Survey question wording and topline

2022 PEW RESEARCH CENTER’S AMERICAN TRENDS PANEL
WAVE 119 – SCIENCE TOPLINE
December 12-18, 2022
N=11,004

ASK ALL: DESRISK
How well do each of the following phrases describe you? [RANDOMIZE ITEMS]

<table>
<thead>
<tr>
<th></th>
<th>Extremely well</th>
<th>Very well</th>
<th>Somewhat well</th>
<th>Not too well</th>
<th>Not at all well</th>
<th>No answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>COMF.</td>
<td>Comfortable taking risks Dec 12-18, 2022</td>
<td>8</td>
<td>20</td>
<td>45</td>
<td>24</td>
<td>4</td>
</tr>
<tr>
<td>CREAT.</td>
<td>Creative thinker Dec 12-18, 2022</td>
<td>20</td>
<td>34</td>
<td>36</td>
<td>8</td>
<td>1</td>
</tr>
<tr>
<td>NTECH.</td>
<td>Enjoy using new technology Dec 12-18, 2022</td>
<td>21</td>
<td>28</td>
<td>36</td>
<td>13</td>
<td>2</td>
</tr>
</tbody>
</table>

ASK ALL: RISK2
Thinking about the decisions you make as you go through life, which better describes how you feel? [RANDOMIZE RESPONSE OPTIONS]

Dec 12-18, 2022
55 Taking risks usually pays off in the end
44 Taking risks too often leads to problems
1 No answer

OTHER QUESTIONS PREVIOUSLY RELEASED

ASK ALL: AIHCCOMF
Thinking about the use of artificial intelligence (AI) in health and medicine to do things like diagnose disease and recommend treatments...

How would you feel if your health care provider relied on AI to do things like diagnose disease and recommend treatments for your medical care? [RANDOMLY DISPLAY OPTIONS 1-4 OR 4-1]

Dec 12-18, 2022
7 Very comfortable
32 Somewhat comfortable
37 Somewhat uncomfortable
23 Very uncomfortable
1 No answer
ASK ALL: AIHCTR1
Do you think the use of artificial intelligence (AI) in health and medicine to do things like diagnose disease and recommend treatments would lead to...

[Randomize response options 1 and 2, with option 3 always last]

Dec 12-18, 2022
38 Better health outcomes for patients
33 Worse health outcomes for patients
27 Not make much difference
2 No answer

ASK ALL: AIHCTR2
Thinking about the use of artificial intelligence (AI) in health and medicine to do things like diagnose disease and recommend treatments, which of the following concerns you more?

Health care providers will...

[Randomize response options]

Dec 12-18, 2022
75 Move too fast using this technology, before fully understanding the risks for patients
23 Move too slowly using this technology, missing opportunities to improve patients’ health
2 No answer

ASK ALL: MEDBIAS
In health and medicine, how much of a problem is bias and unfair treatment based on patients’ race or ethnicity?

Dec 12-18, 2022
35 A major problem
35 A minor problem
28 Not a problem
2 No answer
ASK ALL: AIHCCHG
Do you think the use of artificial intelligence (AI) in health and medicine to do things like diagnose diseases and recommend treatments would make each of the following better, worse, or not make much difference? [RANDOMIZE ITEMS]

<table>
<thead>
<tr>
<th></th>
<th>The quality of health care for people like you</th>
<th>Dec 12-18, 2022</th>
<th>Better</th>
<th>Worse</th>
<th>Not make much difference</th>
<th>No answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>QUAL.</td>
<td></td>
<td></td>
<td>31</td>
<td>30</td>
<td>38</td>
<td>1</td>
</tr>
</tbody>
</table>

|       | The number of mistakes made by health care providers | Dec 12-18, 2022 | 40 | 27   | 31                       | 1         |
| MIST. |                                                 |                 |     |      |                          |           |

|       | Patients’ personal relationship with their health care providers | Dec 12-18, 2022 | 13 | 57   | 29                       | 1         |
| REL.  |                                                 |                 |     |      |                          |           |

|       | The job that health care providers do treating people of all races and ethnicities fairly | Dec 12-18, 2022 | 38 | 15  | 46                       | 1         |
| RACETHN. |                                               |                 |     |      |                          |           |

|       | The security of patients’ personal health records | Dec 12-18, 2022 | 22 | 37   | 39                       | 1         |
| SECUR. |                                               |                 |     |      |                          |           |

