The Royal College of Radiologists

The Future of AI in Healthcare:

Public Perceptions of AI in Radiology- Report Appendix

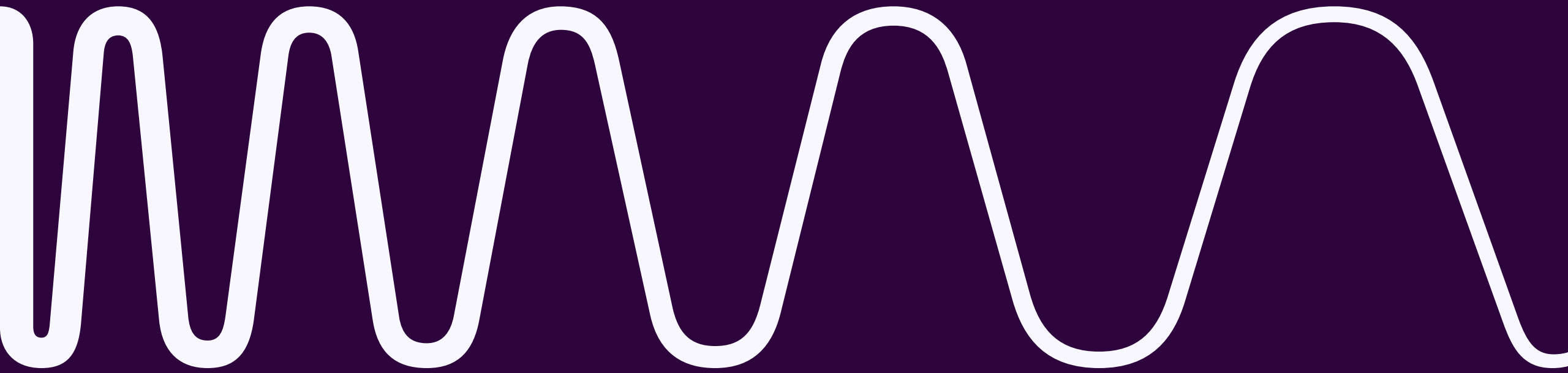
April 2025

Methodology statement:

J.L. Partners polled a nationally representative sample of adults in Great Britain.

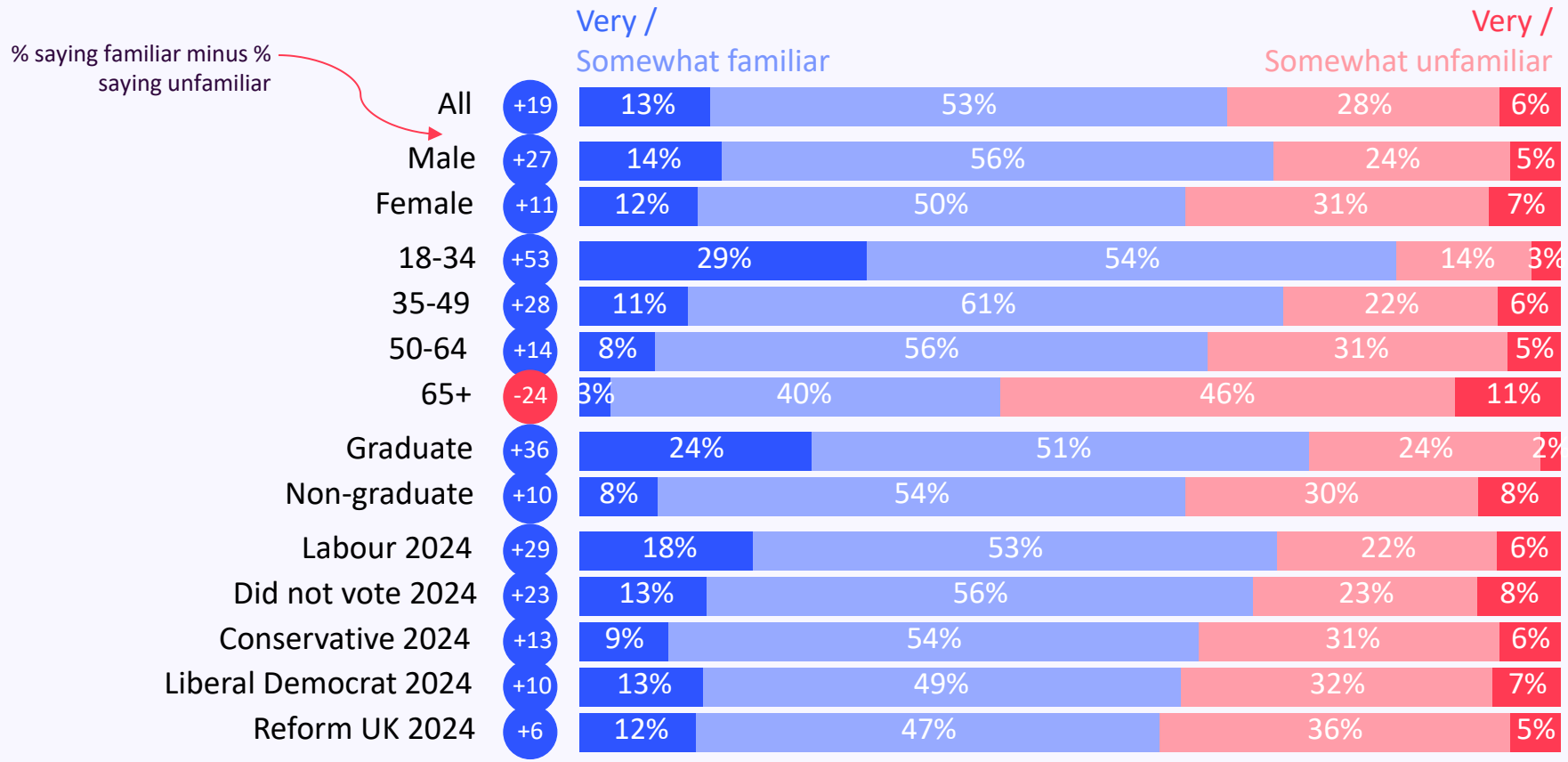
- Fieldwork dates of 12th to 15th December 2024
- Sample of 1,021 GB Adults
- Quotas were added on the following variables to ensure nationally representative data: gender, age, region, education, ethnicity, 2024 general election vote and political attention (British Election Study estimates)
- Data was then weighted back to nationally representative targets on the same variables
- Sample collected using online panel
- Margin of error: 3.4%

The public’s familiarity and comfort level with AI

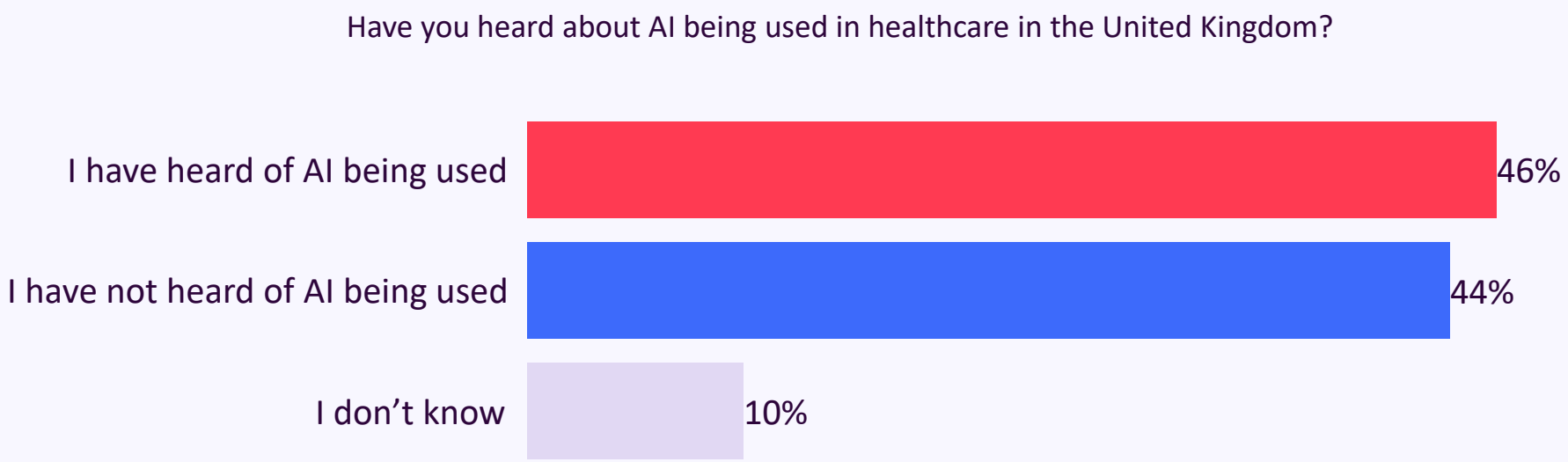


Two-thirds of adults are familiar with AI generally, with those aged 18-34 showing the highest levels of familiarity

How familiar, if at all, are you with the concept of artificial intelligence (AI) in general?



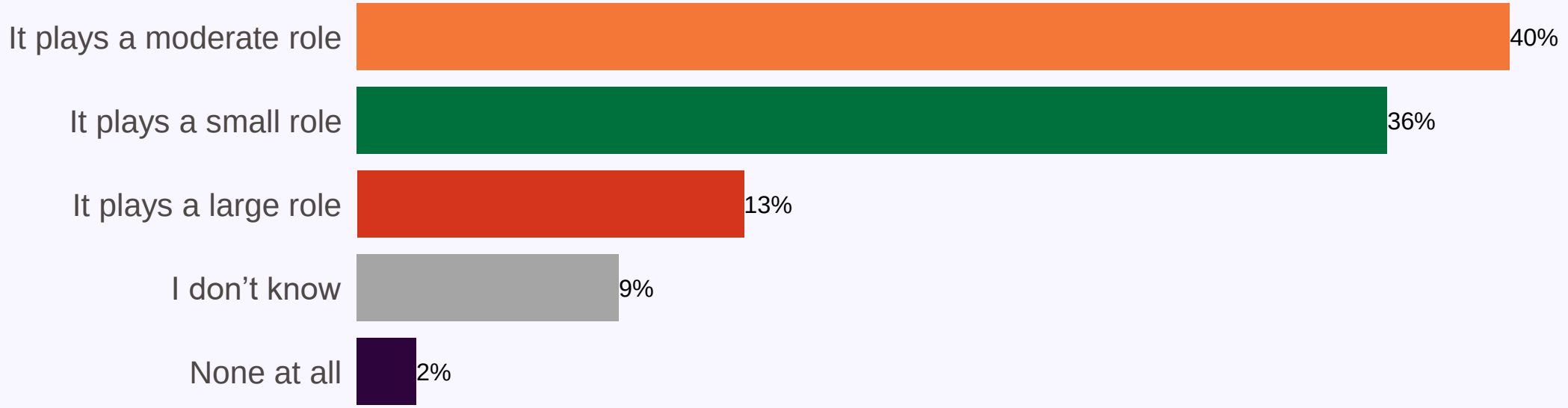
But under half of adults are aware of AI being used in healthcare currently



Q4. HAVE YOU HEARD ABOUT AI BEING USED IN HEALTHCARE IN THE UNITED KINGDOM?

And of those who think it is used in healthcare, two-thirds of adults believe that AI only plays a small to moderate role in healthcare currently

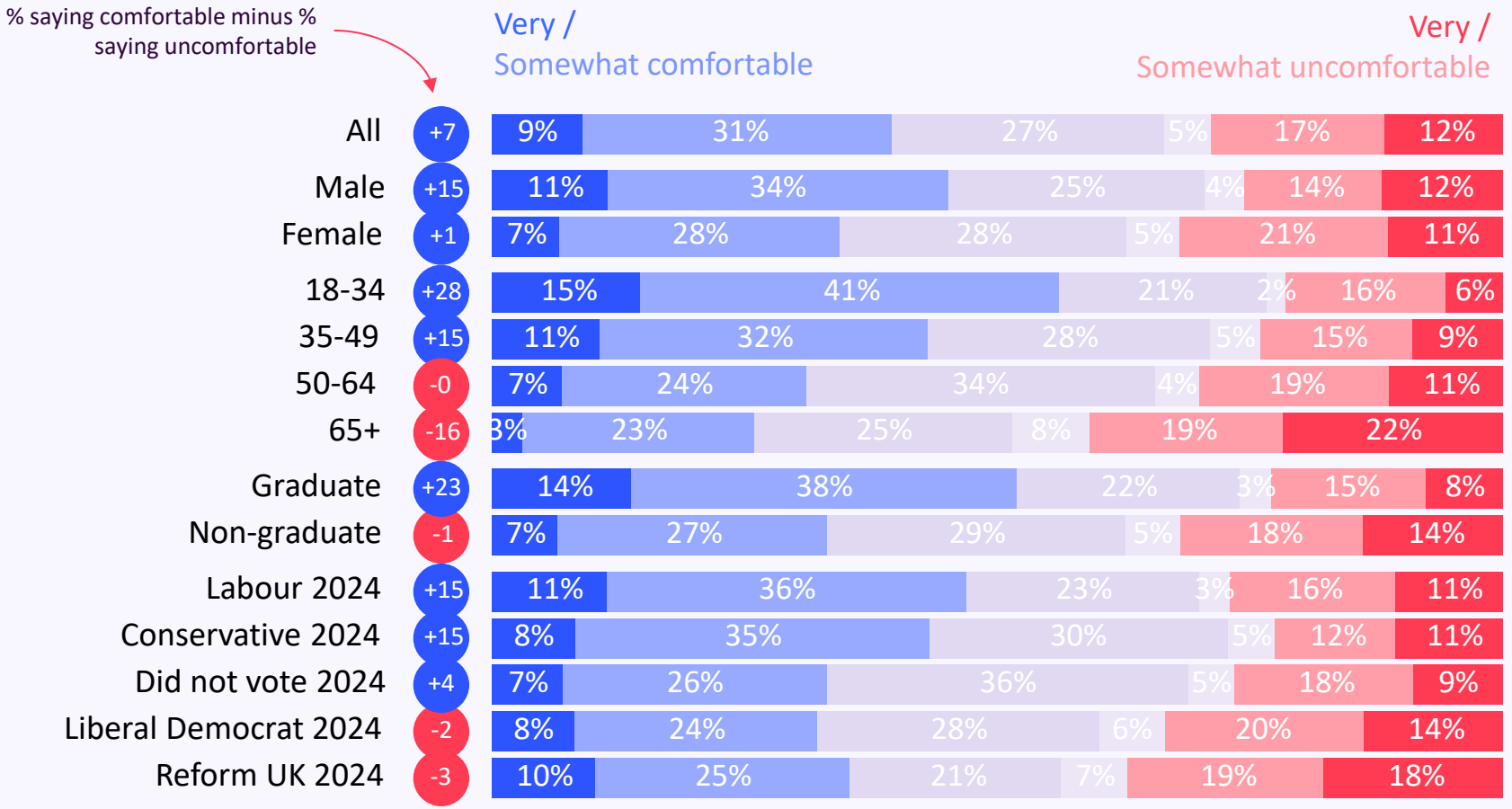
To what extent do you think that AI is used in healthcare in the UK?
Just those who have heard about AI being used in healthcare



