NHS England and NHS Improvement: Equality and Health Inequalities Impact Assessment (EHIA)

A completed copy of this form must be provided to the decision-makers in relation to your proposal. The decision-makers must consider the results of this assessment when they make their decision about your proposal.

1. Name of the proposal (policy, proposition, programme, proposal or initiative)[1]: Interim Clinical Commissioning Policy proposition: Sapropterin for Phenylketonuria (All Ages)

2. Brief summary of the proposal in a few sentences

This clinical commissioning policy proposes the use of sapropterin as a treatment for patients with phenylketonuria (PKU). PKU is an inherited disorder which causes harmful levels of phenylalanine (Phe) (an amino acid found in natural protein) to accumulate in the blood, leading to brain damage, behavioural problems, seizures and cognitive impairment if untreated or poorly controlled in childhood. Adults with raised Phe levels report a range of symptoms including mood change and decreased processing speeds. Current treatment relies on excluding all meat, fish, dairy, nuts and legumes from the diet, and substituting these with artificial amino acids. Patients are required to accurately measure and restrict the amount of phenylalanine they consume. Sapropterin increases the action of a key enzyme which breaks down phenylalanine, and so reduces Phe levels and allows for lessened dietary restrictions and decreased intake of synthetic amino acids. The policy is developed following an evidence review. Evidence for this treatment shows that there is variation in the benefit derived by patients based on the application of clinical criteria. Therefore, the evidence of clinical (and where relevant cost) effectiveness has been used to determine the clinical criteria for individual access to the treatment. It is intended that these criteria are used by treating clinicians in determining the patients who can benefit from the treatment.

The purpose of this EHIA is to identify population groups that may be disproportionately affected by PKU and to make appropriate recommendations to mitigate any potential inequity in access to the treatment and to reduce the inequalities in outcomes from PKU.

[1] Proposal: We use the term proposal in the remainder of this template to cover the terms initiative, policy, proposition, proposal or programme.

3. Main potential positive or adverse impact of the proposal for protected characteristic groups summarised

Please briefly summarise the main potential impact (positive or negative) on people with the nine protected characteristics (as listed below). Please state **N/A if your proposal will not impact adversely or positively on the protected characteristic groups listed below. Please note that these groups may also experience health inequalities.**

Protected characteristic groups	Summary explanation of the main potential positive or adverse impact of your proposal	Main recommendation from your proposal to reduce any key identified adverse impact or to increase the identified positive impact
Age: older people; middle years; early years; children and young people.	If phenylalanine levels are poorly controlled in childhood patients can have reduced IQ, behavioural problems and developmental delay. Treatment with sapropterin can keep Phe in recommended range, therefore avoiding these adverse outcomes for children. Adolescents and young people are at a higher risk of poor phenylalanine control and poor outcomes as they transition to adulthood. People born prior to the introduction of newborn screening for PKU in 1969 may have late treated or late diagnosed PKU and have intellectual disabilities and high support needs. Adults with PKU are at a higher risk of reduced IQ and cognitive impairments.	Sapropterin to be made available as a treatment option to infants, children and young people of all ages, as well as adults.

Protected characteristic groups	Summary explanation of the main potential positive or adverse impact of your proposal	Main recommendation from your proposal to reduce any key identified adverse impact or to increase the identified positive impact
	They may have experienced sustained high phenylalanine levels in their childhood and discontinued treatment at an early age. (Data in relation to impact on IQ: Fonnesbeck CJ, McPheeters ML, Krishnaswami S, Lindegren ML, Reimschisel T. Estimating the probability of IQ impairment from blood phenylalanine for phenylketonuria patients: a hierarchical meta-analysis. J Inherit Metab Dis. 2013;36(5):757–766. doi:10.1007/s10545-012-9564-0 van Wegberg AMJ, MacDonald A, Ahring K, Bélanger-Quintana A, Blau N, Bosch AM, Burlina A, Campistol J, Feillet F, Giżewska M, Huijbregts SC, Kearney S, Leuzzi V, Maillot F, Muntau AC, van Rijn M, Trefz F, Walter JH, van Spronsen FJ. The complete European guidelines on phenylketonuria: diagnosis and treatment. Orphanet J Rare Dis. 2017 Oct 12;12(1):162)	

