking and in favour of the employed ($b = -13.576$, $p < .001$), as were those who

323   reported not being in the labour force ($b = -14.991$, $p < .001$).

324   People with the lowest level of life satisfaction were more likely to demonstrate inequality aversion

325   and symmetry in favour of the unemployed than inequality aversion and symmetry ($b = 0.617$, $p < .05$), as

326   were those with the worst level of general health ($b = -0.689$, $p < .05$). Finally, people who endorsed

327   attitudes tending towards the left-wing were less likely to be asymmetric in favour of the employed ($b =$

328   -0.759, $p < .05$), or inequality neutral and symmetric ($b = -1.840$, $p < .05$) than inequality averse and

329   symmetric.

330   **Discussion and conclusion**

331   An equity principle of the NHS is "equal access for equal need". This paper examined whether

332   members of the public would interpret "need", to access a health care service, as solely *medical* need, or

333   also allow for *non-medical* need. Health economists have long debated the relative merits of access versus

334   outcomes in health policy. Targeting equal access has been criticised by consequentialists who regard

335   access as a means to an end, in this case, health (Culyer & Wagastaff, 1993). Depending on the baseline

336   distribution of health and capacities to benefit, achieving equal health outcomes would require unequal

337   access to (and use of) services and support. In this respect, the current survey goes further: the

338   hypothetical intervention proposes unequal access to health care despite *equal medical need*, because the

14

339   parties have *unequal non-medical need*.

340   The first research question explored whether public preferences regarding access to CBT were

341   consistent with the principle of "equal access for equal *medical* need" but not additional employment need

342   (symmetric and inequality averse with respect to access). This was indeed the modal response (38.9%)

343   across the possible preference categories.   The modal preference here suggests a concern for equality

344   (three quarters of observations were averse to unequal access), but for most, this concern is blind to non-

345   health needs such as unemployment.

346   One possibility is that participants were refusing to treat access to health care as a means to

347   address non-health needs. In addition, several alternative interpretations are possible. For example,

348   participants might, in principle, consider some non-health needs in determining access to health care, but

349   may not have placed a high enough value on unemployment to warrant supporting unequal access to the

350   mental health service under our scenarios. It is conceivable that participants viewed holding down a job

351   with a mental health problem as an equal or greater challenge than being unemployed with a mental

352   health problem (e.g. Nystuen, Hagen, & Herrin, 2001). The attitudinal responses differed regarding

353   whether the unemployed (vs. the employed) should get extra help from the government, with the more

354   populous (and right-wing) cluster disagreeing. Additional work could investigate whether the same pattern

355   of responses is observed when comparing health needs with alternative (but often related) non-health

356   needs, such as escaping debt or socioeconomic deprivation.

357   The second question of interest was whether participants' preferences regarding access to health

358   care were asymmetric in favour of the unemployed or the employed. When the two groups were given the

359   same priority, we referred to it as symmetry, and when the two groups are given different priorities, we

360   referred to this as asymmetry. While symmetric and inequality averse preferences was the modal

361   response, the majority (61.1%) of observations deviated from this. The second most populous category

362   was asymmetric in favour of the unemployed (32.4%), followed by inequality seeking and in favour of the

363   unemployed (20.2%). Thus, where preferences deviated from symmetry by employment status, support to

364   access CBT was greater for the unemployed than employed group. This is generally consistent with the

15

365 observed attitudinal responses, where even the right wing cluster tended to agree rather than disagree

366 with statements like "a mental health problem makes it difficult for someone to get a job". It is also

367 consistent with other UK surveys of the general population, which suggest people generally tend to view

368 unemployment as a negative experience (e.g. Ipsos MORI, 2009).

369   It is conceivable, therefore, that a majority of the sample could be moved to support preferential

370 access to mental health care for the unemployed, depending on the circumstances. For example, if the

371 benefit to the unemployed was large enough and/or the resources were ring-fenced in such a way that they

372 could only be used to benefit one party more than the other. Complex situations such as this may occur in

373 practice, since the numbers of employed and unemployed people with long-term common mental health

374 problems are, in reality, unequal (TUC, 2017). While the complexities and online administration of this

375 survey necessitated simplified assumptions, further empirical work in this area that explores varying the

376 proportion of employed and unemployed people would be of interest.

377   A related point is whether participants actually assumed all other things (aside from employment

378 status) were the same across the two groups in the scenarios. There were a number of things that are

379 implicitly assumed to be the same for both groups, but were not explicitly stated so. For example, we did

380 not say the health effect of treatment was the same for the unemployed and employed. Nor did we say

381 that the number of unemployed who can return to work by being treated was the same as the number of

382 employed who can remain in work by being treated. We did not explicitly rule out the possibility that those

383 who were unemployed might have a more severe mental health difficulty than those who remained in

384 employment. There are practical limitations to the additional considerations and interpretations that a

385 survey can explicitly rule out, and those that were brought up at the pilots have been addressed. However,

386 there remains the possibility that not all respondents interpreted the two groups to be identical, except

387 from employment status, and if so, the proportion of respondents with symmetric preferences regarding

388 access would be overestimated.

389   Of particular interest is the role of individual responsibility. Respondents in the more populous

390 right wing attitudinal cluster were less likely to agree that "anyone can experience long-term

16

391 unemployment through no fault of their own". If participants viewed the long-term unemployed as

392 responsible for their own situation, then it may be deemed reasonable to reject unequal access in favour of

393 the unemployed, not because health care resources should only be used for health benefits, but because

394 the two groups are not equal: under this reasoning, the unemployed might be needier, but they would also

395 be blameworthy. The perception of personal responsibility may also lead to preferential support for the

396 employed (at the expense of the unemployed). A possible extension of this work could incorporate

397 (perceived) responsibility and effectiveness of CBT in improving both mental health and (re)employability.

398   The final research question explored the participants' characteristics that were related to their

399 stated preferences. There was a shift from the populous baseline (of "equal access for equal *medical*

400 need") towards being inequality averse or seeking *and* having asymmetric preferences in favour of the

401 unemployed (implying "unequal access for unequal *overall* need"). The multinomial logit results suggested

402 that *current experience* (or employment status) mattered: those who were currently job-seeking were

403 generally more likely to demonstrate preferences that favoured the unemployed (with some heterogeneity

404 favouring support for the employed in the 13 observations falling in category 9), and those who were

405 currently unemployed on disability or sickness grounds, or not in the labour force, were less likely to be

406 inequality averse with asymmetric preferences in favour of the employed, compared to those currently

407 working. While these effects may be partly driven by respondents answering the question based on what

408 would benefit them personally, the majority of the valid sample (66.5%) reported answering the questions

409 "based on what I thought the government ought to do", suggesting that these respondents were at least

410 aware that the questions were asking for their societal preferences. Elsewhere, experience of

411 unemployment has been found to be a significant determinant of public preferences for welfare state

412 policies relating to the unemployed (Blekesaune & Quadagno, 2003; Neumann, Buss & Bahr, 2016).

