

NHS

South East
Genomic Medicine Service

Position Statement: Regional Genomics Pharmacy Roles within ICBs

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1. Executive Summary

Current Position

Genomics informed medicines optimisation including pharmacogenomics is rapidly developing in the NHS. To embed the use of genomics within prescribing pathways and local medicines governance structures, dedicated pharmacy resource at ICB level is required.

Proposed Solution

The introduction of a dedicated genomics pharmacy role is proposed to champion, support and embed the use of genomics informed medicines optimisation and pharmacogenomics within prescribing pathways across the ICS. The role will be assigned to a nominated individual with an interest in genomics, and will act as a representative of the ICB within a network of genomics pharmacists and technicians across the South East led by the South East Genomic Medicine Service Alliance (GMSA) Consultant Pharmacist in Genomic Medicine.

Benefits

Dedicated genomics pharmacy resource will help embed expertise within the ICB as genomics informed medicines optimisation and the use of pharmacogenomics becomes business as usual. Patient benefits include equitable access to genomic testing to inform the use of precision medicines and pharmacogenomics, leading to improved efficacy and a reduction in adverse drug reactions. Increasing the likelihood of prescribing “the right medicine, at the right dose, the first time”.

Recommendation

ICBs are urged to implement a dedicated genomics pharmacy role to aid the implementation and embedding of genomics informed medicines optimisation and pharmacogenomic testing within local prescribing pathways.

2. Background

2.1 Problem Statement

NHS England’s Genomics Strategy [Accelerating Genomic Medicine in the NHS](#) sets out the NHS ambition to be the first national health system in the world in which genomics is part of routine clinical care from primary and community care through to specialist and tertiary care. The NHS Genomic Medicine Service aims to deliver equitable genomic testing for improved outcomes in cancer, rare, inherited and common diseases and enabling precision medicine and a reduction in adverse drug reactions using pharmacogenomics. Polypharmacy, sustainability and medicines waste are also key areas of strategic relevance to medicines optimisation teams where genomics could potentially lead to improvements. The aim of pharmacogenomics-guided prescribing is to increase the likelihood that patients get the right medicine, at the right dose the first time, experience fewer side-effects and better medication-related outcomes.

The seven regional Genomic Medicine Service Alliances (GMSAs) were established in 2020 to provide multi-disciplinary leadership, operational and digital functions to help embed genomics into routine care locally and across the whole population in England. This includes medicines pathways and provision of pharmacy leadership from a regional Consultant Pharmacist in Genomic Medicine. Since 2022, there has been the establishment of a national Genomics Informed Medicines Optimisation Board to provide oversight and co-ordinate workstream outputs to achieve the key strategic aims detailed in Figure 1.

The significant growth of the programme has created a need for dedicated pharmacy support at system level to ensure the implementation and adoption of genomics informed use of medicines and pharmacogenomics into local pathways and governance structures. This will support readiness for 26/27 and beyond.

Supporting the use of precision medicines through the Genomics Informed Medicines Optimisation Board

Brings together representatives from NHS England, NHS GMS regions and national experts within the field of pharmacogenomics, precision medicine and medicines optimisation to provide oversight and expert input, coordinate workstream outputs and support relevant projects, in order to achieving the following aims:

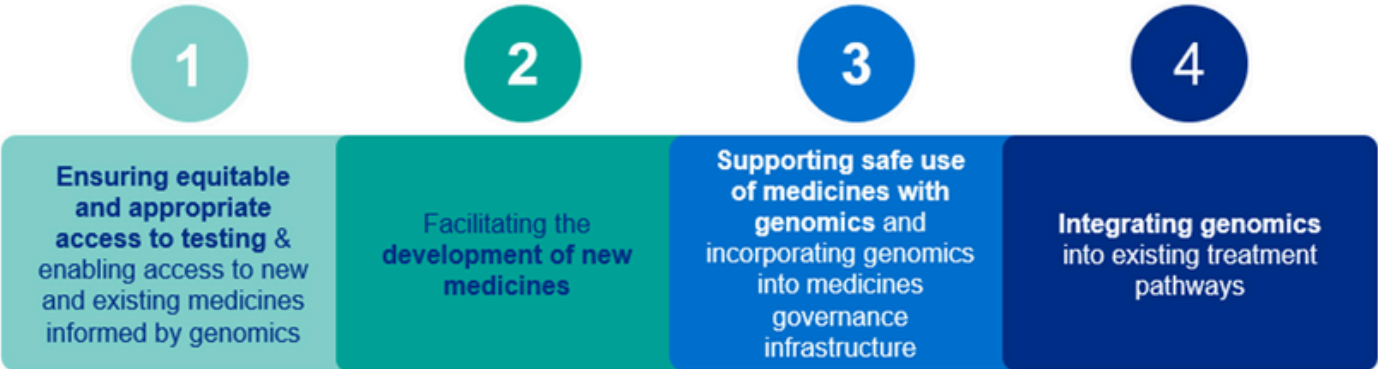


Figure 1: Supporting the use of precision medicines through the Genomics Informed Medicines Optimisation Board. Source: NHS England.

