National Inherited Cancer Predisposition Register (NICPR) and referrals into the NHS Very High-Risk Breast Screening (VHRS) Programme

Supporting information for clinical genetics teams

This document sets out answers to practical questions for Clinical Genetics Services with respect to:

1. National Inherited Cancer Predisposition Register (NICPR)
2. Referrals into the VHR breast screening programme via
    a. NICPR
    b. Risk equivalent referral to very high risk NHS Breast Screening Programme

If there are any queries about the use of the registers, please contact england.ndrsnicp@nhs.net

Abbreviations:

NICPR: National Inherited Cancer Predisposition Register

VHRS: Very high risk (breast) screening within the NHS Breast Screening Programme

NHSBSP: NHS Breast Screening Programme

NDRS: National Disease Registration Service

LP/P: likely pathogenic/pathogenic

VUS: variant of uncertain significance

Topics covered by this document

1. General questions

Question	Answer
What is the role of genetics services in adding patients to NICPR?	Clinicians should register **all** patients with a confirmed LP/P variant in a cancer susceptibility gene (see appendix 1) in NICPR via the online portal. Patients can be registered after they have been informed of the diagnosis. If the diagnosis has been made in a "mainstream" setting (i.e. diagnosed prior to referral by their cancer team), details can be entered on the portal once they have been informed of their diagnosis but prior to being seen in Genetics if a referral into VHRS needs to be made without delay. Please note that patients with a diagnosis of Lynch syndrome should continue to be entered on the National Lynch Register until further notice; there are plans to bring the National Lynch Register into NICPR in the future and we will communicate information around this in due course.
Who can add patients to NICPR?	It is expected that all patients with a confirmed LP/P variant in a cancer susceptibility gene identified in a mainstream setting will be referred into Clinical Genetics. Therefore, entry to NICPR is currently only via Clinical Genetics Services and St Mark's. If local pathways exist where patients are managed within other specialist clinics, a local plan should be made regarding entry of these patients on NICPR.
Should genetic services record confirmation that a patient has been entered on NICPR?	**Yes**. When patients are entered onto NICPR, a pdf confirmation is generated. The pdf should be saved on the patient's record. This PDF **will not be** separately emailed to you. Please note this does not apply to patients submitted as part of the retrospective data collection.
Where should I seek advice about a patient submitted via the portal or if I have any queries around the portal or data submitted via this route?	The National Disease Registration Service (NDRS), who administer the portal and manage the register, can be contacted on england.ndrsnicp@nhs.net

What genes are included on the portal?	The register includes ~120 cancer predisposition genes for which testing is currently available within the NHS National Genomic Test Directory for Rare and Inherited Disease. The NICPR will be able to incorporate additional genes if testing becomes available in the future.

2. The National Disease Registration (NDRS) portal

How do I access the portal?	The website address for the portal is https://nww.api.encore.nhs.uk/ A secure HSCN connection is required to reach this site.
How do I register for an account for the portal?	Accounts can be requested from the portal on https://nww.api.encore.nhs.uk/ You will need to request access to the 'Clinical Genetic Services Dataset' to submit data to the NICPR and 'Lynch Syndrome' to submit to the Lynch register. Once your application is approved, you will receive a confirmation email. If you are not already registered to enter patients on the Lynch register, you will receive an email (cc'd to your Genetic Lead) to check your application. You can sign up using either your Trust email or an nhs.net email. A secure HSCN connection is required to reach this site.
What information do I need to add into the portal when referring a patient?	There are a series of mandatory fields that clinicians will need to complete when adding a patient to the portal. This includes basic patient demographics including NHS number, and information on which gene(s) is/are affected by a LP/P variant. Please complete as many of the non-mandated fields as you can.
What information is required for date of diagnosis?	Please use the laboratory report date.
How is the list of ethnicities decided?	The list is based on the current NHS Data Dictionary approved list. Other rare ethnicities cannot currently be entered as this would not match with the lookups that already exist in NDRS.