413   Having a *history* of unemployment had no significant effect on stated preferences. This is

414 consistent with the wider economics literature that suggests that observed individual decision-making and

415 preferences can be influenced by state (or in-the-moment) factors, and that we tend to be present-biased

416 when making distributive decisions (e.g. Frederick, Loewenstein, & O'donoghue, 2002; Loewenstein, 2000).

417 It may also reflect the fact that those that were job-seeking but have since found re-employment prefer

418 that people in these two groups should be treated equivalently. Most employed people are confident that

419 they would be able to find work within 12 months if they were made unemployed (Ipsos MORI, 2009).

420 Having a history of mental illness did not significantly affect participants' preferences.

421   People who reported being in the best (vs. worst) state of health, and those who reported having

422 the worst (vs. best) life satisfaction were more likely to be inequality averse and have asymmetric

423 preferences in support of the unemployed (vs. the symmetric baseline). Dissatisfaction with life may reflect

424 discontent with the status quo, and a preference for more social support for marginalised groups, such as

425 the unemployed. It is conceivable that those in the best health may perceive themselves as less needing of

426 the health service (rather than upholding the belief that mental health problems can happen to anyone),

427 and thus may perceive themselves in a more favourable position to show preferences that support a

428 particular social group (rather than equal access for all). Finally, those endorsing more left-wing attitudes

429 were also less likely to demonstrate asymmetry in favour of the employed. This suggests that the

430 preferences observed may be reflective of a wider world-view that the long-term unemployed need extra

431 help from the government.

432   Policy makers may be interested that although the aversion to inequality outweighed any

433 preference toward the unemployed, the majority did consider employment status in their allocation

434 decisions. In the valid pooled sample 531 observations were asymmetric in favour of the unemployed, 67

435 asymmetric in favour of the employed and only 411 symmetric between the two groups. This supports a

436 conceptualisation of equity for health care allocation which is broader than equal access for equal medical

437 need. Methods which attempt to operationalise this include, but are not limited to, multi-criteria decision

438 making, explicit equity weighting and the use of inequality indexes such as Atkinson or Gini. Secondly,

439 policy support is dependent on in-state situation; logically one would expect support for policies for

440 unemployment to increase in times of recession, whereas gaining support for a pro unemployed policy

441 during a period of low unemployment may present more of a challenge.

442   Some limitations of the current data need to be acknowledged. First, the findings should be

443   thought of as indicative rather than representative of the wider UK population's views. While preferences

444   from a breadth of participants have been collected, the valid sample statistically significantly deviates from

445   the projected characteristics of the UK population in terms of gender, and the full sample in terms of age

446   (see Supplemental Table 4 [INSERT LINK TO SUPPLEMENTAL TABLE 4 IN ONLINE FILE A]). However, it

447   should also be noted that respondent gender and age were not strong predictors of the preferences.

448   Second, coefficient estimates should be treated with caution as results were sensitive to model

449   specification and some of the categories in the multinomial model are based on a small number of

450   observations, thus may be unstable. Another point to note is that the way the policy is framed may have a

451   systematic effect on responses, and this is an interesting empirical question that was not explored in the

452   current research. Instead, all participants were given the same prior information (see the online

453   supplement [INSERT LINK TO ONLINE FILE C]).

454   Beyond policy implications, the research also has a clear methodological implication that should be

455   borne in mind when designing future survey studies using online panels. In particular, the large proportion

456   of participants that were excluded from the valid sample as a result of failing a data quality check should be

457   noted. While having the ability to screen out participants who potentially provided a lower-quality

458   response should be seen as a strength of the research, such a large exclusion rate does raise questions

459   about data quality per se using online panels to assess stated preferences. A recommendation would be

460   for researchers to collect additional data above their target sample size to account for potential poor

461   quality data, and based on the current study, this figure may be as high as 30%.

462   To conclude, the study has developed an online survey of the UK general public to elicit their stated

463   social preferences to examine how they interpret the "equal need" in "equal access for equal need", using

464   access to CBT as an example, and employment status as an additional non-medical need. The study found

465   that the three main preference categories were: inequality averse and symmetric (implying "equal access

466   for equal medical need"), inequality averse and asymmetric in favour of the unemployed (implying

467   "unequal access for unequal overall need"), and inequality seeking and asymmetric in favour of the

468   unemployed (consistent with "unequal access for unequal overall need"), with the first group being the

469   largest. The most preferred use of additional resources in our hypothetical scenarios was to spread it out

470   evenly across everybody waiting for CBT, than to reserve it for the unemployed.

471

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508

TABLES AND FIGURES

510 **Table 1: Demographic and background characteristics of the survey sample.**

