Supplementary Online Content

Chai PR, Dadabhoy FZ, Huang HW, et al. Assessment of the acceptability and feasibility of using mobile robotic systems for patient evaluation. *JAMA Netw Open*. 2021;4(3):e210667. doi:10.1001/jamanetworkopen.2021.0667

eMethods. National Survey Code Book

eTable 1. Participant Demographic Characteristics From National Survey

eTable 2. Participant Response Regarding Usefulness of Robotic Systems for Tasks in the Hospital in the National US Survey

eFigure. Emergency Department Cohort Study Enrollment Characteristics

This supplementary material has been provided by the authors to give readers additional information about their work.

eMethods. National Survey Code Book

```
================================================================================
Project Code: MITU0032
Project Name: Robotics in Healthcare
Prepared for: Giovanni Traverso, Assistant Professor, MIT
Interviews: 1000
Field Period:  August 18, 2020 - August 26, 2020
Project Manager: Alexander Marsolais <alexander.marsolais@yougov.com>
================================================================================
```

YouGov interviewed 1119 respondents who were then matched down to a
sample of 1000 to produce the final dataset. The respondents were
matched to a sampling frame on gender, age, race, and education. The
frame was constructed by stratified sampling from the full 2017 American
Community Survey (ACS) 1-year sample with selection within strata by weighted
sampling with replacements (using the person weights on the public use
file).

The matched cases were weighted to the sampling frame using propensity
scores. The matched cases and the frame were combined and a logistic
regression was estimated for inclusion in the frame. The propensity
score function included age, gender, race/ethnicity, years of education,
and region. The propensity scores were grouped into deciles of the
estimated propensity score in the frame and post-stratified according to
these deciles.

The weights were then post-stratified on 2016 Presidential vote choice, and
a four-way stratification of gender, age (4-categories), race (4-
categories), and education (4-categories), to produce the final weight.

```
================================================================================
                  Variable List
================================================================================
```

caseid   Case ID
weight   Gen Pop Weight
consent   consent

1. Q1_1 Q1--I would feel uneasy if robots really had

    emotions.

2. Q1_2   Q1 -- Something bad might happen if robots
3.   developed into living beings.
4.
5. Q1_3   Q1 -- I would feel relaxed talking with robots.
6.
7. Q1_4   Q1 -- I would feel uneasy if I was given a job
8.   where I had to use robots.
9.
10. Q1_5   Q1 -- If robots had emotions, I would be able to
11.   make friends with them.
12.
13. Q1_6   Q1 -- I feel comforted being with robots that
14.   have emotions.
15.
16. Q1_7   Q1 -- The word "robot" means nothing to me.
17.
18. Q1_8   Q1 -- I would feel nervous operating a robot in
19.   front of other people.

20.

21. Q1_9   Q1 -- I would hate the idea that robots or
22. artificial intelligences were making judgments
23. about things.

24.

25. Q1_10   Q1 -- I would feel very nervous just standing in
26. front of a robot.

27.

28. Q1_11   Q1 -- I feel that if I depend on robots too much,
29. something bad might happen.

30.

31. Q1_12   Q1 -- I would feel paranoid talking with a robot.

32.

33. Q1_13   Q1 -- I am concerned that robots would be a bad
34. influence on children.

35.

36. Q1_14   Q1 -- I feel that in the future society will be
37. dominated by robots.

38.

39. Q1_15   Q1 -- It is acceptable to receive care through
40. robots for my own safety.

41.

42. Q1_16   Q1 -- It is acceptable to receive care through
43. robots for the safety of healthcare workers.

44.

1. Q2_1   Q2 -- Helping a patient get out of a chair

2.

3. Q2_2   Q2 -- Detecting falls and calling for help

4.

5. Q2_3   Q2 -- Vital signs assessment e.g. taking a
6. patient's blood pressure, temperature, breathing
7. rate, oxygen level or heart rate

8.

