

Integrated Impact Assessment Report for Clinical Commissioning Policies				
Policy Reference Number	1840	1840		
Policy Title		Sapropterin for phenylketonuria all ages, interim pending NICE guidance Proposal <u>for routine commissioning</u> (ref A3.1)		
Lead Commissioner	Joan Ward	Clinical Lead	Maureen Cleary	
Finance Lead	Justine Stalker-Booth	Analytical Lead	Justine Stalker-Booth	

Integrated Impact Assessment – Index				
Section A – Activity	Section B - Service	Section C – Finance		
A1 Current Patient Population & Demography / Growth	B1 Service Organisation	C1 Tariff		
A2 Future Patient Population & Demography	B2 Geography & Access	C2 Average Cost per Patient		
A3 Activity	B3 Implementation	C3 Overall Cost Impact of this Policy to NHS England		
A4 Existing Patient Pathway	B4 Collaborative Commissioning	C4 Overall cost impact of this policy to the NHS as a whole		
A5 Comparator (next best alternative treatment) Patient Pathway		C5 Funding		
A6 New Patient Pathway		C6 Financial Risks Associated with Implementing this Policy		
A7 Treatment Setting		C7 Value for Money		
A8 Coding		C8 Cost Profile		
A9 Monitoring				

About this Impact Assessment: instructions for completion and explanatory notes

- Each section is divided into themes.
- Each theme sets out a number of questions.
- All questions are answered by selecting a drop down option or including free text.
- Free text boxes are provided to enable succinct relevant commentary to be added which explains the rationale for response or assumption. Please limit responses to 3 sentences of explanatory text.
- Data in this document is either drawn from one of the relevant policy documents or a source for the information is provided.
- Where assumptions are included where data is not available, this is specified.

Section A - Activity Impact

A1 Current Patient Population & Demography / Growth

A1.1 Prevalence of the disease/condition.

Click here to enter text. Phenylketonuria (PKU) is a rare genetic disorder in which a particular substance called phenylalanine (which is found in some food proteins) cannot be broken down and accumulates in the body. Some patients have a milder form of the disorder and some have a severe form. Phenylalanine (Phe) is extremely toxic to the brain and untreated PKU patients have profound brain damage with a very low IQ, seizures and behavioural and social problems, other motor difficulties and autism. PKU patients are able to tolerate only very small amounts of natural protein as it contains phenylalanine which increases the phe level in their bodies and leads to profound brain damage. The drug sapropterin enables PKU patients to eat more natural protein without risking brain damage. Only patients who have a specific mutation respond to this treatment.

In England this is estimated at 25-35% of the patient population. Although PKU is identified through the new-born screening programme, the epidemiology is limited in relation to this disease. The incidence of PKU varies by population and in England it is estimated at 1 per 10,000/14,000 giving a prevalence of 4,000 to 5,600. In 2015-16, the incidence rate of positive screening tests for phenylketonuria was 0.013% (87 babies tested positive and 672,766 babies were tested). It is likely that the number of individuals under regular follow up is about 2000. It is estimated that only about 25-30% of the English population are likely to respond to sapropterin giving an estimate of 500 eligible individuals of all ages. It is anticipated that the number who would, over time, access treatment is less than this figure, approximately 300-330. It is thought that this population is split evenly between adults and children. Approximately 27-29 babies from the PKU population, identified through new born screening will have the genetic mutation that enables them to respond to sapropterin.