Protected characteristic groups	Summary explanation of the main potential positive or adverse impact of your proposal	Main recommendation from your proposal to reduce any key identified adverse impact or to increase the identified positive impact
Disability: physical, sensory and learning impairment; mental health condition; long-term conditions.	There is a higher incidence of learning disabilities and cognitive impairments in the population of people with PKU. Children and adults with intellectual disability may struggle to understand the importance of restrictions of the low-protein diet and may struggle with weighing foods and monitoring protein intake. Sapropterin can lessen the burden on these people and their carers. The children of parents/carers with learning impairments are at higher risk of poor outcomes, as the parents may struggle with dietary management of PKU.	Sapropterin to be made available as a treatment option. Sapropterin treatment needs to be accessible to people with all forms of disability. In order to ensure this, monitoring and information providers must ensure information is provided in ways that meet the needs of patients and carers, particularly those with learning disabilities. This will ensure that people with learning difficulties are empowered to ask for and access this treatment.
Gender Reassignment and/or people who identify as Transgender	N/a	
Marriage & Civil Partnership: people married or in a civil partnership.	N/a	
Pregnancy and Maternity: women before and after childbirth and who are breastfeeding.	Children born to women with high levels of phenylalanine are at risk of maternal PKU syndrome, which results	There is already a published policy which covers the use of saproterin in pregnant women with poor biochemical control: ‘Sapropterin for

Protected characteristic groups	Summary explanation of the main potential positive or adverse impact of your proposal	Main recommendation from your proposal to reduce any key identified adverse impact or to increase the identified positive impact
	in intellectual disabilities, microcephaly, heart defects and low birthweight. Whilst pregnant women with uncontrolled Phe levels can currently access treatment with sapropterin, those with unplanned pregnancies may inadvertently expose the foetus to potentially damaging levels of Phe in early pregnancy. Sapropterin treatment for patients of all ages can improve Phe levels in these patients, therefore reducing the risk of maternal PKU syndrome. Women with PKU need to establish low and controlled phenylalanine levels prior to conception to avoid damage to the foetus. This is stressful and difficult and can constrain women's sexual and reproductive choices. Women may also restrict the size of their families (Ford et al., 2018). Women with PKU should be considered an at-risk group after childbirth. Women with PKU with young children may not be able to cope with dietary	Phenylketonuria: Use in Pregnancy' available at: https://www.england.nhs.uk/wp-content/uploads/2013/04/e12-p-a.pdf This policy would make sapropterin available as a treatment option for all pregnant women, as well as women planning pregnancy and women post pregnancy.

Protected characteristic groups	Summary explanation of the main potential positive or adverse impact of your proposal	Main recommendation from your proposal to reduce any key identified adverse impact or to increase the identified positive impact
	treatment. Phe toxicity is linked to low mood and depression.	
Race and ethnicity[2]	PKU is more prevalent in white European populations, with patients of Irish, Eastern European and traveller backgrounds reported to make up a large proportion of the patient population. Certain ethnic groups (non-English speakers or Roma/Travellers) may experience greater difficulty controlling phenylalanine levels using dietary management for social and cultural reasons. People whose first language is not English face difficulties in interpreting food labels, reading health-literature and letters from clinicians. People from the travelling community face a range of difficulties in	Sapropterin to made available as a treatment option. Sapropterin treatment needs to be accessible to people from all ethnicities. In order to ensure this, providers must ensure patients have access to monitoring and information in ways that meet their needs.

[2] Addressing racial inequalities is about identifying any ethnic group that experiences inequalities. Race and ethnicity includes people from any ethnic group incl. BME communities, non-English speakers, Gypsies, Roma and Travelers, migrants etc.. who experience inequalities so includes addressing the needs of BME communities but is not limited to addressing their needs, it is equally important to recognise the needs of White groups that experience inequalities. The Equality Act 2010 also prohibits discrimination on the basis of nationality and ethnic or national origins, issues related to national origin and nationality.