Q2_4

Q2_5
Q2_6
Q2_7
Q2_8
Q2_9

Q2_10

Q2_11
Q2_12
Q2_13
Q2_14
Q2_15
Q3_1
Q3_2
Q3_3

Q3_4

Q3_5
Q3_6
Q3_7
Q3_8
Q3_9

Q3_10

Q3_11
Q3_12
Q3_13
Q3_14
Q3_15
Q4
birthyr
gender
race
educ
marstat
child18
employ
faminc_new
pid3
pid7
presvote16post
inputstate
region
votereg
ideo5
newsint
religpew
religpew_protestant
pew_churatd
pew_bornagain
pew_religimp
pew_prayer
genhealth
insurtype_1
insurtype_2
insurtype_3
Q2 -- Helping make phone or video calls to a
patient's family member
Q2 -- Dementia care e.g. telling the day/time
Q2 -- Walking assistance
Q2 -- Responding to call for assistance
Q2 -- Helping move or turn a patient in their bed
Q2 -- Helping a patient with their personal care
(e.g., showering)
Q2 -- Facilitating a telemedicine interview with
a patient's doctor or nurse
Q2 -- Performing nasal or oral swabs on a patient
Q2 -- Drawing blood from a patient for tests
Q2 -- Starting an intravenous (IV) line in a
patient
Q2 -- Administer oral medications for a patient
Q2 -- Administer intravenous (IV) medications
Q3 -- Helping a patient get out of a chair
Q3 -- Detecting falls and calling for help
Q3 -- Vital signs assessment e.g. taking a

patient's blood pressure, temperature, breathing rate, oxygen level or heart rate
Q3 -- Helping make phone or video calls to a patient's family member
Q3 -- Dementia care e.g. telling the day/time
Q3 -- Walking assistance
Q3 -- Responding to call for assistance
Q3 -- Helping move or turn a patient in their bed
Q3 -- Helping a patient with their personal care (e.g., showering)
Q3 -- Facilitating a telemedicine interview with a patient's doctor or nurse
Q3 -- Performing nasal or oral swabs on a patient
Q3 -- Drawing blood from a patient for tests
Q3 -- Starting an intravenous (IV) line in a patient
Q3 -- Administer oral medications for a patient
Q3 -- Administer intravenous (IV) medications
Q4
Birth Year
Gender
Race
Education
Marital Status
Children under age 18 in household
Employment Status
Family income
3 point party ID
7 point Party ID
2016 President Vote Post Election
State of Residence
Region
Voter Registration Status
Ideology
Political Interest
Religion
Protestant Church
Church attendance (Pew version)
Born Again (Pew version)
Importance of religion (Pew version)
Frequency of Prayer (Pew version)
General health condition
I have health insurance that is provided through my or a family member's employer, union, school, trade group or professional association
I have health insurance provided through Medicare
I have health insurance that I or a family member purchased directly from the heath insurance company or HMO, not through an employer, union,
insurtype_4
insurtype_5
insurtype_99
pp_smoke100
starttime
endtime
school, trade group or professional association
I have health insurance through the military or through VA Benefits
I have health insurance that is provided through a government heath program, such as Medicaid

Not applicable - I do not have health insurance
Smoking history
Questionnaire Start Time
Questionnaire End Time
                    Verbatims
==
employ_t
pid3_t
inputzip
Employment Status - open
3 point party ID - other
Zip Input
                Variable map and codebook
==
Name: caseid
Description: Case ID
        Numeric Variable - no categories
        answered   : 1000
==
Name: weight
Description: Gen Pop Weight
        Numeric Variable - no categories
        answered   : 1000
==
Name: consent
Description: consent
     Count Code Label
     ----- ---- -----
     1000   1 Yes
        0   2 No, please take me to another survey
==
Name: Q1_1
Description: Q1 -- I would feel uneasy if robots really had emotions.
     Count Code Label
     ----- ---- -----
       54   1 Strongly disagree
      120   2 Disagree
      230   3 Neither agree nor disagree
      367   4 Agree
      229   5 Strongly agree
==
Name: Q1_2
Description: Q1 -- Something bad might happen if robots developed into living

beings.