A1.2 Number of patients currently eligible for the treatment according to the proposed policy commissioning criteria.	323 Source: Policy proportion Please specify Click here to enter tex	
A1.3 Age group for which the treatment is proposed according to the policy commissioning criteria.	All ages Please specify Click here to enter text.	
A1.4 Age distribution of the patient population eligible according to the proposed policy commissioning criteria	It is assumed that approximately 55% of patients in the initial cohort will be under 19 years of age. Source: Policy proposition Please specify Per ONS statistical analysis	
A1.5 How is the population currently distributed geographically?	unknown	regional diatribution by 0/1
	North	regional distribution by %:
	Midlands & East	enter %
	London	enter %
	South	enter %
	Source: Policy Propo Please specify Click here to enter tex	

A2 Future Patient Population & Demography

A2.1 Projected changes in the disease/condition epidemiology, such as incidence or prevalence (prior to applying the new policy) in 2, 5, and 10 years?	Constant If other, Click here to enter text. Source: Policy Proposition section 6		
A2.2 Are there likely to be changes in demography of the patient population and would this impact on activity/outcomes?	No Please specify Click here to enter text. Source: Policy Proposition section 6/other		
A2.3 Expected net increase or decrease in the number of patients who will be eligible for the service, according to the proposed service specification commissioning criteria, per year in years 2-5 and 10?	YR2 +/- YR3 +/- YR4 +/- YR5 +/-	24 48 72 96	
Are these numbers in line with ONS growth assumptions for the age specific population? If not please justify the growth assumptions made.	YR10 +/- 216 Source: Service specification proposition section 3.1 Choose an item. This is the patient cohort identified annually through newborn screening and the subsequent Sapropterin Loading test.		ified annually through newborn screening
A3 Activity			
A3.1 What is the purpose of new policy?	Confirm routine commissioning position of an additional new treatment		

	Please specify Click here to enter text.
A3.2 What is the annual activity associated with the existing pathway for the eligible population?	323 Source: required Please specify This is number of patients known to services who would be responders to treatment. These patients are currently following a low protein diet and dietary supplements.
A3.3 What is the estimated annual activity associated with the proposed policy proposition pathway for the eligible population?	323 Source: required Please specify Click here to enter text.
A3.4 What is the estimated annual activity associated with the next best alternative comparator pathway for the eligible population? If the only alternative is the existing pathway, please state 'not applicable' and move to A4.	Not applicable Source: required Please specify Click here to enter text.
A4 Existing Patient Pathway	
A4.1 Existing pathway: Describe the relevant currently routinely commissioned: • Treatment or intervention • Patient pathway • Eligibility and/or uptake estimates.	Patients are identified with PKU through the new born screening programme. Most patients are referred to metabolic services and receive specialist dietetic input to help them manage the diet. This diet is very restricted; patients are able to eat very low levels of natural protein without the risk of brain damage and must take synthetic protein supplements up to 3 times a day. Patients can find these supplements

	difficult to tolerate. These food supplements are funded by CCGs. Specialist dieticians monitor patients' weekly through blood spot monitoring and advise on food and synthetic protein supplement intake accordingly. Patients have to monitor their PHE levels weekly. Compliance with diet reduces with age and about 50% of adults leave treatment. Sapropterin is a medicine that reduces the PHE levels. Treatment aims to lower the blood PHE levels to close to or below the European Guideline levels (therapeutic ranges are: 120-360 µmol/l up to 12 years, 13 years onwards 120-600 µmol/l, women who are planning a pregnancy 120-360 µmol/l). For each 100 µmol/L increases in blood PHE there is a predicted reduction in IQ of 1.3 to 3.1 points (Waisbren et al). Not all patients with PKU will be able to take this drug; it is estimated that between 25-35% of patients have the genetic mutation that responds to this treatment. In England the estimate of the number of patients who would be responsive to sapropterin and would take up the treatment option which would include the requirement for regular weekly monitoring is 300-330. Source: required
A4.2. What are the current treatment access and stopping criteria?	The diet is offered to all patients with PKU. Patients who wish to be prescribed low protein foods and synthetic protein have to comply with the Phe monitoring by a specialist centres. Source: required
A4.3 What percentage of the total eligible population is expected to: a) Be clinically assessed for treatment b) Be considered to meet an exclusion criteria following assessment	If not known, please specify Click here to enter text. a) All patients with PKU are offered the dietary treatments and synthetic protein supplements at birth. b) 50% patients tend to exit themselves from treatment when they are unable to comply with the diet and the monitoring. c) 100% initiate dietary treatment