Variable	Full sample (n=1000)		Valid sample (n=662)		Categorised[*], 6-week frame (n=502)		Categorised[*], 18-week frame (n=507)	
	n	%	n	%	n	%	n	%
Gender	1000	100	662	100	502	100	507	100
Male	500	50	334	50.5	261	52.0	255	50.3
Female	500	50	328	49.5	241	48.0	252	49.7
Age	1000	100	662	100	502	100	507	100
Aged 18-35	327	32.7	190	28.7	154	30.7	156	30.8
Aged 36-55	364	36.4	232	35.0	158	31.5	166	32.7
Aged $\geq$ 56	309	30.9	240	36.3	190	37.8	186	36.5
Employment status	1000	100	662	100	502	100	507	100
Employed	622	62.2	390	58.9	278	55.4	287	56.6
Student/training	37	3.7	24	3.6	22	4.4	21	4.1
Unemployed (job-seeking)	55	5.5	33	5.0	30	6.0	30	5.9
Unemployed (disability/sickness)	58	5.8	34	5.1	23	4.6	28	5.5
Retired	186	18.6	147	22.2	121	24.1	116	22.9
Not in the labour market	42	4.2	34	5.1	28	5.6	25	4.9
Ever job-seeking	603	60.3	418	63.1	323	64.3	322	63.5
Friends/family ever job-seeking	742	74.2	501	75.7	380	75.7	383	75.5
Ever diagnosed with a mental health problem	239	23.9	168	25.4	131	26.1	129	25.4
Friends/family ever diagnosed with a mental health problem	417	41.7	296	44.7	225	44.8	219	43.2
Life satisfaction [1-7 Likert, 7=completely satisfied]								
1 Life satisfaction (6, 7)	416	41.6	279	42.2	213	42.4	211	41.6
2 Life satisfaction (5)	283	28.3	190	28.7	141	28.1	148	29.2
3 Life satisfaction (1, 2, 3, 4)	301	30.1	193	29.2	148	29.5	148	29.2
General health [1-5 Likert, 1=excellent]								
1 General health (1, 2)	463	46.3	292	44.1	217	43.2	221	43.6
2 General health (3)	317	31.7	215	32.4	163	32.5	165	32.5
3 General health (4, 5)	220	22	155	23.4	122	24.3	121	23.9
Attitude cluster 1000 (1)	255	25.5	201	30.4	162	32.3	159	31.4
Attitude cluster 1000 (2)	479	47.9	321	48.5	238	47.4	244	48.1
Attitude cluster 1000 (3)	266	26.6	140	21.1	102	20.3	104	20.5
Attitude cluster 662 (1)	-	-	432	65.3	315	62.7	325	64.1
Attitude cluster 662 (2)	-	-	230	34.7	187	37.3	182	35.9

511 Note. Subset of the valid sample providing observations that are able to be categorised for both inequality preferences and symmetry
512 preferences in a given frame. Attitudinal cluster 1000 uses the full sample. Attitudinal sample 662 uses the valid sample.

Table 2. Attitudinal and background questions

Variable	Full sample (N=1000)		Valid sample (N=662)	
	M	SD	M	SD
Time to complete (minutes)	10.47	8.94	11.23	9.43
Attitudinal questions [1-5] (1 = strongly agree)				
Anyone can experience long-term unemployment through no fault of their own	1.86	0.93	1.80	0.92
A mental health problem makes it difficult for someone to get a job	1.89	0.82	1.80	0.78
In my view, CBT does not work for common mental health problems	3.02	0.90	3.13	0.88
The long-term unemployed should do more to help themselves	2.44	1.01	2.46	1.01
Employers tend to discriminate against those with mental health difficulties	2.17	0.87	2.09	0.83
Mental health treatment should be prioritised based on clinical considerations only	2.36	0.95	2.36	0.96
The long-term unemployed need extra help from the government	2.31	1.02	2.25	1.00
Those in work and paying into the system should be given priority	2.90	1.14	3.02	1.16
Unemployment benefits in the UK are too high and discourage people from finding jobs	2.80	1.26	2.86	1.32
The government has a responsibility to help everyone find a job who wants one	2.04	0.97	1.95	0.94
Kessler Psychological Distress Scale (K6) [6-30]	23.19	6.10	23.73	5.82
Overall health [1-5] (1 = excellent)	2.75	1.06	2.79	1.04
Satisfaction [1-7] (1 = not satisfied at all)				
Health	4.99	1.45	4.99	1.43
Income	4.73	1.54	4.72	1.55
Job (0 = n/a; valid n = 658, 413)	4.90	1.41	4.90	1.39
Life overall	4.98	1.41	4.99	1.37
	n	%	n	%
Participant's motivations ("I answered the decision tasks")	899	89.9	561	84.7
(1) based on what would suit me best personally	321	35.7	152	27.1
(2) based on what I thought the government ought to do	500	55.6	373	66.5
(3) as quickly and with as little effort as possible	18	2	0	0.0
(1) and (2)	51	5.7	36	6.4
(1) and (3)	2	0.2	0	0.0
(2) and (3)	2	0.2	0	0.0
(1) and (2) and (3)	5	0.6	0	0.0

Device survey completed on		1000	100	662	100
Tablet		81	8.1	53	8.0
Laptop		544	54.4	363	54.8
PC		375	37.5	246	37.2

Note. Percentages for subcategories (indented) represent proportion of valid cases. Values in square brackets indicate potential scale range, when applicable. Probability estimates for Cohen's d taken from t-tests of group means, which assume equal variance.

Table 3: Observations distribution in the nine preference categories for the valid pooled sample

	Asymmetric in favour of the employed	Asymmetric in favour of the unemployed	Symmetric	Total
Inequality averse	54	327	393	774
Inequality neutral	0	0	17	17
Inequality seeking	13	204	1	218
Total	67	531	411	1,009

Note. This table shows the observations for the pooled data. A number of observations were not able to be classified for both symmetry and inequality, 160 observations in the 6-week frame and 155 observations in the 18-week frame.

Table 4: Multinomial logit results: valid pooled sample

Multinomial logit results valid sample	2 (obs=327)	3 (obs=54)	4 (obs=17)	8 (obs=204)	9 (obs=13)
Male	0.100	0.016	1.199†	0.214	0.145
Age	-0.086†	0.149†	0.082	-0.095†	0.296
Age^2	0.001*	-0.001	-0.001	0.001†	-0.003
Student	-0.254	-0.292	-14.612***	-0.408	1.088
Jobseeking	0.972*	-14.393***	0.886	1.556**	2.076*
Sick or disabled	0.945†	0.706	2.031*	0.607	-13.576***
Retired	-0.437	0.061	-1.516	-0.462	0.049
Not in labour force	0.294	0.656	1.527†	0.103	-14.990***
Ever job-seeking	0.131	0.677†	0.253	0.453†	-0.259
Friends/family ever job-seeking	-0.086	-0.115	0.468	-0.073	0.798
Ever diagnosed with mental illness	-0.167	0.225	-0.171	-0.479	-1.125
Friends/family ever diagnosed with mental illness	-0.148	0.116	-0.452	-0.430†	-0.056
2 Life satisfaction	0.373	-0.670	-1.312	-0.084	-1.830
3 Life satisfaction	0.617*	0.268	0.669	0.176	0.487
2 General health	-0.042	-0.198	0.593	0.224	0.569
3 General health	-0.689*	-0.790†	-0.367	-0.349	-0.565
Attitude cluster 2 dummy	0.140	-0.759*	-1.840*	0.173	-0.521
18-week frame dummy	0.093	0.116	-0.432	0.063	1.208†
_cons	1.312	-5.580**	-5.626*	1.073	-10.703*