ASK ALL: HCMDBIAS
Thinking about the potential for bias and unfair treatment in health and medicine based on a patient’s race or ethnicity…

If artificial intelligence (AI) is used more in health and medicine to do things like diagnose disease and recommend treatments, do you think the issue of bias and unfair treatment based on a patient’s race or ethnicity would… [RANDOMLY DISPLAY OPTIONS 1-5 OR 5-1]

Dec 12-18, 2022
9 Definitely get better
35 Probably get better
40 Stay about the same
10 Probably get worse
3 Definitely get worse
2 No answer
ASK IF BETTER AND FORM 2 (HCMEDBIAS=1,2 AND XFORM=2)] [N=2,531]:
BIASBETR What’s a reason you think the issue of bias and unfair treatment based on a patient’s race or ethnicity would get better with the use of artificial intelligence (AI) in health and medicine?

Dec 12-18, 2022
34 Human bias/prejudice not involved; AI is neutral/consistent
28 AI is not biased towards a patient’s characteristics
9 Programmers or datasets could input bias into the AI
4 AI can make more accurate decisions, including based on a person’s race
1 AI will still have some bias, but can help
6 Other
3 Unclear
2 Don’t know
24 No answer

ASK IF WORSE AND FORM 2 (HCMEDBIAS=4,5 AND XFORM=2)] [N=683]:
BIASWORS What’s a reason you think the issue of bias and unfair treatment based on a patient’s race or ethnicity would get worse with the use of artificial intelligence (AI) in health and medicine?

Dec 12-18, 2022
26 AI reflects human biases
9 Human judgement is needed in medicine
4 AI would take into account race/ethnicity, making it biased
3 Don’t like AI/Don’t want it involved in health care
2 More use of AI would increase inequality, only available for the rich
1 Medical providers would use AI to reinforce their own biases/might not be aware of biases
1 Data privacy and security concerns
1 Data entry, medical record errors
1 Programming will determine whether it is biased or not
1 AI does not take into account race/ethnicity
1 No racism or bias exists in healthcare
8 Other
3 Unclear
3 Don’t know
40 No answer
ASK IF STAY ABOUT THE SAME AND FORM 2 (HCMEDBIAS=3 AND XFORM=2) [N=2,195]:

BIASSAME  What's a reason you think the issue of bias and unfair treatment based on a patient’s race or ethnicity would stay about the same with the use of artificial intelligence (AI) in health and medicine?

Dec 12-18, 2022

18  Because people, training or data are still biased
16  Racial and ethnic bias is not a problem, doesn’t exist or race and ethnicity isn’t relevant to healthcare
  6  A real person/doctor would be primarily treating people even if we adopted AI, so no change expected
  4  Individual bias is possible, but good doctors are not biased
  3  It would stay the same/AI wouldn’t make a difference/there will always be a problem
  2  Negative toward implementation of AI, general
  2  AI can’t even detect race or doesn’t take into account race
  1  AI is unbiased, will affect everyone equally
  1  AI will only be accessible to the privileged, so it will not change things much
  1  Negative toward healthcare system, general
  1  Bias is caused by factors that AI cannot solve
  4  Other
  1  Unclear
  4  Don’t know
  38  No answer
Artificial intelligence (AI) can be used to review large numbers of images of people’s skin with and without skin cancer and learn to identify patterns; it is designed to detect skin cancer in patients.

SCDETECT1 How much have you heard or read about AI designed to detect skin cancer?

Dec 12-18, 2022
3 A lot
19 A little
77 Nothing at all
<1 No answer

SCDETECT2 How much of an advance for medical care is artificial intelligence (AI) that can detect skin cancer?

Dec 12-18, 2022
45 A major advance
17 A minor advance
3 Not an advance
34 Not sure
<1 No answer

SCDETECT3 Would you personally want artificial intelligence (AI) to be used in your screening for skin cancer, if you were getting screened? [RANDOMLY DISPLAY OPTIONS 1-4 OR 4-1]

Dec 12-18, 2022
17 Definitely want
48 Probably want
24 Probably NOT want
10 Definitely NOT want
2 No answer
ASK FORM 1 ONLY (XFORM=1) [N=5,511]:
SCDETECT4  Do you think artificial intelligence (AI) would make skin cancer diagnoses...
[RANDOMIZE RESPONSE OPTIONS 1 AND 2, WITH OPTION 3 ALWAYS LAST]

Dec 12-18, 2022
55  More accurate
13  Less accurate
30  Not make much difference
 3  No answer

BLOCK 2
DISPLAY FOR FORM 1:

There are artificial intelligence (AI) chatbots in which people text AI programs about their feelings or concerns and the chatbot responds, without the involvement of a human. These chatbots are designed to support a person’s mental health.