Protected characteristic groups	Summary explanation of the main potential positive or adverse impact of your proposal	Main recommendation from your proposal to reduce any key identified adverse impact or to increase the identified positive impact
	management of PKU such as: poor health literacy, poor literacy, logistical issues relating to living circumstances and frequent moves and lack of facilities for food preparation.	
Religion and belief: people with different religions/faiths or beliefs, or none.	Religious belief may have an impact on dietary management of PKU. Religious beliefs in respect of contraception use may also impact on efforts of women with PKU to have a planned approach to pregnancy. Sapropterin may reduce any associated challenges.	Sapropterin to be made available as a treatment option.
Sex: men; women	N/a	
Sexual orientation: Lesbian; Gay; Bisexual; Heterosexual.	N/a	

4. Main potential positive or adverse impact for people who experience health inequalities summarised

Please briefly summarise the main potential impact (positive or negative) on people at particular risk of health inequalities (as listed below). Please state **N/A if your proposal will not impact on patients who experience health inequalities.**

Groups who face health inequalities[3]	Summary explanation of the main potential positive or adverse impact of your proposal	Main recommendation from your proposal to reduce any key identified adverse impact or to increase the identified positive impact
Looked after children and young people	Families and patients are considered to spend on average 19 hours per week on dietary compliance, thus affecting every aspect of life and testing patient's self-control. This may be an additional challenge for carers of looked after children. Treatment with sapropterin may lessen the requirements for protein intake monitoring and so reduce this burden. Poor phenylalanine control is grounds for social services intervention and therefore child safeguarding measures can apply to children with PKU.	Sapropterin to be made available as a treatment option.
Carers of patients: unpaid, family members.	Families and patients are considered to spend on average 19 hours per week on dietary compliance, thus affecting every aspect of life and testing patient's self-control. Therefore, maintaining dietary compliance can have a	Sapropterin to be made available as a treatment option.

[3] Please note many groups who share protected characteristics have also been identified as facing health inequalities.

Groups who face health inequalities[3]	Summary explanation of the main potential positive or adverse impact of your proposal	Main recommendation from your proposal to reduce any key identified adverse impact or to increase the identified positive impact
	significant and negative impact on employment/family income. Treatment with sapropterin may lessen the requirements for protein intake monitoring and so reduce this burden.	
Homeless people. People on the street; staying temporarily with friends /family; in hostels or B&Bs.	Patients with PKU without fixed abode, or staying in temporary housing, may lack access to appropriate cooking and food storage facilities to facilitate adherence to dietary requirements. While homeless people do continue to face difficulties accessing prescription medications, the availability of sapropterin may mitigate the challenges of dietary compliance.	Sapropterin to be made available as a treatment option.
People involved in the criminal justice system: offenders in prison/on probation, ex-offenders.	While people in detained settings may face difficulties in respect of adherence to strict dietary requirements and / or accessing prescription medications, the availability of sapropterin may mitigate the negative impacts of poor access to dietary measures	Sapropterin to be made available as a treatment option.
People with addictions and/or substance misuse issues	Substance misuse will impact the ability of parents to ensure adherence to dietary treatment of children with PKU.	Sapropterin to be made available as a treatment option.

Groups who face health inequalities[3]	Summary explanation of the main potential positive or adverse impact of your proposal	Main recommendation from your proposal to reduce any key identified adverse impact or to increase the identified positive impact
	Substance misuse will also impair individuals own ability to manage PKU dietary care.	
People or families on a low income	While people on low incomes may face difficulties in accessing foods necessary to achieve adherence and the facilities required to maintain strict dietary requirements, the availability of sapropterin may mitigate the negative impacts of poor access to dietary measures.	Sapropterin to be made available to patients of all ages.
People with poor literacy or health Literacy: (e.g. poor understanding of health services poor language skills).	Improved Phe levels following sapropterin treatment may facilitate relaxed dietary restrictions, therefore reducing the need to read food labels, weigh food and monitor food intake. This is likely to be of more benefit for patients with difficulties with literacy or numeracy.	Sapropterin to be made available to patients of all ages. In order to ensure this, providers must ensure patients have access to information in ways that meet their needs.
People living in deprived areas	While people in deprived areas may face difficulties in accessing foods necessary to achieve adherence to strict dietary requirements, the availability of sapropterin may mitigate the negative impacts of poor access to dietary measures.	Sapropterin to be made available to patients of all ages**.**