Observations = 1008, individuals = 570

Category 1: (baseline, obs = 393) Inequality averse and symmetric; **Category 2**: Inequality averse and asymmetric in favour of the unemployed; **Category 3**: Inequality averse and asymmetric in favour of the employed; **Category 4**: Inequality neutral and symmetric; **Category 8**: Inequality seeking and asymmetric in favour of the unemployed; **Category 9**: Inequality seeking and asymmetric in favour of the employed; **Categories 5 & 6** omitted as no observations, **Category 7** omitted as only 1 observation.
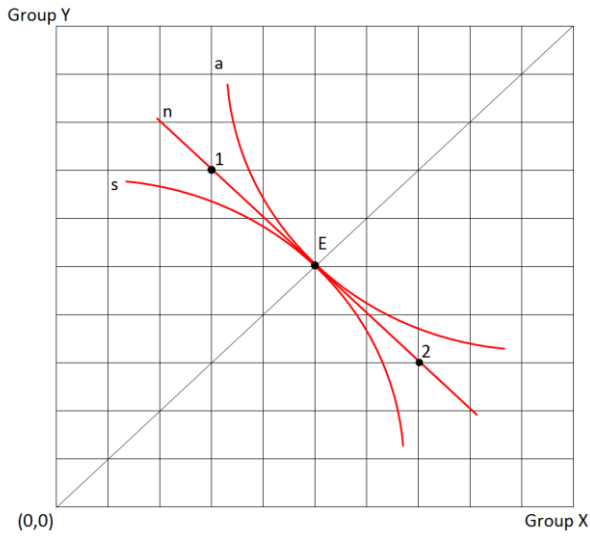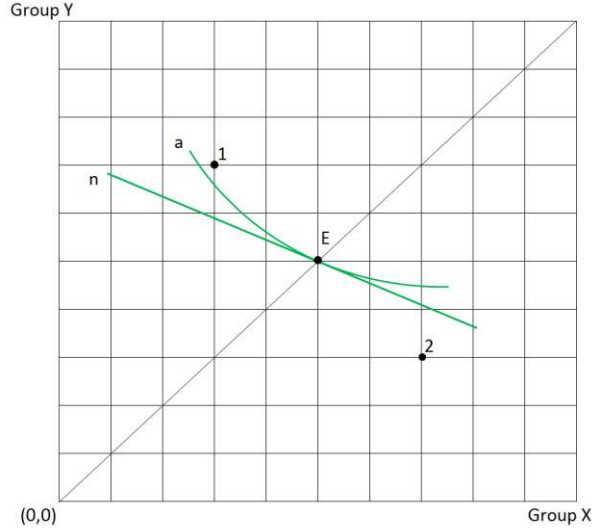†p < .10, * p < .05, ** p < .01, ***p < .001

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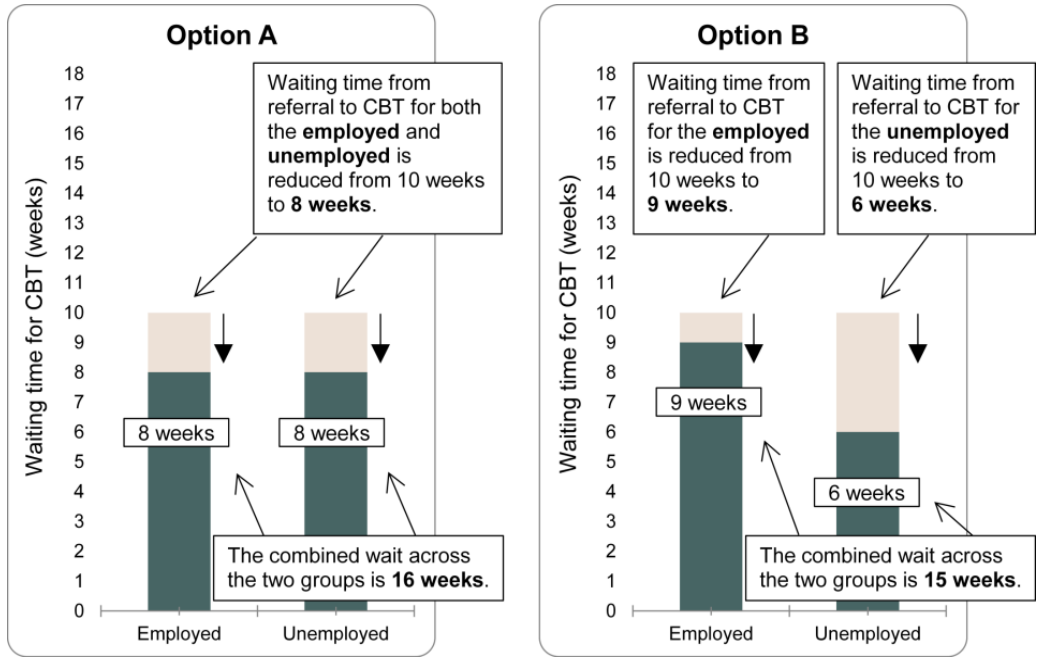**Figure 1(a) Symmetric contours**   **(b) Asymmetric contours**

