UnderStandingAmericaStudy

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Contents

1 INTRODUCTION

This UAS panel survey, titled "UAS 545: Health Vision" asks respondents their opinion about an app for health vision, which app features would be most useful as well as willingness to share certain types of data in order to make those features possible. This survey is no longer in the field. Respondents were paid $4 to complete the survey.

1.1 Topics

This survey contains questions (among others) on the following topics: Health. A complete survey topic categorization for the UAS can be found here.

1.2 Experiments

This survey includes experiment(s) of the following type(s): Auxiliary Randomization. Please refer to explanatory comments in the Routing section for detailed information. A complete survey experiment categorization for the UAS can be found here.

1.3 Citation

Each publication, press release or other document that cites results from this survey must include an acknowledgment of UAS as the data source and a disclaimer such as, 'The project described in this paper relies on data from survey(s) administered by the Understanding America Study, which is maintained by the Center for Economic and Social Research (CESR) at the University of Southern California. The content of this paper is solely the responsibility of the authors and does not necessarily represent the official views of USC or UAS.' For any questions or more information about the UAS, contact Tania Gutsche, Project and Panel Manager, Center for Economic and Social Research, University of Southern California, at tgutsche@usc.edu.

2 SURVEY RESPONSE AND DATA

2.1 Sample selection and response rate

The sample selection for this survey was:

All active ALiR respondents plus an additional 1,000 respondents from national batches and another 1,000 respondents from LA County batches.

As such, this survey was made available to 2976 UAS participants. Of those 2976 participants, 2277 completed the survey and are counted as respondents. Of those who are not counted as respondents, 30 started the survey without completing and 669 did not start the survey. The overall response rate was 76.51%.
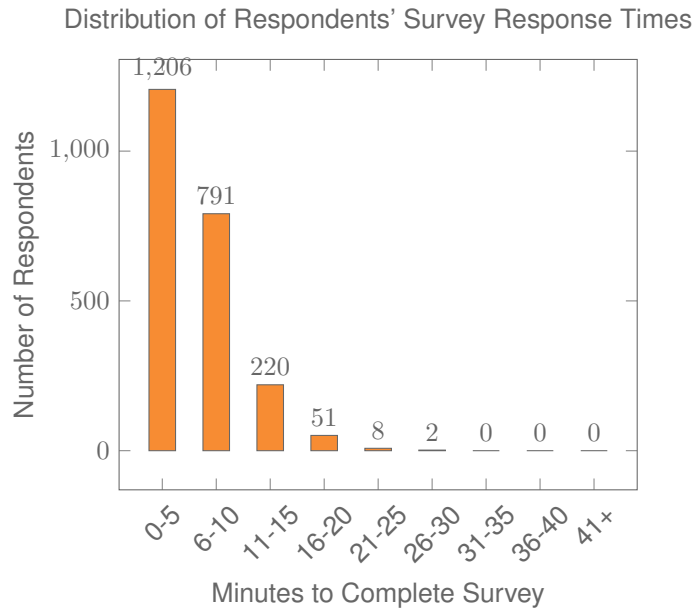
Note: We are unable to provide sample weights for a small number of UAS members (see the Sample and weighting section below for details). If they completed the survey, these members are included in the data set with a weight of zero, but accounted for in the computation of total sample size and survey response rate.%.

The detailed survey response rate is as follows:

UAS545 - Response Overview	
Size of selected sample	2976
Completed the survey	2277
Started but did not complete the survey	30
Did not start the survey	669
Response rate	76.51%

2.2 Timings

The survey took respondents an average of 7 minutes, and the full distribution of survey response times is available in the figure below. Times per question are available upon request.

Distribution of Respondents' Survey Response Times

2.3 Sample & Weighting

Sample weights for this survey are computed following the general UAS Weighting Procedure. Specifically, we use a two-step process where we first compute base weights, which correct for unequal probabilities of sampling UAS members, and then generate final, post-stratification weights, which align the sample to the reference population along certain socio-economic dimensions. These are gender (male/female), race and ethnicity (White/Black/Other/Hispanic/Native American), age (18-39/40-49/50/59/60+), education (High school or less/Some college/Bachelor or more), Census regions (Northeast/Midwest//West, excl. CA/CA, excl. LAC, LAC). Benchmark distributions for these variables are derived from the 6 most recent available Current Population Survey (CPS) Basic Monthly Survey with respect to the survey's completion date. The reference population considered for the weights is the U.S. population of adults age 18 and older.

This survey dataset may contain respondents with a weight of zero. These respondents belong to a small group of UAS members for whom sample weights cannot be computed due to non-probability recruitment for special projects. Hence, while they are accounted for in the total number of survey respondents, they do not contribute to any statistics using sample weights. More information is available from the UAS Weighting Procedure. Please contact UAS staff with any questions.

3 STANDARD VARIABLES

Each Understanding America Study data contains a series of standard variables, consisting of individual, household and sample identifiers, language indicator, time stamps and a rating by the respondent of how much he or she liked the survey:

- ○ **uasid**: the identifier of the respondent. This identifier is assigned to a respondent at recruitment and stays with the respondent throughout each and every survey he/she participates in. When analyzing data from multiple surveys, the 'uasid' can be used to merge data sets.

- ○ **uashhid**: the household identifier of the respondent. Every member is assigned a household identifier, stored in the variable ¡em¿uashhid¡/em¿. For the primary respondent this identifier is his or her 'uasid'. All other eligible members of the primary respondent's household (everyone who is 18 or older in the household) who become UAS respondents receive the uasid of the primary respondent as their household identifier. The uashhid remains constant over time for all respondents. Thus it is always possible to find the original UAS household of an UAS panel member (even after they, for example, have moved out to form another household).

- ○ **uashhid**$_{current}$: the current household identifier of the respondent. Uniquely identifies the household a UAS panel member belongs to in a given survey INDEPENDENT of the exact composition of the household in terms of who else in the household are UAS members. Missing (.n) for respondents who are in a single-UAS member household. Available on request in data sets prior to September 3, 2025.

- ○ **survhhid**: uniquely identifies the household a UAS panel member belongs to in a given survey DEPENDENT on the exact composition of the household in terms of who else in the household are UAS members. Is set to missing (.n) if no other household members are UAS panel members at the time of the survey. Is set to unknown (.u) for respondents who last participated in the My Household survey prior to January 21, 2015.

- ○ **uasmembers**: is the number of other household members who are also UAS panel members at the time of the survey. Since individuals can answer the same survey at different points in time (which can be relatively far apart is the survey is kept in the field for a prolonged time), it may be possible that, within the same data set, the primary respondent of a household has a value of '0', whereas the second UAS household respondent has a value of '1'. Therefore 'uasmembers' should be interpreted as the number of household and UAS panel members at the time the respondent answers the survey. Note: in the My Household survey 'uasmembers' is set to unknown (.u) for respondents who last participated in the My Household survey prior to January 21, 2015.

- ○ **sampleframe**: indicates the sampling frame from which the household of the respondent was recruited. All UAS recruitment is done through address based sampling

(ABS) in which samples are acquired based on postal records. Currently, the variable 'sampleframe' takes on four values reflecting four distinct sample frames used by the UAS over the year (in future data sets the number of sample frames used for recruitment may increase if additional specific populations are targeted in future recruitment batches):

1. U.S. National Territory: recruited through ABS within the entire U.S.
2. Areas high concentration Nat Ame: recruited through ABS in areas with a high concentration of Native Americans in the zip-code. Within these batches, individuals who are not Native Americans are not invited to join the UAS.
3. Los Angeles County: recruited through ABS within Los Angeles County.
4. California: recruited through ABS within California.

Note: prior to March 6, 2024 this variable was called sampletype and had the following value labels for the above list in UAS data sets:

1. Nationally Representative Sample: recruited through ABS within the entire U.S.
2. Native Americans: recruited through ABS in areas with a high concentration of Native Americans. Within these batches, individuals who are not Native Americans are not invited to join the UAS.
3. LA County: recruited through ABS within Los Angeles County.
4. California: recruited through ABS within California.

○ **batch**: indicates the batch from which the respondent was recruited. Currently, this variable takes the following values (in future data sets the number of batches may increase as new recruitment batches are added to the UAS):

1. ASDE 2014/01
2. ASDE 2014/01
3. ASDE 2014/01
4. Public records 2015/05
5. MSG 2015/07
6. MSG 2016/01
7. MSG 2016/01
8. MSG 2016/01
9. MSG 2016/02
10. MSG 2016/03
11. MSG 2016/04
12. MSG 2016/05
13. MSG 2016/08
14. MSG 2017/03

15. MSG 2017/11
16. MSG 2018/02
17. MSG 2018/08
18. MSG 2019/04
19. MSG 2019/05
20. MSG 2019/11
21. MSG 2020/08
22. MSG 2020/10
23. MSG 2021/02
24. MSG 2021/08
25. MSG 2021/08
26. MSG 2022/02
27. MSG 2022/02
28. MSG 2022/08
29. MSG 2022/11
30. MSG 2022/11
31. MSG 2023/01
32. MSG 2023/06
33. MSG 2023/09
34. MSG 2023/10
35. MSG 2025/02

Note: prior to March 6, 2024 this variable had the following value labels for the above list in UAS data sets:

1. ASDE 2014/01 Nat.Rep.
2. ASDE 2014/01 Native Am.
3. ASDE 2014/11 Native Am.
4. LA County 2015/05 List Sample
5. MSG 2015/07 Nat.Rep.
6. MSG 2016/01 Nat.Rep. Batch 2
7. MSG 2016/01 Nat.Rep. Batch 3
8. MSG 2016/01 Nat.Rep. Batch 4
9. MSG 2016/02 Nat.Rep. Batch 5
10. MSG 2016/03 Nat.Rep. Batch 6
11. MSG 2016/04 Nat.Rep. Batch 7

12. MSG 2016/05 Nat.Rep. Batch 8
13. MSG 2016/08 LA County Batch 2
14. MSG 2017/03 LA County Batch 3
15. MSG 2017/11 California Batch 1
16. MSG 2018/02 California Batch 2
17. MSG 2018/08 Nat.Rep. Batch 9
18. MSG 2019/04 LA County Batch 4
19. MSG 2019/05 LA County Batch 5
20. MSG 2019/11 Nat. Rep. Batch 10
21. MSG 2020/08 Nat. Rep. Batch 11
22. MSG 2020/10 Nat. Rep. Batch 12
23. MSG 2021/02 Nat. Rep. Batch 13
24. MSG 2021/08 Nat. Rep. Batch 15
25. MSG 2021/08 Nat. Rep. Batch 16
26. MSG 2022/02 Nat. Rep. Batch 17 (priority)
27. MSG 2022/02 Nat. Rep. Batch 17 (regular)
28. MSG 2022/08 Nat. Rep. Batch 18
29. MSG 2022/11 LA County Batch 6
30. MSG 2022/11 Nat. Rep. Batch 20
31. MSG 2023/01 Nat. Rep. Batch 21
32. MSG 2023/06 Nat. Rep. Batch 22
33. MSG 2023-09 Native Am. Batch 3
34. MSG 2023-10 Nat. Rep. Batch 23

○ **primary_respondent**: indicates if the respondent was the first person within the household (i.e. to become a member or whether s/he was added as a subsequent member. A household in this regard is broadly defined as anyone living together with the primary respondent. That is, a household comprises individuals who live together, e.g. as part of a family relationship (like a spouse/child/parent) or in context of some other relationship (like a roommate or tenant).

○ **hardware**: indicates whether the respondent ever received hardware or not. Note: this variable should not be used to determine whether a respondent received hardware at a given point in time and/or whether s/he used the hardware to participate in a survey. Rather, it indicates whether hardware was ever provided:

1. None
2. Tablet (includes Internet)

○ **language**: the language in which the survey was conducted. This variable takes a value of 1 for English and a value of 2 for Spanish.