Q6. TO WHAT EXTENT DO YOU THINK THAT AI IS USED IN HEALTHCARE IN THE UK?

Just 4 in 10 adults report feeling comfortable with AI technology in healthcare, with younger generations showing greater acceptance

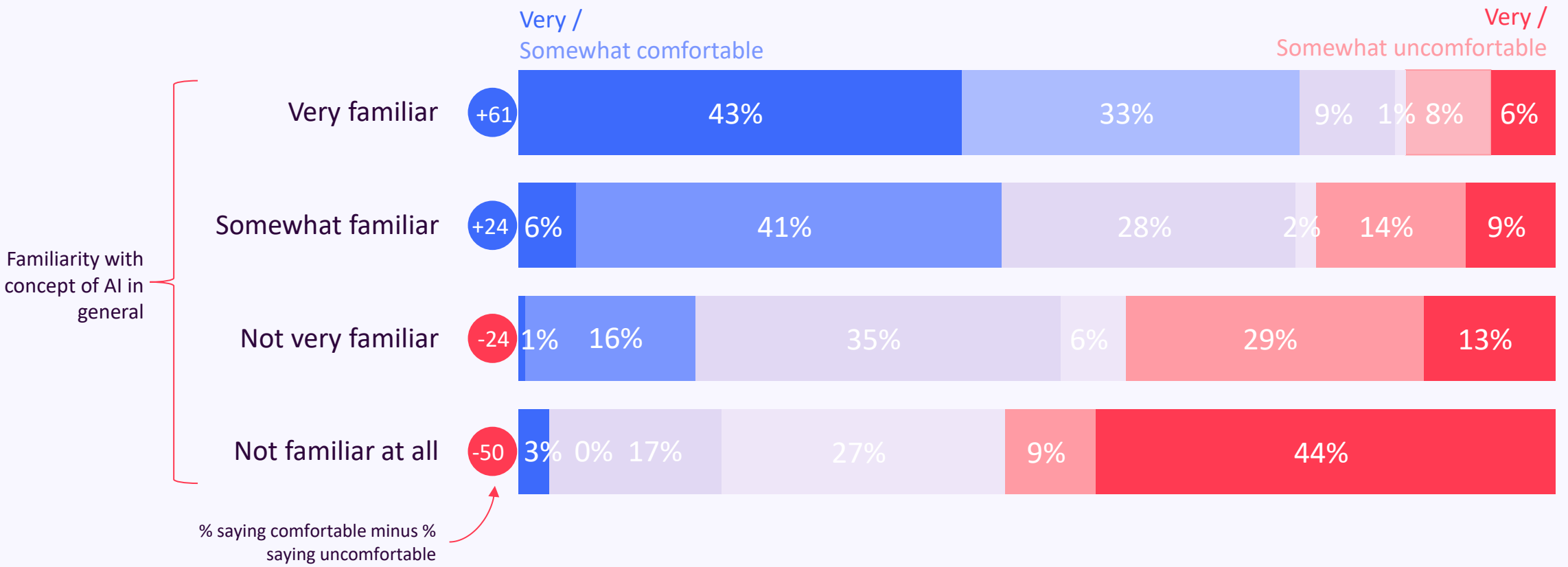
How comfortable or uncomfortable are you with the use of artificial intelligence (AI) in healthcare?



Q1. HOW COMFORTABLE OR UNCOMFORTABLE ARE YOU WITH THE USE OF ARTIFICIAL INTELLIGENCE (AI) IN HEALTHCARE?

Those more familiarity with AI technology generally are more comfortable with its use in healthcare

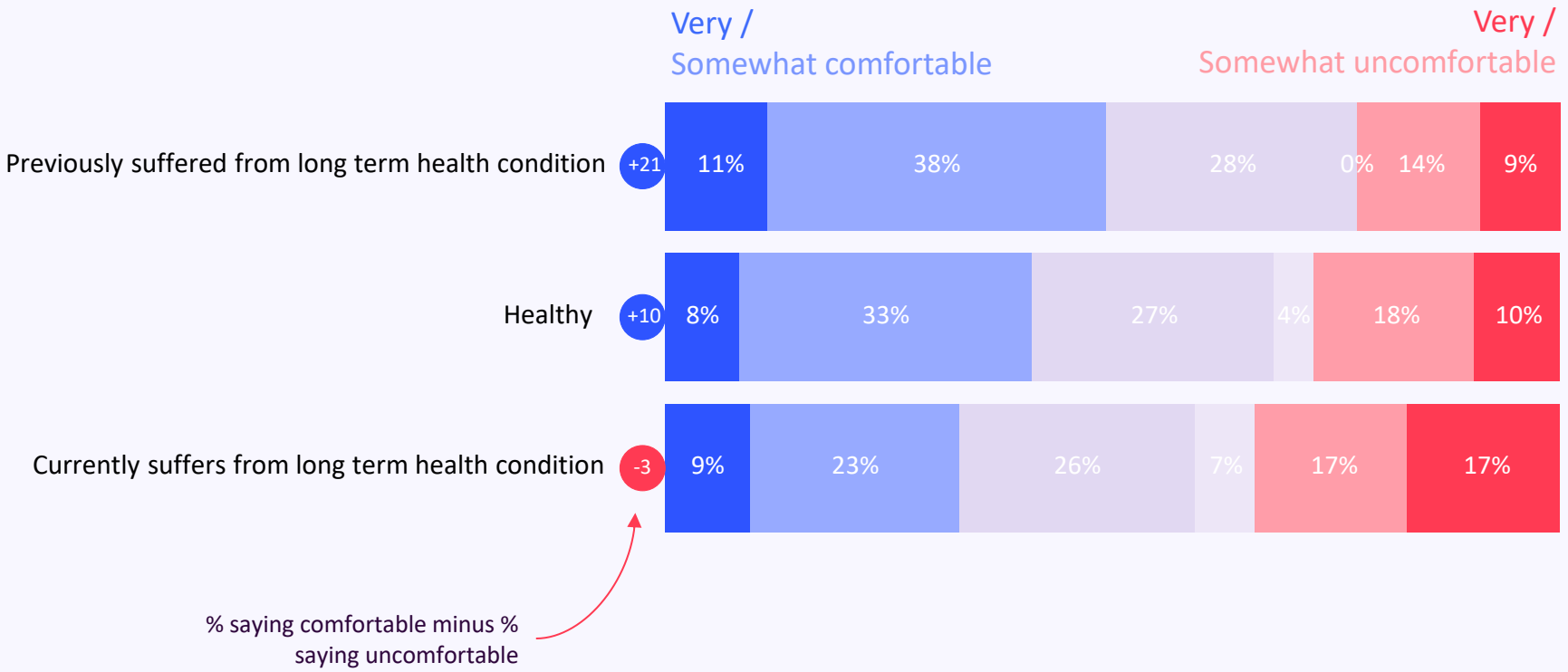
How comfortable or uncomfortable are you with the use of artificial intelligence (AI) in healthcare?



Q1. HOW COMFORTABLE OR UNCOMFORTABLE ARE YOU WITH THE USE OF ARTIFICIAL INTELLIGENCE (AI) IN HEALTHCARE?

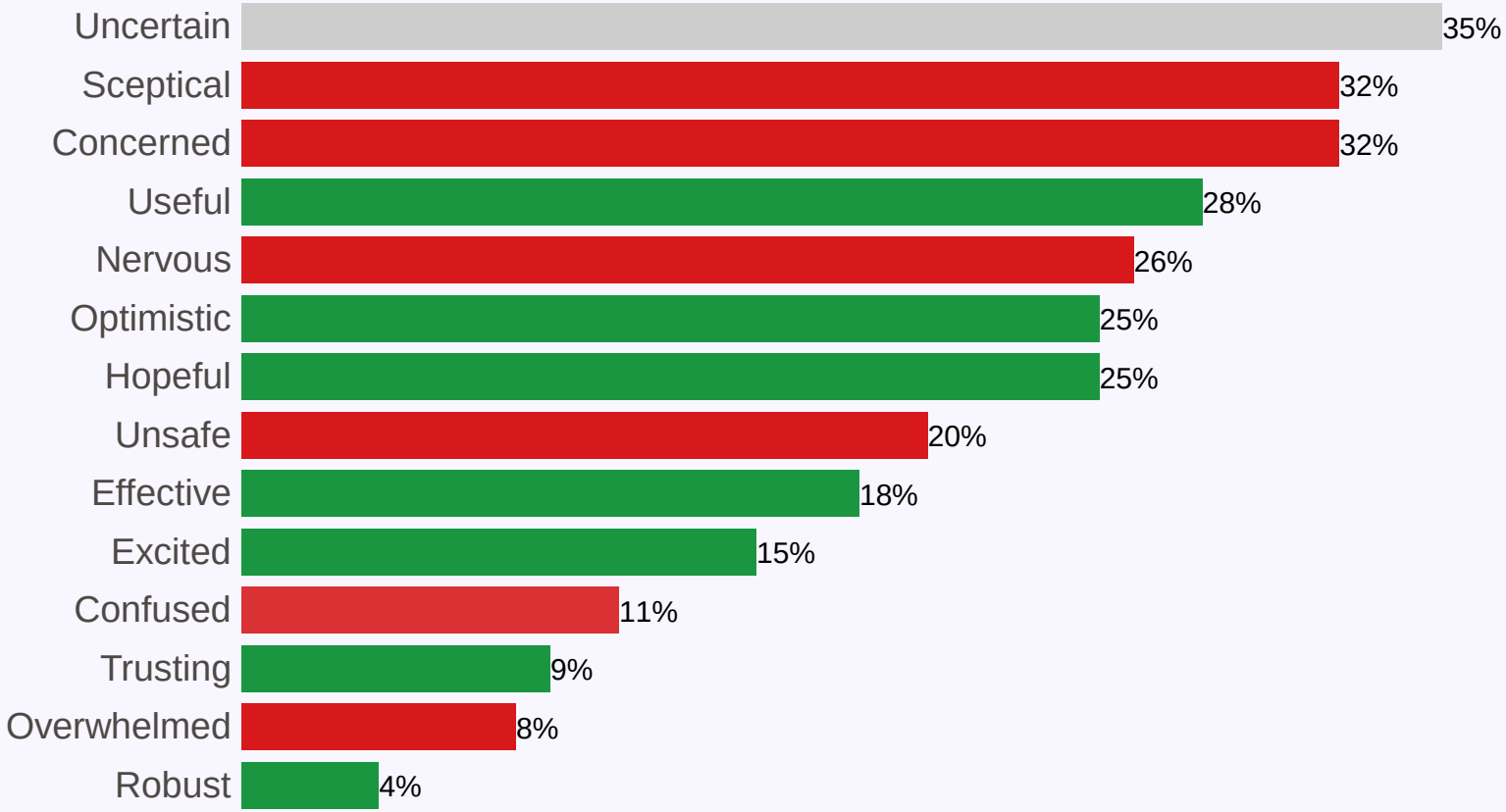
And those with chronic health conditions express more discomfort than other groups

How comfortable or uncomfortable are you with the use of artificial intelligence (AI) in healthcare?



When considering AI in healthcare, adults were likely to express hesitation, describing themselves as “uncertain” and “skeptical”

When you think about the use of AI in healthcare, what words or feelings come to mind?