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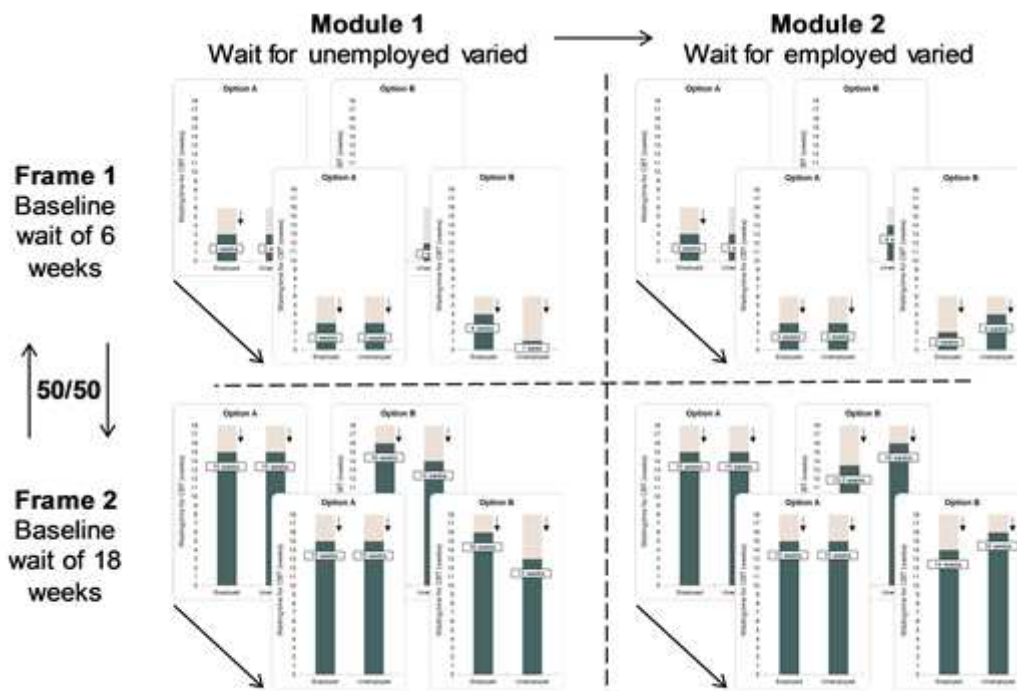537   **Figure 2: Example used to illustrate the task**
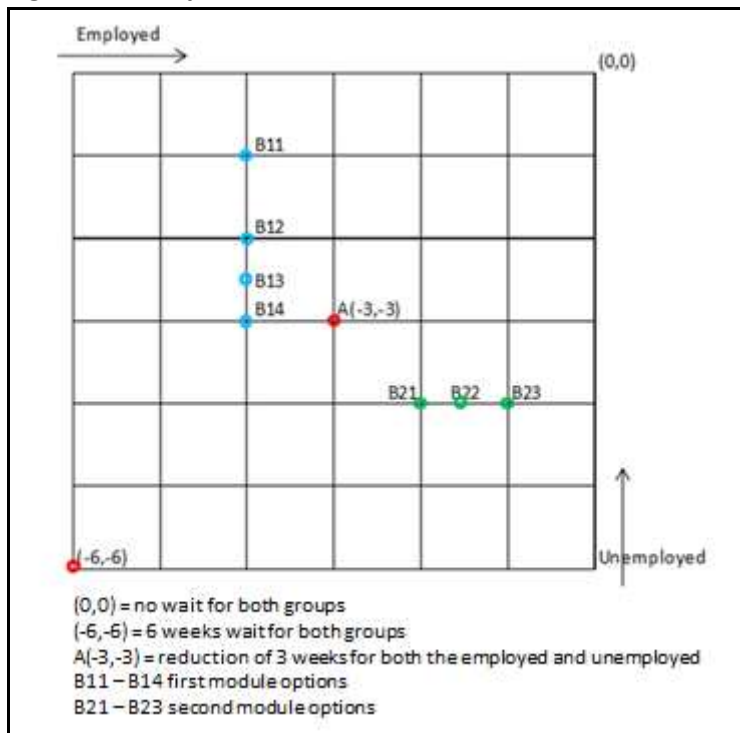

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542   **Figure 3: Overview of the online decision task**

Module 1
Wait for unemployed varied

Module 2
Wait for employed varied

Frame 1
Baseline wait of 6 weeks

50/50

Frame 2
Baseline wait of 18 weeks

Within each frame, each participant completed up to 4 sequential **decision tasks** (depending on their responses), with 2 per module.

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546   **Figure 4: The options in the 6-week frame: number of weeks to wait**

(0,0) = no wait for both groups
(-6,-6) = 6 weeks wait for both groups
A(-3,-3) = reduction of 3 weeks for both the employed and unemployed
B11 – B14 first module options
B21 – B23 second module options

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ONLINE SUPPLEMENT

553   **ONLINE FILE A: SUPPLEMENTAL TABLES**

554

555   **Supplemental Table 1: The catch task**

Decision task	n (%) chose			time (secs)		
	Option A	Neither	Option B	Median	M	SD
Full sample (N = 899 of 1000)						
6-week catch question						
A (3, 3) | B (2, 2)	68 (15.1)	94 (20.9)	288 (64.0)	8.14	11.74	27.86
18-week catch question						
A (15, 15) | B (14, 14)	65 (14.5)	94 (20.9)	290 (64.6)	7.63	11.66	22.81
Valid sample (N = 662)						
6-week catch question						
A (3, 3) | B (2, 2)	0 (0.0)	0 (0.0)	279 (100.0)	9.43	12.85	25.51
18-week catch question						
A (15, 15) | B (14, 14)	0 (0.0)	0 (0.0)	282 (100.0)	9.52	14.15	33.84

556   Note. Numbers in parentheses in left-hand column represent number of weeks' wait in that task for the employed and unemployed,
557   respectively. Percentages represent proportion of valid cases.

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Supplemental Table 2: Preference distributions in the main decision tasks

Preference group	Full sample (N=1000)		Valid sample (N=662)		Excluded (N=338)	
	n	%	n	%	n	%
Asymmetric in favour of the employed	201	10.1	167	12.6	34	5
Asymmetric in favour of the unemployed	153	7.7	140	10.6	13	1.9
Inequality averse						
and asymmetric in favour of the employed	88	4.4	54	4.1	34	5
and asymmetric in favour of the unemployed	368	18.4	263	19.9	105	15.5
and **possibly symmetric**	**596**	**29.8**	**392**	**29.6**	**204**	**30.2**
and symmetric	9	0.5	1	0.1	8	1.2
and asymmetric in favour of the unemployed, and violates monotonicity	27	1.4	9	0.7	18	2.7
and locally maximin, and asymmetric in favour of the unemployed	219	11.0	55	4.2	164	24.3
Inequality neutral & symmetric	27	1.4	17	1.3	10	1.5
Inequality seeking	12	0.6	8	0.6	4	0.6
and asymmetric in favour of the employed	22	1.1	13	1.0	9	1.3
and asymmetric in favour of the unemployed	86	4.3	67	5.1	19	2.8
and possibly symmetric	1	0.1	1	0.1	0	0
and asymmetric in favour of the unemployed, and violates monotonicity	191	9.6	137	10.3	54	8.0

561 Note. In this table preference groupings across the 6- and 18-week frames have been combined, so totals sum to N*2, and
562 percentages are absolute values / N*2. Percentages sum to greater than 100 due to rounding. Bolded category indicates modal
563 preference group.