c) Choose to initiate treatment d) Comply with treatment e) Complete treatment?	d) 50 % of patients comply with treatment e) Treatment is lifelong Source: required
A5 Comparator (next best alternative treatment) Patient Pathwa (NB: comparator/next best alternative does not refer to current pathway but to an	
A5.1 Next best comparator: Is there another 'next best' alternative treatment which is a relevant comparator? If yes, describe relevant Treatment or intervention Patient pathway Actual or estimated eligibility and uptake	No If yes, Click here to enter text. Source: required
A5.2 What percentage of the total eligible population is estimated to: a) Be clinically assessed for treatment b) Be considered to meet an exclusion criteria following assessment c) Choose to initiate treatment d) Comply with treatment e) Complete treatment?	Total estimated eligible a) b) c) d) e)
	Source: required

A6 New Patient Pathway	
A6.1 What percentage of the total eligible population is expected to: a) clinically assessed for treatment a) Be considered to meet an exclusion criteria following assessment b) Choose to initiate treatment c) Comply with treatment d) Complete treatment?	If not known, please specify Click here to enter text. a) 60-70 % of all patients with PKU are likely to ask to be tested b) 70-75% of patients will not have the genetic mutation that enables them to respond to the drug appropriately. c) 25-35% are likely to be responders to the drug and to wish to continue in treatment d) 25-30% e) Treatment is lifelong
	Source: required
A6.2 Specify the nature and duration of the proposed new treatment or intervention.	Life long For time limited treatments, specify frequency and/or duration. Click here to enter text. Source: required

A7 Treatment Setting				
Ar freatment Setting				
A7.1 How is this treatment delivered to the patient?	Select all that apply:			
	Emergency/Urgent care attendance			
	Acute Trust: inpatient			
	Acute Trust: day patient			
	Acute Trust: outpatient			
	Mental Health provider: inp	atient		
	Mental Health provider: outpatient			
	Community setting			
	Homecare			
	Other			
	Please specify:			
	Click here to enter text.			
A7.2 What is the current number of contracted providers for the	NORTH	7		
eligible population by region?	MIDLANDS & EAST	5		
	LONDON	3		
	SOUTH	4		
	much of the activity relat	ing to this s that provi	missioner for metabolic services pecialty sits with CCG portforder landscape; some provide es.	olios.

A7.3 Does the proposition require a change of delivery setting or capacity requirements?	No Please specify: Source: required	
	Gourge: regarda	
A8 Coding		
A8.1 Specify the datasets used to record the new patient pathway	Select all that apply:	
activity.	Aggregate Contract Monitoring *	
*expected to be populated for all commissioned activity	Patient level contract monitoring	
	Patient level drugs dataset	
	Patient level devices dataset	
	Devices supply chain reconciliation dataset	
	Secondary Usage Service (SUS+)	
	Mental Health Services DataSet (MHSDS)	
	National Return**	
	Clinical Database**	
	Other**	
	**If National Return, Clinical database or other Click here to enter text.	selected, please specify:
A8.2 Specify how the activity related to the new patient pathway will be identified.	Select all that apply:	

	OPCS v4.8		
	ICD10		
	Treatment function code		
	Main Speciality code		
	HRG		
	SNOMED		
	Clinical coding / terming methodology used by clinical profession		
A8.3 Identification Rules for Drugs:	Already specified in current NHS England D	rugs L	ist document
How are drug costs captured?	If the drug has already been specified in the cultist please specify drug name and drug indicate Sapropterin for PKU is included on the NHS Enroutinely commissioned except for pregnant wo Click here to enter text.	rrent N on: gland I	HS England Drug
A8.4 Identification Rules for Devices:	Not applicable		
How are device costs captured?	. Click here to enter text.		
A8.5 Identification Rules for Activity: How are activity costs captured?	Already correctly captured by an existing space (NCBPS code within the PSS Tool Associated OP activity for paediatric patients we NCBPS36Z Metabolic Disorders. Associated as be paid by CCGs due to the lack of granularity dataset. There is not anticipated to be any characteristics.	ill be ca ctivity re of codin	aptured by the IR elating to adults will ng in the outpatient