ASK FORM 1 ONLY (XFORM=1) [N=5,511]:
AIMH1  How much have you heard or read about AI chatbots designed to support mental health?

Dec 12-18, 2022
6  A lot
25  A little
68  Nothing at all
<1  No answer

ASK FORM 1 ONLY (XFORM=1) [N=5,511]:
AIMH2  How much of an advance for mental health support are artificial intelligence (AI) chatbots?

Dec 12-18, 2022
11  A major advance
21  A minor advance
20  Not an advance
47  Not sure
<1  No answer
ASK FORM 1 ONLY (XFORM=1) [N=5,511]:
AIMH3  Would you personally want to use an artificial intelligence (AI) chatbot, if you were seeking mental health support? [RANDOMLY DISPLAY OPTIONS 1-4 OR 4-1]

Dec 12-18, 2022
4   Definitely want
16  Probably want
41  Probably NOT want
38  Definitely NOT want
1   No answer

ASK FORM 1 ONLY (XFORM=1) [N=5,511]:
AIMH5  Do you think artificial intelligence (AI) chatbots that can provide mental health support should be... [RANDOMIZE RESPONSE OPTIONS 1-2 WITH OPTION 3 ALWAYS LAST]

Dec 12-18, 2022
46  Only used by people that are also seeing a human therapist
23  Used by people regardless of whether they are also seeing a human therapist
28  These should not be available to people at all
3   No answer

[RANDOMIZE ORDER OF BLOCK 3 AND BLOCK 4]
BLOCK 3
DISPLAY TO FORM 2:

Artificial intelligence (AI) can be used to help decide the amount of pain medication patients get following a major surgery. These programs are designed to limit the abuse of pain medications.

ASK FORM 2 ONLY (XFORM=2) [N=5,493]:
AIPAIN1 How much have you heard or read about using AI to help decide the amount of pain medication patients get?

Dec 12-18, 2022
3   A lot
19  A little
77  Nothing at all
1   No answer
ASK FORM 2 ONLY (XFORM=2) [N=5,493]:
AIPAIN2  How much of an advance for medical care is artificial intelligence (AI) that can help decide the amount of pain medication patients get?
Dec 12-18, 2022
19  A major advance
24  A minor advance
16  Not an advance
40  Not sure
1  No answer

ASK FORM 2 ONLY (XFORM=2) [N=5,493]:
AIPAIN3  Would you personally want artificial intelligence (AI) to help decide the amount of pain medication you get, if you were getting surgery? [RANDOMLY REVERSE SCALE FOR HALF]
Dec 12-18, 2022
5  Definitely want
26  Probably want
39  Probably NOT want
27  Definitely NOT want
2  No answer

ASK FORM 2 ONLY (XFORM=2) [N=5,493]:
AIPAIN4  Do you think artificial intelligence (AI) would make patients’ treatment for pain... [RANDOMIZE RESPONSE OPTIONS 1 AND 2, WITH OPTION 3 ALWAYS LAST]
Dec 12-18, 2022
26  Better
32  Worse
40  Not make much difference
3  No answer
Robots with artificial intelligence (AI) are being developed that can be used to perform parts of surgery on their own. These robots are designed to make precise and steady movements during surgery.

**ASK FORM 2 ONLY (XFORM=2) [N=5,493]:**

**SROBOT1**  How much have you heard or read about surgical robots with AI?

<table>
<thead>
<tr>
<th></th>
<th>A lot</th>
<th>A little</th>
<th>Nothing at all</th>
<th>No answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dec 12-18, 2022</td>
<td>9</td>
<td>50</td>
<td>40</td>
<td>1</td>
</tr>
</tbody>
</table>

**ASK FORM 2 ONLY (XFORM=2) [N=5,493]:**

**SROBOT2**  How much of an advance for medical care are surgical robots with artificial intelligence (AI) that can perform parts of surgery on their own?