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Supplemental Table 3: Mean (*SD*) agreement to the attitudinal statements, as a function of cluster

Attitudinal questions [1-5] (1 = strongly agree)	M (SD)	
	Cluster 1 (n = 432)	Cluster 2 (n = 230)
1. Anyone can experience long-term unemployment through no fault of their own.	2.14 (0.94)	1.16 (0.37)
2. A mental health problem makes it difficult for someone to get a job.	2.08 (0.76)	1.27 (0.48)
3. In my view, CBT does not work for common mental health problems.	3.05 (0.79)	3.28 (0.99)
4. The long-term unemployed should do more to help themselves.	2.19 (0.87)	2.97 (1.05)
5. Employers tend to discriminate against those with mental health difficulties.	2.34 (0.83)	1.63 (0.60)
6. Mental health treatment should be prioritised based on clinical considerations only.	2.44 (0.91)	2.20 (1.04)
7. The long-term unemployed need extra help from the government.	2.57 (0.95)	1.65 (0.80)
8. Those in work and paying into the system should be given priority.	2.63 (1.05)	3.77 (1.00)
9. Unemployment benefits in the UK are too high and discourage people from finding jobs.	2.32 (1.05)	3.87 (1.16)
10. The government has a responsibility to help everyone find a job who wants one.	2.20 (0.96)	1.47 (0.70)

567   Note. N=662 from the valid sample.

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571 **Supplemental Table 4: Comparison of sample age and gender distributions to UK ONS 2017**

	ONS 2017 projection	Valid sample (n=662)	Full sample (n=1000)	ONS vs. valid sample	ONS vs. full sample
Gender					
Male	32595110 (49.3%)	334 (50.5%)	500 (50.0%)	$\chi^2(1) = 1390.8$	$\chi^2(1) = 0.14$
Female	33456386 (50.7%)	328 (49.5%)	500 (50.0%)	$p < .001$	$p = .703$
Age					
18-35	15621995 (30.0%)	190 (28.7%)	327 (32.7%)	$\chi^2(2) = 0.68$	$\chi^2(2) = 12.35$
36-55	17596286 (33.8%)	232 (35.0%)	364 (36.4%)	$p = .712$	$p = .002$
56+	18876744 (36.2%)	240 (36.3%)	309 (30.9%)		

572 **projections**
573 Note. Yates' continuity correction applied to chi square test for 2*2 tables. ONS = UK Office for National Statistics. Data at:
574 https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationprojections/datasets/z1zippedpopulation
575 projectionsdatafilesuk.
576

ONLINE FILE B: ADDITIONAL ANALYSIS USING THE FULL SAMPLE

578 The analyses were repeated for the full sample. Observations were pooled across frames, allocated to the

579 nine categories, and the multinomial logit model was applied. The only difference from the valid sample

580 model was that there were three attitudinal categories for the full sample.

581 Across the two frames, a total of 1634 observations from the full sample were classified into one of the

582 nine preference categories (see Supplemental Table 5). A number of observations were not able to be

583 classified for both symmetry and inequality. These totalled 189 observations in the 6-week frame and 177

584 observations in the 18-week frame. The modal preference (by a small margin) is inequality averse and

585 asymmetric in favour of the unemployed, followed closely by inequality averse and symmetric. The same

586 three combinations have zero or one observation only, and therefore dropped from the regression analysis.

587 The results of the multinomial logit model is reported in Supplemental Table 6. Job-seeking remains the

588 most significant factor explaining the divergence from the baseline (inequality averse and symmetric).

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591 **Supplemental Table 5: Observations distribution in the nine preference categories for full sample**

	Asymmetric in favour of the employed	Asymmetric in favour of the unemployed	Symmetric	Total
Inequality averse	88	614	605	1307
Inequality neutral	0	0	27	27
Inequality seeking	22	277	1	300
Total	110	891	633	1,634

592 Note. This table shows the observations for the pooled data. A number of observations were not able to be classified for both

593 symmetry and inequality, 189 observations in the 6-week frame and 177 observations in the 18-week frame.

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Supplemental Table 6: Multinomial logit results for full pooled sample

Multinomial logit results full sample	2 (obs=614)	3 (obs=88)	4 (obs=27)	8 (obs=277)	9 (obs=22)
Male	0.173	0.017	0.694	0.131	0.541
Age	-0.077*	-0.016	-0.012	-0.095*	-0.168
Age^2	0.001*	0.000	0.000	0.001*	0.002
Student	0.159	-0.584	-13.599***	0.057	-0.317
Jobseeking	1.061**	-0.157	0.396	1.591***	1.946**
Sick or disabled	0.629†	0.468	1.598*	0.515	0.791
Retired	-0.441	-0.215	-1.369	-0.305	-1.288
Not in labour force	-0.018	0.648	1.471*	0.223	-13.919***
Ever job-seeking	0.131	0.448	0.049	0.462*	-0.242
Friends/family ever job-seeking	-0.015	-0.097	0.628	-0.282	0.436
Ever diagnosed with mental illness	-0.398*	-0.064	-0.818	-0.566*	-1.455
Friends/family ever diagnosed with mental illness	-0.229	-0.141	-0.121	-0.280	-0.178
2 Life satisfaction	0.215	-0.522	-0.690	-0.073	-1.691*
3 Life satisfaction	0.391†	0.310	0.313	-0.112	-0.229
2 General health	-0.022	-0.072	0.325	0.133	0.286
3 General health	-0.325	-0.722†	-0.132	-0.095	0.188
Attitude cluster 2	-0.053	0.637†	1.380	0.083	0.860
Attitude cluster 3	0.347	0.640†	2.251*	-0.320	0.766
18-week frame dummy	0.120	0.143	-0.212	0.057	0.416
_cons	1.349	-2.043	-5.175	1.227	-0.618

Observations = 1633, individuals = 896

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Category 1: (baseline, obs = 605) Inequality averse and symmetric; **Category 2**: Inequality averse and asymmetric in favour of the unemployed; **Category 3**: Inequality averse and asymmetric in favour of the employed; **Category 4**: Inequality neutral and symmetric; **Category 8**: Inequality seeking and asymmetric in favour of the unemployed; **Category 9**: Inequality seeking and asymmetric in favour of the employed; **Categories 5 & 6** omitted as no observations, **Category 7** omitted as only 1 observation.
†p < .10, * p < .05, ** p < .01, ***p < .001

ONLINE FILE C: SCREENSHOTS FROM THE ONLINE SURVEY

Thank you for agreeing to take part in this survey. Please take the time to read the following information carefully:

A lot of people experience unemployment at some point of their working lives through no fault of their own. Roughly half of the newly unemployed will find a new job within three months, but around 10% of people, for various reasons, experience **unemployment of 12 months or more**.