Can you give further descriptions for the type of test options?	The options for “type of test”. include • Full screen • Targeted test • Population/ethnic screen • Unknown The options for the type of test questions map to values in lookups that already exist in NDRS. This means the same lookups can be used across multiple datasets held by NDRS, enabling greater consistency between different registries.
What is meant by “affected status”?	Affected status can be defined as “yes”, “no”, “uncertain” or “unknown”. For full description, please see appendix 2.
What is meant by “route” of ascertainment?	This describes the pathway of testing to identify the LP/P variant. For full description, please see appendix 3.
Why do I not need to add any specific information into the portal about the patient’s cancer history?	This is because the portal is linked to the National Cancer Registry, which is part of NDRS, and this information can be extracted from there as required.
Does the variant need to be entered with a particular nomenclature?	Variants should be entered with HGVS nomenclature where possible. The reference transcript should be utilised where possible.
What do I do if a patient has more than one different variant in a gene?	If the variants are compound heterozygous, then please enter both variants. Only likely pathogenic or pathogenic variants should be entered.
What do I do if a patient has a pathogenic variant in more than one NICPR gene?	All eligible genes which contain a pathogenic or likely pathogenic variant should be entered into NICPR. There is an option to enter more than one gene.
How does NDRS handle duplicate entries for patients?	NICPR has been designed to deal with duplicate entries. Where necessary, the record is manually reviewed to ensure that the most recent data is available to screening services. Duplicate entries can exist and can be identified, but where there is doubt about whether a patient has been previously entered, NDRS can be contacted on england.ndrsnicp@nhs.net to confirm.

3. Eligibility

Which patients are eligible for entry to NICPR?	Only patients with a genetically confirmed diagnosis of a cancer susceptibility syndrome i.e. a LP/P variant in one of the genes listed in Appendix 1 should be added into the portal.
Should I add patients with a clinical diagnosis of a cancer susceptibility syndrome or suspicion of a cancer susceptibility syndrome which have not been genetically confirmed into the portal?	Patients without a genetic diagnosis (defined as a LP/P variant) in one of the genes listed in Appendix 1 **should not be** added into the portal. Should a genetic test later confirm a genetic diagnosis, they should be added to NICPR via the portal at that point.
Should obligate carriers be included where confirmatory testing has not been completed?	Only patients with a genetically confirmed diagnosis of a LP/P variant should be included in your submission. Anyone considered to be an obligate carrier should not be included at this time.
Should I add patients at 50% risk of carrying a LP/P variant into the portal?	Patients at 50% risk of carrying a LP/P variant **should not be** added into the NICPR portal. Patients at 50% risk of a LP/P variant in a breast cancer predisposition gene and eligible for VHRS should be entered into the "Equivalent risk" portal - *see VHRS section 7*
Should I add patients with a variant of uncertain significance (VUS) into the portal?	Patients with a VUS in a cancer susceptibility gene **should not be** added into the NICPR portal.
What should I do about patients with LP/P variants in genes related to Lynch syndrome?	Individuals with Lynch syndrome (i.e. heterozygous LP/P variants in *MLH1, MSH2, MSH6, PMS2, EPCAM*) are being collected separately by NDRS for now in the Lynch register. The plan is to collect Lynch genes as part of the NICPR service in the future. Please continue to submit patients diagnosed with Lynch syndrome via the National Lynch register portal until further notice. If you have a patient with CMMRD (compound heterozygous or homozygous LP/P variant in an MMR gene), then these patients should be entered on the NICPR.

Is there an age limit for adding patients to the portal?	**All patients** with a confirmed diagnosis of a LP/P variant in a relevant gene (see Appendix 1) should be entered into the NICPR portal regardless of their age.
Should I add patients under the age of 18 into the portal?	**All patients** with a genetically confirmed diagnosis of a LP/P variant in a relevant gene (see Appendix 1) **should** be entered into the portal regardless of their age. Patients with a LP/P variant in a breast cancer predisposition gene that would make them eligible for VHRS should be entered on the portal but cannot currently be referred to the NHS VHRS programme until the patient is 18 -*see VHRS section 7 below*
Should I add patients that have moved to England into the portal?	All patients with a genetically confirmed diagnosis of a LP/P variant in a relevant gene (see Appendix 1) that have moved to England **will need to be added** into the portal regardless of when and where they were diagnosed. This includes patients that have moved to England from Wales, Scotland and Ireland as well as from other countries outside of the UK.