<table>
<thead>
<tr>
<th></th>
<th>A major advance</th>
<th>A minor advance</th>
<th>Not an advance</th>
<th>Not sure</th>
<th>No answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dec 12-18, 2022</td>
<td>45</td>
<td>18</td>
<td>7</td>
<td>30</td>
<td>1</td>
</tr>
</tbody>
</table>

**ASK FORM 2 ONLY (XFORM=2) [N=5,493]:**

**SROBOT3**  Would you personally want surgical robots with artificial intelligence (AI) to be used, if you were getting surgery?  

*Randomly reverse scale for half*

<table>
<thead>
<tr>
<th></th>
<th>Definitely want</th>
<th>Probably want</th>
<th>Probably NOT want</th>
<th>Definitely NOT want</th>
<th>No answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dec 12-18, 2022</td>
<td>6</td>
<td>33</td>
<td>37</td>
<td>22</td>
<td>2</td>
</tr>
</tbody>
</table>
BLOCK 5
DISPLAY TO FORM 1 (XFORM=1):
Artificial intelligence (AI) can be used in biology to predict protein structures in cells. This can help develop new medical treatments.

ASK FORM 1 (XFORM=1) [N=5,511]:
AIPROT1 How much have you heard or read about using AI to predict protein structures in people’s cells?

Dec 12-18, 2022
3 A lot
18 A little
79 Nothing at all
1 No answer

ASK FORM 1 (XFORM=1) [N=5,511]:
AIPROT2 How much of an advance for medical research is using artificial intelligence (AI) to predict protein structures in people’s cells?

Dec 12-18, 2022
33 A major advance
16 A minor advance
3 Not an advance
47 Not sure
<1 No answer

BLOCK 6
DISPLAY TO FORM 1 (XFORM=1):
Artificial intelligence (AI) can be used to recommend which varieties of plants to breed in order to produce crops that can withstand drought and heat.

ASK FORM 1 (XFORM=1) [N=5,511]:
AICROP1 How much have you heard or read about using AI to produce drought and heat-resistant crops?

Dec 12-18, 2022
3 A lot
22 A little
74 Nothing at all
1 No answer
ASK FORM 1 (XFORM=1) [N=5,511]
AICROP2  How much of an advance for agriculture is using artificial intelligence (AI) to produce drought and heat-resistant crops?

Dec 12-18, 2022
37  A major advance
19  A minor advance
6  Not an advance
37  Not sure
<1  No answer

BLOCK 7
DISPLAY TO FORM 2 (XFORM=2):
Artificial intelligence (AI) can be used to predict when and where extreme weather like heavy rainfall or storms is likely to occur.

ASK FORM 2 (XFORM=2) [N=5,493]:
AIEXT1  How much have you heard or read about using AI to predict when and where extreme weather is likely to occur?

Dec 12-18, 2022
8  A lot
39  A little
53  Nothing at all
1  No answer

ASK FORM 2 (XFORM=2) [N=5,493]:
AIEXT2  How much of an advance for weather forecasting is using artificial intelligence (AI) to predict when and where extreme weather is likely to occur?

Dec 12-18, 2022
38  A major advance
28  A minor advance
6  Not an advance
28  Not sure
1  No answer

END BLOCK 7
DISPLAY TO FORM 1 (XFORM=1):
Artificial intelligence (AI) can be used to write articles that report on news events and information.

ASK FORM 1 (XFORM=1) [N=5,511]:
AINEWS1 How much have you heard or read about using AI to write news articles?

Dec 12-18, 2022
8 A lot
25 A little
66 Nothing at all
1 No answer

ASK FORM 1 (XFORM=1) [N=5,511]:
AINEWS2 How much of an advance for the news media is using artificial intelligence (AI) to write news articles?

Dec 12-18, 2022
10 A major advance
19 A minor advance
34 Not an advance
36 Not sure
1 No answer

DISPLAY TO FORM 2 (XFORM=2):
Artificial intelligence (AI) can be used to produce visual images from keywords a person types into the system. It can be used to produce complex, artistic images.

ASK FORM 2 (XFORM=2) [N=5,493]:
AIIMAG1 How much have you heard or read about using AI to produce visual images from keywords?

Dec 12-18, 2022
15 A lot
29 A little
55 Nothing at all
1 No answer

ASK FORM 2 (XFORM=2) [N=5,493]:
AIIMAG2 How much of an advance for the visual arts is using artificial intelligence (AI) to produce visual images from keywords?

Dec 12-18, 2022
20 A major advance
26 A minor advance
14 Not an advance
39 Not sure
1 No answer
OTHER QUESTIONS HELD FOR FUTURE RELEASE