Long-term unemployment is known to have a **detrimental effect** on people's sense of wellbeing. It has knock-on effects on household finances and relationships, and the wellbeing of any children.

Having a **mental health problem** increases the chances somebody will become unemployed in the first place, and unemployment itself can lead to mental health difficulties, or make pre-existing mental health difficulties worse. Mental health difficulties can prolong unemployment further.

The government would like to give these people extra help, by providing access to **cognitive behavioural therapy (CBT)**. CBT is a popular psychological therapy that has been shown to be effective in treating common mental health problems. In the real world, this treatment is not necessarily suitable for all people with mental health difficulties, or for all people at risk of long-term unemployment.

In the following questions, you will see highly simplified **hypothetical scenarios**. We would like you to imagine that you are being consulted by the government on decisions to allocate extra funds for the provision of CBT. These funds cannot be used for anything else.

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One policy option is to use the extra funds to help **all** working age adults currently on the NHS waiting list to receive CBT. These will include both the employed and unemployed. If you choose this option, then the waiting time for both the employed and unemployed will be shortened by the same amount, for example, from 10 weeks to 8 weeks.

Another policy option is to use these funds to **target** people who are unemployed and are facing a higher risk of long-term unemployment because of their mental health. If you choose this option, then the waiting time of the unemployed group will be shortened substantially, for example, from 10 weeks to 6 weeks. The employed group's waiting time will also be shortened (because now there are fewer people waiting), but by a lesser extent than in the first option, for example, from 10 weeks to 9 weeks.

Other combinations are also possible. We want you to consider the options of treating the employed and unemployed groups on the waiting list in the **same way**, or **targeting** people who are at risk of long-term unemployment, because you think they have higher needs. Or, you might think that people who are holding down jobs with mental health difficulties have even higher needs, so you may want to target those people, instead.

The questions are not about which policy might personally benefit you more – they are about what kind of public services you think the government ought to provide. **There are no right or wrong answers**, and we want to learn about your views.

In this survey you will be asked **two practice questions**, up to **nine main questions**, and then a series of **background demographics questions**.

The next page will provide an example and the first practice question.

In this survey, we want you to imagine that you are being consulted by the government on the choice between two policy options. The policy options will improve the provision of cognitive behavioural therapy (CBT) in the UK and reduce waiting times from referral to treatment. **Both options cost exactly the same.**

The '**employed** group' in this survey represents working age adults who are in-work, are not claiming any unemployment benefits, and have been diagnosed with a common mental health problem that is responsive to CBT.

The '**unemployed** group' in this survey represents working age adults who are not in-work, are claiming unemployment benefits, and have been diagnosed with a common mental health problem that is responsive to CBT. Due to their diagnosis they are identified as at-risk for long-term unemployment (of 12 months or more).

For this survey, please assume that the two groups are an **equal size.**

Without the policy, in this case everybody's waiting time for CBT is 10 weeks.

Consider two options:

In **Option A** both the employed and unemployed groups' waiting times for CBT are reduced from 10 weeks to 8 weeks. The combined wait across the two groups is 16 weeks.

In **Option B** the **employed** group's waiting time for CBT is reduced from 10 weeks to 9 weeks, and the **unemployed** group's waiting time is reduced from 10 weeks to 6 weeks. The combined wait across the two groups is 15 weeks.

This table will be displayed again at the top of the next page.

How much does each group benefit?

Policy option	Population group	Change in waiting times for CBT
Option A	Employed	Reduced from 10 weeks to 8 weeks
	Unemployed	Reduced from 10 weeks to 8 weeks
Option B	Employed	Reduced from 10 weeks to 9 weeks
	Unemployed	Reduced from 10 weeks to 6 weeks

We want you to choose between the two options.

When making your decision, it is important to remember the following:

- We cannot pay for both options – a choice must be made.
- "Equally good" means you don't mind which one is chosen.
- Both options cost exactly the same.
- The only difference between the two options is the change in CBT waiting times for the employed and unemployed groups.

Which option should the government choose?
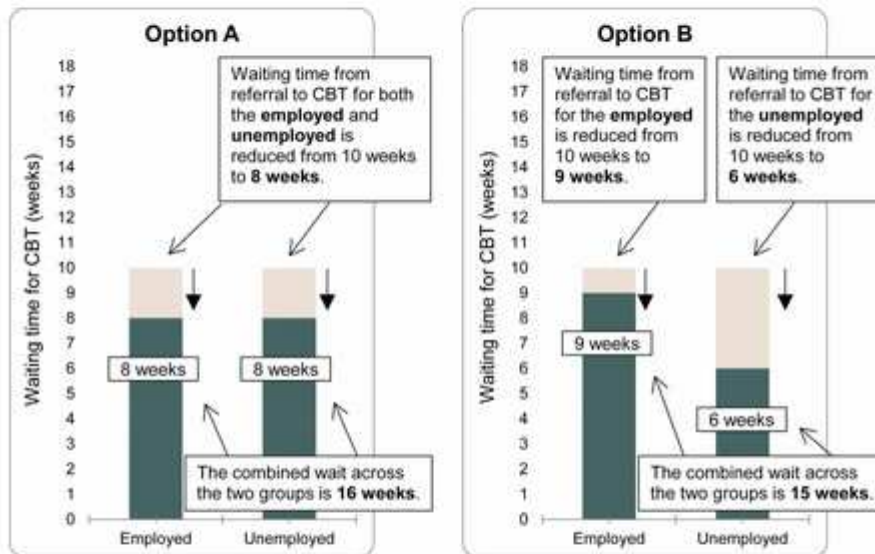
Please indicate whether you prefer Option A or Option B, then, when you are ready, click on the button at the bottom right of the page to confirm your choice.

Option A

Option A and Option B are equally good

Option B

You have chosen **Option A**. In this option the waiting time for CBT for both **employed** and **unemployed** people will be reduced from **10 weeks to 8 weeks**.

Confirm choice

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Without the policy, in this case everybody's waiting time for CBT is 6 weeks.