4. Changes to submitted data

What should I do if I have entered a patient into the portal in error?	Please contact NDRS on england.ndrsnicp@nhs.net who will be able to remove the patient from the registry.
What should I do if the classification of the patient's variant changes?	If the classification of a LP/P variant changes, but is still considered LP/P, the patient remains eligible for entry onto NICPR. In this case, re-refer the patient via the portal with the updated details of variant classification. NDRS will be alerted that a subsequent record has been submitted for the same patient and will investigate to ensure their correct details are maintained. If the variant is reclassified as benign/likely benign or VUS then the patient is no longer eligible for entry onto NICPR. In this case, please contact NDRS who will be able to remove the patient from the registry: england.ndrsnicp@nhs.net

	If information has been submitted to VHRS then the clinician will need to liaise with the relevant breast screening unit to remove the patient from the screening programme.
What should I do if a patient moves into the region for my Genetics service from another Genetics service?	To ensure the patient is listed under the relevant Genetics service, please re-add the patient to NICPR under the new Genetics service.

5. Communications

Will NDRS provide a summary report of patients that I have added into the portal?	NDRS will send quarterly reports of patients submitted to NICPR to identified leads in genetics services. Reports of all patients submitted via the retrospective data collection will also be returned to services for review. If you require any additional information about patients within the register, then please contact NDRS on england.ndrsnicp@nhs.net to discuss your requirements
Will genetics services be expected to audit/ review the summary reports they receive from the National Disease Registration Service (NDRS)?	Genetics services are expected to review the initial summary report of retrospective data from NDRS to identify any gaps in the retrospective data entry. Genetics services should review the quarterly summary reports they receive from NDRS to ensure they include all of the patients they have referred via the portal. If there is a patient that has been referred through the portal but is not included on the summary report, contact should be made with NDRS on england.ndrsnicp@nhs.net.
What information will patients receive after they have been added into the registry?	Patients will not receive any information to inform them they have been added to NICPR. For prospective patients, it is expected that the patient will be informed about the register by the Clinical Genetics service as part of routine clinical care. If a patient is added to NICPR and also referred to the NHS Breast Screening Programme for very high risk screening (VHRS) (*see section 7*), they will be contacted by the relevant breast screening

	service ahead of invitation. This introductory information will explain about the programme and when they expect to be invited. They will then be invited for screening at the relevant age.

6. Patient information, opting out and data sharing

What should I say to a patient who asks about their confidential information being shared without their consent?	NDRS is part of NHS England. As part of their remit, they collect patient information on cancer, conditions that might lead to cancer, and rare diseases. NDRS has legal permission to collect identifiable information on individuals with a high genetic risk of rare or inherited disease without consent, under Section 254 of the Health and Social Care Act 2012. The law allows NDRS to collect information about people without obtaining their specific consent. Find out more about the National Disease Registries Directions 2021. There is a patient information leaflet which may be helpful. Patients have the right to opt out of NDRS holding their identifiable data. Find out more about the NDRS patient opt out process. ***Please note, if a patient chooses to opt out, their information will not be held within NDRS, which may have possible implications for other areas of future care.***
What happens if the patient has opted out of NDRS?	Information submitted on any patient who has opted out of NDRS will be automatically removed when data is loaded to NICPR. ***Having an NDRS opt-out in place will mean that patients will not be included in any relevant screening programmes in the future, as NDRS are not able to hold their data to pass to the screening services. Patients should be made aware of this.*** The NDRS opt-out is separate to the National Data Opt-Out. Patients who have indicated they have a National Data Opt-Out should still be included in the NICPR.

	Unless the patient has also opted out of NDRS, their details will be retained by NICPR, and the person will be included in screening programmes. Any patients wishing to opt-out of NDRS data collection should be asked to contact NDRSoptout@nhs.net to discuss their request. Find out more about NDRS and how patients can opt-out.