     Count Code Label
     ----- ---- -----
       35   1 Strongly disagree
       83   2 Disagree
      204   3 Neither agree nor disagree
      383   4 Agree
      295   5 Strongly agree
==
Name: Q1_3
Description: Q1 -- I would feel relaxed talking with robots.
     Count Code Label
     ----- ---- -----
      107   1 Strongly disagree

```
        211    2  Disagree
        307    3  Neither agree nor disagree
        301    4  Agree
         74    5  Strongly agree
================================================================================
Name:      Q1_4
Description:  Q1 -- I would feel uneasy if I was given a job where I had to

use robots.

        Count  Code  Label
        -----  ----  -----
        152    1  Strongly disagree
        386    2  Disagree
        260    3  Neither agree nor disagree
        128    4  Agree
         74    5  Strongly agree
================================================================================
Name:      Q1_5
Description:  Q1 -- If robots had emotions, I would be able to make friends

with them.

        Count  Code  Label
        -----  ----  -----
        135    1  Strongly disagree
        211    2  Disagree
        363    3  Neither agree nor disagree
        233    4  Agree
         58    5  Strongly agree
================================================================================
Name:      Q1_6
Description:  Q1 -- I feel comforted being with robots that have emotions.
        Count  Code  Label
        -----  ----  -----
        196    1  Strongly disagree
        295    2  Disagree
        322    3  Neither agree nor disagree
        140    4  Agree
         47    5  Strongly agree
================================================================================
Name:      Q1_7
Description:  Q1 -- The word "robot" means nothing to me.
        Count  Code  Label
        -----  ----  -----
        135    1  Strongly disagree
        406    2  Disagree
        304    3  Neither agree nor disagree
        123    4  Agree
         32    5  Strongly agree
================================================================================
Name:      Q1_8
Description:  Q1 -- I would feel nervous operating a robot in front of other

people.

        Count  Code  Label
        -----  ----  -----
```

```
      145    1   Strongly disagree
      392    2   Disagree
      249    3   Neither agree nor disagree
      158    4   Agree
       56    5   Strongly agree
================================================================================
Name:      Q1_9
Description:  Q1 -- I would hate the idea that robots or artificial
          intelligences were making judgments about things.
      Count   Code   Label
      -----   ----   -----
       49     1   Strongly disagree
      190     2   Disagree
      257     3   Neither agree nor disagree
      309     4   Agree
      195     5   Strongly agree
================================================================================
Name:      Q1_10
Description:  Q1 -- I would feel very nervous just standing in front of a

robot.

      Count   Code   Label
      -----   ----   -----
      176     1   Strongly disagree
      403     2   Disagree
      223     3   Neither agree nor disagree
      136     4   Agree
       62     5   Strongly agree
================================================================================
Name:      Q1_11
Description:  Q1 -- I feel that if I depend on robots too much, something bad
          might happen.
      Count   Code   Label
      -----   ----   -----
       53     1   Strongly disagree
      217     2   Disagree
      252     3   Neither agree nor disagree
      340     4   Agree
      137     5   Strongly agree

1 8 skipped


================================================================================
Name:      Q1_12
Description:  Q1 -- I would feel paranoid talking with a robot.
      Count   Code   Label
      -----   ----   -----
      104     1   Strongly disagree
      383     2   Disagree
      264     3   Neither agree nor disagree
      174     4   Agree
       75     5   Strongly agree
================================================================================
Name:      Q1_13
Description:  Q1 -- I am concerned that robots would be a bad influence on

children.
```

```
        Count  Code  Label
        -----  ----  -----
          103    1   Strongly disagree
          302    2   Disagree
          319    3   Neither agree nor disagree
          184    4   Agree
           92    5   Strongly agree
```
==
Name: Q1_14
Description: Q1 -- I feel that in the future society will be dominated by

robots.

```
        Count  Code  Label
        -----  ----  -----
           72    1   Strongly disagree
          243    2   Disagree
          307    3   Neither agree nor disagree
          293    4   Agree
           85    5   Strongly agree
```
==
Name: Q1_15
Description: Q1 -- It is acceptable to receive care through robots for my own

safety.

```
        Count  Code  Label
        -----  ----  -----
           72    1   Strongly disagree
          128    2   Disagree
          315    3   Neither agree nor disagree
          401    4   Agree
           84    5   Strongly agree
```
==
Name: Q1_16
Description: Q1 -- It is acceptable to receive care through robots for the
            safety of healthcare workers.
```
        Count  Code  Label
        -----  ----  -----
           69    1   Strongly disagree
          103    2   Disagree
          242    3   Neither agree nor disagree
          465    4   Agree
          121    5   Strongly agree
```
==
Name: Q2_1
Description: Q2 -- Helping a patient get out of a chair
```
        Count  Code  Label
        -----  ----  -----
```

47 1

```
 49    2
106    3
423    4
375    5
```
Extremely useless
Somewhat useless

Neither useful nor useless
Somewhat useful
Extremely useful
==
Name: Q2_2
Description: Q2 -- Detecting falls and calling for help
        Count   Code   Label
        -----   ----   -----

24 1 29 2 79 3

312 4 556 5

Extremely useless
Somewhat useless
Neither useful nor useless
Somewhat useful
Extremely useful
==
Name: Q2_3
Description: Q2 -- Vital signs assessment e.g. taking a patient's blood
          pressure, temperature, breathing rate, oxygen level or heart

rate

Count   Code   Label
-----   ----   -----

46 1

 62   2
129   3
350   4
413   5
Extremely useless
Somewhat useless
Neither useful nor useless
Somewhat useful
Extremely useful
==
Name: Q2_4
Description: Q2 -- Helping make phone or video calls to a patient's family

member

        Count   Code   Label
        -----   ----   -----

57 1

 90   2
131   3
368   4
354   5
Extremely useless
Somewhat useless

Neither useful nor useless
Somewhat useful
Extremely useful
==
Name: Q2_5
Description: Q2 -- Dementia care e.g. telling the day/time
        Count   Code   Label
        -----   ----   -----