	the drug will be supplied via homecare and patients will already be under the care of clinicians.	
A9 Monitoring		
A9.1 Contracts Specify any new or revised data flow or data collection requirements, needed for inclusion in the NHS Standard Contract Information Schedule.	None Please specify Click here to enter text.	
A9.2 Excluded Drugs and Devices (not covered by the Zero Cost Model) For treatments which are tariff excluded drugs or devices not covered by the Zero Cost Model, specify the pharmacy or device monitoring required, for example reporting or use of prior approval systems.	Select all that apply: Drugs or Device MDS Blueteq Other prior approval Please specify: Click here to enter text.	
A9.3 Business intelligence Is there potential for duplicate reporting?	No If yes, please specify mitigation: Click here to enter text.	
A9.4 Contract monitoring Is this part of routine contract monitoring?	Yes If yes, please specify contract monitoring requirement: Routine excluded drugs patient level MDS	
A9.5 Dashboard reporting Specify whether a dashboard exists for the proposed intervention?	<u>No</u>	

	If yes, specify how routine performance monitoring data will be used for dashboard reporting.
	Click here to enter text.
	If no, will one be developed? This could be included in the Metabolic CRG Dashboard which already includes measures for PKU Click here to enter text.
A9.6 NICE reporting	<u>No</u>
Are there any directly applicable NICE or equivalent quality standards which need to be monitored in association with the new	If yes, specify how performance monitoring data will be used for this purpose.
policy?	Click here to enter text.
Section B	s - Service Impact
B1 Service Organisation	
B1.1 Describe how the service is currently organised? (i.e. tertiary centres, networked provision etc.)	There are c19 specialist metabolic centres. Paediatric clinics are commissioned and funded by NHS England and adult clinics are funded by CCGs (due to the lack of granularity of coding in outpatients). Source: required
B1.2 Will the proposition change the way the commissioned service is organised?	No Please specify:
	Click here to enter text.
	Source: required
B1.3 Will the proposition require a new approach to the	No change to delivery of care
organisation of care?	Please specify:
	Click here to enter text.
	I a

B2 Geography & Access		
B2.1 Where do current referrals come from?	Select all that apply:	
	GP	
	Secondary care	
	Tertiary care	
	Other	
	Please specify: New-born screening	
B2.2 What impact will the new policy have on the sources of referral?	No impact Please specify: Click here to enter text.	
B2.3 Is the new policy likely to improve equity of access?	Increase Please specify: Only pregnant women of Source: Equalities Impa	can access this drug routinely currently act Assessment
B2.4 Is the new policy likely to improve equality of access and/or outcomes?		can access this drug routinely currently, access to for children will reduce brain damage caused by act Assessment

B3 Implementation	
B3.1 Will commissioning or provider action be required before implementation of the proposition can occur?	No action required Please specify: Click here to enter text.
B3.2 Time to implementation: Is a lead-in time required prior to implementation?	No - go to B3.4 If yes, specify the likely time to implementation: Enter text
B3.3 Time to implementation: If lead-in time is required prior to implementation, will an interim plan for implementation be required?	No - go to B3.4 If yes, outline the plan: Click here to enter text.
B3.4 Is a change in provider physical infrastructure required?	No Please specify: Click here to enter text.
B3.5 Is a change in provider staffing required?	No Please specify:
B3.6 Are there new clinical dependency and/or adjacency requirements that would need to be in place?	No Please specify: Click here to enter text.
B3.7 Are there changes in the support services that need to be in place?	No Please specify:

B3.8 Is there a change in provider and/or inter-provider		Click here to enter text.			
governance required? (e.g. ODN arrangements / prime contractor)	No Please specify: Click here to enter text.				
B3.9 Is there likely to be either an increase or decrease in the number of commissioned providers? If yes, specify the current and	Choose an ite				
estimated number of providers required in each region	Region	Current no. of providers	Future State expected range	Provisional or confirmed	
	North	7	7	<u>C</u>	-
	Midlands & East	5	5	<u>C</u>	
	London	3	3	<u>C</u>	
	South	4	4	<u>C</u>	
	Total	19	19	<u>C</u>	
	Please specify: Although NHS England is the commissioner for metabolic services, much of the activity relating to this specialty sits with CCG portfolios. There are also some shared care arrangements between providers currently. Some centres are managed through a tertiary centre and funded by CCGs. This drug is not suitable for shared care.				
B3.10 Specify how revised provision will be secured by NHS	Select all that apply:				
England as the responsible commissioner.	Publication and notification of new policy				
	Market interv	vention required			

	Competitive selection process to secure increase decrease provider configuration				
	Price-bas effectiven	ed selection process to maximise cost			
	Any qualif	Any qualified provider			
	National (National Commercial Agreements e.g. drugs, devices			
	Procurem	Procurement			
	Other				
	Please specify: Click here to enter text.				
B4 Place-based Commissioning					
B4.1 Is this service currently subject to, or planned for, place-based commissioning arrangements? (e.g. future CCG lead, devolved commissioning arrangements, STPs)	No Please specify: This a high cost drug delivered from specialist centres which cross CCG/STP/ICS boundaries.				
Section C	- Finance Ir	npact			
C1 Tariff/Pricing					
C1.1 How is the service contracted and/or charged?	Select all	that apply:			
Only specify for the relevant section of the patient pathway	Drugs	Not separately charged – part of local or national tariffs	onal		

		Excluded from tariff – pass through	\boxtimes
		Excluded from tariff - other	
		Not separately charged – part of local or national tariffs	
	Devices	Excluded from tariff (excluding ZCM) – pass through	
		Excluded from tariff (excluding ZCM) – other	
		Via Zero Cost Model	
		Paid entirely by National Tariffs	
		Paid entirely by Local Tariffs	
		Partially paid by National Tariffs	
	Activity	Partially paid by Local Tariffs	\boxtimes
		Part/fully paid under a Block arrangement	
		Part/fully paid under Pass-Through arrangements	
		Part/fully paid under Other arrangements	
C1.2 Drug Costs Where not included in national or local tariffs, list each drug or		x 100mg tablets is £597.32 ex VAT.	
combination, dosage, quantity, list price including VAT if applicable and any other key information e.g. Chemotherapy Regime.	For children, average annual packs required is 37 (based on a dose of 10mg /kg/day and an average weight of 30kg)		
NB discounted prices or local prices must not be included as these are subject to commercial confidentiality and must not be disclosed.	For adults, the average annual packs required is 114 (based on a dose of 12.5mg /kg/day and an average weight of 75kg)		
C1.3 Device Costs	N/A		

Where not included in national or local tariff, list each element of	
the excluded device, quantity, list or expected price including VAT if applicable and any other key information.	
NB: Discounted prices or local prices must not be included as these are subject to commercial confidentiality and must not be disclosed.	
C1.4 Activity Costs covered by National Tariffs	N/A
List all the HRG codes, HRG descriptions, national tariffs (excluding MFF), volume and other key costs (e.g. specialist top up %)	
C1.5 Activity Costs covered by Local Tariff List all the HRGs (if applicable), HRG or local description, estimated average tariff, volume and any other key costs. Also indicate whether the Local Tariff(s) is/are newly proposed or established and if newly proposed how is has been derived,	Associated activity for paediatrics would be coded to treatment function code (TFC) 261 paediatric metabolic disease. This will either be paid as a block or at locally agreed prices. There is no equivalent code for adults and hence why activity is most likely to be paid by CCGs. There is no change anticipated to the number or cost of outpatient
validated and tested.	activity.
C1.6 Other Activity Costs not covered by National or Local Tariff	NA
Include descriptions and estimates of all key costs.	
C1.7 Are there any prior approval mechanisms required either during implementation or permanently?	Yes Please specify: Click here to enter text.
C2 Average Cost per Patient	