7. Referrals to NHS Breast Screening Programme Very High Risk (VHR)

How can I make referrals into the NHS Breast Screening Programme for very high risk screening (VHRS) for patients with a LP/P variant in a relevant breast cancer predisposition gene?	If a patient is 18 years or older and eligibility criteria for VHRS are reached (see NHSBSP guidance) the patient should be entered onto NICPR and "eligibility for VHRS" selected. A pdf will be generated which should be emailed to the relevant local breast screening service (as per normal process). The pdf will act as the referral form. The breast screening service should acknowledge receipt of this referral. Please note that the pdf referral form is an interim solution. An IT solution is being developed that will mirror the Lynch programme and transfer the relevant information directly to the National Breast Screening Programme. This is expected to be available in 2026.
How can I make referrals into the VHRS programme for patients without a confirmed genetic diagnosis who meet eligibility criteria for VHRS, for example "risk equivalent" referrals?	If a patient is 18 years or older and eligibility criteria for VHRS are reached (see NHSBSP guidance) the patient should be entered onto the "Risk equivalent" portal and "eligibility for VHRS" selected. A pdf will be generated which should be emailed to the relevant breast screening service (as per normal process). The pdf will act as the referral form. The breast screening service should acknowledge receipt of this referral. Please note that the pdf referral form is an interim solution. An IT solution is being developed that will mirror the Lynch

	programme and transfer the relevant information directly to the National Breast Screening Programme. This is expected to be available in 2026.
How can I make referrals into the VHRS programme for patients under the age of 18 years?	Patients under the age of 18 **cannot** be referred into VHRS. For patients with a genetic diagnosis eligible for NICPR and VHRS, the patient details should be entered into NICPR, but the response to eligibility for NHSBSP VHR referral should be 'No'. The patient will need to be re-entered on NICPR after age 18 and a referral made to VHRS. Local processes should be put in place to ensure that referrals for these patients are not missed once they reach the age of 18. For "risk equivalent" referrals, VHRS referrals can be made via the "risk equivalent" portal from age 18, however an age-appropriate re-assessment may be required to confirm eligibility prior to the age at which breast screening would commence, and should be arranged through local processes. Please note that this is an interim measure. An IT solution is being developed that will transfer the relevant information for eligible patients directly to the National Breast Screening Programme when a patient reaches age 18. We will communicate this to you again when the full electronic referral solution is ready - expected 2026.
Should genetic services record confirmation that a patient has been referred to VHRS?	**Yes.** When patients are confirmed as eligible for referral to VHRS and entered onto either NICPR or the risk equivalent register, a pdf referral form is generated. The pdf should be emailed to the relevant breast screening service **AND** should be saved on the patient's record. ***This PDF will not be separately emailed to you, and it is not possible for the NDRS team to regenerate the PDF from the portal submission.*** NDRS will only be able to confirm the details that have been entered when the patient is visible in the system (normally the day after being entered into the portal). If a screening referral needs to be made using the pdf,

	then the only way to regenerate it would require re-entering the case on the portal.
How do I know that the referral has been received and acted on?	You should receive confirmation from the local breast screening service that they have received the referral. Additionally, NHS England are introducing a monthly cross check process to ensure that all patients identified as being eligible for NHSBSP VHR screening in NICPR have been added to the breast screening programme IT system.
Should I add patients with symptoms at the time of diagnosis into the portal?	**Yes,** patients with symptoms should be added into the portal (NICPR or risk equivalent as appropriate) to ensure they receive the relevant screening once their symptoms have been appropriately investigated Clinicians **should also** follow their usual referral route for patients with symptoms.
Should I add patients who are currently undergoing treatment for breast cancer into the portal.	**Yes,** patients who are currently undergoing treatment for breast cancer should be added into the relevant portal (NICPR or risk equivalent) to ensure they continue to receive the relevant screening once their breast cancer treatment is complete
Does a patient who has already had a bilateral mastectomy need to be referred into the NHSBSP?	**No,**, the patient details should be entered into NICPR, but the response to eligibility for NHSBSP VHR referral should be 'No'.
Where should I seek advice about appointments, invitations or other aspects of the VHR Breast Screening Programme?	Your first point of contact should be your local breast screening service. Alternatively, an email can be sent to england.screening@nhs.net marked for the attention of the Breast Screening Portfolio team.
Can patients opt out of the VHRS once they have been referred?	Patients can choose to withdraw from VHRS. The local breast screening service can work through the process for opting out from breast screening with the patient.
What if a patient becomes ineligible for VHRS?	Also see section 4 "changes to submitted data"