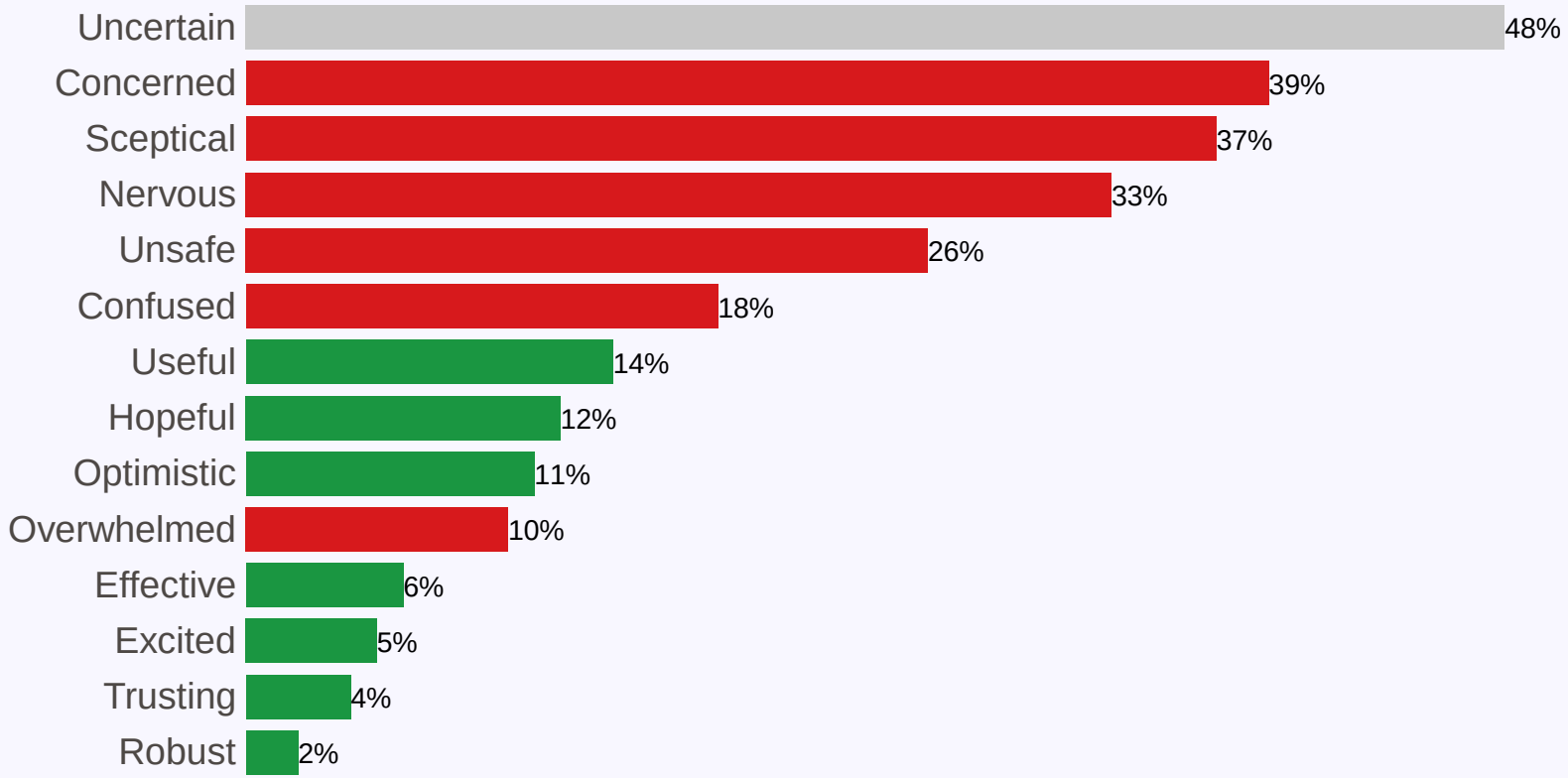


Q3. WHEN YOU THINK ABOUT THE USE OF AI IN HEALTHCARE, WHAT WORDS OR FEELINGS COME TO MIND?

While those unfamiliar with AI expressed similar concerns, but with greater intensity

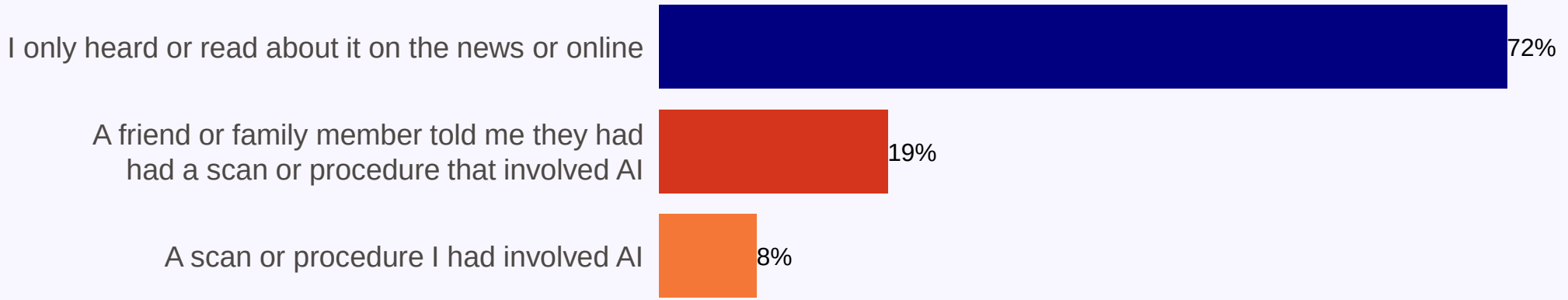
When you think about the use of AI in healthcare, what words or feelings come to mind?

Just those unfamiliar with AI



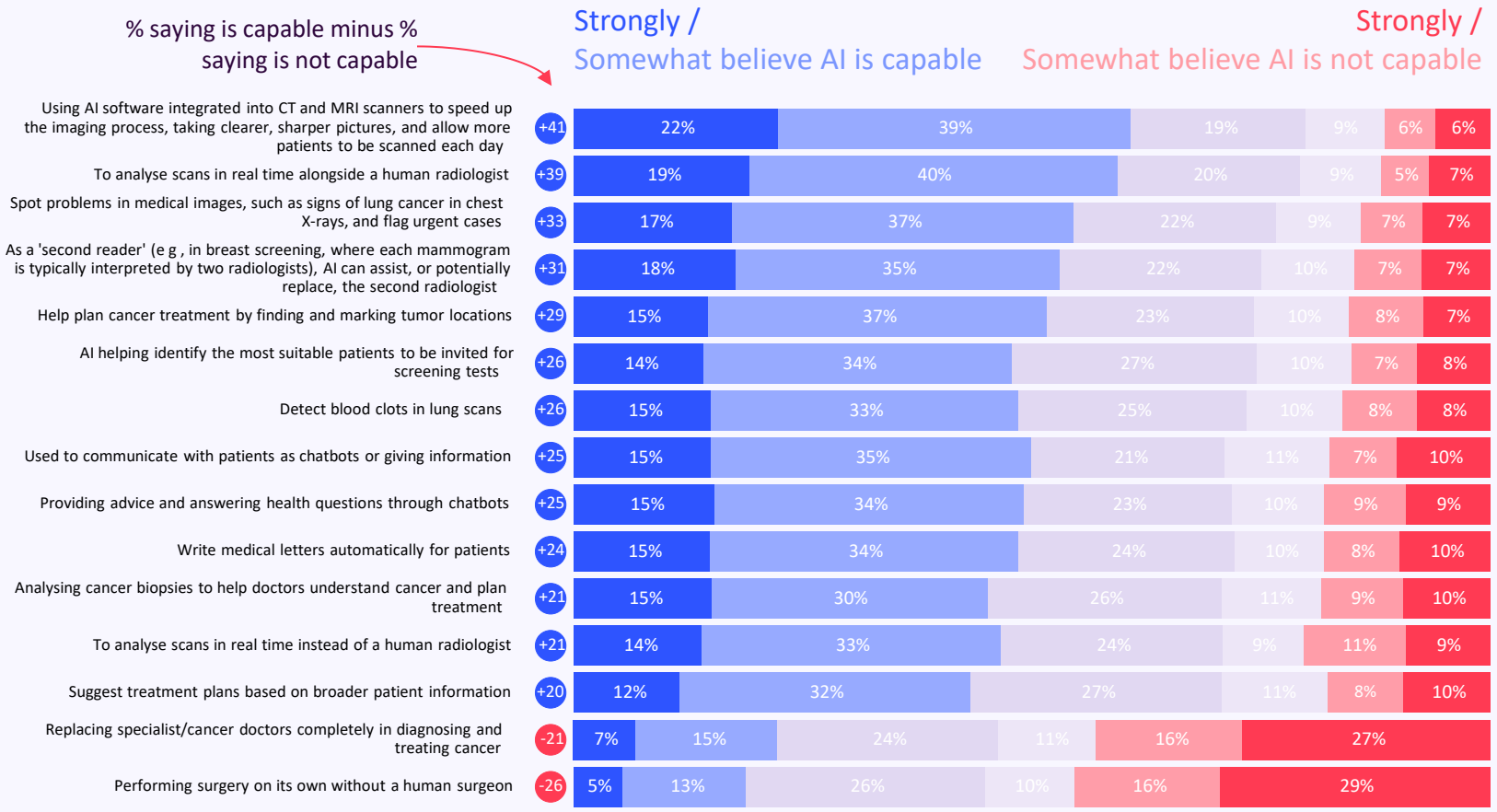
Three quarters of those who are aware of AI's use in the healthcare have learned about it through the news or online sources

And where did you hear about AI being used in healthcare?
Asked only to those who heard about AI being used in healthcare



While the public recognises AI's potential in healthcare, they firmly believe that it cannot replace doctors and surgeons in patient care

Regardless of it being used or not, what do you believe AI is currently capable of doing in healthcare?



Q9. REGARDLESS OF IT BEING USED OR NOT, WHAT DO YOU BELIEVE AI IS CURRENTLY CAPABLE OF DOING IN HEALTHCARE?

Females, older adults, and those unfamiliar with AI are even more skeptical about the idea of AI completely replacing doctors and surgeons

Regardless of it being used or not, what do you believe AI is currently capable of doing in healthcare?

	All	Male	Female	18-34	35-49	50-64	65+	Non-graduate	Graduate	Very familiar	Somewhat familiar	Not very familiar	Not familiar at all
Using AI software integrated into CT and MRI scanners to speed up the imaging process,...	+49	+50	+49	+43	+50	+56	+48	+44	+59	+71	+55	+37	+5
To analyse scans in real time alongside a human radiologist	+47	+49	+46	+37	+48	+54	+52	+41	+60	+70	+54	+35	+3
Spot problems in medical images, such as signs of lung cancer in chest X-rays, and flag urgent cases	+40	+45	+36	+35	+39	+44	+44	+35	+52	+71	+46	+25	-1
As a 'second reader' ..., AI can assist, or potentially replace, the second radiologist	+38	+40	+37	+37	+35	+44	+37	+33	+49	+69	+43	+24	-4
Help plan cancer treatment by finding and marking tumor locations	+36	+37	+35	+30	+36	+40	+40	+30	+48	+64	+41	+22	-2
AI helping identify the most suitable patients to be invited for screening tests	+33	+32	+33	+28	+38	+40	+25	+28	+43	+59	+39	+16	-1
Used to communicate with patients as chatbots or giving information	+32	+36	+29	+36	+31	+42	+19	+30	+37	+62	+39	+16	-15
Detect blood clots in lung scans	+32	+36	+29	+26	+32	+33	+39	+26	+45	+66	+35	+19	-3
Providing advice and answering health questions through chatbots	+31	+31	+31	+34	+36	+39	+14	+28	+38	+59	+37	+16	-13
Write medical letters automatically for patients	+30	+33	+28	+29	+25	+39	+28	+25	+40	+50	+37	+18	-8
Suggest treatment plans based on broader patient information	+26	+32	+20	+28	+28	+33	+12	+21	+35	+54	+35	+4	-17
Analysing cancer biopsies to help doctors understand cancer and plan treatment	+27	+28	+26	+18	+30	+31	+29	+19	+42	+57	+30	+14	-11
To analyse scans in real time instead of a human radiologist	+26	+33	+20	+19	+27	+30	+30	+20	+39	+58	+29	+15	-16
Replacing specialist/cancer doctors completely in diagnosing and treating cancer	-21	-15	-26	-4	-15	-27	-38	-23	-18	+18	-21	-38	-28
Performing surgery on its own without a human surgeon	-27	-19	-34	-21	-22	-27	-37	-28	-23	-2	-24	-42	-32

% saying is capable minus % saying is not capable

Q9. REGARDLESS OF IT BEING USED OR NOT, WHAT DO YOU BELIEVE AI IS CURRENTLY CAPABLE OF DOING IN HEALTHCARE?

Equally, Conservative voters, individuals from higher socioeconomic backgrounds, and people from BAME communities are more likely to believe in AI's current capabilities in general

Regardless of it being used or not, what do you believe AI is currently capable of doing in healthcare?

	All	Conservative 2024	Labour 2024	Lib Dem 2024	Reform UK 2024	Did not vote 2024	Homeowner	Renter	AB	C1	C2	DE	White	BAME
Using AI software integrated into CT and MRI scanners to speed up the imaging process,...	+49	+61	+50	+45	+36	+47	+51	+48	+58	+50	+44	+39	+47	+61
To analyse scans in real time alongside a human radiologist	+47	+64	+50	+42	+36	+38	+51	+44	+57	+48	+39	+38	+43	+66
Spot problems in medical images, such as signs of lung cancer in chest X-rays, and flag urgent cases	+40	+53	+41	+42	+29	+37	+42	+40	+55	+38	+30	+30	+36	+59
As a 'second reader' ..., AI can assist, or potentially replace, the second radiologist	+38	+54	+42	+27	+31	+35	+39	+38	+49	+37	+32	+28	+35	+55
Help plan cancer treatment by finding and marking tumor locations	+36	+47	+36	+30	+28	+35	+39	+33	+52	+33	+26	+24	+33	+51
Used to communicate with patients as chatbots or giving information	+32	+45	+29	+35	+33	+27	+32	+33	+42	+31	+33	+19	+29	+48
AI helping identify the most suitable patients to be invited for screening tests	+33	+49	+38	+19	+27	+22	+34	+32	+42	+32	+33	+20	+29	+50
Providing advice and answering health questions through chatbots	+31	+37	+36	+30	+30	+27	+32	+31	+40	+23	+33	+24	+25	+59
Detect blood clots in lung scans	+32	+46	+31	+29	+18	+30	+36	+28	+41	+35	+26	+22	+28	+50
Write medical letters automatically for patients	+30	+42	+31	+25	+32	+24	+33	+28	+45	+31	+20	+19	+27	+47
Suggest treatment plans based on broader patient information	+26	+39	+32	+12	+8	+25	+26	+26	+35	+21	+29	+13	+21	+48
To analyse scans in real time instead of a human radiologist	+26	+40	+30	+16	+13	+24	+27	+26	+37	+24	+18	+20	+21	+49
Analysing cancer biopsies to help doctors understand cancer and plan treatment	+27	+42	+29	+26	+18	+17	+29	+24	+42	+24	+17	+15	+24	+38
Replacing specialist/cancer doctors completely in diagnosing and treating cancer	-21	-17	-11	-44	-27	-11	-22	-19	-15	-28	-21	-24	-26	+5
Performing surgery on its own without a human surgeon	-27	-22	-23	-45	-21	-24	-25	-29	-18	-34	-29	-31	-29	-14

% saying is capable minus % saying is not capable

Public perceptions of the arguments for and against AI

When asked unprompted about the benefits of AI in healthcare, most people highlight time-saving and faster results as the main advantages

What do you think is the biggest advantage to increasing the use of AI in healthcare, if at all?

- Save time
- Seeing patients quicker
- Rapid diagnosis
- Hopefully quicker
- Shorter waiting lists
- Things move faster
- Increases accuracy
- More accurate scan readings
- Speed of analysis
- Removes human error
- Quicker diagnostics meaning quicker treatments
- Could save a lot of money
- AI could carry out admin tasks
- Better diagnosis
- Help reduce workload
- Cutting costs
- Efficiency and accuracy
- Faster responses
- Freeing up time for NHS staff
- Can help doctors and nurses
- It can spot things humans can’t
- It will save doctors’ time
- Less waiting time
- It will mean less human error
- Working 24/7
- Time saving
- Speeding up screening procedures
- Speeding things up

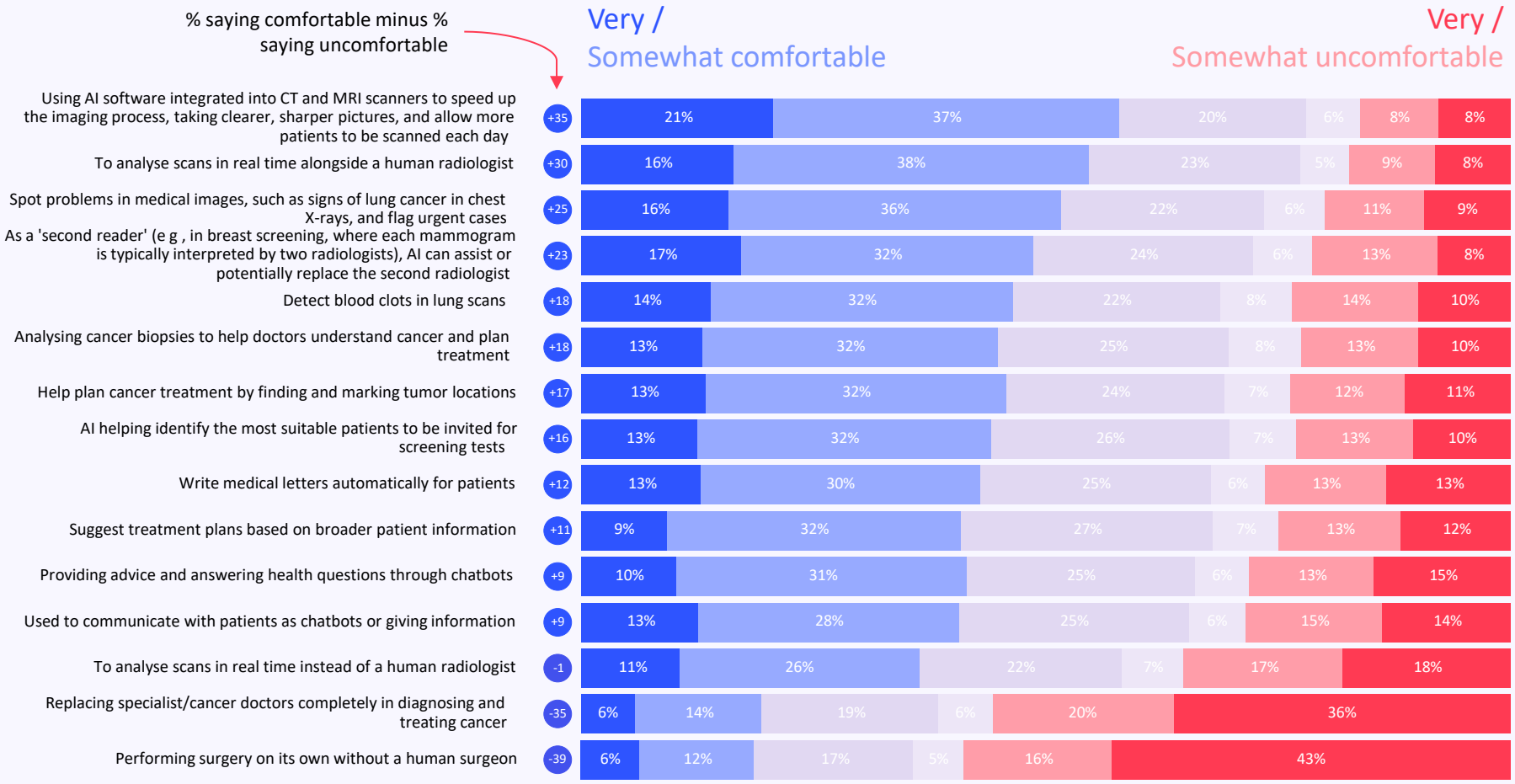
While a major hesitation about AI in healthcare is the lack of human control, with concerns about job loss and a lack of accountability also being significant factors.

What is your biggest hesitation about the increasing use of AI in healthcare, if at all?

- You're not in control
- Wrong diagnosis
- Worries about accuracy and security
- Will have to be closely monitored
- Who is responsible in the case of errors
- Whether the NHS can afford it
- We can become reliant on these procedures
- Use of private information
- Unreliable
- Trusting it to make good choices
- Too much reliance
- Things going wrong at an important time
- The use of people's private health issues in datasets
- The confidentiality and accuracy needed
- That mistakes will be made
- Taking jobs from humans
- Security issues
- Safety
- Replacing human jobs
- Privacy concerns
- No human oversight
- Mistakes being made
- Malfunction
- Loss of jobs
- Lack of human interaction
- Lack of oversight
- Data security
- Can't talk to it like we can talk to humans as it can't understand emotions yet
- Accuracy

Regardless of if they think it's currently possible or not, a clear majority are very uncomfortable with AI completely replacing doctors and surgeons in the future

Regardless of it being used or not, to what extent do you feel comfortable with the use of AI in the following areas of healthcare?



Males, younger adults, and those familiar with AI show greater comfort with AI in healthcare, though all groups remain sceptical about AI replacing doctors entirely

Regardless of it being used or not, to what extent do you feel comfortable with the use of AI in the following areas of healthcare?

% saying comfortable minus % saying uncomfortable	All	Male	Female	18-34	35-49	50-64	65+	Non-graduate	Graduate	Very familiar	Somewhat familiar	Not very familiar	Not familiar at all
Using AI software integrated into CT and MRI scanners to speed up the imaging process,...	+42	+39	+44	+38	+41	+48	+41	+35	+54	+67	+50	+24	-8
To analyse scans in real time alongside a human radiologist	+37	+34	+40	+37	+33	+40	+39	+31	+48	+62	+45	+21	-10
Spot problems in medical images, such as signs of lung cancer in chest X-rays, and flag urgent cases	+32	+35	+29	+27	+28	+36	+36	+25	+45	+62	+41	+10	-12
As a 'second reader' ..., AI can assist or potentially replace the second radiologist	+27	+29	+26	+28	+23	+26	+33	+22	+37	+64	+33	+8	-12
Detect blood clots in lung scans	+23	+25	+21	+18	+19	+23	+33	+16	+36	+65	+26	+6	-14
AI helping identify the most suitable patients to be invited for screening tests	+21	+19	+23	+23	+23	+27	+11	+13	+36	+59	+28	-1	-26
Analysing cancer biopsies to help doctors understand cancer and plan treatment	+22	+26	+19	+26	+17	+24	+22	+14	+39	+53	+28	+5	-18
Help plan cancer treatment by finding and marking tumor locations	+22	+25	+20	+21	+16	+24	+26	+14	+38	+55	+27	+7	-19
Suggest treatment plans based on broader patient information	+16	+22	+10	+24	+18	+19	+2	+11	+26	+57	+23	-7	-30
Write medical letters automatically for patients	+17	+22	+11	+28	+14	+17	+6	+11	+27	+51	+23	-3	-28
Providing advice and answering health questions through chatbots	+13	+21	+7	+22	+16	+21	-8	+11	+17	+54	+19	-3	-45
Used to communicate with patients as chatbots or giving information	+12	+19	+6	+24	+14	+14	-5	+9	+19	+49	+19	-8	-32
To analyse scans in real time instead of a human radiologist	+1	+12	-9	+3	+1	-2	+2	-5	+13	+39	+6	-19	-33
Replacing specialist/cancer doctors completely in diagnosing and treating cancer	-36	-28	-44	-18	-23	-52	-55	-39	-30	-7	-35	-52	-44
Performing surgery on its own without a human surgeon	-40	-30	-50	-22	-32	-52	-57	-42	-36	-6	-36	-61	-57

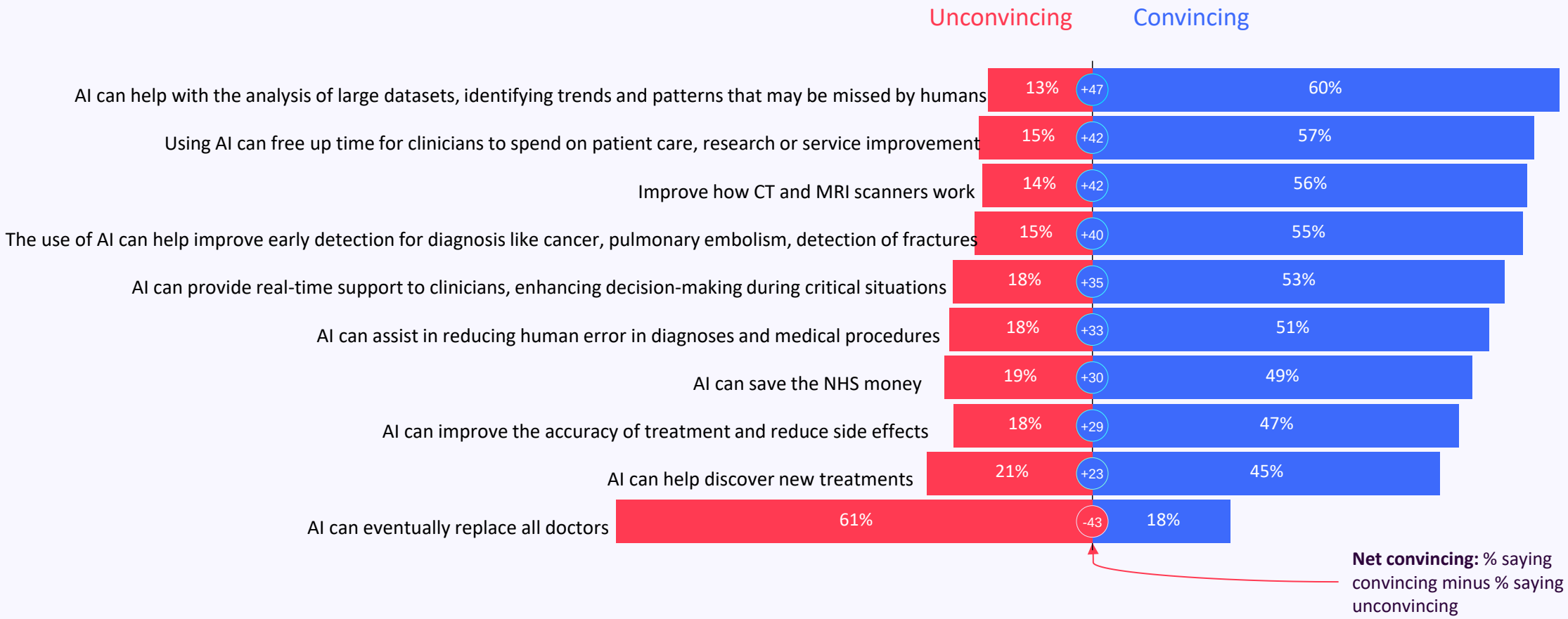
Conservative voters, higher socioeconomic groups, and BAME individuals show greater comfort with AI use in healthcare compared to the general population

Regardless of it being used or not, to what extent do you feel comfortable with the use of AI in the following areas of healthcare?

% saying comfortable minus % saying uncomfortable	All	Conservative 2024	Labour 2024	Lib Dem 2024	Reform UK 2024	Did not vote 2024	Homeowner	Renter	AB	C1	C2	DE	White	BAME
Using AI software integrated into CT and MRI scanners to speed up the imaging process,...	+42	+55	+46	+41	+28	+36	+46	+37	+51	+42	+37	+32	+39	+55
To analyse scans in real time alongside a human radiologist	+37	+53	+38	+40	+31	+32	+39	+35	+47	+38	+28	+29	+34	+54
Spot problems in medical images, such as signs of lung cancer in chest X-rays, and flag urgent cases	+32	+47	+36	+42	+21	+17	+37	+25	+45	+27	+26	+19	+27	+51
As a 'second reader' ..., AI can assist or potentially replace the second radiologist	+27	+44	+33	+26	+21	+23	+33	+19	+37	+28	+25	+14	+25	+39
Detect blood clots in lung scans	+23	+38	+30	+23	+12	+10	+28	+16	+34	+19	+15	+16	+18	+46
Help plan cancer treatment by finding and marking tumor locations	+22	+36	+28	+22	+11	+5	+25	+18	+33	+20	+17	+11	+18	+39
Analysing cancer biopsies to help doctors understand cancer and plan treatment	+22	+35	+27	+25	+12	+12	+27	+17	+38	+16	+15	+10	+18	+43
AI helping identify the most suitable patients to be invited for screening tests	+21	+35	+29	+9	+12	+12	+24	+19	+33	+17	+12	+12	+15	+47
Write medical letters automatically for patients	+17	+27	+24	+7	+21	+5	+17	+16	+29	+19	+16	-3	+10	+44
Providing advice and answering health questions through chatbots	+13	+22	+21	+2	+14	+10	+14	+15	+27	+10	+16	-4	+8	+38
Suggest treatment plans based on broader patient information	+16	+24	+23	+5	+12	+10	+19	+14	+30	+10	+10	+4	+10	+43
Used to communicate with patients as chatbots or giving information	+12	+18	+15	-1	+17	+12	+14	+11	+23	+7	+17	-2	+5	+44
To analyse scans in real time instead of a human radiologist	+1	+17	+5	-6	-6	-4	+7	-5	+14	-8	-12	-3	-2	+18
Replacing specialist/cancer doctors completely in diagnosing and treating cancer	-36	-38	-26	-55	-43	-31	-38	-34	-26	-43	-46	-40	-42	-10
Performing surgery on its own without a human surgeon	-40	-38	-34	-58	-36	-43	-41	-40	-32	-46	-43	-48	-45	-18

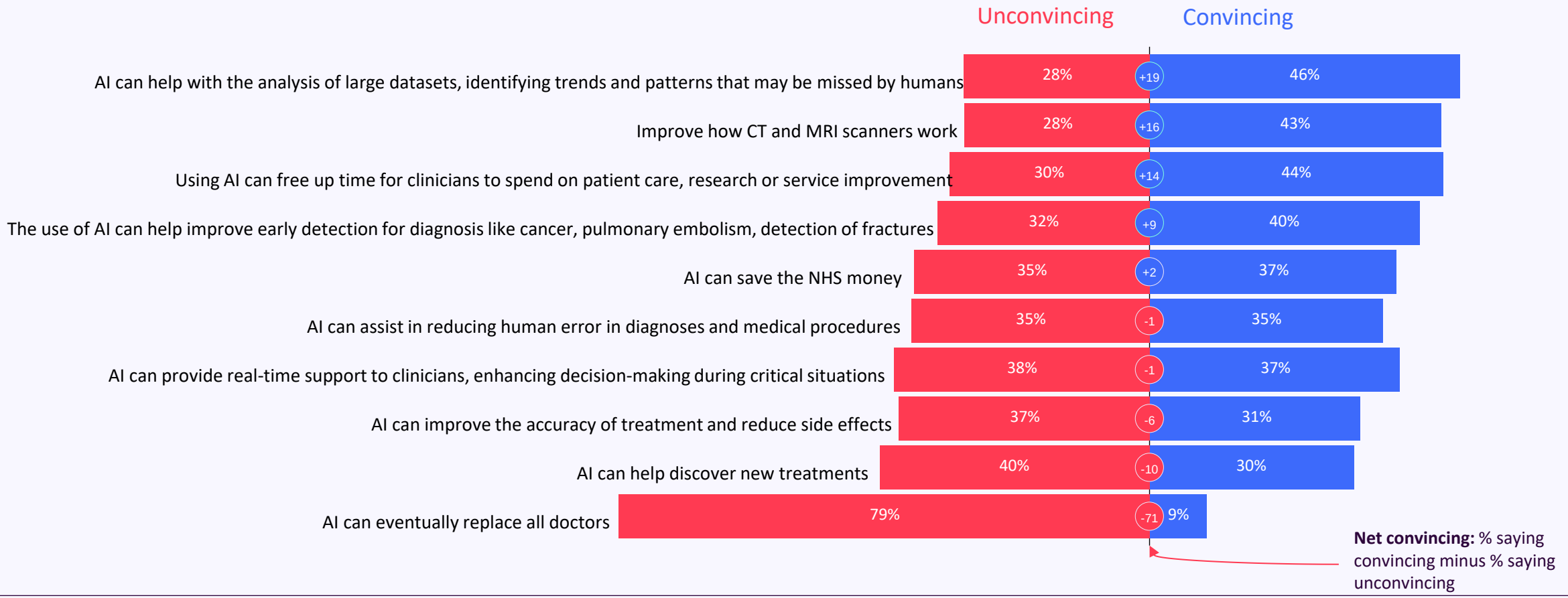
The most convincing argument for increasing AI in healthcare is its ability to enhance human capabilities, while the least convincing is that it can replace doctors.

How convincing or unconvincing do you find the following arguments in favour of increasing the use of AI in healthcare?



Those generally uncomfortable with AI in healthcare still find the ability to analyse large data sets the most convincing arguments, but are even more unconvinced by the idea that AI can replace all doctors.

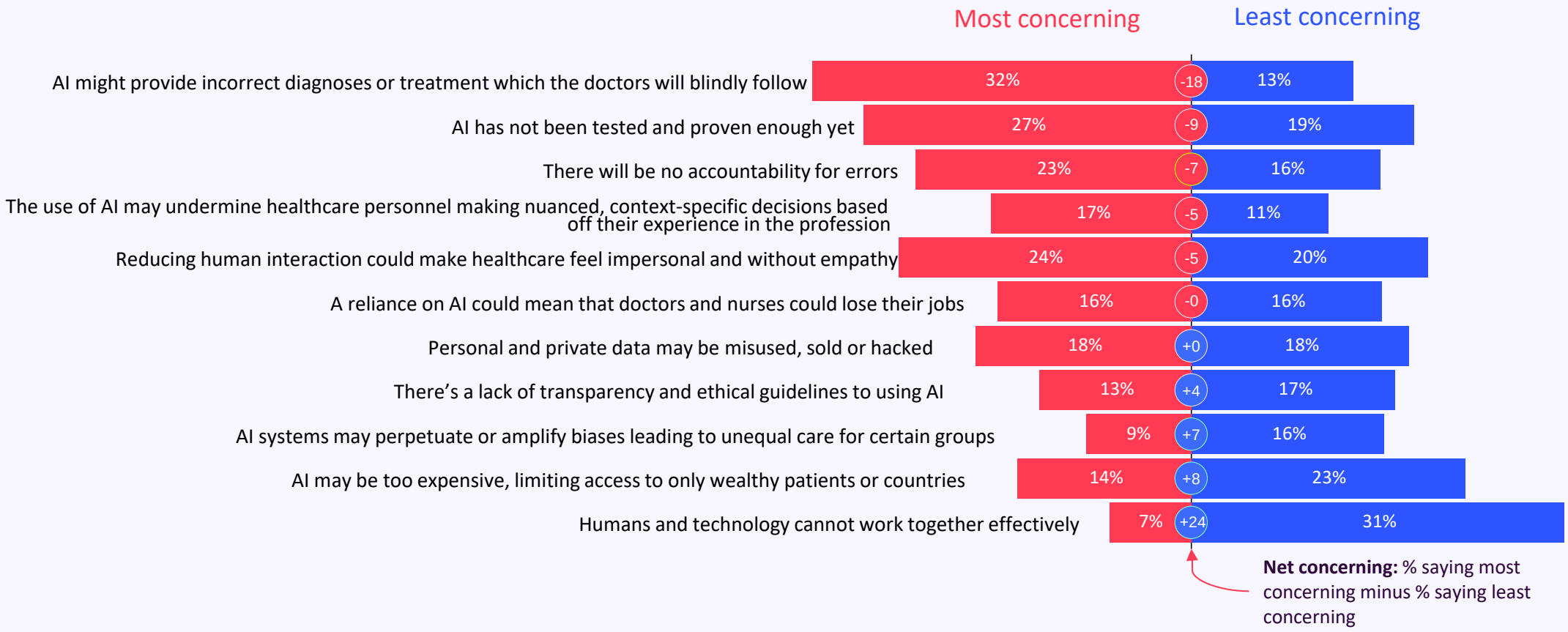
How convincing or unconvincing do you find the following arguments in favour of increasing the use of AI in healthcare?



Q11. HOW CONVINCING OR UNCONVINCING DO YOU FIND THE FOLLOWING ARGUMENTS IN FAVOUR OF INCREASING THE USE OF AI IN HEALTHCARE?

The most concerning argument against the implementation of AI is the potential for incorrect diagnoses that doctors may blindly follow

Of the following, which do you think are the two most concerning arguments and the two least concerning arguments against the implementation of AI

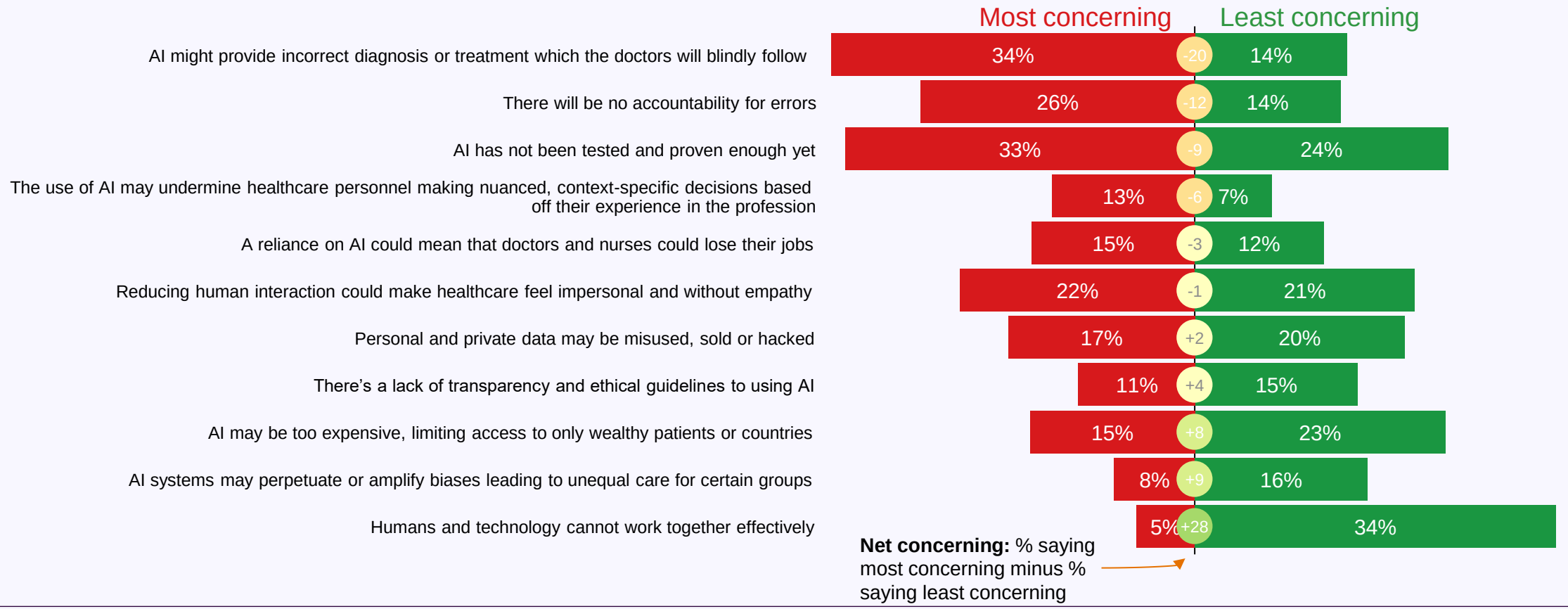


Q12. OF THE FOLLOWING, WHICH DO YOU THINK ARE THE TWO MOST CONCERNING ARGUMENTS AND THE TWO LEAST CONCERNING ARGUMENTS AGAINST THE IMPLEMENTATION OF AI

Among those uncomfortable with AI in healthcare, the most concerning arguments are the potential for incorrect diagnoses and a lack of accountability

Of the following, which do you think are the two most concerning arguments and the two least concerning arguments against the implementation of AI

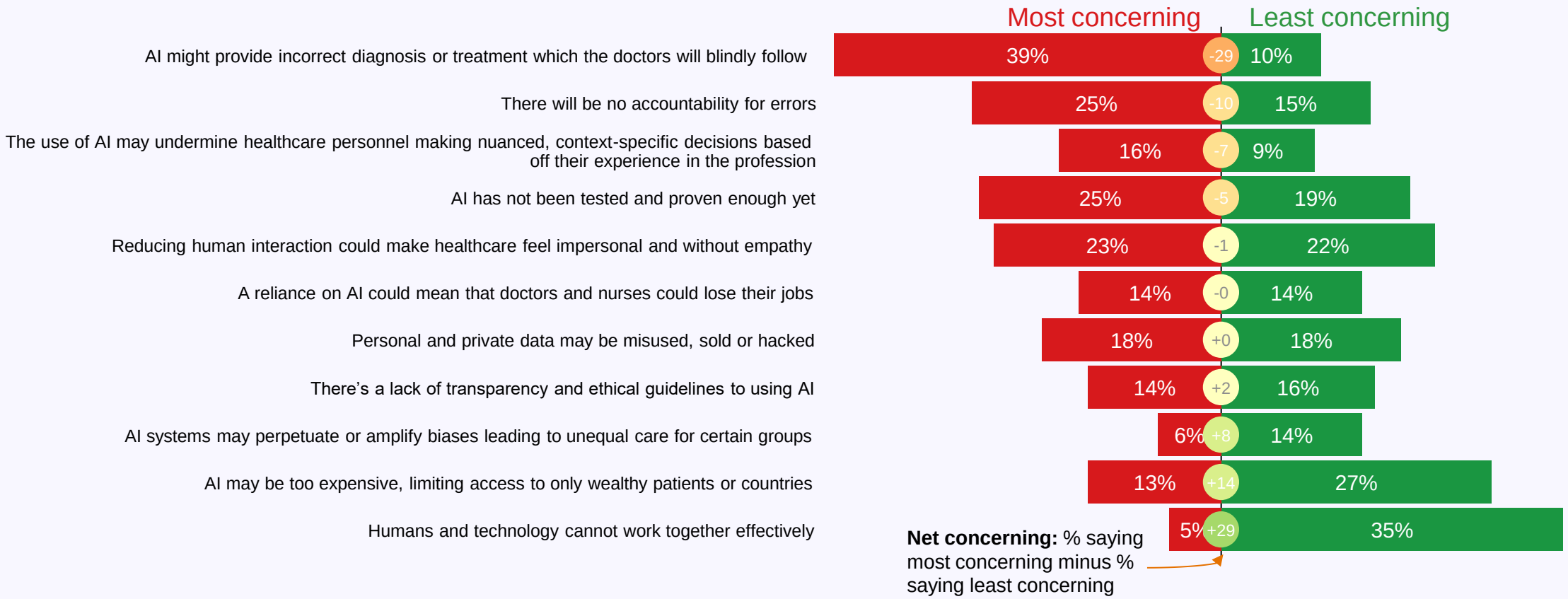
Just those who are uncomfortable with the use of AI healthcare



Those unfamiliar with the concept of AI, are concerned by similar arguments as the rest of the population

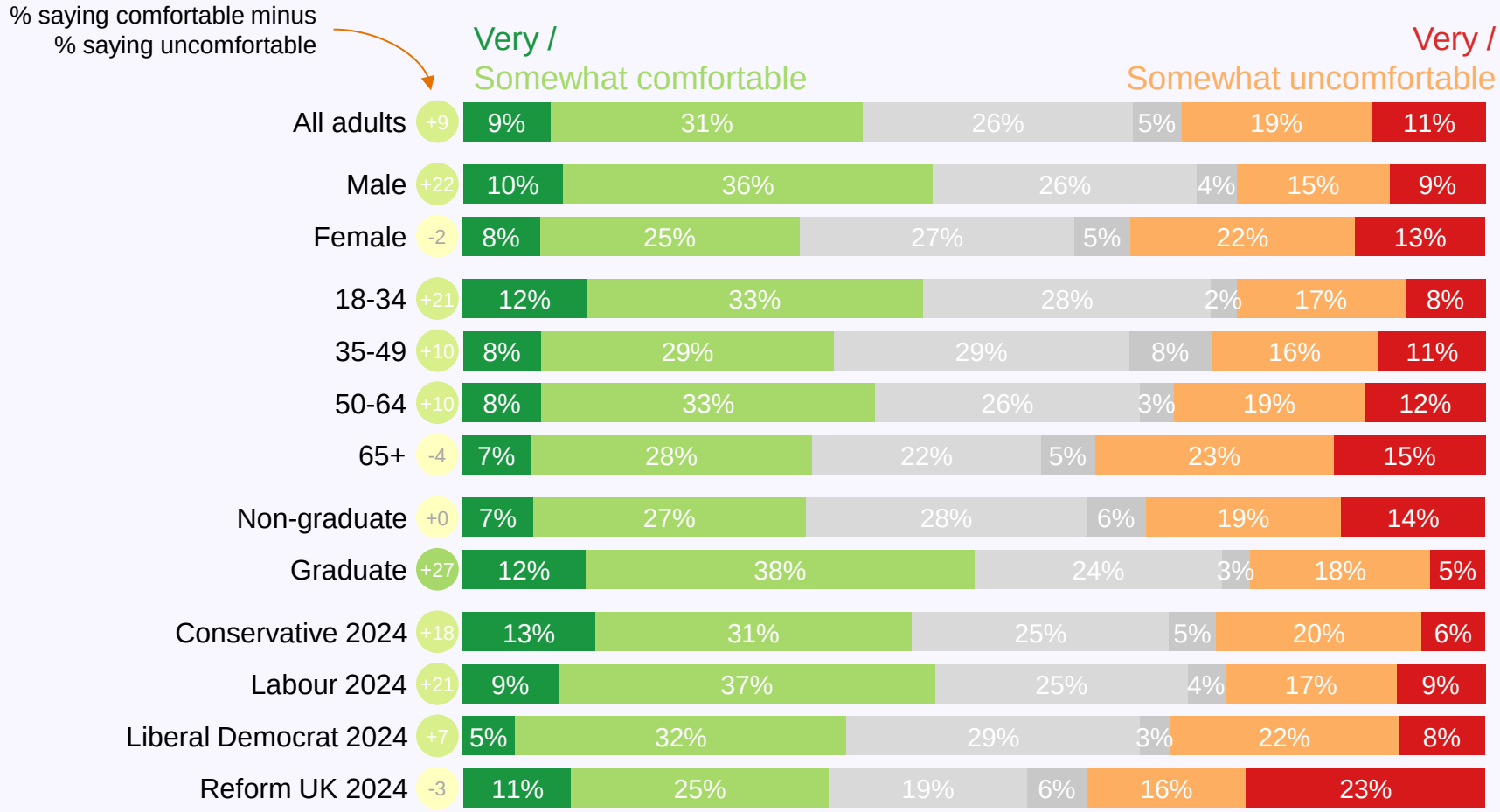
Of the following, which do you think are the two most concerning arguments and the two least concerning arguments against the implementation of AI

Just those who are unfamiliar with the concept of AI in general



After being presented with arguments for and against the use of AI in healthcare during the survey, the public's comfort levels remained largely unchanged

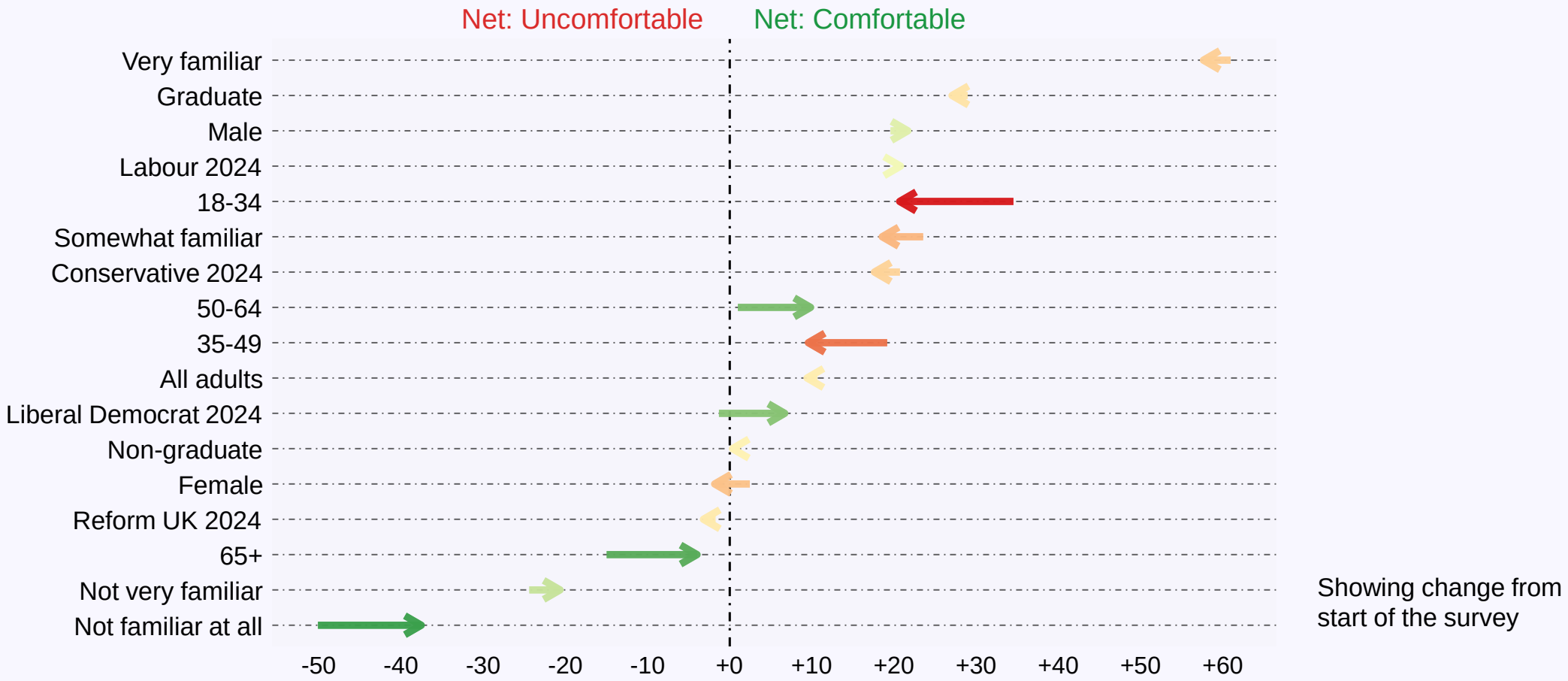
How comfortable or uncomfortable are you with the use of artificial intelligence (AI) in healthcare?



Q18. HOW COMFORTABLE OR UNCOMFORTABLE ARE YOU WITH THE USE OF ARTIFICIAL INTELLIGENCE (AI) IN HEALTHCARE?

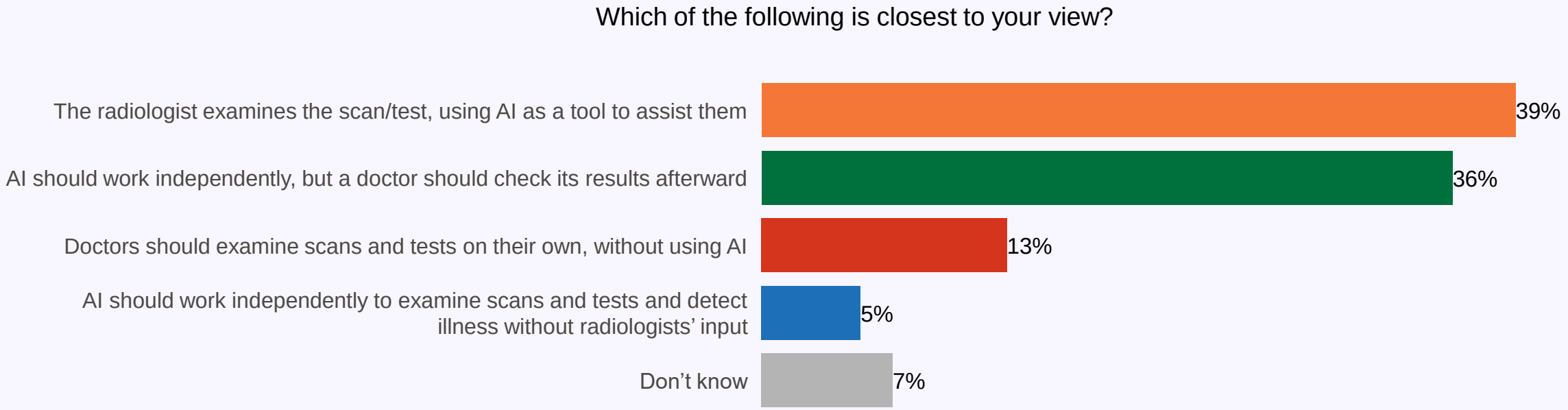
After reading the arguments younger adults became less comfortable with AI, while older adults became more comfortable.

How comfortable or uncomfortable are you with the use of artificial intelligence (AI) in healthcare?



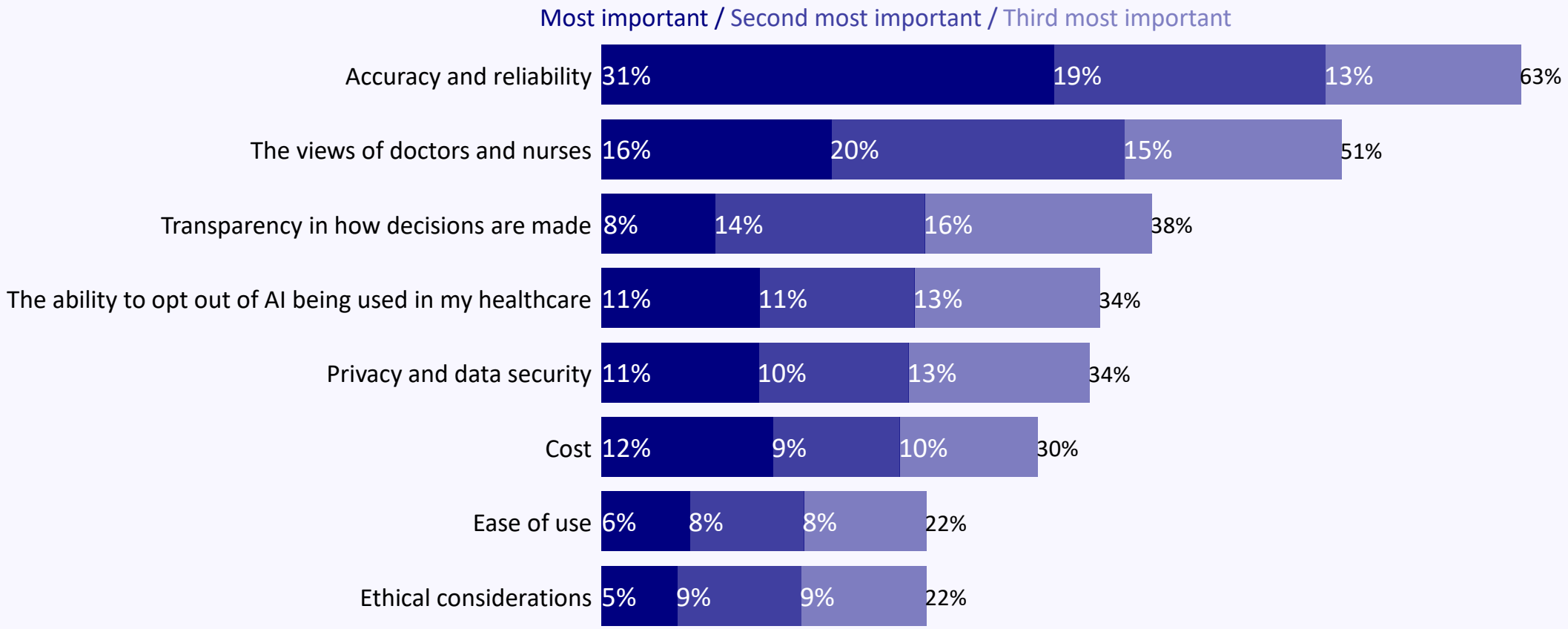
Using AI in healthcare

The public largely supports AI in radiology, with only 13% fully opposing its use. However, the preferred approach is for a radiologist to review scans or test results while using AI as a supportive tool."



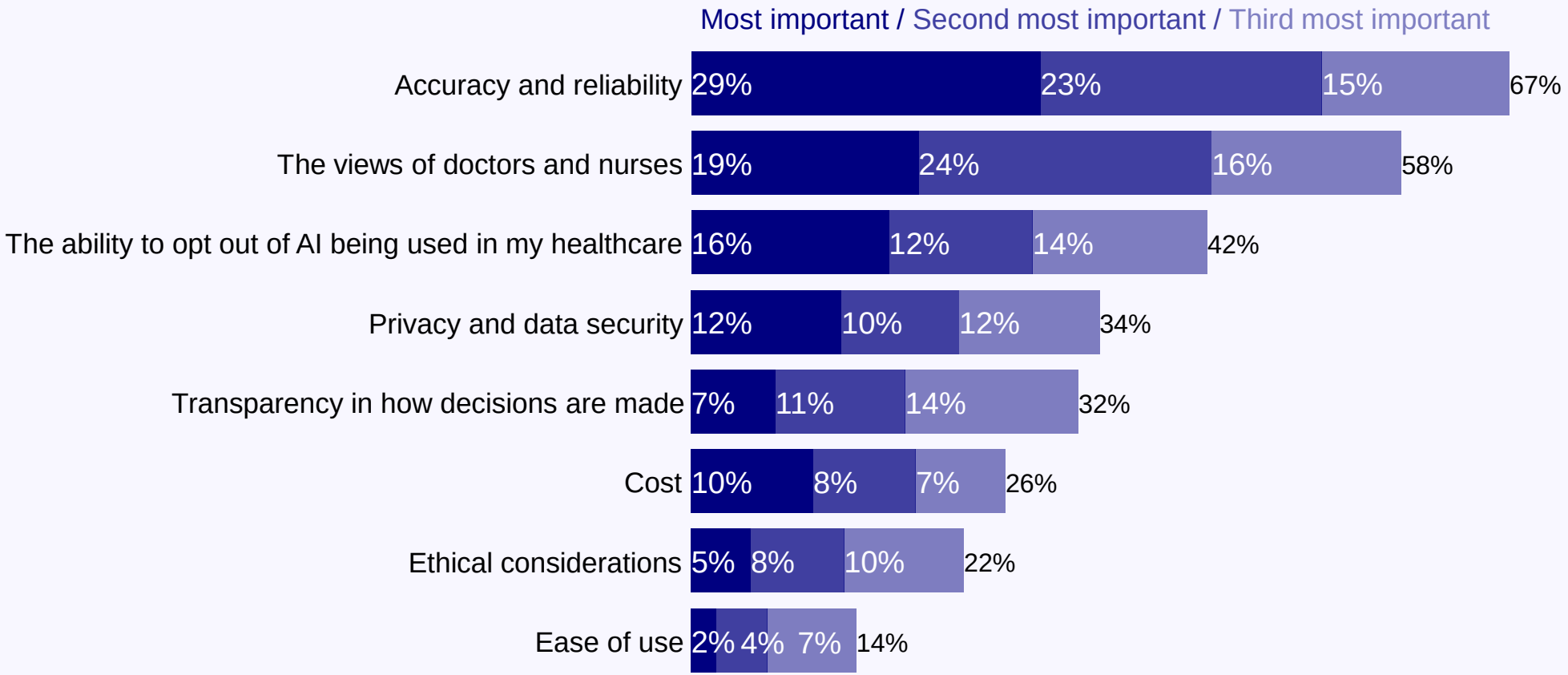
For the public accuracy and reliability were the most important factors when using AI for healthcare, followed closely by doctors' and nurses' views

When using AI in healthcare, which is the most important to you? Rank your top three in order.

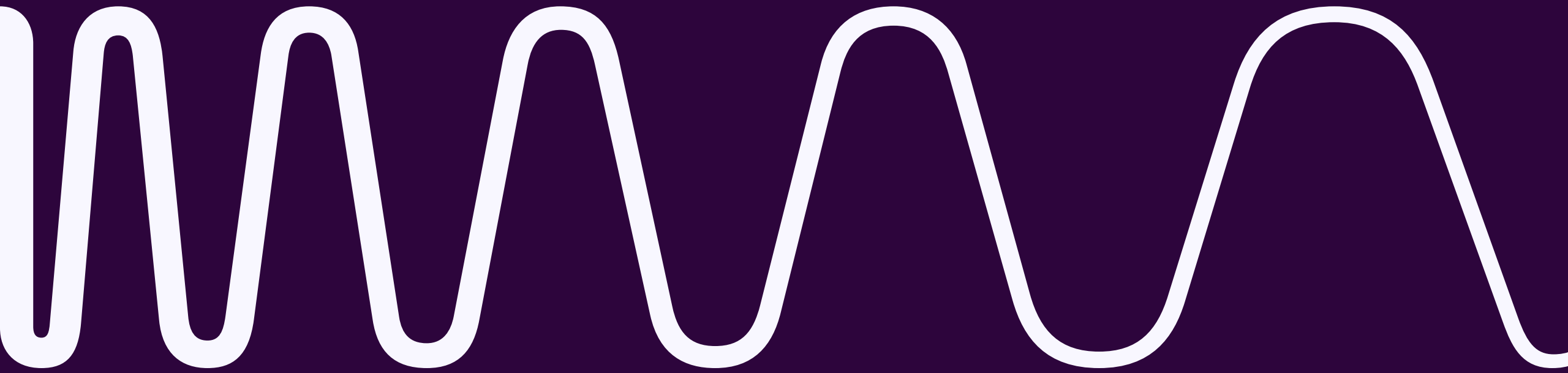


And it was the same with those who are uncomfortable with AI in healthcare

When using AI in healthcare, which is the most important to you? Rank your top three in order.
Just those currently uncomfortable with AI in healthcare

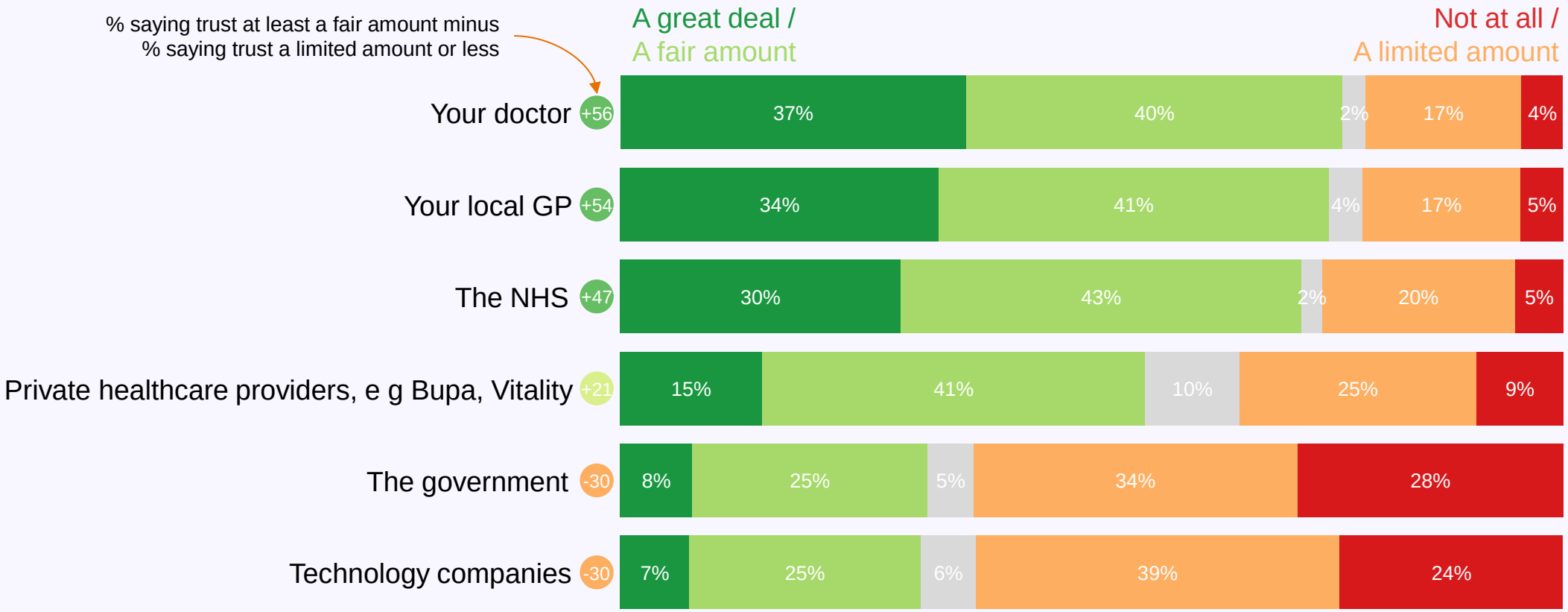


Public opinion on using health data



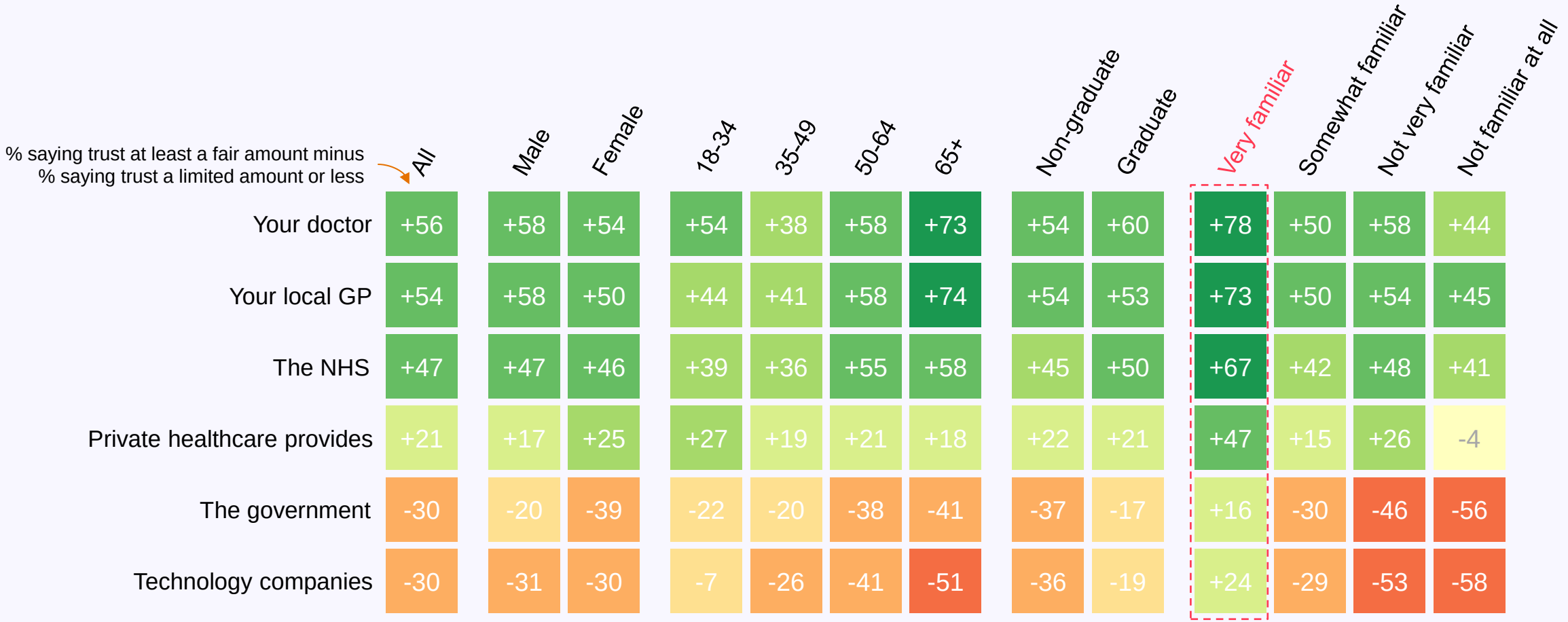
The public tends to trust medical professionals with their public health data

How much, if at all, do you trust the following with your personal health data



Those familiar with the concept of AI are generally more trusting of all organisations with their personal data

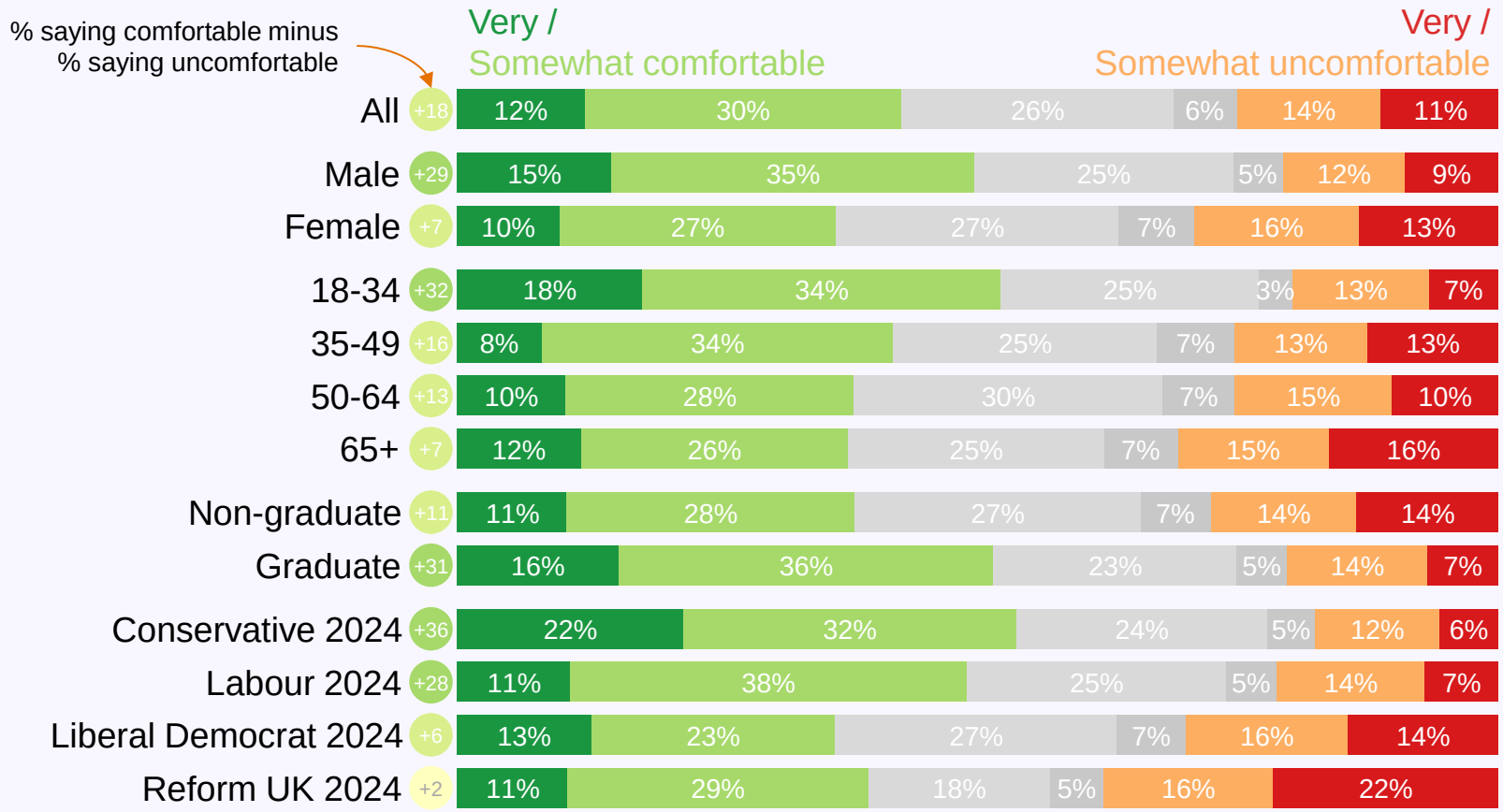
How much, if at all, do you trust the following with your personal health data



Q14. HOW MUCH, IF AT ALL, DO YOU TRUST THE FOLLOWING WITH YOUR PERSONAL HEALTH DATA

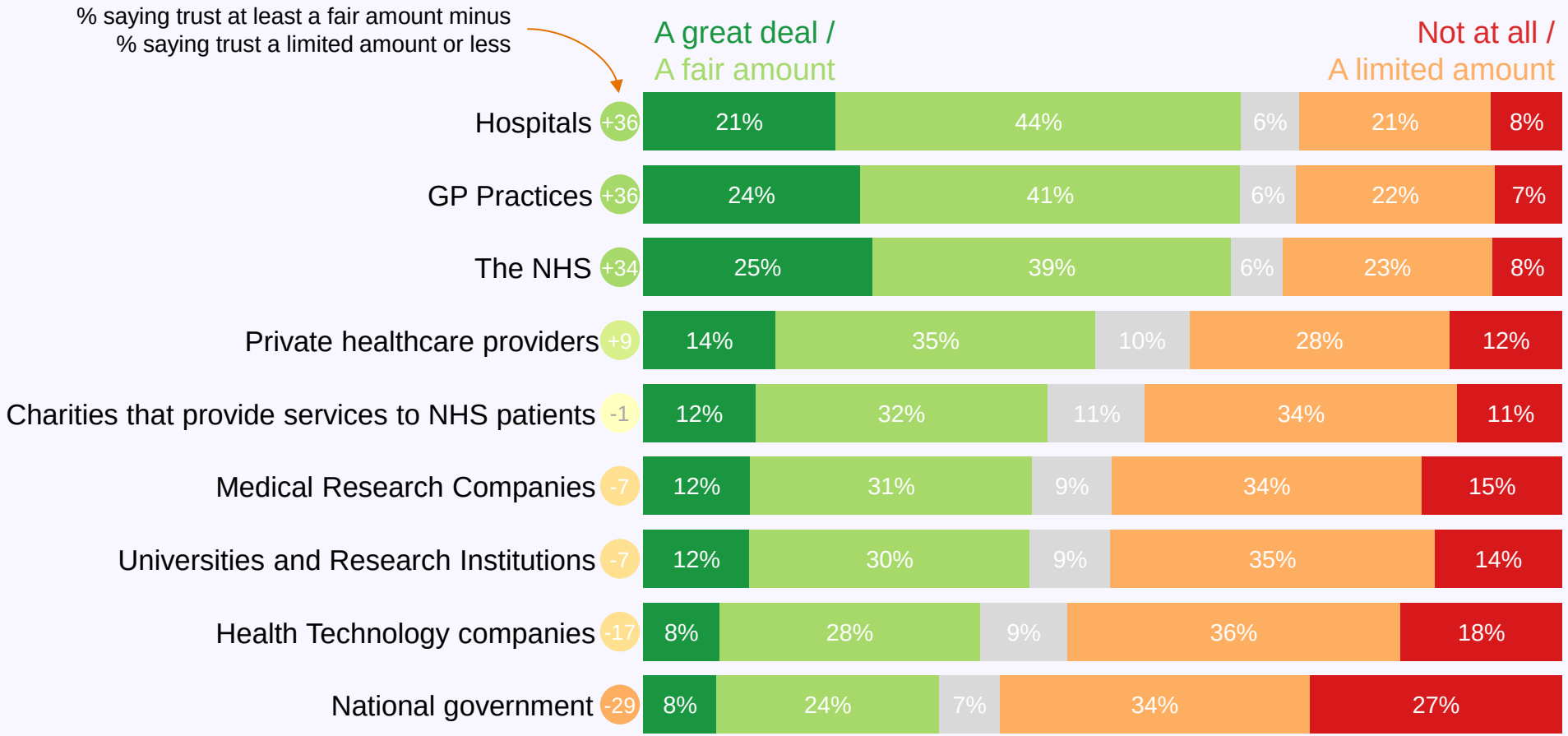
When it comes to using personal health data to train AI for medical purposes, scepticism persists. Only slightly more than two in five expressing comfort with the idea

AI needs large datasets to work and analyse data. This involves having access to personal and healthcare data in order to train AI systems for medical purposes. How comfortable or uncomfortable would you feel with AI having access to personal health data?



But public scepticism regarding their data being used to train AI eases when it is trusted organisations like Hospitals, GPs, and the NHS

How much, if at all, do you trust these organisations with your health data, including access to personal and healthcare information for training AI systems for medical purposes?



Q17. HOW MUCH, IF AT ALL, DO YOU TRUST THESE ORGANISATIONS WITH YOUR HEALTH DATA, INCLUDING ACCESS TO PERSONAL AND HEALTHCARE INFORMATION FOR TRAINING AI SYSTEMS FOR MEDICAL PURPOSES?

Those who are highly familiar with AI, graduates, and individuals over 65 are more likely to trust these institutions with their data to train AI

How much, if at all, do you trust these organisations with your health data, including access to personal and healthcare information for training AI systems for medical purposes?

	All	Male	Female	18-34	35-49	50-64	65+	Non-graduate	Graduate	Very familiar	Somewhat familiar	Not very familiar	Not familiar at all
Hospitals	+36	+39	+34	+37	+26	+34	+49	+31	+47	+61	+36	+36	-6
GP Practices	+36	+41	+31	+30	+27	+41	+47	+34	+39	+63	+35	+33	-2
The NHS	+34	+39	+29	+29	+26	+39	+41	+30	+40	+56	+33	+33	-5
Private healthcare providers (e g Bupa, Spire Healthcare, etc)	+9	+11	+6	+22	+12	-4	+3	+6	+14	+53	+4	+3	-25
Charities that provide services to NHS patients	-1	+3	-5	+10	+6	-7	-15	-6	+7	+44	-2	-18	-23
Universities and Research Institutions	-7	-4	-10	-3	-4	-5	-17	-16	+10	+34	-6	-26	-26
Medical Research Companies	-7	-3	-10	+13	-6	-23	-12	-11	+2	+32	-6	-23	-23
Health Technology companies	-17	-17	-18	+6	-13	-28	-37	-22	-9	+46	-20	-37	-41
National government	-29	-22	-36	-8	-18	-39	-54	-38	-11	+20	-29	-47	-52

% saying trust at least a fair amount minus % saying trust a limited amount or less

Q17. HOW MUCH, IF AT ALL, DO YOU TRUST THESE ORGANISATIONS WITH YOUR HEALTH DATA, INCLUDING ACCESS TO PERSONAL AND HEALTHCARE INFORMATION FOR TRAINING AI SYSTEMS FOR MEDICAL PURPOSES?

The Royal College of Radiologists

The Future of AI in Healthcare:

Public Perceptions of AI in Radiology- Report Appendix

Polling by JL Partners

April 2025