The labels on the graphs below show the number of weeks wait for the employed and unemployed groups if that policy option (Option A or Option B) was chosen.
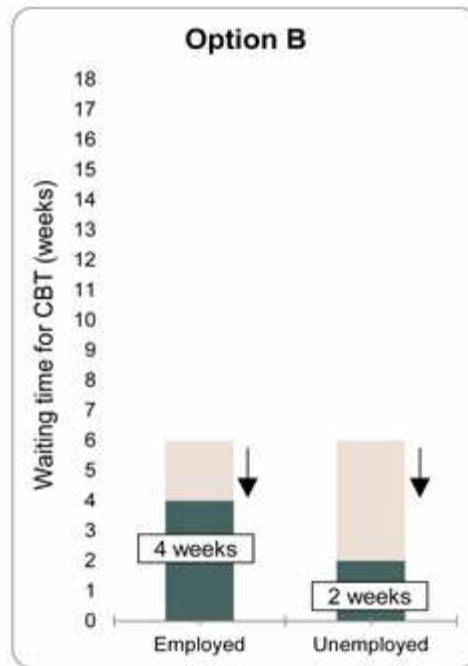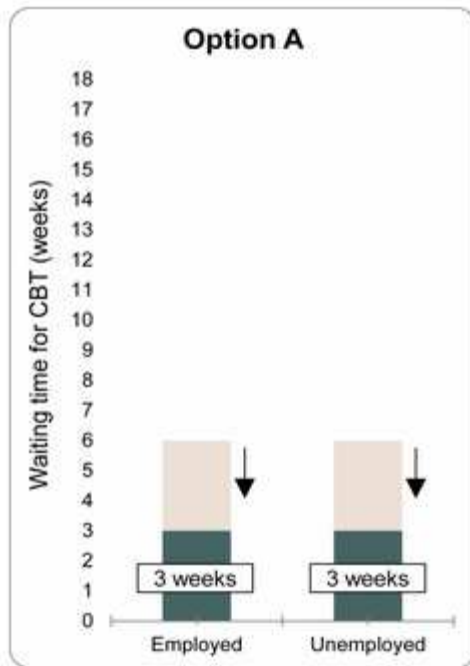
Please indicate whether you prefer Option A or Option B

Option A

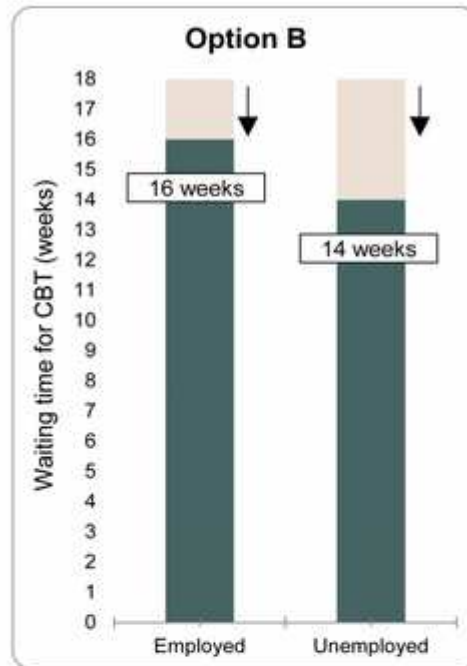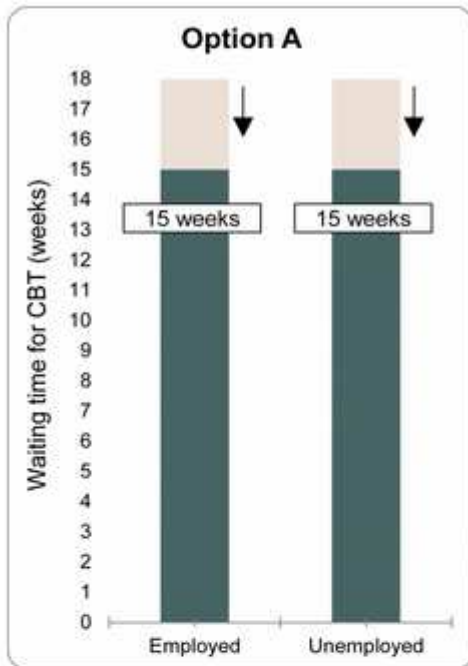Option A and Option B are equally good

Option B

Confirm choice

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Without the policy, in this case everybody's waiting time for CBT is 18 weeks.

The labels on the graphs below show the number of weeks wait for the employed and unemployed groups if that policy option (Option A or Option B) was chosen.

Please indicate whether you prefer Option A or Option B

Option A

Option A and Option B are equally good

Option B

You have chosen **Option B**. In this option the waiting time for CBT for **employed** people will be reduced from **18 weeks to 16 weeks**. The waiting time for CBT for **unemployed** people will be reduced from **18 weeks to 14 weeks**.

These page timer metrics will not be displayed to the recipient.

First Click	0 seconds
Last Click	0 seconds
Page Submit	0 seconds
Click Count	0 clicks

Thank you. That is the end of the main questions.

Please now complete the following questions.

Please indicate how much you agree or disagree with the statements below, using the 5-point scale (Strongly agree to Strongly disagree).

	Strongly agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Strongly disagree
Anybody can experience long-term unemployment through no fault of their own.	○	○	○	○	○
A mental health problem makes it difficult for someone to get a job.	○	○	○	○	○
In my view, CBT does not work for common mental health problems.	○	○	○	○	○
Employers tend to discriminate against those with mental health difficulties.	○	○	○	○	○
Those in work and paying into the system should be given priority.	○	○	○	○	○
Mental health treatment should be prioritised based on clinical considerations only.	○	○	○	○	○
The long-term unemployed need extra help from the government.	○	○	○	○	○
Unemployment benefits in the UK are too high and discourage people from finding jobs.	○	○	○	○	○
The long-term unemployed should do more to help themselves.	○	○	○	○	○
The government has a responsibility to help everyone find a job who wants one.	○	○	○	○	○

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Finally, please answer this question.

What you tell us here is important to our analysis - It will NOT affect your participation or incentive.

Which of the following statements describe how you made your decisions in the **main questions** (decision tasks)?

Please select all that apply:

I answered the decision tasks based on what would suit me best personally.

I answered the decision tasks based on what I thought the government ought to do.

I answered the decision tasks as quickly and with as little effort as possible.

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