	If a patient becomes ineligible for VHRS the local breast screening service will need to be contacted directly.

Appendix 1. List of genes included in NICPR as of June 2025

AIP	ERCC4	NBN	RUNX1
ALK	ERCC5	NF1	SDHA
ANKRD26	ETV6	NF2	SDHAF2
APC	EZH2	NHP2	SDHB
ATM	FANCA	NRAS	SDHC
BAP1	FANCB	NSD1	SDHD
BARD1	FANCC	NTHL1	SHOC2
BLM	FANCD2	PALB2/FANCN	SMAD4
BMPR1A	FANCE	PDGFRB	SMARCA4
BRCA1	FANCF	PHOX2B	SMARCB1/INI1
BRCA2/FANCD1	FANCG	POLD1	SMARCE1
BRIP1/FANCJ	FANCI	POLE*	SOS1
BUB1B	FANCL	POLH	STK11
CBL	FH	POT1	SUFU
CDC73	FLCN	PMS2 **(biallelic only)**	TERC
CDH1	GATA2	PRKAR1A	TERT
CDK4	GNAS*	PTCH1	TMEM127
CDKN1B	GREM1	PTEN	TP53
CDKN1C	HRAS	PTPN11	TRIM28
CDKN2A	KIT*	RAD51C	TRIM37
CEBPA	KRAS	RAD51D	TRIP13
CEP57	LZTR1	RAF1	TSC1
CHEK2	MAX	RB1	TSC2

CTR9	MEN1	RECQL4	VHL
DDB2	MET	REST	WRAP53
DDX41	MLH1 **(biallelic only)**	RET	WRN
DICER1	MSH2 **(biallelic only)**	RHBDF2	WT1
DIS3L2	MSH6 **(biallelic only)**	RNF43	XPA
EPCAM **(biallelic only)**	MUTYH	RTEL1	XPC
ERCC2			
ERCC3			

***Only variants associated with cancer susceptibility e.g. gain of function in KIT and loss of function for POLE*

Appendix 2. Description of options for "affected status"

Affected status	**Full Description**
Yes	At the time of genetic testing, the patient was already affected with a tumour type or phenotypic feature clearly associated with the gene of interest.
No	At the time of genetic testing, the patient was not affected with a tumour type or phenotypic feature associated with the gene of interest.
Uncertain	At the time of testing, the patient had a tumour type or phenotypic feature that *may* be associated with the gene of interest but this association is not yet clearly established
Unknown	It was/is not known if the patient had a tumour type or phenotypic feature associated with the gene of interest at the time of genetic testing.

Appendix 3: Description of options for "ascertainment route"

Type of test option-ascertainment route	Full Description
Clinical genetics	Affected or unaffected with cancer or relevant phenotype, or with suspicious family history (or known familial variant); ascertained by clinical genetics
Mainstreaming	Affected with cancer; ascertained via oncology mainstreaming pathway
Population Screening Programme	Affected or unaffected with cancer; variant identified through targeted population screening
Germline confirmation of tumour finding.	Affected with cancer; ascertained by germline confirmation of a variant first identified in a tumour
Confirmation of other non-NHS or research Finding	Affected or unaffected with cancer; variant originally identified from a private, research or other non-NHS genomic test.
Incidental Finding	Affected or unaffected with cancer; variant originally identified as an unexpected finding on a genomic test unrelated to cancer.
Non-NHS accredited lab	Affected or unaffected with cancer; variant identified from a private, overseas or other non-NHS genomic lab that does not require confirmation in an NHS lab