○ **start_date (start_year, start_month, start_day, start_hour, start_min, start_sec)**: indicates the time at which the respondent started the survey.

○ **end_date (end_year, end_month, end_day, end_hour, end_min, end_sec)**: indicates the time at which the respondent completed the survey.

○ **cs_001**: indicates how interesting the respondent found the survey.

4 BACKGROUND DEMOGRAPHICS

Every UAS survey data set includes demographic variables, which provide background information about the respondent and his/her household. Demographic information such as age, ethnicity, education, marital status, work status, state of residence, family structure is elicited every quarter through the "My Household" survey. The demographic variables provided with each survey are taken from the most recent 'MyHousehold' survey answered by the respondent. If at the time of a survey, the information in "My Household" is more than three months old, a respondent is required to check and update his or her information before being able to take the survey.

The following variables are available in each survey data set:

- **gender**: the gender of the respondent.

- **dateofbirth_year**: the year of birth of the respondent.

- **age**: the age of the respondent at the start of the survey.

- **agerange**: if the respondent's age cannot be calculate due to missing information, 'agerange' indicates the approximate age. Should a value for both the 'age' and 'agerange' be present, then 'age' takes precedence over 'agerange'.

- **citizenus**: indicates whether the respondent is a U.S. citizen.

- **bornus**: indicates whether the respondent was born in the U.S.

- **stateborn**: indicates the state in which the respondent was born. This is set to missing (.) if the respondent was not born in the U.S.

- **countryborn**: indicates the country in which the respondent was born. This is set to missing (.) if the respondent was born in the U.S.

- **countryborn_other**: indicates the country of birth if that country is not on the drop down list of countries shown to the respondent'.

- **statereside**: the state in which the respondent is living.

- **immigration_status**: indicates whether the respondent is an immigrant. It takes one of the following values: 0 Non-immigrant, 1 First generation immigrant (immigrant who migrated to the U.S), 2 Second generation immigrant (U.S.-born children of at least one foreign-born parent), 3 Third generation immigrant (U.S.-born children of at least one U.S.-born parent, where at least one grandparent is foreign-born), or 4 Unknown immigrant status.

- **maritalstatus**: the marital status of the respondent.

- **livewithpartner**: indicates whether the respondent lives with a partner.

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○ **education**: the highest level of education attained by the respondent.

○ **hisplatino**: indicates whether the respondent identifies him or herself as being Hispanic or Latino. This variable is asked separately from race.

○ **hisplatinogroup**: indicates which Hispanic or Latino group a respondent identifies him or herself with. This is set to missing (.) if the respondent does not identify him or herself as being Hispanic or Latino.

○ **white**: indicates whether the respondent identifies him or herself as white (Caucasian).

○ **black**: indicates whether the respondent identifies him or herself as black (African-American).

○ **nativeamer**: indicates whether the respondent identifies him or herself as Native American (American Indian or Alaska Native).

○ **asian**: indicates whether the respondent identifies him or herself as Asian (Asian-American).

○ **pacific**: indicates whether the respondent identifies him or herself as Native Hawaiian or Other Pacific Islander.

○ **race**: indicates the race of the respondent as singular (e.g., '1 White' or '2 Black') or as mixed (in case the respondent identifies with two or more races). The value '6 Mixed' that the respondent answered 'Yes' to at least two of the single race categories. This variable is generated based on the values of the different race variables (white, black, nativeamer, asian, pacific). This composite measure is not conditional on hisplatino, so an individual may identify as Hispanic or Latino, and also as a member of one or more racial groups.

○ **working**: indicates whether the respondent is working for pay.

○ **sick_leave**: indicates whether the respondent is not working because sick or on leave.

○ **unemp_layoff**: indicates whether the respondent is unemployed or on lay off.

○ **unemp_look**: indicates whether the respondent is unemployed and looking for a job.

○ **retired**: indicates whether the respondent is retired.

○ **disabled**: indicates whether the respondent has a disability.

○ **lf_other**: specifies other labor force status.

○ **laborstatus**: indicates the labor force status of the respondent as singular (e.g., '1 Working for pay' or '2 On sick or other leave') or as mixed (in case the respondent selects two or more labor statuses). The value '8 Mixed' indicates that the respondent answered 'Yes' to at least two of the single labor force status variables. This variable is generated based on the values of the different labor status variables (working, sick_leave, unempl_layoff, unempl_look, retired, disabled, lf_other).

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- **employmenttype**: indicates the employment type of the respondent (employed by the government, by a private company, a nonprofit organization, or self-employed). This is set to missing (.) if the respondent is not currently working or currently on sick or other leave.

- **workfullpart**: indicates whether the respondent works full or part-time. This is set to missing (.) if the respondent is not currently working or currently on sick or other leave.

- **hourswork**: indicates the number of hours the respondent works per week. This is set to missing (.) if the respondent is not currently working or currently on sick or other leave.

- **hhincome**: is the total combined income of all members of the respondent's household (living in their household) during the past 12 months.

- **anyhhmember**: indicates whether there were any members in the respondent's household at the time he/she answered the survey as reported by the respondent.

- **hhmembernumber**: indicates the number of household members in the respondent's household at the time of the survey as reported by the respondent. It may be that 'anyhhmember' is 'Yes', but 'hhmembernumber' is missing if the respondent did not provide the number of household members at the time of the survey.

- **hhmemberin_#**: indicates whether a household member is currently in the household as reported by the respondent. Household members are never removed from the stored household roster and their information is always included in survey data sets. The order of the roster is the same order in which household members were specified by the respondent in the 'MyHousehold' survey. The order is identified by the suffix _# (e.g., _1 indicates the first household member, _2 the second household member, etc.).

  As an example, if the first household member is in the household at the time of the survey, 'hhmemberin_1' is set to '1 HH Member 1 is in the HH'; if he/she has moved out, 'hhmemberin_1' is set to '0 HH member 1 is no longer in the HH'. Since information of other household members (stored in the variables listed below) is always included in survey data sets, information about 'hhmemberin_1' is available whether this person is still in the household or has moved out.

- **hhmembergen_#**: indicates the gender of another household member as reported by the respondent.

- **hhmemberage_#**: indicates the age of another household member. The age is derived from the month and year of birth of the household member as reported by the respondent.

- **hhmemberrel_#**: indicates the relationship of the respondent to the other household member as reported by the respondent.

- ○ **hhmemberuasid_#**: is the 'uasid' of the other household member if this person is also a UAS panel member. It is set to missing (.) if this person is not a UAS panel member at the time of the survey. Since this identifier is directly reported by the respondent (chosen from a preloaded list), it may differ from the actual (correct) 'uasid' of the UAS member it refers to because of reporting error. Also, this variable should not be used to identify UAS members in a given household at the time of the survey. This is because the variables 'hhmemberuasid_#' are taken from the most recent 'My Household' and changes in household composition involving UAS members may have occurred between the time of the respondent answered 'My Household' and the time the respondent answers the survey. To follow UAS members of a given household, it is advised to use the identifiers 'uashhid' and 'survhhid'.

- ○ **lastmyhh_date**: the date on which the demographics variables were collected through the 'My Household' survey.

In addition, data sets created after May 8, 2025 include an urbanicity variable. It is based on panel members' current census tract of residence and the 2010 Rural-Urban Commuting Area (RUCA) codes released by the US Department of Agriculture's Economic Research Service. To preserve confidentiality, the UAS collapses the 10 primary RUCA codes to 4 levels: Metropolitan, Micropolitan, Small/Rural, and Unknown. The Metropolitan level corresponds to primary RUCA codes 1-3, the Micropolitian level corresponds to RUCA codes 4-6, and the Small/Rural UAS classification corresponds to RUCA codes 7-10.

For detailed information and definitions of the 10 primary RUCA codes, please visit the USDA ERS Rural-Urban Commuting Area Codes site. Surveys conducted completely prior to May 8, 2025 will have an urbanicity data set available on request.

5 MISSING DATA CONVENTIONS

Data files provide so-called clean data, that is, answers given to questions that are not applicable anymore at survey completion (for example because a respondent went back in the survey and skipped over a previously answered question) are treated as if the questions were never asked. In the data files all questions that were asked, but not answered by the respondent are marked with (.e). All questions never seen by the respondent (or any dirty data) are marked with (.a). The latter may mean that a respondent did not view the question because s/he skipped over it; or alternatively that s/he never reached that question due to a break off. If a respondent did not complete a survey, the variables representing survey end date and time are marked with (.c). Household member variables are marked with (.m) if the respondent has less household members (e.g. if the number of household members is 2, any variables for household member 3 and up are marked with (.m).

UAS provides data in STATA and CSV format. Stata data sets come with include variable labels that are not available in the CSV files. Value labels are provided for single-response answer option. In STATA these labels will include the labels 'Not asked' and 'Not answered' for (.a) and (.e), and will show in tabulations such as 'tab q1, missing'. For multiple-response questions a binary variable is created for each answer option indicating whether the option was selected or not. A summary variable is also provided in string format reflecting which options were selected and in which order. For example, if a question asked about favorite animals with options cat, dog, and horse, then if a respondent selected horse and then cat, the binary variables for horse and cat will be set to yes, while the overall variable would have a string value of '3-1'. If no answer was given, all binary variables and the summary variable will be marked with '.e'.

Questions that are asked multiple times are often implemented as so-called array questions. Supposing the name of such question was Q1 and it was asked in 6 different instances, your data set would contain the variables Q1_1_ to Q1_6_. To illustrate, if a survey asked the names of all children, then child_1_ would contain the name of the first child the respondent named and so on.

More information about the UAS data in general can be found on the UAS Data Pages web site.

6   ROUTING SYNTAX

The survey with routing presented in the next section includes all of the questions that make up this survey, the question answers when choices were provided, and the question routing. The routing includes descriptions of when questions are grouped, conditional logic that determines when questions are presented to the respondent, randomization of questions and answers, and fills of answers from one question to another.

If you are unfamiliar with conditional logic statements, they are typically formatted so that *if* the respondent fulfills some condition (e.g. they have a cellphone or a checking account), *then* they are presented with some other question or the value of some variable is changed. If the respondent does not fulfill the condition (e.g. they are not a cellphone adopter or they do not have a checking account), something *else* happens such as skipping the next question or changing the variable to some other value. Some of the logic involved in the randomization of questions or answers being presented to the respondent is quite complex, and in these instances there is documentation to clarify the process being represented by the routing.

Because logic syntax standards vary, here is a brief introduction to our syntax standards. The syntax used in the conditional statements is as follows: '=' is equal to, '$<$' is less than, '$>$' is greater than, and '!=' is used for does not equal. When a variable is set to some number N, the statement looks like 'variable := N'.

The formatting of the questions and routing are designed to make it easier to interpret what is occurring at any given point in the survey. Question ID is the bold text at the top of a question block, followed by the question text and the answer selections. When a question or variable has associated data, the name links to the appropriate data page, so you can easily get directly to the data. Text color is used to indicate the routing: red is conditional logic, gold is question grouping, green is looping, and orange is used to document randomization and other complex conditional logic processes. The routing is written for a computer to parse rather than a human to read, so when the routing diverges significantly from what is displayed to the respondent, a screenshot of what the respondent saw is included.

The name of the randomization variables are defined in proximity to where they are put into play, and like the question ID the names of the randomization variables can be used to link directly to the associated data page.

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7   SURVEY WITH ROUTING

maxcnt := 6
sectioncnt := 1

Start of section **Digital**

/* This survey asks respondents their opinion about an app for health vision, which app features would be most useful as well as willingness to share certain types of data in order to make those features possible. A similar version of this survey was also administered to a non-UAS convenience sample.