    50. 50 1
    51. 51 2

147   3
386   4
366   5
Extremely useless
Somewhat useless
Neither useful nor useless
Somewhat useful
Extremely useful
==
Name: Q2_6
Description: Q2 -- Walking assistance
        Count   Code   Label
        -----   ----   -----

39 1 49 2 98 3

403 4 411 5

Extremely useless
Somewhat useless
Neither useful nor useless
Somewhat useful
Extremely useful
==
Name: Q2_7
Description: Q2 -- Responding to call for assistance
        Count   Code   Label
        -----   ----   -----

45 1

 79   2
131   3
360   4
385   5
Extremely useless
Somewhat useless
Neither useful nor useless
Somewhat useful
Extremely useful
==
Name: Q2_8
Description: Q2 -- Helping move or turn a patient in their bed
        Count   Code   Label
        -----   ----   -----

59 1

63 2 136 3

Extremely useless
Somewhat useless
Neither useful nor useless
     371   4 Somewhat useful
     371   5 Extremely useful
==
Name: Q2_9
Description: Q2 -- Helping a patient with their personal care (e.g.,

showering)

     Count Code Label
     ----- ---- -----
 88   1
133   2
182   3
327   4
270   5
Extremely useless
Somewhat useless
Neither useful nor useless
Somewhat useful
Extremely useful
==
Name: Q2_10
Description: Q2 -- Facilitating a telemedicine interview with a patient's
        doctor or nurse
     Count Code Label
     ----- ---- -----

68 1

 94   2
178   3
373   4
287   5
Extremely useless
Somewhat useless
Neither useful nor useless
Somewhat useful
Extremely useful
==
Name: Q2_11
Description: Q2 -- Performing nasal or oral swabs on a patient
     Count Code Label
     ----- ---- -----
120   1
168   2
213   3
307   4
192   5
Extremely useless
Somewhat useless
Neither useful nor useless

Somewhat useful
Extremely useful
==
Name: Q2_12
Description: Q2 -- Drawing blood from a patient for tests
        Count   Code   Label
        -----   ----   -----
170   1
197   2
217   3
249   4
167   5
Extremely useless
Somewhat useless
Neither useful nor useless
Somewhat useful
Extremely useful
==
Name: Q2_13
Description: Q2 -- Starting an intravenous (IV) line in a patient
        Count   Code   Label
        -----   ----   -----
190   1
210   2
213   3
228   4
159   5
Extremely useless
Somewhat useless
Neither useful nor useless
Somewhat useful
Extremely useful
==
Name: Q2_14
Description: Q2 -- Administer oral medications for a patient
Count   Code   Label
-----   ----   -----

115.   115 1
116.   116 2

197   3
358   4
214   5
Extremely useless
Somewhat useless
Neither useful nor useless
Somewhat useful
Extremely useful
==
Name: Q2_15
Description: Q2 -- Administer intravenous (IV) medications
        Count   Code   Label
        -----   ----   -----
168   1
187   2
216   3
250   4
179   5

Extremely useless
Somewhat useless
Neither useful nor useless
Somewhat useful
Extremely useful
==
Name: Q3_1
Description: Q3 -- Helping a patient get out of a chair
        Count   Code   Label
        -----   ----   -----

49 1

  57   2
 113   3
 358   4
 423   5
Extremely useless
Somewhat useless
Neither useful nor useless
Somewhat useful
Extremely useful
==
Name: Q3_2
Description: Q3 -- Detecting falls and calling for help
        Count   Code   Label
        -----   ----   -----

37 1 39 2 89 3

347 4 488 5

Extremely useless
Somewhat useless
Neither useful nor useless
Somewhat useful
Extremely useful
==
Name: Q3_3
Description: Q3 -- Vital signs assessment e.g. taking a patient's blood
          pressure, temperature, breathing rate, oxygen level or heart
          rate
        Count   Code   Label
        -----   ----   -----

76 1

  62   2
 123   3
 336   4
 403   5
Extremely useless
Somewhat useless
Neither useful nor useless
Somewhat useful
Extremely useful
==
Name: Q3_4

Description: Q3 -- Helping make phone or video calls to a patient's family

member

        Count   Code   Label
        -----   ----   -----

571 Extremely useless 832 Somewhat useless

136   3
353   4
370   5
Neither useful nor useless
Somewhat useful
Extremely useful