2.2 Proposed Solution

ICBs are urged to prioritise genomics informed medicines optimisation as part of their wider medicines optimisation strategy. It is recommended that each ICB identifies a dedicated genomics pharmacy role who will be supported by a network of other ICB genomic pharmacy professionals across the South East, led by the South East GMSA Consultant Pharmacist in Genomic Medicine. This network will enable collaboration across the region and stronger working relationships with the GMSA. It will provide a forum for discussion and dissemination of new developments in genomics informed medicines optimisation, pharmacogenomics, and related updates to the National Genomic Test Directory.

Case Study:

Dedicated Pharmacy Support across an Integrated Care System - Lead Pharmacist Role for Genomic Medicine for Surrey Heartlands ICB

A Lead Pharmacist for Genomic Medicine (0.2wte) was introduced in Surrey Heartlands in October 2024 to provide system leadership to support delivery of NHS England's genomics strategy to embed genomics into medicines pathways across the region.

The dedicated role involves:

- Working closely with the NHS South East GMSA's Primary Care Lead and Consultant Pharmacist in Genomic Medicine to deliver training to staff across Surrey Heartlands to raise awareness of genomics and pharmacogenomics.
- Working with the Surrey Training Hub to develop and maintain a page within the website to house resources and training offers around genomic medicine.
- Working collaboratively across the system to enable implementation of genomics informed use of medicines including implementation of pharmacogenomic testing across Surrey Heartlands.
- Taking an overall lead on all medicines aspects for genomics on behalf of the Surrey Heartlands Area Prescribing Committee. This includes leading on review and implementation of NICE Technology Appraisals, guidance and assessments, MHRA Drug Safety Alerts and other national guidance that include or relate to genomics informed use of medicines.

The introduction of this role has enabled stronger working relationships with the SE GMSA and collaborative working is enabling the successful implementation of genomics into practice.

3. Benefits

3.1 Patient Benefit

Having a dedicated genomics pharmacy role at system level enables an approach that suits local populations and enables workable pathway redesign. Having sight of the patient will help to ensure equitable access to genomic testing to inform the use of medicines. Local pharmacy involvement in genomics informed medicines optimisation projects and pathway improvements will support their safe and effective implementation from specialist and tertiary care, through to primary and community care.

3.2 Wider System Benefit

Figure 1 outlines some of the Genomic Medicine Service activities with regards to genomics informed medicines optimisation (in conjunction with other stakeholders). These overlap with existing ICB roles and responsibilities for medicines and other therapies, such as the integration of technologies/medications into existing treatment pathways, supporting safe use of medicines and incorporation into governance structures.

Figure 2 outlines the structure of pharmacy leadership in genomics in England and shows the relationship between GMSA pharmacy leadership and regional pharmacy and medicines optimisation networks across Integrated Care Systems.

Genomics is expected to impact multiple areas of healthcare, and we believe that ICBs are in the ideal position to host a dedicated genomics pharmacy role to support the implementation of this at system level, as genomic medicine becomes 'business as usual'.

Existing governance can be used for oversight, prioritisation and sign off e.g. Senior Management Teams, Medicines Optimisation Committees, Primary Care Transformation Committees.