The survey described below contains both versions. Its different paths are demarcated by the iskeck variable with value:

- o 1 Keck variant

- o 2 UAS variant

*/

iskeck := 2

/* This survey includes a question about being paid $5 a month to use the app. It is always asked in the Keck variant. In the UAS variant it is asked of 4 out of 5 respondents per variable randomizer_pay with values:

- o 1 Ask "The app paid you $5 a month"

- o 2 Do not ask "The app paid you $5 a month"

*/

IF randomizer_pay = EMPTY THEN
  IF iskeck = 1 THEN
    randomizer_pay := 1
  ELSE
    randomizer_pay_number := mt_rand(1,5)

    IF randomizer_pay_number IN (1,2,3,4) THEN
      randomizer_pay := 1
    ELSE
      randomizer_pay := 2
    END OF IF

main_intro_keck (Section Base)

Researchers at USC are working to develop a free smartphone app to help people improve their health and healthcare choices. We are interested in your opinion about which app features would be most useful to you and your willingness to share certain types of data in order to make those features possible.

The survey will also ask you some questions about your eye health and vision. Please answer to the best of your ability. All your answers will be kept confidential and not attributed specifically to you.

main_intro (Section Base)

Researchers at USC are working to develop a free smartphone app to help people improve their health and healthcare choices. This app will not be a part of the UAS. We are interested in your opinion about which app features would be most useful to you and your willingness to share certain types of data in order to make those features possible.

The survey will also ask you some questions about your eye health and vision. Please answer to the best of your ability. As always, all your answers will be kept confidential and not attributed specifically to you.

di_intro2 (Section Digital)

Imagine that the University of Southern California (USC) developed a free smartphone app available to you that would empower you to learn about and improve your health and well-being.

For the app to work best, it would need to have as complete a picture of your health profile as possible.

All information you would give to the app will be kept strictly deidentified and confidential, and the app will not use the data for any other purpose without your direct permission.

/* Respondents are asked a series of questions the willingness to interact with the app in certain ways in random order per variables di001_3_order:

- ○ 1 Log into the app on a weekly basis to answer a few questions

- ○ 2 Collect health information from your smartphone, wearables, smart devices, and other consumer apps

- ○ 3 Collect health information from health records

○ 4 Collect GSP information

Note: in the Keck variant only the first three questions are asked. */

```
IF sizeof(di001_3_order) = 0 THEN
  IF iskeck = 1 THEN
    di001_3_order := shuffleArray(array(1 →1, 2 →2, 3 →3))
  ELSE
    di001_3_order := shuffleArray(array(1 →1, 2 →2, 3 →3, 4 →4))
  END OF IF
END OF IF
```

/* The different questions listed above are themselves followed up by four sub questions if respondents indicated they were unsure, somewhat unwilling or very unwilling. The order of the follow up questions uses the order defined in the di001_3_order variables.

The sub questions are asked in random order per variables di001_order, di002_order, di003_order, and di006_order, which all follow the same order, and have values:

○ 1 The app paid $5 a month

○ 2 The information would help the app learn how to make better health recommenda-tions

○ 3 The information would help the app make personalized recommendations

○ 4 The information would help healthcare providers improve the quality of care

Note: The question "The app paid $5 a month" is only asked if randomizer_pay is equal to 1. */

```
IF sizeof(di001_order) = 0 THEN
  di001_order := shuffleArray(array(1 →1, 2 →2, 3 →3, 4 →4))
END OF IF

IF sizeof(di002_order) = 0 THEN
  di002_order := di001_order
END OF IF

IF sizeof(di003_order) = 0 THEN
  di003_order := di001_order
END OF IF

IF iskeck != 1 THEN
  IF sizeof(di006_order) = 0 THEN
```

di006_order := di001_order
 END OF IF
END OF IF

max := 4

IF iskeck = 1 THEN
 max := 3
END OF IF

LOOP FROM 1 TO MAX

 IF di001_3_order(cnt) = 1 THEN

 di001 (how willing log on a weekly basis to answer questions in section Digital)
 Again, for the app to work best, it would need to have as complete a picture of your health profile as possible and all information you would give to the app will be kept strictly deidentified and confidential.

 How willing would you be to **log into the app on a weekly basis to answer a few questions** (about 3 - 5 minutes) about how you are feeling?
 1 Very unwilling
 2 Somewhat unwilling
 3 Unsure
 4 Somewhat willing
 5 Very willing

 ELSEIF di001_3_order(cnt) = 2 THEN

 di002 (how willing collect health information in section Digital)
 Again, for the app to work best, it would need to have as complete a picture of your health profile as possible and all information you would give to the app will be kept strictly deidentified and confidential.

 How willing would you be to **let the app collect health information from your smartphone, wearables, smart devices, and other consumer apps you might use**? For example, a Fitbit or Apple Watch, Runkeeper or Noom Coach, etc.
 1 Very unwilling
 2 Somewhat unwilling
 3 Unsure
 4 Somewhat willing
 5 Very willing

ELSEIF di001_3_order(cnt) = 3 THEN

di003 (how willing collect health information from health records in section Digital)
Again, for the app to work best, it would need to have as complete a picture of your health profile as possible and all information you would give to the app will be kept strictly deidentified and confidential.

How willing would you be to **let the app collect health information from your health records** (for example, from your doctor's office)?
1 Very unwilling
2 Somewhat unwilling
3 Unsure
4 Somewhat willing
5 Very willing

ELSEIF di001_3_order(cnt) = 4 THEN

di006 (how willing app collect Global Positioning Satellite (GPS) location information in section Digital)
Again, for the app to work best, it would need to have as complete a picture of your health profile as possible and all information you would give to the app will be kept strictly deidentified and confidential.

How willing would you be to **let the app collect Global Positioning Satellite (GPS) location information from your smartphones or wearable devices**?
1 Very unwilling
2 Somewhat unwilling
3 Unsure
4 Somewhat willing
5 Very willing

END OF IF

END OF LOOP

IF di001_3_order(1) = 1 THEN
Start of section **Digital_followup1**

IF di001 IN (1,2,3) THEN
GROUP OF QUESTIONS PRESENTED ON THE SAME SCREEN

di001_intro (Section Digital_followup1)
How willing would you be to **log into the app on a weekly basis to answer a few questions** (about 3 - 5 minutes) about how you are feeling if:

LOOP FROM 1 TO 4

IF randomizer_pay = 1 AND di001_order(cnt1) = 1 THEN

di001a (how willing log on app paid $5 a month in section Digital_followup1)
The app paid you $5 a month?
1 Very unwilling
2 Somewhat unwilling
3 Unsure
4 Somewhat willing
5 Very willing

ELSEIF di001_order(cnt1) = 2 THEN

di001b (how willing log on help app learn make better health recommendations in section Digital_followup1)
The information would help the app learn how to make better health recommendations for other people like you (for example, those who come from similar backgrounds or those who may have the same diagnoses as you)?
1 Very unwilling
2 Somewhat unwilling
3 Unsure
4 Somewhat willing
5 Very willing

ELSEIF di001_order(cnt1) = 3 THEN

di001c (how willing log on help app make personalized recommendations in section Digital_followup1)
The information would help the app make personalized recommendations for you when you are not feeling well (for example, the app may recommend an over-the-counter treatment or that you schedule an appointment with the right healthcare provider based on your symptoms?)
1 Very unwilling
2 Somewhat unwilling
3 Unsure
4 Somewhat willing
5 Very willing

ELSEIF di001_order(cnt1) = 4 THEN

di001d (how willing log on help healthcare providers improve quality of care in section Digital_followup1)
The information would help your healthcare providers improve the quality of your care?
1 Very unwilling
2 Somewhat unwilling
3 Unsure
4 Somewhat willing
5 Very willing

END OF IF

END OF LOOP

END OF SUBGROUP

END OF GROUP
END OF IF

End of section **Digital_followup1**
ELSEIF di001_3_order(1) = 2 THEN
Start of section **Digital_followup2**

IF di002 IN (1,2,3) THEN
GROUP OF QUESTIONS PRESENTED ON THE SAME SCREEN

di002_intro (Section Digital_followup2)
How willing would you be to **let the app collect health information from your smartphone, wearables, smart devices, and other consumer apps you might use** if:

SUBGROUP OF QUESTIONS

LOOP FROM 1 TO 4

IF randomizer_pay = 1 AND di002_order(cnt2) = 1 THEN

di002a (collect health information from smartphone paid $5 a month in section Digital_followup2)
The app paid you $5 a month?
1 Very unwilling
2 Somewhat unwilling
3 Unsure
4 Somewhat willing

5 Very willing

ELSEIF di002_order(cnt2) = 2 THEN

di002b (collect health information from smartphone help app learn make better health recommendations in section Digital_followup2)
The information would help the app learn how to make better health recommendations for other people like you (for example, those who come from similar backgrounds or those who may have the same diagnoses as you)?
1 Very unwilling
2 Somewhat unwilling
3 Unsure
4 Somewhat willing
5 Very willing

ELSEIF di002_order(cnt2) = 3 THEN

di002c (collect health information from smartphone help app make personalized recommendations in section Digital_followup2)
The information would help the app make personalized recommendations for you when you are not feeling well (for example, the app may recommend an over-the-counter treatment or that you schedule an appointment with the right healthcare provider based on your symptoms?)
1 Very unwilling
2 Somewhat unwilling
3 Unsure
4 Somewhat willing
5 Very willing

ELSEIF di002_order(cnt2) = 4 THEN

di002d (collect health information from smartphone help healthcare providers improve quality of care in section Digital_followup2)
The information would help your healthcare providers improve the quality of your care?
1 Very unwilling
2 Somewhat unwilling
3 Unsure
4 Somewhat willing
5 Very willing

END OF IF

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| END OF LOOP

END OF SUBGROUP

END OF GROUP

END OF IF

End of section **Digital_followup2**

ELSEIF di001_3_order(1) = 3 THEN

Start of section **Digital_followup3**

IF di003 IN (1,2,3) THEN

GROUP OF QUESTIONS PRESENTED ON THE SAME SCREEN

di003_intro (Section Digital_followup3)
How willing would you be to **let the app collect health information from your health records** (for example, from your doctor's office) if:

SUBGROUP OF QUESTIONS

LOOP FROM 1 TO 4

IF randomizer_pay = 1 AND di003_order(cnt3) = 1 THEN

di003a (collect health information from health records paid $5 a month in section Digital_followup3)
The app paid you $5 a month?
1 Very unwilling
2 Somewhat unwilling
3 Unsure
4 Somewhat willing
5 Very willing

ELSEIF di003_order(cnt3) = 2 THEN

di003b (collect health information from health records help app learn make better health recommendations in section Digital_followup3)
The information would help the app learn how to make better health recommendations for other people like you (for example, those who come from similar backgrounds or those who may have the same diagnoses as you)?
1 Very unwilling
2 Somewhat unwilling
3 Unsure
4 Somewhat willing

5 Very willing

ELSEIF di003_order(cnt3) = 3 THEN

di003c (collect health information from health records help app make personalized recommendations in section Digital_followup3)
The information would help the app make personalized recommendations for you when you are not feeling well (for example, the app may recommend an over-the-counter treatment or that you schedule an appointment with the right healthcare provider based on your symptoms?)
1 Very unwilling
2 Somewhat unwilling
3 Unsure
4 Somewhat willing
5 Very willing

ELSEIF di003_order(cnt3) = 4 THEN

di003d (collect health information from health records help healthcare providers improve quality of care in section Digital_followup3)
The information would help your healthcare providers improve the quality of your care?
1 Very unwilling
2 Somewhat unwilling
3 Unsure
4 Somewhat willing
5 Very willing

END OF IF

END OF LOOP

END OF SUBGROUP

END OF GROUP

END OF IF

End of section **Digital_followup3**

ELSEIF iskeck != 1 AND di001_3_order(1) = 4 THEN

Start of section **Digital_followup4**

IF di006 IN (1,2,3) THEN
GROUP OF QUESTIONS PRESENTED ON THE SAME SCREEN

di006_intro (Section Digital_followup4)
How willing would you be to **let the app collect GPS location information from your smartphones or wearable devices** if:

LOOP FROM 1 TO 4

IF randomizer_pay = 1 AND di006_order(cnt5) = 1 THEN

di006a (collect GPS paid $5 a month in section Digital_followup4)
The app paid you $5 a month?
1 Very unwilling
2 Somewhat unwilling
3 Unsure
4 Somewhat willing
5 Very willing

ELSEIF di006_order(cnt5) = 2 THEN

di006b (collect GPS help app learn make better health recommendations in section Digital_followup4)
The information would help the app learn how to make better health recommendations for other people like you (for example, those who come from similar backgrounds or those who may have the same diagnoses as you)?
1 Very unwilling
2 Somewhat unwilling
3 Unsure
4 Somewhat willing
5 Very willing

ELSEIF di006_order(cnt5) = 3 THEN

di006c (collect GPS help app make personalized recommendations in section Digital_followup4)
The information would help the app make personalized recommendations for you when you are not feeling well (for example, the app may recommend an over-the-counter treatment or that you schedule an appointment with the right healthcare provider based on your symptoms?)
1 Very unwilling
2 Somewhat unwilling
3 Unsure
4 Somewhat willing
5 Very willing

ELSEIF di006_order(cnt5) = 4 THEN

di006d (collect GPS help healthcare providers improve quality of care in section Digital_followup4)
The information would help your healthcare providers improve the quality of your care?
1 Very unwilling
2 Somewhat unwilling
3 Unsure
4 Somewhat willing
5 Very willing

END OF IF

END OF LOOP

END OF SUBGROUP

END OF GROUP

END OF IF

End of section **Digital_followup4**

END OF IF

IF di001_3_order(2) = 1 THEN

Start of section **Digital_followup1**

IF di001 IN (1,2,3) THEN

GROUP OF QUESTIONS PRESENTED ON THE SAME SCREEN

di001_intro (Section Digital_followup1)
How willing would you be to **log into the app on a weekly basis to answer a few questions** (about 3 - 5 minutes) about how you are feeling if:

SUBGROUP OF QUESTIONS

LOOP FROM 1 TO 4

IF randomizer_pay = 1 AND di001_order(cnt1) = 1 THEN

di001a (how willing log on app paid $5 a month in section Digital_followup1)
The app paid you $5 a month?
1 Very unwilling

2 Somewhat unwilling
3 Unsure
4 Somewhat willing
5 Very willing

ELSEIF di001_order(cnt1) = 2 THEN

di001b (how willing log on help app learn make better health recommendations in section Digital_followup1)
The information would help the app learn how to make better health recommendations for other people like you (for example, those who come from similar backgrounds or those who may have the same diagnoses as you)?
1 Very unwilling
2 Somewhat unwilling
3 Unsure
4 Somewhat willing
5 Very willing

ELSEIF di001_order(cnt1) = 3 THEN

di001c (how willing log on help app make personalized recommendations in section Digital_followup1)
The information would help the app make personalized recommendations for you when you are not feeling well (for example, the app may recommend an over-the-counter treatment or that you schedule an appointment with the right healthcare provider based on your symptoms?)
1 Very unwilling
2 Somewhat unwilling
3 Unsure
4 Somewhat willing
5 Very willing

ELSEIF di001_order(cnt1) = 4 THEN

di001d (how willing log on help healthcare providers improve quality of care in section Digital_followup1)
The information would help your healthcare providers improve the quality of your care?
1 Very unwilling
2 Somewhat unwilling
3 Unsure
4 Somewhat willing
5 Very willing

| END OF IF

END OF LOOP

END OF SUBGROUP

END OF GROUP

END OF IF

End of section **Digital_followup1**

ELSEIF di001_3_order(2) = 2 THEN

Start of section **Digital_followup2**

IF di002 IN (1,2,3) THEN

GROUP OF QUESTIONS PRESENTED ON THE SAME SCREEN

di002_intro (Section Digital_followup2)
How willing would you be to **let the app collect health information from your smartphone, wearables, smart devices, and other consumer apps you might use** if:

SUBGROUP OF QUESTIONS

LOOP FROM 1 TO 4

IF randomizer_pay = 1 AND di002_order(cnt2) = 1 THEN

di002a (collect health information from smartphone paid $5 a month in section Digital_followup2)
The app paid you $5 a month?
1 Very unwilling
2 Somewhat unwilling
3 Unsure
4 Somewhat willing
5 Very willing

ELSEIF di002_order(cnt2) = 2 THEN

di002b (collect health information from smartphone help app learn make better health recommendations in section Digital_followup2)
The information would help the app learn how to make better health recommendations for other people like you (for example, those who come from similar backgrounds or those who may have the same diagnoses as you)?
1 Very unwilling

2 Somewhat unwilling
3 Unsure
4 Somewhat willing
5 Very willing

ELSEIF di002_order(cnt2) = 3 THEN

di002c (collect health information from smartphone help app make personalized recommendations in section Digital_followup2)
The information would help the app make personalized recommendations for you when you are not feeling well (for example, the app may recommend an over-the-counter treatment or that you schedule an appointment with the right healthcare provider based on your symptoms?)
1 Very unwilling
2 Somewhat unwilling
3 Unsure
4 Somewhat willing
5 Very willing

ELSEIF di002_order(cnt2) = 4 THEN

di002d (collect health information from smartphone help healthcare providers improve quality of care in section Digital_followup2)
The information would help your healthcare providers improve the quality of your care?
1 Very unwilling
2 Somewhat unwilling
3 Unsure
4 Somewhat willing
5 Very willing

END OF IF

END OF LOOP

END OF SUBGROUP

END OF GROUP

END OF IF

End of section **Digital_followup2**
ELSEIF di001_3_order(2) = 3 THEN
Start of section **Digital_followup3**

GROUP OF QUESTIONS PRESENTED ON THE SAME SCREEN

di003_intro (Section Digital_followup3)
How willing would you be to **let the app collect health information from your health records** (for example, from your doctor's office) if:

SUBGROUP OF QUESTIONS

LOOP FROM 1 TO 4

IF randomizer_pay = 1 AND di003_order(cnt3) = 1 THEN

di003a (collect health information from health records paid $5 a month in section Digital_followup3)
The app paid you $5 a month?
1 Very unwilling
2 Somewhat unwilling
3 Unsure
4 Somewhat willing
5 Very willing

ELSEIF di003_order(cnt3) = 2 THEN

di003b (collect health information from health records help app learn make better health recommendations in section Digital_followup3)
The information would help the app learn how to make better health recommendations for other people like you (for example, those who come from similar backgrounds or those who may have the same diagnoses as you)?
1 Very unwilling
2 Somewhat unwilling
3 Unsure
4 Somewhat willing
5 Very willing

ELSEIF di003_order(cnt3) = 3 THEN

di003c (collect health information from health records help app make personalized recommendations in section Digital_followup3)
The information would help the app make personalized recommendations for you when you are not feeling well (for example, the app may recommend an over-the-counter treatment or that you schedule an appointment with the right healthcare provider based on your symptoms?)
1 Very unwilling
2 Somewhat unwilling

3 Unsure
4 Somewhat willing
5 Very willing

ELSEIF di003_order(cnt3) = 4 THEN

di003d (collect health information from health records help healthcare providers improve quality of care in section Digital_followup3)
The information would help your healthcare providers improve the quality of your care?
1 Very unwilling
2 Somewhat unwilling
3 Unsure
4 Somewhat willing
5 Very willing

END OF IF

END OF LOOP

END OF SUBGROUP

END OF GROUP
END OF IF

End of section **Digital_followup3**

ELSEIF iskeck != 1 AND di001_3_order(2) = 4 THEN
Start of section **Digital_followup4**

IF di006 IN (1,2,3) THEN
GROUP OF QUESTIONS PRESENTED ON THE SAME SCREEN

di006_intro (Section Digital_followup4)
How willing would you be to **let the app collect GPS location information from your smartphones or wearable devices** if:

SUBGROUP OF QUESTIONS

LOOP FROM 1 TO 4

IF randomizer_pay = 1 AND di006_order(cnt5) = 1 THEN

di006a (collect GPS paid $5 a month in section Digital_followup4)
The app paid you $5 a month?
1 Very unwilling
2 Somewhat unwilling
3 Unsure
4 Somewhat willing
5 Very willing

ELSEIF di006_order(cnt5) = 2 THEN

di006b (collect GPS help app learn make better health recommendations in section Digital_followup4)
The information would help the app learn how to make better health recommendations for other people like you (for example, those who come from similar backgrounds or those who may have the same diagnoses as you)?
1 Very unwilling
2 Somewhat unwilling
3 Unsure
4 Somewhat willing
5 Very willing

ELSEIF di006_order(cnt5) = 3 THEN

di006c (collect GPS help app make personalized recommendations in section Digital_followup4)
The information would help the app make personalized recommendations for you when you are not feeling well (for example, the app may recommend an over-the-counter treatment or that you schedule an appointment with the right healthcare provider based on your symptoms?)
1 Very unwilling
2 Somewhat unwilling
3 Unsure
4 Somewhat willing
5 Very willing

ELSEIF di006_order(cnt5) = 4 THEN

di006d (collect GPS help healthcare providers improve quality of care in section Digital_followup4)
The information would help your healthcare providers improve the quality of your care?
1 Very unwilling
2 Somewhat unwilling
3 Unsure

4 Somewhat willing
5 Very willing

END OF IF

END OF LOOP

END OF SUBGROUP

END OF GROUP

END OF IF

End of section **Digital_followup4**

END OF IF

IF di001_3_order(3) = 1 THEN

Start of section **Digital_followup1**

IF di001 IN (1,2,3) THEN

GROUP OF QUESTIONS PRESENTED ON THE SAME SCREEN

di001_intro (Section Digital_followup1)
How willing would you be to **log into the app on a weekly basis to answer a few questions** (about 3 - 5 minutes) about how you are feeling if:

SUBGROUP OF QUESTIONS

LOOP FROM 1 TO 4

IF randomizer_pay = 1 AND di001_order(cnt1) = 1 THEN

di001a (how willing log on app paid $5 a month in section Digital_followup1)
The app paid you $5 a month?
1 Very unwilling
2 Somewhat unwilling
3 Unsure
4 Somewhat willing
5 Very willing

ELSEIF di001_order(cnt1) = 2 THEN

di001b (how willing log on help app learn make better health recommendations in section Digital_followup1)
The information would help the app learn how to make better health recom-

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mendations for other people like you (for example, those who come from similar backgrounds or those who may have the same diagnoses as you)?
1 Very unwilling
2 Somewhat unwilling
3 Unsure
4 Somewhat willing
5 Very willing

ELSEIF di001_order(cnt1) = 3 THEN

di001c (how willing log on help app make personalized recommendations in section Digital_followup1)
The information would help the app make personalized recommendations for you when you are not feeling well (for example, the app may recommend an over-the-counter treatment or that you schedule an appointment with the right healthcare provider based on your symptoms?)
1 Very unwilling
2 Somewhat unwilling
3 Unsure
4 Somewhat willing
5 Very willing

ELSEIF di001_order(cnt1) = 4 THEN

di001d (how willing log on help healthcare providers improve quality of care in section Digital_followup1)
The information would help your healthcare providers improve the quality of your care?
1 Very unwilling
2 Somewhat unwilling
3 Unsure
4 Somewhat willing
5 Very willing

END OF IF

END OF LOOP

END OF SUBGROUP

END OF GROUP

END OF IF

End of section **Digital_followup1**

ELSEIF di001_3_order(3) = 2 THEN

Start of section **Digital_followup2**

IF di002 IN (1,2,3) THEN

GROUP OF QUESTIONS PRESENTED ON THE SAME SCREEN

di002_intro (Section Digital_followup2)
How willing would you be to **let the app collect health information from your smartphone, wearables, smart devices, and other consumer apps you might use** if:

SUBGROUP OF QUESTIONS

LOOP FROM 1 TO 4

IF randomizer_pay = 1 AND di002_order(cnt2) = 1 THEN

di002a (collect health information from smartphone paid $5 a month in section Digital_followup2)
The app paid you $5 a month?
1 Very unwilling
2 Somewhat unwilling
3 Unsure
4 Somewhat willing
5 Very willing

ELSEIF di002_order(cnt2) = 2 THEN

di002b (collect health information from smartphone help app learn make better health recommendations in section Digital_followup2)
The information would help the app learn how to make better health recommendations for other people like you (for example, those who come from similar backgrounds or those who may have the same diagnoses as you)?
1 Very unwilling
2 Somewhat unwilling
3 Unsure
4 Somewhat willing
5 Very willing

ELSEIF di002_order(cnt2) = 3 THEN

di002c (collect health information from smartphone help app make personalized recommendations in section Digital_followup2)
The information would help the app make personalized recommendations for you

when you are not feeling well (for example, the app may recommend an over-the-counter treatment or that you schedule an appointment with the right healthcare provider based on your symptoms?)
1 Very unwilling
2 Somewhat unwilling
3 Unsure
4 Somewhat willing
5 Very willing

ELSEIF di002_order(cnt2) = 4 THEN

di002d (collect health information from smartphone help healthcare providers improve quality of care in section Digital_followup2)
The information would help your healthcare providers improve the quality of your care?
1 Very unwilling
2 Somewhat unwilling
3 Unsure
4 Somewhat willing
5 Very willing

END OF IF

END OF LOOP

END OF SUBGROUP

END OF GROUP
END OF IF

End of section **Digital_followup2**
ELSEIF di001_3_order(3) = 3 THEN
Start of section **Digital_followup3**

IF di003 IN (1,2,3) THEN
GROUP OF QUESTIONS PRESENTED ON THE SAME SCREEN

di003_intro (Section Digital_followup3)
How willing would you be to **let the app collect health information from your health records** (for example, from your doctor's office) if:

SUBGROUP OF QUESTIONS

LOOP FROM 1 TO 4

IF randomizer_pay = 1 AND di003_order(cnt3) = 1 THEN

di003a (collect health information from health records paid $5 a month in section Digital_followup3)
The app paid you $5 a month?
1 Very unwilling
2 Somewhat unwilling
3 Unsure
4 Somewhat willing
5 Very willing

ELSEIF di003_order(cnt3) = 2 THEN

di003b (collect health information from health records help app learn make better health recommendations in section Digital_followup3)
The information would help the app learn how to make better health recommendations for other people like you (for example, those who come from similar backgrounds or those who may have the same diagnoses as you)?
1 Very unwilling
2 Somewhat unwilling
3 Unsure
4 Somewhat willing
5 Very willing

ELSEIF di003_order(cnt3) = 3 THEN

di003c (collect health information from health records help app make personalized recommendations in section Digital_followup3)
The information would help the app make personalized recommendations for you when you are not feeling well (for example, the app may recommend an over-the-counter treatment or that you schedule an appointment with the right healthcare provider based on your symptoms?)
1 Very unwilling
2 Somewhat unwilling
3 Unsure
4 Somewhat willing
5 Very willing

ELSEIF di003_order(cnt3) = 4 THEN

di003d (collect health information from health records help healthcare providers improve quality of care in section Digital_followup3)
The information would help your healthcare providers improve the quality of your care?
1 Very unwilling
2 Somewhat unwilling
3 Unsure
4 Somewhat willing
5 Very willing

END OF IF

END OF LOOP

END OF SUBGROUP

END OF GROUP
END OF IF

End of section **Digital_followup3**
ELSEIF iskeck != 1 AND di001_3_order(3) = 4 THEN
Start of section **Digital_followup4**

IF di006 IN (1,2,3) THEN
GROUP OF QUESTIONS PRESENTED ON THE SAME SCREEN

di006_intro (Section Digital_followup4)
How willing would you be to **let the app collect GPS location information from your smartphones or wearable devices** if:

SUBGROUP OF QUESTIONS

LOOP FROM 1 TO 4

IF randomizer_pay = 1 AND di006_order(cnt5) = 1 THEN

di006a (collect GPS paid $5 a month in section Digital_followup4)
The app paid you $5 a month?
1 Very unwilling
2 Somewhat unwilling
3 Unsure
4 Somewhat willing
5 Very willing

ELSEIF di006_order(cnt5) = 2 THEN

di006b (collect GPS help app learn make better health recommendations in section Digital_followup4)
The information would help the app learn how to make better health recommendations for other people like you (for example, those who come from similar backgrounds or those who may have the same diagnoses as you)?
1 Very unwilling
2 Somewhat unwilling
3 Unsure
4 Somewhat willing
5 Very willing

ELSEIF di006_order(cnt5) = 3 THEN

di006c (collect GPS help app make personalized recommendations in section Digital_followup4)
The information would help the app make personalized recommendations for you when you are not feeling well (for example, the app may recommend an over-the-counter treatment or that you schedule an appointment with the right healthcare provider based on your symptoms?)
1 Very unwilling
2 Somewhat unwilling
3 Unsure
4 Somewhat willing
5 Very willing

ELSEIF di006_order(cnt5) = 4 THEN

di006d (collect GPS help healthcare providers improve quality of care in section Digital_followup4)
The information would help your healthcare providers improve the quality of your care?
1 Very unwilling
2 Somewhat unwilling
3 Unsure
4 Somewhat willing
5 Very willing

END OF IF

END OF LOOP

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| END OF SUBGROUP

| END OF GROUP

END OF IF

End of section **Digital_followup4**

END OF IF

IF di001_3_order(4) = 1 THEN

Start of section **Digital_followup1**

IF di001 IN (1,2,3) THEN

GROUP OF QUESTIONS PRESENTED ON THE SAME SCREEN

di001_intro (Section Digital_followup1)
How willing would you be to **log into the app on a weekly basis to answer a few questions** (about 3 - 5 minutes) about how you are feeling if:

SUBGROUP OF QUESTIONS

LOOP FROM 1 TO 4

IF randomizer_pay = 1 AND di001_order(cnt1) = 1 THEN

di001a (how willing log on app paid $5 a month in section Digital_followup1)
The app paid you $5 a month?
1 Very unwilling
2 Somewhat unwilling
3 Unsure
4 Somewhat willing
5 Very willing

ELSEIF di001_order(cnt1) = 2 THEN

di001b (how willing log on help app learn make better health recommendations in section Digital_followup1)
The information would help the app learn how to make better health recommendations for other people like you (for example, those who come from similar backgrounds or those who may have the same diagnoses as you)?
1 Very unwilling
2 Somewhat unwilling
3 Unsure
4 Somewhat willing

5 Very willing

ELSEIF di001_order(cnt1) = 3 THEN

di001c (how willing log on help app make personalized recommendations in section Digital_followup1)
The information would help the app make personalized recommendations for you when you are not feeling well (for example, the app may recommend an over-the-counter treatment or that you schedule an appointment with the right healthcare provider based on your symptoms?)
1 Very unwilling
2 Somewhat unwilling
3 Unsure
4 Somewhat willing
5 Very willing

ELSEIF di001_order(cnt1) = 4 THEN

di001d (how willing log on help healthcare providers improve quality of care in section Digital_followup1)
The information would help your healthcare providers improve the quality of your care?
1 Very unwilling
2 Somewhat unwilling
3 Unsure
4 Somewhat willing
5 Very willing

END OF IF

END OF LOOP

END OF SUBGROUP

END OF GROUP
END OF IF

End of section **Digital_followup1**
ELSEIF di001_3_order(4) = 2 THEN
Start of section **Digital_followup2**

IF di002 IN (1,2,3) THEN
GROUP OF QUESTIONS PRESENTED ON THE SAME SCREEN

di002_intro (Section Digital_followup2)
How willing would you be to **let the app collect health information from your smartphone, wearables, smart devices, and other consumer apps you might use** if:

LOOP FROM 1 TO 4

IF randomizer_pay = 1 AND di002_order(cnt2) = 1 THEN

di002a (collect health information from smartphone paid $5 a month in section Digital_followup2)
The app paid you $5 a month?
1 Very unwilling
2 Somewhat unwilling
3 Unsure
4 Somewhat willing
5 Very willing

ELSEIF di002_order(cnt2) = 2 THEN

di002b (collect health information from smartphone help app learn make better health recommendations in section Digital_followup2)
The information would help the app learn how to make better health recommendations for other people like you (for example, those who come from similar backgrounds or those who may have the same diagnoses as you)?
1 Very unwilling
2 Somewhat unwilling
3 Unsure
4 Somewhat willing
5 Very willing

ELSEIF di002_order(cnt2) = 3 THEN

di002c (collect health information from smartphone help app make personalized recommendations in section Digital_followup2)
The information would help the app make personalized recommendations for you when you are not feeling well (for example, the app may recommend an over-the-counter treatment or that you schedule an appointment with the right healthcare provider based on your symptoms?)
1 Very unwilling
2 Somewhat unwilling
3 Unsure
4 Somewhat willing

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5 Very willing

ELSEIF di002_order(cnt2) = 4 THEN

di002d (collect health information from smartphone help healthcare providers improve quality of care in section Digital_followup2)
The information would help your healthcare providers improve the quality of your care?
1 Very unwilling
2 Somewhat unwilling
3 Unsure
4 Somewhat willing
5 Very willing

END OF IF

END OF LOOP

END OF SUBGROUP

END OF GROUP

END OF IF

End of section **Digital_followup2**

ELSEIF di001_3_order(4) = 3 THEN

Start of section **Digital_followup3**

IF di003 IN (1,2,3) THEN

GROUP OF QUESTIONS PRESENTED ON THE SAME SCREEN

di003_intro (Section Digital_followup3)
How willing would you be to **let the app collect health information from your health records** (for example, from your doctor's office) if:

SUBGROUP OF QUESTIONS

LOOP FROM 1 TO 4

IF randomizer_pay = 1 AND di003_order(cnt3) = 1 THEN

di003a (collect health information from health records paid $5 a month in section Digital_followup3)
The app paid you $5 a month?
1 Very unwilling

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2 Somewhat unwilling
3 Unsure
4 Somewhat willing
5 Very willing

ELSEIF di003_order(cnt3) = 2 THEN

di003b (collect health information from health records help app learn make better health recommendations in section Digital_followup3)
The information would help the app learn how to make better health recommendations for other people like you (for example, those who come from similar backgrounds or those who may have the same diagnoses as you)?
1 Very unwilling
2 Somewhat unwilling
3 Unsure
4 Somewhat willing
5 Very willing

ELSEIF di003_order(cnt3) = 3 THEN

di003c (collect health information from health records help app make personalized recommendations in section Digital_followup3)
The information would help the app make personalized recommendations for you when you are not feeling well (for example, the app may recommend an over-the-counter treatment or that you schedule an appointment with the right healthcare provider based on your symptoms?)
1 Very unwilling
2 Somewhat unwilling
3 Unsure
4 Somewhat willing
5 Very willing

ELSEIF di003_order(cnt3) = 4 THEN

di003d (collect health information from health records help healthcare providers improve quality of care in section Digital_followup3)
The information would help your healthcare providers improve the quality of your care?
1 Very unwilling
2 Somewhat unwilling
3 Unsure
4 Somewhat willing
5 Very willing

| END OF IF

END OF LOOP

END OF SUBGROUP

END OF GROUP

END OF IF

End of section **Digital_followup3**

ELSEIF iskeck != 1 AND di001_3_order(4) = 4 THEN

Start of section **Digital_followup4**

IF di006 IN (1,2,3) THEN

GROUP OF QUESTIONS PRESENTED ON THE SAME SCREEN

di006_intro (Section Digital_followup4)
How willing would you be to **let the app collect GPS location information from your smartphones or wearable devices** if:

SUBGROUP OF QUESTIONS

LOOP FROM 1 TO 4

IF randomizer_pay = 1 AND di006_order(cnt5) = 1 THEN

di006a (collect GPS paid $5 a month in section Digital_followup4)
The app paid you $5 a month?
1 Very unwilling
2 Somewhat unwilling
3 Unsure
4 Somewhat willing
5 Very willing

ELSEIF di006_order(cnt5) = 2 THEN

di006b (collect GPS help app learn make better health recommendations in section Digital_followup4)
The information would help the app learn how to make better health recommendations for other people like you (for example, those who come from similar backgrounds or those who may have the same diagnoses as you)?
1 Very unwilling
2 Somewhat unwilling
3 Unsure

4 Somewhat willing
5 Very willing

ELSEIF di006_order(cnt5) = 3 THEN

di006c (collect GPS help app make personalized recommendations in section Digital_followup4)
The information would help the app make personalized recommendations for you when you are not feeling well (for example, the app may recommend an over-the-counter treatment or that you schedule an appointment with the right healthcare provider based on your symptoms?)
1 Very unwilling
2 Somewhat unwilling
3 Unsure
4 Somewhat willing
5 Very willing

ELSEIF di006_order(cnt5) = 4 THEN

di006d (collect GPS help healthcare providers improve quality of care in section Digital_followup4)
The information would help your healthcare providers improve the quality of your care?
1 Very unwilling
2 Somewhat unwilling
3 Unsure
4 Somewhat willing
5 Very willing

END OF IF

END OF LOOP

END OF SUBGROUP

END OF GROUP
END OF IF

End of section **Digital_followup4**
END OF IF

LOOP FROM 1 TO MAX

IF di001_3_order(cnt6) = 1 THEN

IF di001 IN (1,2,3) AND ((di001a IN (1,2,3) OR di001a = empty) AND (di001b IN (1,2,3) OR di001b = empty) AND (di001c IN (1,2,3) OR di001c = empty) AND (di001d IN (1,2,3) OR di001d = empty)) THEN

di001e (why not willing to answer questions about how you are feeling on a weekly basis in section Digital_followup1)
Why are you not willing to **answer questions about how you are feeling on a weekly basis**?
STRING

END OF IF

ELSEIF di001_3_order(cnt6) = 2 THEN

IF di002 IN (1,2,3) AND ((di002a IN (1,2,3) OR di002a = empty) AND (di002b IN (1,2,3) OR di002b = empty) AND (di002c IN (1,2,3) OR di002c = empty) AND (di002d IN (1,2,3) OR di002d = empty)) THEN

di002e (why not willing to app collect health information from smartphones in section Digital_followup2)
Why are you not willing to let the **app collect health information from your smartphones, wearables, or smart devices, or other consumer apps you may use**?
STRING

END OF IF

ELSEIF di001_3_order(cnt6) = 3 THEN

IF di003 IN (1,2,3) AND ((di003a IN (1,2,3) OR di003a = empty) AND (di003b IN (1,2,3) OR di003b = empty) AND (di003c IN (1,2,3) OR di003c = empty) AND (di003d IN (1,2,3) OR di003d = empty)) THEN

di003e (why not willing to app collect health information from health records in section Digital_followup3)
Why are you not willing to let the **app collect health information from your health records**?
STRING

END OF IF

ELSEIF di001_3_order(cnt6) = 4 THEN

IF di006 IN (1,2,3) AND ((di006a IN (1,2,3) OR di006a = empty) AND (di006b IN (1,2,3) OR di006b = empty) AND (di006c IN (1,2,3) OR di006c = empty) AND (di006d IN (1,2,3) OR di006d = empty)) THEN

di006e (why not willing to app collect GPS in section Digital_followup4)
Why are you not willing to **let the app collect GPS location information from your smartphones or wearable devices**?
STRING

END OF IF

END OF IF

END OF LOOP

/* Respondents are asked about the importance of different app features in random order per variables di004_order with values:

- 1 Makes personalized recommendations about your day-to-day health behaviors, like your sleep, physical activity, or diet

- 2 Helps you choose what type of healthcare to seek, find the right providers, and schedule appointments

- 3 Helps you make healthcare choices when you are not feeling well

- 4 Allows you to chat with a virtual agent to answer health questions

- 5 Provides reminders to take prescribed medications or when you may be due for appointments

- 6 Helps you participate in research studies that you may be eligible for, with your consent

- 7 Helps you to set goals for your health and track your goal progress over time

- 8 Allows you to share–if you choose–your data with your healthcare providers, family, friends, and caregivers to support decision making about your health

- 9 Helps you connect with your social network to participate in health challenges

- 10 Other

*/

IF sizeof(di004_order) = 0 THEN
di004_order := shuffleArray(array(1 →1, 2 →2, 3 →3, 4 →4, 5 →5, 6 →6, 7 →7, 8 →8, 9 →9))
di004_order(10) := 10

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di004_intro (Section Digital)
How important are each of the following app features to you?

Based on your personal profile the app...

di004a (Makes personalized recommendations about your day-to-day health behaviors, like your sleep, physical activity, or diet in section Digital)
Makes personalized recommendations about your day-to-day health behaviors, like your sleep, physical activity, or diet
1 Very unimportant
2 Somewhat unimportant
3 Unsure
4 Somewhat important
5 Very important

di004b (Helps you choose what type of healthcare to seek, find the right providers, and schedule appointments in section Digital)
Helps you choose what type of healthcare to seek, find the right providers, and schedule appointments
1 Very unimportant
2 Somewhat unimportant
3 Unsure
4 Somewhat important
5 Very important

di004c (Helps you make healthcare choices when you are not feeling well in section Digital)
Helps you make healthcare choices when you are not feeling well
1 Very unimportant
2 Somewhat unimportant
3 Unsure

4 Somewhat important
5 Very important

di004d (Allows you to chat with a virtual agent to answer health questions in section Digital)
Allows you to chat with a virtual agent to answer health questions
1 Very unimportant
2 Somewhat unimportant
3 Unsure
4 Somewhat important
5 Very important

di004e (Provides reminders to take prescribed medications or when you may be due for appointments in section Digital)
Provides reminders to take prescribed medications or when you may be due for appointments
1 Very unimportant
2 Somewhat unimportant
3 Unsure
4 Somewhat important
5 Very important

di004f (Helps you participate in research studies that you may be eligible for, with your consent in section Digital)
Helps you participate in research studies that you may be eligible for, with your consent
1 Very unimportant
2 Somewhat unimportant
3 Unsure
4 Somewhat important
5 Very important

di004g (Helps you to set goals for your health and track your goal progress over time in section Digital)
Helps you to set goals for your health and track your goal progress over time
1 Very unimportant

2 Somewhat unimportant
3 Unsure
4 Somewhat important
5 Very important

di004h (Allows you to share- -if you choose- -your data with your healthcare providers, family, friends, and caregivers to support decision making about your health in section Digital)
Allows you to share- -if you choose- -your data with your healthcare providers, family, friends, and caregivers to support decision making about your health
1 Very unimportant
2 Somewhat unimportant
3 Unsure
4 Somewhat important
5 Very important

di004i (Helps you connect with your social network to participate in health challenges in section Digital)
Helps you connect with your social network to participate in health challenges
1 Very unimportant
2 Somewhat unimportant
3 Unsure
4 Somewhat important
5 Very important

END OF IF

END OF LOOP

di004j (other important app features in section Digital)
Other, please specify:
1 Very unimportant
2 Somewhat unimportant
3 Unsure
4 Somewhat important
5 Very important

END OF SUBGROUP

di004j_open (specify other important app features in section Digital)

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| STRING

END OF GROUP

/* Respondents are asked which app features would be most convincing. The features are presented in the same random order as in the di004 question series defined in variables di005_order with values:

  ○ 1 Makes personalized recommendations about your day-to-day health behaviors, like your sleep, physical activity, or diet

  ○ 2 Helps you choose what type of healthcare to seek, find the right providers, and schedule appointments

  ○ 3 Helps you make healthcare choices when you are not feeling well

  ○ 4 Allows you to chat with a virtual agent to answer health questions

  ○ 5 Provides reminders to take prescribed medications or when you may be due for appointments

  ○ 6 Helps you participate in research studies that you may be eligible for, with your consent

  ○ 7 Helps you to set goals for your health and track your goal progress over time

  ○ 8 Allows you to share–if you choose–your data with your healthcare providers, family, friends, and caregivers to support decision making about your health

  ○ 9 Helps you connect with your social network to participate in health challenges

  ○ 10 Other

  ○ 11 None of these

Note that 'None of these' is always presented last. */

IF sizeof(di005_order) = 0 THEN
  di005_order := di004_order
  di005_order(11) := 11
END OF IF

di005 (which features most important in convincing to use app in section Digital)
Which of the above features would be most important in convincing you to use the app? (Please pick up to three)
1 Makes personalized recommendations about your day-to-day health behaviors, like your sleep, physical activity, or diet
2 Helps you choose what type of healthcare to seek, find the right providers, and schedule appointments

3 Helps you make healthcare choices when you are not feeling well

4 Allows you to chat with a virtual agent to answer health questions

5 Provides reminders to take prescribed medications or when you may be due for appointments

6 Helps you participate in research studies that you may be eligible for, with your consent

7 Helps you to set goals for your health and track your goal progress over time

8 Allows you to share- -if you choose- -your data with your healthcare providers, family, friends, and caregivers to support decision making about your health

9 Helps you connect with your social network to participate in health challenges

10 Other ((specify other important app features()))

11 None of these

End of section **Digital**

sectioncnt := 2

Start of section **Past**

IF iskeck = 1 THEN
pm_intro (Section Past)
The next set of questions will ask you about your eye health and any vision symptoms you may be experiencing.

ELSE
pm_intro2 (Section Past)
The next set of questions will ask you about your eye health and any vision symptoms you may be experiencing. This survey is not intended to diagnose vision problems. If you have any concerns about your vision or your health, please see your doctor.

END OF IF

/* Respondents are asked whether they have any eye diseases with the diseases presented in random order per variables pm001_order with values:

- 1 Cornea problem, affecting the front clear part of the eye

- 2 Glaucoma, a problem with eye pressure that affects the optic nerve

- 3 Cataract, cloudy areas in the lens of the eye that can impede your vision

- 4 Diabetes-related eye disease like diabetic retinopathy

- 5 Macular degeneration, an age-related disease of the light-sensing nerves in the back of your eye

- 6 Retinal vessel blockage, which can result in bleeding and swelling within the light-sensing nerves in the back of your eye

IF sizeof(pm001_order) = 0 THEN

pm001_order := shuffleArray(array(1 →1, 2 →2, 3 →3, 4 →4, 5 →5, 6 →6, 7 →7, 8 →8, 9 →9, 10 →10, 11 →11))
pm001_order(12) := 12
pm001_order(13) := 13

END OF IF

GROUP OF QUESTIONS PRESENTED ON THE SAME SCREEN

pm001 (any eye diseases or conditions in section Past)
Has a doctor **ever** told you that you have any of the below eye diseases or conditions: (please check all that apply)
1 Cornea problem, affecting the front clear part of the eye
2 Glaucoma, a problem with eye pressure that affects the optic nerve
3 Cataract, cloudy areas in the lens of the eye that can impede your vision
4 Diabetes-related eye disease like diabetic retinopathy
5 Macular degeneration, an age-related disease of the light-sensing nerves in the back of your eye
6 Retinal vessel blockage, which can result in bleeding and swelling within the light-sensing nerves in the back of your eye
7 Retinal tear or detachment, a problem with separation of the light-sensing layer of nerves from the back of your eye
8 An eye injury or infection
9 Uveitis or scleritis, a problem with inflammation affecting the eye
10 A problem with the eyelid
11 Problems with your vision that require glasses or contacts such as near-sightedness (myopia), far-sightedness (hyperopia), difficulty reading up close (presbyopia), or astig-

matism
12 Other, please specify:
13 I have never been told by a doctor that I have an eye disease or condition

pm001_other (other eye diseases or conditions in section Past)
STRING

IF pm001 = RESPONSE AND pm001 != 13 THEN
GROUP OF QUESTIONS PRESENTED ON THE SAME SCREEN

pm002_intro (Section Past)
Do you feel as if your diagnosed eye disease(s) or condition(s) has gotten better or worse **over the last 6 months**?

SUBGROUP OF QUESTIONS

LOOP FROM 1 TO 12

IF pm001_order(cnt) = 1 AND 1 IN pm001 THEN

pm002a (better worse Cornea problem in section Past)
Cornea problem, affecting the front clear part of the eye
1 Better
2 Worse
3 Stayed about the same
4 I don't know

END OF IF

IF pm001_order(cnt) = 2 AND 2 IN pm001 THEN

pm002b (better worse Glaucoma in section Past)
Glaucoma, a problem with eye pressure that affects the optic nerve
1 Better
2 Worse
3 Stayed about the same
4 I don't know

END OF IF

IF pm001_order(cnt) = 3 AND 3 IN pm001 THEN

pm002c (better worse Cataract in section Past)
Cataract, cloudy areas in the lens of the eye that can impede your vision
1 Better
2 Worse
3 Stayed about the same
4 I don't know

END OF IF

IF pm001_order(cnt) = 4 AND 4 IN pm001 THEN

pm002d (better worse Diabetes-related eye disease like diabetic retinopathy in section Past)
Diabetes-related eye disease like diabetic retinopathy
1 Better
2 Worse
3 Stayed about the same
4 I don't know

END OF IF

IF pm001_order(cnt) = 5 AND 5 IN pm001 THEN

pm002e (better worse Macular degeneration in section Past)
Macular degeneration, an age-related disease of the light-sensing nerves in the back of your eye
1 Better
2 Worse
3 Stayed about the same
4 I don't know

END OF IF

IF pm001_order(cnt) = 6 AND 6 IN pm001 THEN

pm002f (better worse Retinal vessel blockage in section Past)
Retinal vessel blockage, which can result in bleeding and swelling within the light-sensing nerves in the back of your eye
1 Better
2 Worse
3 Stayed about the same
4 I don't know

END OF IF

IF pm001_order(cnt) = 7 AND 7 IN pm001 THEN

pm002g (better worse Retinal tear or detachment in section Past)
Retinal tear or detachment, a problem with separation of the light-sensing layer of nerves from the back of your eye
1 Better
2 Worse
3 Stayed about the same
4 I don't know

END OF IF

IF pm001_order(cnt) = 8 AND 8 IN pm001 THEN

pm002h (better worse An eye injury or infection in section Past)
An eye injury or infection
1 Better
2 Worse
3 Stayed about the same
4 I don't know

END OF IF

IF pm001_order(cnt) = 9 AND 9 IN pm001 THEN

pm002i (better worse Uveitis or scleritis, a problem with inflammation affecting the eye in section Past)
Uveitis or scleritis, a problem with inflammation affecting the eye
1 Better
2 Worse
3 Stayed about the same
4 I don't know

END OF IF

IF pm001_order(cnt) = 10 AND 10 IN pm001 THEN

pm002j (better worse A problem with the eyelid in section Past)
A problem with the eyelid
1 Better
2 Worse
3 Stayed about the same
4 I don't know

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END OF IF

IF pm001_order(cnt) = 11 AND 11 IN pm001 THEN

> **pm002k** (better worse Problems with your vision that require glasses or contacts in section Past)
> Problems with your vision that require glasses or contacts such as near-sightedness (myopia), far-sightedness (hyperopia), difficulty reading up close (presbyopia), or astigmatism
> 1 Better
> 2 Worse
> 3 Stayed about the same
> 4 I don't know

END OF IF

IF pm001_order(cnt) = 12 AND 12 IN pm001 THEN

> **pm002l** (better worse other problems with your vision that require glasses or contacts in section Past)
> Other ((other eye diseases or conditions()))
> 1 Better
> 2 Worse
> 3 Stayed about the same
> 4 I don't know

END OF IF

END OF LOOP

END OF SUBGROUP

END OF GROUP

END OF IF

pm003 (last time saw eye care provider in section Past)
When was the last time you saw an eye care provider such as an ophthalmologist or optometrist?
1 0-3 months
2 4-6 months
3 7-12 months
4 Greater than 12 months
5 I have never seen an eye care provider
6 I don't know

pm004 (doctor ever told have diabetes or high blood sugar in section Past)
Has a doctor **ever** told you that you have diabetes or high blood sugar?
1 Yes
2 No
3 I don't know

End of section **Past**

sectioncnt := 3

Start of section **New**

/* Respondents are asked whether they have any new vision problems with the options presented in random order per variables pm001_order with values:

- ○ 1 New flashes of light in your vision

- ○ 2 New spots in front of your eye ("floaters")

- ○ 3 New distortion of vision or blurry vision

- ○ 4 New darkening or graying out of vision

- ○ 5 New double vision

- ○ 6 New glare or haloes

- ○ 7 New droopy eyelid

- ○ 8 Other

- ○ 9 I have not noticed any new vision problems in the past 6 months

- ○ 10 I don't know

Note that "I have not noticed any new vision problems in the past 6 months" and "I don't know" are always presented last. */

IF sizeof(nm001_order) = 0 THEN
  nm001_order := shuffleArray(array(1 →1, 2 →2, 3 →3, 4 →4, 5 →5, 6 →6, 7 →7))
  nm001_order(8) := 8
  nm001_order(9) := 9
  nm001_order(10) := 10
END OF IF

GROUP OF QUESTIONS PRESENTED ON THE SAME SCREEN

nm001 (new vision problems in last six months in section New)
Have you noticed any new vision problems in the **last six months**? (please check all that apply)

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1 New flashes of light in your vision
2 New spots in front of your eye ("floaters")
3 New distortion of vision or blurry vision
4 New darkening or graying out of vision
5 New double vision
6 New glare or haloes
7 New droopy eyelid
8 Other, please specify:
9 I have not noticed any new vision problems in the past 6 months
10 I don't know

nm001_other (other new vision problems in last six months in section New)
STRING

END OF GROUP

IF nm001 = RESPONSE AND nm001 != 9 AND nm001 != 10 THEN
  GROUP OF QUESTIONS PRESENTED ON THE SAME SCREEN

    nm002_intro (Section New)
    Over the **last six months**, how often do/does your new vision problem(s) occur?

    SUBGROUP OF QUESTIONS

    LOOP FROM 1 TO 8

      IF nm001_order(cnt) = 1 AND 1 IN nm001 THEN

        nm002a (how often New flashes of light in your vision in section New)
        New flashes of light in your vision
        1 Constantly
        2 Several times per day
        3 Several times per week
        4 Several times per month
        5 Less than once per month, but several times over the last 6 months
        6 Only once or twice in the last 6 months

      END OF IF

      IF nm001_order(cnt) = 2 AND 2 IN nm001 THEN

        nm002b (how often New spots in front of your eye ("floaters") in section New)
        New spots in front of your eye ("floaters")
        1 Constantly
        2 Several times per day

3 Several times per week
4 Several times per month
5 Less than once per month, but several times over the last 6 months
6 Only once or twice in the last 6 months

END OF IF

IF nm001_order(cnt) = 3 AND 3 IN nm001 THEN

nm002c (how often New distortion of vision or blurry vision in section New)
New distortion of vision or blurry vision
1 Constantly
2 Several times per day
3 Several times per week
4 Several times per month
5 Less than once per month, but several times over the last 6 months
6 Only once or twice in the last 6 months

END OF IF

IF nm001_order(cnt) = 4 AND 4 IN nm001 THEN

nm002d (how often New darkening or graying out of vision in section New)
New darkening or graying out of vision
1 Constantly
2 Several times per day
3 Several times per week
4 Several times per month
5 Less than once per month, but several times over the last 6 months
6 Only once or twice in the last 6 months

END OF IF

IF nm001_order(cnt) = 5 AND 5 IN nm001 THEN

nm002e (how often New double vision in section New)
New double vision
1 Constantly
2 Several times per day
3 Several times per week
4 Several times per month
5 Less than once per month, but several times over the last 6 months
6 Only once or twice in the last 6 months

END OF IF

IF nm001_order(cnt) = 6 AND 6 IN nm001 THEN

nm002f (how often New glare or haloes in section New)
New glare or haloes
1 Constantly
2 Several times per day
3 Several times per week
4 Several times per month
5 Less than once per month, but several times over the last 6 months
6 Only once or twice in the last 6 months

END OF IF

IF nm001_order(cnt) = 7 AND 7 IN nm001 THEN

nm002g (how often New droopy eyelid in section New)
New droopy eyelid
1 Constantly
2 Several times per day
3 Several times per week
4 Several times per month
5 Less than once per month, but several times over the last 6 months
6 Only once or twice in the last 6 months

END OF IF

IF nm001_order(cnt) = 8 AND 8 IN nm001 THEN

nm002h (how often Other new symptom in section New)
Other ((other new vision problems in last six months()))
1 Constantly
2 Several times per day
3 Several times per week
4 Several times per month
5 Less than once per month, but several times over the last 6 months
6 Only once or twice in the last 6 months

END OF IF

END OF LOOP

END OF SUBGROUP

nm003_intro (Section New)
Over the **last 30 days**, has/have your new vision problem(s), gotten better, worse, or stayed the same?

nm003a (better worse New flashes of light in your vision in section New)
New flashes of light in your vision
1 Better
2 Worse
3 Stayed about the same
4 I don't know

nm003b (better worse New spots in front of your eye ("floaters") in section New)
New spots in front of your eye ("floaters")
1 Better
2 Worse
3 Stayed about the same
4 I don't know

nm003c (better worse New distortion of vision or blurry vision in section New)
New distortion of vision or blurry vision
1 Better
2 Worse
3 Stayed about the same
4 I don't know

END OF IF

IF nm001_order(cnt) = 4 AND 4 IN nm001 THEN

nm003d (better worse New darkening or graying out of vision in section New)
New darkening or graying out of vision
1 Better
2 Worse
3 Stayed about the same
4 I don't know

END OF IF

IF nm001_order(cnt) = 5 AND 5 IN nm001 THEN

nm003e (better worse New double vision in section New)
New double vision
1 Better
2 Worse
3 Stayed about the same
4 I don't know

END OF IF

IF nm001_order(cnt) = 6 AND 6 IN nm001 THEN

nm003f (better worse New glare or haloes in section New)
New glare or haloes
1 Better
2 Worse
3 Stayed about the same
4 I don't know

END OF IF

IF nm001_order(cnt) = 7 AND 7 IN nm001 THEN

nm003g (better worse New droopy eyelid in section New)
New droopy eyelid
1 Better
2 Worse
3 Stayed about the same
4 I don't know

END OF IF

IF nm001_order(cnt) = 8 AND 8 IN nm001 THEN

nm003h (better worse Other new symptom in section New)
Other ((other new vision problems in last six months()))
1 Better
2 Worse
3 Stayed about the same
4 I don't know

END OF IF

END OF LOOP

END OF SUBGROUP

END OF GROUP

IF iskeck = 1 THEN
LOOP FROM 1 TO 8

IF (nm001_order(cnt) IN nm001) THEN

nm004_order(cnt) := nm001_order(cnt)

ELSE

nm004_order(cnt) := empty

END OF IF

END OF LOOP

/* Respondents in the Keck variant are asked about which vision problem is bothering them the most (if more than one was indicated in the nm001 question series). The order in which the problems are presented is the same as in the nm001_order variables and defined in the nm004_order variables. */

IF (sizeof(removeEmpties(nm004_order))) > 1 THEN
nm004 (which new vision problem currently bothering most in section New)
Which of your new vision problems is **currently** bothering you the most?
1 New flashes of light in your vision
2 New spots in front of your eye ("floaters")
3 New distortion of vision or blurry vision

4 New darkening or graying out of vision
        5 New double vision
        6 New glare or haloes
        7 New droopy eyelid
        8 Other ((other new vision problems in last six months()))
    ELSE
        nm004 := reset(removeEmpties(nm004_order))
    END OF IF
END OF IF

IF (1 IN nm001 AND iskeck != 1) OR (nm004 = 1 AND iskeck = 1) THEN
    nm005 (new flashes of light in vision in one eye or both eyes at same time in section New)
    Are the new flashes of light in your vision in one eye or both eyes at the same time?
    1 One eye occasionally
    2 One eye constantly
    3 Both eyes occasionally
    4 Both eyes constantly

    nm006 (see symmetrical heat waves in center part of vision that move outward in section New)
    Do you see symmetrical heat waves in the center part of your vision that move outward (scintillating scotoma) when you experience new flashes of light in your vision like the image below?