1 8 skipped

==
Name: Q3_5
Description: Q3 -- Dementia care e.g. telling the day/time
        Count   Code   Label
        -----   ----   -----

47 1

 68   2
149   3
357   4
379   5
Extremely useless
Somewhat useless
Neither useful nor useless
Somewhat useful
Extremely useful
==
Name: Q3_6
Description: Q3 -- Walking assistance
        Count   Code   Label
        -----   ----   -----

53 1

 51   2
109   3
373   4
414   5
Extremely useless
Somewhat useless
Neither useful nor useless
Somewhat useful
Extremely useful
==
Name: Q3_7
Description: Q3 -- Responding to call for assistance
        Count   Code   Label
        -----   ----   -----

50 1

 69   2
120   3
364   4
397   5
Extremely useless
Somewhat useless
Neither useful nor useless
Somewhat useful
Extremely useful
==
Name: Q3_8
Description: Q3 -- Helping move or turn a patient in their bed
        Count   Code   Label
        -----   ----   -----

64 1

 91   2
136   3
331   4
378   5
Extremely useless
Somewhat useless
Neither useful nor useless
Somewhat useful
Extremely useful
==
Name: Q3_9
Description: Q3 -- Helping a patient with their personal care (e.g.,

showering)

        Count   Code   Label
        -----   ----   -----
102   1
146   2
158   3
311   4
283   5
Extremely useless
Somewhat useless
Neither useful nor useless
Somewhat useful
Extremely useful
==
Name: Q3_10
Description: Q3 -- Facilitating a telemedicine interview with a patient's
          doctor or nurse
        Count   Code   Label
        -----   ----   -----

77 1

 90   2
168   3
351   4

314   5
Extremely useless
Somewhat useless
Neither useful nor useless
Somewhat useful
Extremely useful
==
Name: Q3_11
Description: Q3 -- Performing nasal or oral swabs on a patient

Count	Code	Label
-----	----	-----
116	1	
163	2	
195	3	
287	4	
239	5	

Extremely useless
Somewhat useless
Neither useful nor useless
Somewhat useful
Extremely useful
==
Name: Q3_12
Description: Q3 -- Drawing blood from a patient for tests

Count	Code	Label
-----	----	-----
152	1	
194	2	
203	3	
236	4	
215	5	

Extremely useless
Somewhat useless
Neither useful nor useless
Somewhat useful
Extremely useful
==
Name: Q3_13
Description: Q3 -- Starting an intravenous (IV) line in a patient

Count	Code	Label
-----	----	-----

167 1

198.   198 2
199.   199 3

228 4 208 5

Extremely useless
Somewhat useless
Neither useful nor useless
Somewhat useful
Extremely useful
==
Name: Q3_14
Description: Q3 -- Administer oral medications for a patient

Count   Code   Label

```
           -----  ----  -----
108    1
106    2
182    3
331    4
273    5
Extremely useless
Somewhat useless
Neither useful nor useless
Somewhat useful
Extremely useful
================================================================================
Name:      Q3_15
Description:  Q3 -- Administer intravenous (IV) medications
       Count  Code  Label
       -----  ----  -----
155    1
183    2
194    3
Extremely useless
Somewhat useless
Neither useful nor useless
        246     4  Somewhat useful
        222     5  Extremely useful
================================================================================
Name:      Q4
Description:  Q4
       Count  Code  Label
       -----  ----  -----
         99    1  Totally unacceptable
        100    2  Unacceptable
        213    3  Neither unacceptable nor acceptable
        396    4  Acceptable
        192    5  Totally acceptable
================================================================================
Name:      birthyr
Description:  Birth Year
          Numeric Variable - no categories
          answered     : 1000
================================================================================
Name:      gender
Description:  Gender
       Count  Code  Label
       -----  ----  -----
        465    1  Male
        535    2  Female
================================================================================
Name:      race
Description:  Race
       Count  Code  Label
       -----  ----  -----
        719    1   White
         86    2   Black
        103    3   Hispanic
         40    4   Asian
          9    5   Native American
         17    6   Mixed
         25    7   Other
          1    8   Middle Eastern
================================================================================
```

Name: educ
Description: Education

Count Code Label ----- ---- ----- 36 1NoHS

	287	2	High school graduate
	235	3	Some college
	106	4	2-year
	221	5	4-year
	115	6	Post-grad

==
Name: marstat
Description: Marital Status

Count	Code	Label
465	1	Married
21	2	Separated
112	3	Divorced
66	4	Widowed
292	5	Never married