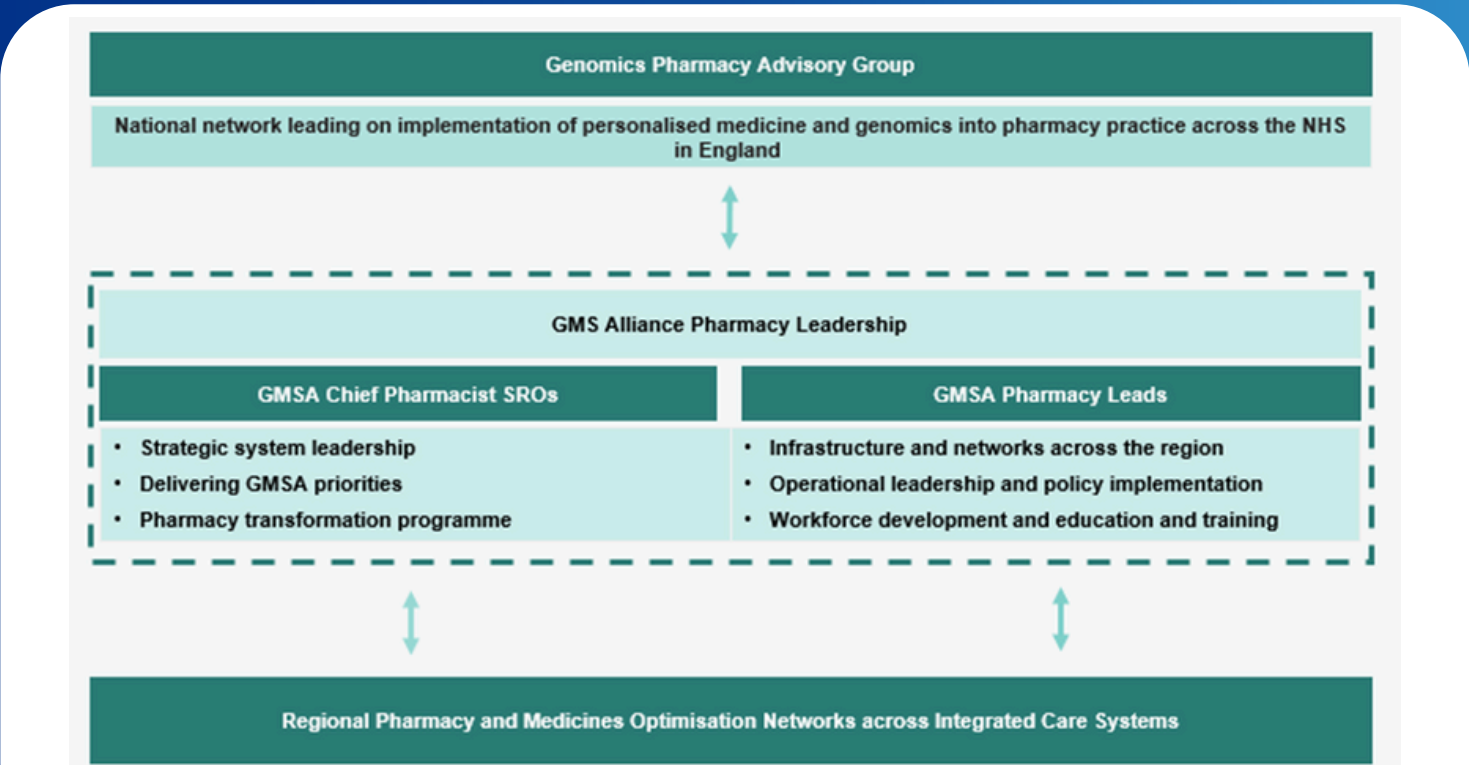


Figure 2: Pharmacy leadership in genomics. Source: NHS England

Case-Study:

CYP2C19 genotype testing to guide clopidogrel use after ischaemic stroke or transient ischaemic attack (NICE DG59)

In July 2024 NICE published diagnostics guidance recommending the use of CYP2C19 genotype testing to assess if clopidogrel is a suitable antiplatelet drug for people who have just had an ischaemic stroke or a transient ischaemic attack (TIA).

Following the publication, NICE and NHS England announced the delivery of a national pilot to produce an implementation guide for providers and information to support future commissioning decisions. The pilot will run from October 2024 to April 2025 across four provider sites in England, including St George's University Hospitals NHS Foundation Trust within the South East GMSA region. Pharmacists from SWL and Surrey Heartlands ICBs, both of which refer into the St George's Hyper-Acute Stroke Unit (HASU), are supporting the implementation of the pilot service. Pilot activities have included:

- Developing genomics prescribing information resources sheet including guidance on alternative antiplatelets required in CYP2C19 poor metabolisers and impact on other medications affected by the CYP2C19 gene. This provides non-specialist clinicians with the available evidence and tools to support prescribing for this indication, including use of medicines off-label in line with National Stroke Guidelines.
- Developing patient information leaflets, giving patients the necessary information on this novel testing and what it means for them.
- Preparation of a SWL ICS joint formulary application for use of alternative medications, ensuring that prescribing in this cohort of patients is safe and effective, and in line with relevant national recommendations.
- Development and delivery of education for stroke pharmacists in SWL and Surrey Heartlands stroke centres referring into the St George's HASU, highlighting the pathway change and enabling required medications to be accessible.



4. Wider Priorities

Person-centred care is at the core of the NHS long-term plan and personalised therapeutic options are included as being part of this. “Change NHS” is a national conversation to develop the 10 Year Health Plan, and to help build a health service that is fit for the future.

It includes three big changes or ‘shifts’ to how healthcare is delivered:

Shift 1: moving more care from hospitals to communities

Shift 2: making better use of technology in health and care

Shift 3: focusing on preventing sickness, not just treating it

4.1 Health Inequalities

Continued efforts are needed to address health inequalities by ensuring equitable access to genomic testing and genomics informed use of medicines. This must be considered at system level, and consideration given to local patient demographics and needs during pathway redesign.

4.2 Prevention

Dedicated system wide pharmacy support to genomic informed pathway redesign will allow more effective use of medicines, reducing the incidence of treatment failure and adverse drug reactions in the local population. For example, introducing CYP2C19 genotype testing to guide clopidogrel use after stroke will ensure that patients are prescribed effective medications for secondary prevention of stroke.

4.3 Workforce

A 3 year approach to empower the pharmacy workforce to use genomic tools to support medicines optimisation was laid out in the Pharmacy genomics workforce, education and training strategic framework published in 2024. The establishment of dedicated genomics pharmacy roles within ICBs and membership of a regional network aligns with the following actions recommended in the framework:

- Support the development of pharmacy genomics champions to drive practice development.
- Close collaboration with the NHS GMSAs and GMSA Consultant Pharmacists providing system leadership to drive pharmacy workforce awareness of genomics.
- Enable growth and development of pharmacy clinical genomics expertise to lead and shape services, as well as to link research, education and clinical networks.
- Continue to drive the embedding of genomic medicine into mainstream pharmacy practice via existing medicines optimisation networks.
- