

NATIONAL INSTITUTE FOR HEALTH AND CARE EXCELLENCE

Equality impact assessment

Software with artificial intelligence (AI)- derived algorithms to help interpret electroencephalograms (EEGs) for suspected epilepsy: early-use assessment

Scoping

1 Have any potential equality issues been identified during the scoping process? If so, what are they?

- Epilepsy is a disability protected by the Equality Act 2010
- Epilepsy can start at any age but it often starts in young children and people over 50 ([NHS conditions: epilepsy](#))
- 50% of people diagnosed with epilepsy have co-existing health conditions ([Epilepsy Research Institute](#))
- Conditions more common in people with epilepsy than in the general population include for example:
 - Neurodevelopmental conditions such as a learning disability, ADHD, autism or cerebral palsy
 - Dementia (in older people)
 - Mental health conditions such as depression and anxiety.
- EEGs from children (including neonates) may be particularly challenging to interpret because the electrical activity in the brain and so what normal activity looks like changes with the developing brain
- EEGs from older people have different characteristics compared to the EEGs from younger people
- EEGs from people with some neurodevelopmental conditions or neuropsychiatric disorders or having certain medications may be more

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difficult to interpret because what some electrical brain activity related to these conditions may look like the activity related to epilepsy or the EEG may not show typical epileptiform activity

- People with conditions such as a learning disability, neurodevelopmental conditions or dementia may find it more challenging to rest during the EEG recording and the movement during the test causes artefacts that may make interpreting the EEG data more challenging
- If the software has been developed and validated in populations in which people with conditions that may make EEG data more challenging to interpret have been underrepresented, it may perform differently in these groups than data suggests.

2 Have any potential health inequality issues been identified during the scoping process? If so, what are they?

- People in the most deprived areas of the UK are more than 30% more likely to have epilepsy than people in the least deprived areas ([Wigglesworth et al. 2023](#), [Bush et al. 2024](#))
- There is geographical variation in the capacity of epilepsy specialised healthcare professionals such as the clinical neurophysiologists who interpret EEGs – people who live in areas of less availability may have less access or wait longer for services

3 What is the preliminary view as to what extent the committee needs to address the potential issues set out in questions 1 and 2?

The committee should consider all the equality issues when making recommendations.

4 Has any change to the draft scope been agreed to highlight the potential issues set out in questions 1 and 2?

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- Potential equality issues and considerations are in section 8 of the final scope.
- The following have been included as subgroups:
 - People with conditions that may make it more difficult to interpret the EEG (such as neurodevelopmental conditions, neuropsychiatric disorders, cognitive impairment or medication that could influence the electrical activity in the brain)
 - Neonates, children, adults.
- Section 11.3 of the final scope notes that the assessment should collate information from the manufacturers on the datasets the software has been trained and validated in.

5 Has the stakeholder list been updated as a result of additional equality or health inequality issues identified during the scoping process?

Not as a result of additional equality or health inequality issues identified. But at the scoping workshop, 2 additional patient organisations, 1 additional national organisation (professional, research) and 1 additional government agency were identified and have been invited to register as stakeholders.

Approved by associate director: Lizzy Latimer

Date: 22/01/2026

Draft guidance

This section will be completed when the draft guidance is issued.

6 Have the potential equality issues identified during the scoping process been addressed by the committee? If so, how?

The committee noted that of the 7 studies using software to help healthcare professionals, 3 included children (1 of which included children only). The key

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studies did not report subgroup data on people with conditions that make it difficult to interpret the EEG (such as neurodevelopmental conditions, neuropsychiatric disorders, cognitive impairment, learning disabilities or medication that could influence electrical activity in the brain). The EAG noted that these groups appeared underrepresented or were not reported in the data the software's AI-derived algorithms were trained on. The committee agreed that developing and validating software that is representative of the intended population and reporting on this is important..

7 Have the potential health inequality issues identified during the scoping process been addressed by the committee? If so, how?

The committee noted that people in the most deprived areas of the UK are more likely to have epilepsy than people in the least deprived areas. The availability of healthcare professionals who are epilepsy specialists varies geographically. People who live in areas where epilepsy specialists are less available may have less access or wait longer for services. Both the patient and clinical experts explained that it is not only the capacity of the specialist healthcare professionals who review EEGs that varies across the country, but also the capacity of specialist healthcare professionals who diagnose and treat epilepsy. Faster access to EEG or being provided with additional information about EEGs, may help reach answers faster, but it could still take a long time to have an appointment with a healthcare professional who diagnoses and treats epilepsy. The committee recalled that epilepsy can be diagnosed, and treatment can start, without an EEG. The committee concluded that the unmet need is associated more with access to healthcare professionals than with the speed of interpreting EEGs.

8 Have any other potential equality or health inequality issues been raised in the stakeholder submissions or the assessment report? If so, how has the committee addressed these?

No

9 Have any other potential equality or health inequality issues been identified by the committee? If so, how has the committee addressed these?

No

10 Do the preliminary recommendations make it more difficult for a specific group to access the technology than other groups? If so, what are the barriers to, or difficulties with, access for this group?

No. The technologies are recommended only for research.

11 Has the committee made any reasonable adjustments for the equality issues identified in its recommendations? That is, any adjustments needed to remove or alleviate barriers to, or difficulties with, access needed to fulfil NICE's obligations to promote equality.

The technologies are recommended only for research.

12 Have the committee's considerations of equality and health inequality issues been described in the draft guidance? If so, where?

The committee's considerations of equality and health inequality issues are described in section 3.8 of the draft guidance. The patient and clinical expert views on access to services and the committee's conclusions on the technologies' role in addressing this are in section 3.3 of the draft guidance.

Approved by associate director: Lizzy Latimer

Date: 03/06/2026

Final draft guidance

This section will be completed when the final draft guidance is issued.

- 13 Have any additional potential equality or health inequality issues been raised during consultation on the draft guidance? If so, how has the committee addressed these?**

[add answer]

- 14 Have any additional potential equality or health inequality issues been identified by the committee? If so, how has the committee addressed these?**

[add answer]

- 15 If the recommendations have changed after consultation, do the updated recommendations make it more difficult for a specific group to access the technology than other groups? If so, what are the barriers to, or difficulties with, access for this group?**

[add answer]

- 16 If the recommendations have changed after consultation, has the committee made any other reasonable adjustments for the equality issues identified in its recommendations? That is, any adjustments needed to remove or alleviate barriers to, or difficulties with, access needed to fulfil NICE's obligations to promote equality.**

[add answer]

- 17 Have the committee's considerations of equality and health inequality issues been described in the final draft guidance? If so, where?**

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[add answer]

Approved by associate director: [name]

Date: XX/XX/20X