446 Domestic / civil partnership

==
Name: child18
Description: Children under age 18 in household

Count	Code	Label
237	1	Yes

763 2No

==
Name: employ
Description: Employment Status

Count	Code	Label
336	1	Full-time
104	2	Part-time
39	3	Temporarily laid off
82	4	Unemployed
205	5	Retired
92	6	Permanently disabled
72	7	Homemaker
50	8	Student
20	9	Other

==
Name: faminc_new
Description: Family income

Count	Code	Label

73 1

78	2
104	3
94	4

62   5
79   6
73   7

66. 66 8
67. 67 9

55   10
54   11
31   12
13   13
12   14
 4   15
 6   16
129   97
Less than $10,000
$10,000 - $19,999
$20,000 - $29,999
$30,000 - $39,999
$40,000 - $49,999
$50,000 - $59,999
$60,000 - $69,999
$70,000 - $79,999
$80,000 - $99,999
$100,000 - $119,999
$120,000 - $149,999
$150,000 - $199,999
$200,000 - $249,999
$250,000 - $349,999
$350,000 - $499,999
$500,000 or more
Prefer not to say
==
Name: pid3
Description: 3 point party ID
      Count   Code   Label
      -----   ----   -----
       362   1   Democrat
       229   2   Republican
       301   3   Independent

58 4 Other
50 5 Notsure

==
Name: pid7
Description: 7 point Party ID
Count   Code   Label
-----   ----   -----
253   1
109   2
106   3
160   4   Independent

96 5

 64   6

```
165     7
 47     8
  0     9
```

Lean Republican
Not very strong Republican Strong Republican
Notsure
Don'tknow

Strong Democrat
Not very strong Democrat
Lean Democrat
==
Name: presvote16post
Description: 2016 President Vote Post Election
        Count Code Label
        ----- ---- -----
```
327     1
268     2
 31     3
 24     4
  5     5
```
Hillary Clinton
Donald Trump
Gary Johnson
Jill Stein
        Evan McMullin
```
18     6   Other
      327     7   Did not vote for President
```
==
Name: inputstate
Description: State of Residence
        Count Code Label
        ----- ---- -----
```
        19    1   Alabama
         1    2   Alaska
        27    4   Arizona
        16    5   Arkansas
        92    6   California
        16    8   Colorado
         4    9   Connecticut
         1   10   Delaware
         4   11   District of Columbia
        74   12   Florida
        20   13   Georgia
         3   15   Hawaii
        10   16   Idaho
        38   17   Illinois
        24   18   Indiana
```

```
9 19 Iowa
```

```
         8   20   Kansas
        11   21   Kentucky
        14   22   Louisiana
         3   23   Maine
        13   24   Maryland
        17   25   Massachusetts
        25   26   Michigan
```

16   27   Minnesota
3   28   Mississippi
18   29   Missouri

6 30 Montana

7   31   Nebraska
19   32   Nevada
2   33
41   34
7   35
61   36
32   37
4   38

New Hampshire New Jersey
New Mexico NewYork
North Carolina North Dakota

31   39   Ohio
7   40   Oklahoma
18   41   Oregon
52   42   Pennsylvania

0 44 18 45 5 46

Rhode Island
South Carolina
South Dakota
30   47   Tennessee
75   48   Texas

8 49 Utah

2   50   Vermont
28   51   Virginia
30   53   Washington
7   54   West Virginia
20   55   Wisconsin
4   56   Wyoming
0   60   American Samoa
0   64   Federated States of Micronesia
0   66   Guam
0   68   Marshall Islands
0   69   Northern Mariana Islands
0   70   Palau
0   72
0   74
0   78
0   81   Alberta
0   82   British Columbia
0   83   Manitoba
Puerto Rico
U.S. Minor Outlying Islands
Virgin Islands
0   84   New Brunswick
0   85   Newfoundland

```
        0    86  Northwest Territories
        0    87  Nova Scotia
        0    88  Nunavut
        0    89  Ontario
        0    90  Prince Edward Island
        0    91  Quebec
        0    92  Saskatchewan
        0    93  Yukon Territory
        0    99  Not in the U.S. or Canada
```
==
Name: region
Description: Region
```
      Count  Code  Label
      -----  ----  -----
       182    1  Northeast
       205    2  Midwest
       372    3  South
       241    4  West
```
==
Name: votereg
Description: Voter Registration Status
```
      Count  Code  Label
      -----  ----  -----
       848    1  Yes
```

130 2No
22 3 Don't know

==
Name: ideo5
Description: Ideology
```
      Count  Code  Label
      -----  ----  -----
       118    1  Very liberal
       166    2  Liberal
       318    3  Moderate
       189    4  Conservative
       119    5  Very conservative
```

90 6 Notsure

==
Name: newsint
Description: Political Interest
```
      Count  Code  Label
      -----  ----  -----
```
513 1
272 2
106 3

67 4 42 7

Most of the time
Some of the time
Only now and then
Hardly at all
Don't know
==

Name: religpew
Description: Religion

Count	Code	Label
-----	----	-----
313	1	Protestant
180	2	Roman Catholic
12	3	Mormon
7	4	Eastern or Greek Orthodox
30	5	Jewish
18	6	Muslim
13	7	Buddhist
1	8	Hindu
62	9	Atheist
65	10	Agnostic
220	11	Nothing in particular
79	12	Something else

==

Name: religpew_protestant
Description: Protestant Church

Count	Code	Label
-----	----	-----
114	1	Baptist
41	2	Methodist
74	3	Nondenominational or Independent Church
39	4	Lutheran
22	5	Presbyterian
24	6	Pentecostal
13	7	Episcopalian
16	8	Church of Christ or Disciples of Christ
8	9	Congregational or United Church of Christ
3	10	Holiness
4	11	Reformed
5	12	Adventist
9	13	Jehovah's Witness
19	90	Something else
609	98	skipped

==

Name: pew_churatd
Description: Church attendance (Pew version)

Count	Code	Label
-----	----	-----

72 1 174 2 66 3

More than once a week
Once a week
Once or twice a month

131	4	A few times a year
195	5	Seldom
341	6	Never

217 Don't know

==

Name: pew_bornagain
Description: Born Again (Pew version)

Count	Code	Label
-----	----	-----
300	1	Yes

700 2No

==
Name: pew_religimp
Description: Importance of religion (Pew version)
        Count   Code   Label
        -----   ----   -----
393   1
227   2
144   3
236   4
Very important
Somewhat important
Not too important
Not at all important
==
Name: pew_prayer
Description: Frequency of Prayer (Pew version)
        Count   Code   Label
        -----   ----   -----
290   1
124   2
121   3

25 4

Several times a day
Once a day
A few times a week
Once a week
 57   5
134   6   Seldom
209   7   Never
A few times a month
        40   8   Don't know
==
Name: genhealth
Description: General health condition
        Count   Code   Label
        -----   ----   -----
        137   1   Excellent
        343   2   Very good
        313   3   Good
        167   4   Fair

40 5 Poor

==
Name: insurtype_1
Description: I have health insurance that is provided through my or a family
        member's employer, union, school, trade group or professional
        association
        Count   Code   Label
        -----   ----   -----
        418   1   selected
        582   2   not selected
==
Name: insurtype_2

Description: I have health insurance provided through Medicare
     Count Code Label
----- ---- -----
      248   1 selected
      752   2 not selected
==
Name: insurtype_3
Description: I have health insurance that I or a family member purchased
          directly from the heath insurance company or HMO, not through an
          employer, union, school, trade group or professional association
     Count Code Label
     ----- ---- -----
      104   1 selected
      896   2 not selected
==
Name: insurtype_4
Description: I have health insurance through the military or through VA

Benefits

     Count Code Label
     ----- ---- -----
       47   1 selected
      953   2 not selected
==
Name: insurtype_5
Description: I have health insurance that is provided through a government
          heath program, such as Medicaid
     Count Code Label
     ----- ---- -----
      152   1 selected
      848   2 not selected
==
Name: insurtype_99
Description: Not applicable - I do not have health insurance
     Count Code Label
     ----- ---- -----
      119   1 selected
      881   2 not selected
==
Name: pp_smoke100
Description: Smoking history
     Count Code Label
     ----- ---- -----
      433   1 Yes

567 2No

               Date format variables
==
Name: starttime
Description: Questionnaire Start Time
     DateTime variable - no categories
==
Name: endtime
Description: Questionnaire End Time
     DateTime variable - no categories

eTable 1. Participant Demographic Characteristics From National Survey

Demographic	N= 1000
Age (years)	48.7 +/- 17.0
Sex	
Male	465 (46.5%)
Female	535 (53.4%)
Geography (Regions by Census)	
Northeast	182 (18.2%)
Midwest	205 (20.5%)
South	372 (37.2%)
West	241 (24.1%)
Ethnicity	
White or Caucasian	719 (71.9%)
Black or African American	86 (8.6%)
Latino or Hispanic	103 (10.3%)
Asian	40 (4.0%)
Native American	9 (0.90%)
Middle Eastern	1 (0.10%)
Mixed	17 (1.7%)
Other	25 (2.5%)
Education	
No high school	36 (3.6%)
High school graduate	287 (28.7%)
Some college	235 (23.5%)
2-year college degree	106 (10.6%)
4-year college degree	221 (22.1%)
Post-graduate	115 (11.5%)

eTable 2. Participant Response Regarding Usefulness of Robotic Systems for Tasks in the Hospital in the National US Survey

	Usefulness of Robotic Systems for hospital tasks	Usefulness of Robotic Systems for hospital tasks in context of COVID-19	p-value
Facilitating telemedicine interview with physician or nurse			0.16
1-Extremely Useless	68 (6.8%)	77 (7.7%)	
2-Somewhat Useless	94 (9.4%)	90 (9.0%)	
3-Neither Useful nor Useless	178 (17.8%)	168 (16.8%),	
4- Somewhat Useful	373 (37.3%)	351 (35.1%)	
5-Extremely Useful	287 (28.7%)	314 (31.4%)	
Median Score	4	4	
IQR (p75-p25)	(5-3)=2	(5-3)=2	
Acquisition of contactless vital signs			0.0003
1-Extremely Useless	46 (4.6%)	76 (7.6%)	
2-Somewhat Useless	62 (6.2%)	62 (6.2%)	
3- Neither Useful nor Useless	129 (12.9%)	123 (12.3%)	
4- Somewhat Useful	350 (35.0%)	336 (33.6%)	
5-Extremely Useful	413 (41.3%)	403 (40.3%)	
Median Score	4	4	
IQR (p75-p25)	(5-4) =1	(5-3) =2	
Obtaining nasal or oral swabs			0.002
1-Extremely Useless	120 (12.0%)	116 (11.6%)	
2-Somewhat Useless	168 (16.8%)	163 (16.3%)	
3- Neither Useful nor Useless	213 (21.3%)	195 (19.5%)	
4- Somewhat Useful	307 (30.7%)	287 (28.7%)	
5-Extremely Useful	192 (19.2%)	239 (23.9%)	
Median Score	3	4	
IQR (p75-p25)	(4-2) =2	(4-2) =2	
Placing an intravenous catheter			<0.001
1-Extremely Useless	190 (19.0%)	167 (16.7%)	
2-Somewhat Useless	210 (21.0%)	198 (19.8%)	
3- Neither Useful nor Useless	213 (21.3%)	199 (19.9%)	
4- Somewhat Useful	228 (22.8%)	228 (22.8%)	
5-Extremely Useful	159 (15.9%)	208 (20.8%)	

Median Score *IQR (p75-p25)*	3 (4-2) =2	3 (4-2) =2	
Performing phlebotomy 1-Extremely Useless 2-Somewhat Useless 3- Neither Useful nor Useless 4- Somewhat Useful 5-Extremely Useful *Median Score* *IQR (p75-p25)*	 170 (17.0%) 197 (19.7%) 217 (21.7%) 249 (24.9%) 167 (16.7%) 3 (4-2) =2	 152 (15.2%) 194 (19.4%) 203 (20.3%) 236 (23.6%) 215 (21.5%) 3 (4-2) =2	<0.001
Helping position or turn a patient in bed 1-Extremely Useless 2-Somewhat Useless 3- Neither Useful nor Useless 4- Somewhat Useful 5-Extremely Useful *Median score* *IQR (p75-p25)*	 59 (5.9%) 63 (6.3%) 136 (13.6%) 371 (37.1%) 371 (37.1%) 4 (5-3) =2	 64 (6.4%) 91 (9.1%) 136 (13.6%) 331 (33.1%) 378 (37.8%) 4 (5-3) =2	0.04
N=1000 *Survey scores using a 5-Point Likert Scale*			

eFigure. Emergency Department Cohort Study Enrollment Characteristics

```
┌─────────────────────────────────────┐        ┌─────────────────────────────────┐
│ 51 Participants approached for study │ ─────▶ │ 10 Declined participation       │
└─────────────────────────────────────┘        └─────────────────────────────────┘
                   │
                   ▼
┌─────────────────────────────────────┐        ┌─────────────────────────────────┐
│ 41 Enrolled and consented            │ ─────▶ │ 1 unable to participate due to  │
└─────────────────────────────────────┘        │ technical issues with robotic   │
                   │                            │ system                          │
                   ▼                            └─────────────────────────────────┘
┌─────────────────────────────────────┐        ┌─────────────────────────────────┐
│ 40 Underwent study procedures        │ ─────▶ │ 0 Dropped out                   │
└─────────────────────────────────────┘        └─────────────────────────────────┘
                   │
                   ▼
        ┌───────────────────────┐
        │ 40 Completed study    │
        └───────────────────────┘
```