Groups who face health inequalities[3]	Summary explanation of the main potential positive or adverse impact of your proposal	Main recommendation from your proposal to reduce any key identified adverse impact or to increase the identified positive impact
People living in remote, rural and island locations	While people in remote, rural or island locations may face difficulties in accessing foods necessary to achieve adherence to strict dietary requirements, the availability of sapropterin may mitigate the negative impacts of poor access to dietary measures.	Sapropterin to be made available to patients of all ages**.** Special considerations may need to be made in order for patients to access prescriptions, including for example the use of virtual follow-up for monitoring.
Refugees, asylum seekers or those experiencing modern slavery	While refugees, asylum seekers and those experiencing modern slavery may face difficulties in respect of adherence to strict dietary requirements and / or accessing prescription medications, the availability of sapropterin may mitigate the negative impacts of poor access to dietary measures.	Sapropterin to be made available to patients of all ages**.** Providers must ensure patients have access to information in ways that meet their needs. Special considerations may need to be made for patients to access prescriptions, including for example the use of virtual follow-up for monitoring.
Other groups experiencing health inequalities (please describe)	Dietary adherence can be a huge burden particularly in care home settings. Sapropterin may reduce this burden.	Sapropterin to be made available to patients of all ages**.**

5. Engagement and consultation

a. Have any key engagement or consultative activities been undertaken that considered how to address equalities issues or reduce health inequalities? Please place an x in the appropriate box below.

Yes X	No	Do Not Know

b. If yes, please briefly list up the top 3 most important engagement or consultation activities undertaken, the main findings and when the engagement and consultative activities were undertaken.

Name of engagement and consultative activities undertaken		Summary note of the engagement or consultative activity undertaken	Month/Year
1	Involvement of patient-public voice representative	Advice from representative from NSPKU regarding the impact of the dietary restrictions on parent-child relationships and social inclusion	
2	Public consultation	Public consultation took place for one month, and further changes to the EHIA have been made on the basis of responses received.	April 2020

6. What key sources of evidence have informed your impact assessment and are there key gaps in the evidence?

Evidence Type	Key sources of available evidence	Key gaps in evidence
Published evidence	Evidence review completed by NICE.	The evidence review has identified clinical benefit for patients including: reduced Phe blood levels, improved Phe tolerance, reduced use of artificial amino acid supplements and improved inattention in children with ADHD symptoms.

Evidence Type	Key sources of available evidence	Key gaps in evidence
		However, the published evidence has not demonstrated an associated improvement in quality of life, and in overall cognitive outcomes. This contrasts with the experience of clinicians on the policy working group who have treated patients with sapropterin. This is an area for further research.
Consultation and involvement findings	No new additional evidence provided during consultation, but views of those responded have informed changes to the EHIA.	
Research	N/A	
Participant or expert knowledge For example, expertise with the team or expertise drawn on external to your team	Consultants of metabolic medicine and specialist dieticians have been involved in guiding the evidence review and producing the policy. The Patient Voice representative, able to represent the lived experience of people with PKU, has been involved throughout the development of the proposal.	

7. Is your assessment that your proposal will support compliance with the Public Sector Equality Duty? Please add an x to the relevant box below.

	Tackling discrimination	Advancing equality of opportunity	Fostering good relations
The proposal will support?	X	X	X
The proposal may support?			
Uncertain whether the proposal will support?			

8. Is your assessment that your proposal will support reducing health inequalities faced by patients? Please add an x to the relevant box below.

	Reducing inequalities in access to health care	Reducing inequalities in health outcomes
The proposal will support?		
The proposal may support?	X	X
Uncertain whether the proposal will support?		

9. Outstanding key issues/questions that may require further research/additional evidence. Please list your top 3 in order of priority or state N/A

Key issue or question to be answered		Type of research or other evidence that would address the issue and/or answer the question
1	Impact of sapropterin on quality of life and overall cognitive outcomes, with a focus on the patients from groups at risk of experiencing health inequalities, as identified in this assessment.	High quality random control trials with subgroup analysis to identify benefit to patients at risk of experiencing health inequalities.

2		
3		

10. Summary assessment of this EHIA findings

Patients with the following protected characteristics are disproportionately impacted by the adverse effects of PKU: children and young people, adults and children with intellectual disabilities and pregnant women. Patients at risk of health inequalities are also disproportionately impacted both by the dietary restrictions and the adverse outcomes of raised Phe levels including: carers of patients, looked-after children, homeless people, people living in deprived areas, people living in remote areas, people living in deprived areas, people in the criminal justice system, asylum seekers and refugees and patients with poor health literacy or literacy. Subject to approval of the policy which would provide access to individuals meeting certain clinical criteria aimed at ensuring treatment is given to those who will benefit from it, then the proposal may assist in meeting the public sector equality duty and reducing health inequalities.