C2.1 What is the estimated cost per patient to NHS England, in		Adults	Paediatric	
years 1-5, including follow-up where required?	YR1	£52.1k	£17.3k	
	YR2	£68.5k	£22.1k	
	YR3	£68.5k	£22.1k	
	YR4	£68.5k	£22.1k	
	YR5	£68.5k	£22.1k	
Are there any changes expected in year 6-10 which would impact the model?				nent on day 1 (assumed to be ear 5 at list price .
C3 Overall Cost Impact of this Policy to NHS England				
C3.1 Specify the budget impact of the proposal on NHS England in relation to the relevant pathway.	Cost pressure	(At list price)		
	Year 1	£6,501.0k		
	Year 2	£14,866.2k		
	Year 5	£17,709.9k		
C3.2 If the budget impact on NHS England cannot be identified set out the reasons why this cannot be measured.	N/A			

C3.3 If the activity is subject to a change of commissioning responsibility, from CCG to NHS England, has a methodology for the transfer of funds been identified, and calculated?

N/A

C4 Overall cost impact of this policy to the NHS as a whole

C4.1 Specify the budget impact of the proposal on other parts of the NHS.

Budget impact for CCGs:

Cost saving

CCGs fund the synthetic protein supplements that are prescribed by GPs as part of the PKU diet. The cost per patient varies but is in the range of £12.6k to £16.0k per annum for adults and £10.8k to £11.1k for paediatrics. It is anticipated that there may be around a 50% reduction in prescribing for those patients taking Sapropterin. If this was realised, the CCG saving would be:

Year 1	£851.9k
Year 2	£2,189.7k
Year 5	£2,644.1k

It is also likely there would be a small reduction in the number of specialist dietitian and psychologist appointments (c7-10% of patients). However as these tend to be paid on a block base, the saving is difficult to quantify or realise.

Budget impact for providers:

No impact on providers

Please specify:

C4.2 Taking into account responses to C3.1 and C4.1, specify the	<u>Cost pressure</u>			
budget impact to the NHS as a whole.	Please specify:			
	Year 1	£ 5,649.1k		
	Year 2	£12,676.5k		
	Year 5	£15,065.8k		
	Click here to ente	er text.		
C4.3 Where the budget impact is unknown set out the reasons why this cannot be measured	Click here to enter text.			
C4.4 Are there likely to be any costs or savings for non-NHS commissioners and/or public sector funders?	No Please specify: There are likely to be further system wide savings in social care and other public funded bodies due to improvements in behavioural type problems.			
C5 Funding				
C5.1 Where a cost pressure is indicated, state known source of funds for investment, where identified, e.g. decommissioning less clinically or cost-effective services.	CPAG Prioritisation	on		
C6 Financial Risks Associated with Implementing this Policy				
C6.1 What are the material financial risks to implementing this policy?	Not applicable			

Click here to enter text.	
Click here to enter text.	
There is no published evidence of cost-effectiveness Please specify: Click here to enter text.	
Select all that apply:	
Available pricing data suggests the treatment is equivalent cost compared to current/comparator treatment	
Available pricing data suggests the treatment is lower cost compared to current/comparator treatment	
Available clinical practice data suggests the new treatment has the potential to improve value for money	
Other data has been identified	
No data has been identified	\boxtimes
The data supports a high level of certainty about the impact on value	
	There is no published evidence of cost-effectiveness Please specify: Click here to enter text. Select all that apply: Available pricing data suggests the treatment is equivalent cost compared to current/comparator treatment Available pricing data suggests the treatment is lower cost compared to current/comparator treatment Available clinical practice data suggests the new treatment has the potential to improve value for money Other data has been identified No data has been identified The data supports a high level of certainty about the impact on

	The data does not support a high level of certainty about the impact on value
	Please specify: Click here to enter text.
C8 Cost Profile	
C8.1 Are there non-recurrent capital or revenue costs associated with this policy?	No If yes, specify type and range: Click here to enter text.
C8.2 If yes, confirm the source of funds to meet these costs.	Click here to enter text.