    1 Yes
    2 No
    3 I don't know

    nm007 (experience headache or migraine when experience new flashes of light in vision in section New)
    Do you also experience headache or migraine when you experience new flashes of light in your vision?
    1 Yes
    2 No
    3 I don't know
END OF IF

IF (3 IN nm001 AND iskeck != 1) OR (nm004 = 3 AND iskeck = 1) THEN
    nm008 (new distortion or blurriness in vision improve with glasses or contact lenses in section New)
    Does the new distortion or blurriness in your vision improve with glasses or contact lenses?

1 Yes
2 No
3 I don't wear glasses or contacts

nm009 (dim, missing, or wavy lines when viewing Amsler grid in section New)

Are there dim, missing, or wavy lines when viewing the Amsler grid?
1 Yes
2 No
3 I don't know

END OF IF

IF (4 IN nm001 AND iskeck != 1) OR (nm004 = 4 AND iskeck = 1) THEN

nm010 (how long each episode of darkening or graying out of vision last in section New)
How long does each episode of the darkening or graying out of vision last?
1 Few seconds
2 A few minutes
3 Ten to 60 minutes
4 A few hours
5 Longer than 24 hours
6 I don't know

nm011 (darkening or graying in one eye or both eyes in section New)
Is the darkening or graying in one eye or both eyes?
1 In one eye
2 In both eyes
3 I don't know

nm012 (have headache with each episode of darkening or graying out of vision in section New)
Do you also have a headache with each episode of darkening or graying out of your vision?
1 Yes
2 No
3 I don't know

nm013 (pain when move eyes with each episode of darkening or graying out of vision in section New)
Is there also pain when you move your eyes with each episode of darkening or graying out of your vision?
1 Yes
2 No
3 I don't know

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END OF IF

IF (5 IN nm001 AND iskeck != 1) OR (nm004 = 5 AND iskeck = 1) THEN

nm014 (new double vision go away when close right eye in section New)
Does your new double vision go away when you close your right eye?
1 Yes
2 No
3 I don't know

nm015 (new double vision go away when close left eye in section New)
Does your new double vision go away when you close your left eye?
1 Yes
2 No
3 I don't know

END OF IF

IF (7 IN nm001 AND iskeck != 1) OR (nm004 = 7 AND iskeck = 1) THEN

nm016 (new droopy eyelid have double vision, headache, weakness, or neck pain in section New)
Along with your new droopy eyelid, do you have double vision, headache, weakness, or neck pain?
1 Yes
2 No
3 I don't know

END OF IF
END OF IF

End of section **New**

sectioncnt := 4

Start of section **Pain**

pn001 (any new eye pain in the last six months in section Pain)
Have you noticed any new eye pain in the **last six months** (for example, burning, throbbing, itching, etc)?
1 Yes
2 No
3 I don't know

IF pn001 = 1 THEN

pn002 (wear contact lenses in section Pain)
Do you wear contact lenses?
1 Yes

2 No

pn003 (had trauma to the eye or eyelid in section Pain)
Over the **last month**, have you had trauma to the eye or eyelid (for example being struck in the eye while playing a sport)?
1 Yes
2 No
3 I don't know

pn004 (something gotten into eye in section Pain)
Has something gotten into your eye?
1 Yes
2 No
3 I don't know

pn005 (vision gotten worse since started experiencing new eye pain in section Pain)
Has your vision gotten worse since you started experiencing new eye pain?
1 Yes
2 No
3 I don't know

pn006 (eye pain improve after using artificial tears in section Pain)
Does your eye pain improve after using artificial tears?
1 Yes
2 No
3 I don't know

pn007 (when did eye pain start in section Pain)
When did your eye pain start?
1 Within the last day
2 Within the last week
3 Within the last month
4 More than one month ago
5 I don't know

pn008 (how often eye pain occur in section Pain)
How often does your eye pain occur?
1 Constantly
2 Several times per day
3 Several times per week
4 Several times per month
5 Less than once per month, but several times over the last 6 months
6 Once or twice in the last 6 months

7 I don't know

pn009 (new eye pain getting better, worse, or about the same in section Pain)
Over the **last month**, is your new eye pain getting better, worse, or about the same?
1 Getting better
2 Getting worse
3 About the same

/* Respondents are asked about how best to describe the new eye pain they reported in question pn001. The options are presented in random order per variables pn010_order with values:

○ 1 Burning

○ 2 Itching

○ 3 Dull, achy, throbbing pain

○ 4 Scratchy, like there is something in your eye

○ 5 Sensitivity to light

○ 6 Pain around the eyeball socket

○ 7 Other

○ 8 I don't know

Note that "I don't know" is always presented last. */

IF sizeof(pn010_order) = 0 THEN
pn010_order := shuffleArray(array(1 →1, 2 →2, 3 →3, 4 →4, 5 →5, 6 →6))
pn010_order(7) := 7
pn010_order(8) := 8
END OF IF

GROUP OF QUESTIONS PRESENTED ON THE SAME SCREEN

pn010 (describe new eye pain in section Pain)
How would you describe your new eye pain? (please check all that apply)
1 Burning
2 Itching
3 Dull, achy, throbbing pain
4 Scratchy, like there is something in your eye
5 Sensitivity to light
6 Pain around the eyeball socket
7 Other, please specify:

8 I don't know

pn010_other (other describe new eye pain in section Pain)
STRING

IF 1 IN pn010 OR 2 IN pn010 OR 4 IN pn010 THEN
pn011 (with new eye pain, also have cold or flu symptoms in section Pain)
Along with your new eye pain, do you also have cold or flu symptoms (e.g., sore throat, runny nose)?
1 Yes
2 No
3 I don't know

pn012 (have seasonal allergies in section Pain)
Do you have seasonal allergies?
1 Yes
2 No
3 I don't know

pn013 (taking blood thinners and have developed a new red patch on the white part of eye in section Pain)
Are you taking blood thinners and have developed a new red patch on the white part of your eye?
1 Yes
2 No
3 I don't know
END OF IF

IF 3 IN pn010 THEN
pn014 (eye pain occur when concentrating on something at arms length reading distance or closer in section Pain)
Does your eye pain occur when concentrating on something at arm's length reading distance or closer?
1 Yes
2 No
3 I don't know

pn015 (eye pain occur along with blurred vision when use any medications in section Pain)
Does the eye pain occur along with blurred vision when you use any of the following medications?
Diphenhydramine (Benadryl), promethazine (Phenergan), or other antihistamine-

sTropicamide, phenylephrine, or pilocarpine eye dropsIpratropium (Atrovent) or other asthma inhalerBotulinum Toxin (Botox) injection around the eyeImipramine (Tofranil), amitriptyline (Elavil), or other tricyclic antidepressants (TCAs)Fluoxetine (Prozac) or other selective serotonin reuptake inhibitors (SSRIs)Fluphenazine (Modecate) or other antipsychoticsOxymetazoline (Afrin) or other nasal decongestant spraysTopiramate (Topamax), acetazolamide (Diamox), or other sulfa-based drugsHeparinEphedrine, epinephrine, or amphetamines (ie MDMA, cocaine)

1 Yes
2 No
3 I don't use any of these medications
4 I don't know

END OF IF

IF 6 IN pn010 THEN

pn016 (have sinus symptoms like congestion and stuffy nose or chronic sinus disease in section Pain)
Along with the pain around your eye socket, do you have sinus symptoms like congestion and stuffy nose or chronic sinus disease?
1 Yes
2 No
3 I don't know

END OF IF
END OF IF

pn017 (noticed feeling as if you are constantly tearing in section Pain)
In the **last six months**, have you noticed feeling as if you are constantly tearing?
1 Yes
2 No
3 I don't know

End of section **Pain**

sectioncnt := 5

Start of section **Background**

/* The background section is only asked in the Keck variant. */

IF iskeck = 1 THEN
ba001 (how many eye care providers in past two years in section Background)
In the past two years, how many eye care providers (for example, ophthalmologists or optometrists) have you seen?
1 I have never seen an eye care provider before today
2 1

3 2
4 3
5 4+

ba002 (referred in section Background)
Did anyone refer you here?
1 Yes. Who was this:
2 No

ba002_who (who referred in section Background)
STRING

ba003 (problems making appointment in section Background)
Did you experience any problems scheduling this appointment?
1 Yes. Please specify:
2 No

ba003_problem (what problems in section Background)
STRING

ba004 (how confident seeing right provider today for problem in section Background)
How confident are you that you are seeing the right provider today for your problem?
1 Very confident
2 Somewhat confident
3 Unsure
4 Somewhat confident
5 Very confident

ba005 (age in section Background)
What is your age?
RANGE 18..120

ba006 (highest education in section Background)
What is the highest grade or level of school you have completed or the highest degree you have received?
1 Less than 1st grade
2 Up to 4th grade

3 5th or 6th grade
4 7th or 8th grade
5 9th grade
6 10th grade
7 11th grade
8 12th grade-no diploma
9 High school graduate or GED
10 Some college-no degree
11 Assoc. college degree-occ/voc program
12 Assoc. college degree-academic program
13 Bachelor's degree
14 Master's degree
15 Professional school degree
16 Doctorate degree

GROUP OF QUESTIONS PRESENTED ON THE SAME SCREEN

ba007 (work status in section Background)
What is your labor force status? Please choose all that apply.
1 Currently working
2 On sick or other leave
3 Unemployed - on layoff
4 Unemployed - looking
5 Retired
6 Disabled
7 Keeping house
8 Student
9 Other, please specify:

ba007_other (other work status in section Background)
STRING

END OF GROUP

ba008 (annual household income in section Background)
Which category represents the total combined income of all members of your family living in your house) during the past 12 months? This includes money from jobs, net income from business, farm or rent, pensions, dividends, interest, Social Security payments and any other monetary income received by members of your family who are 15 years of age or older.
1 Less than $5,000
2 5,000 to 7,499
3 7,500 to 9,999
4 10,000 to 12,499
5 12,500 to 14,999

6 15,000 to 19,999
7 20,000 to 24,999
8 25,000 to 29,999
9 30,000 to 34,999
10 35,000 to 39,999
11 40,000 to 49,999
12 50,000 to 59,999
13 60,000 to 74,999
14 75,000 to 99,999
15 100,000 to 149,999
16 150,000 or more

END OF IF

End of section **Background**

sectioncnt := 6

Start of section **Closing**

CS_001 (HOW PLEASANT INTERVIEW in section Closing)
Could you tell us how interesting or uninteresting you found the questions in this survey?
1 Very interesting
2 Interesting
3 Neither interesting nor uninteresting
4 Uninteresting
5 Very uninteresting

CS_003 (comments in section Closing)
Do you have any other comments on the survey? Please type these in the box below. (If you have no comments, please click next to complete this survey.)
STRING

End of section **Closing**

/* Please note that although question CS_003 is listed in the routing, the answers are not included in the microdata in the event identifiable information is captured. Cleaned responses are available by request. */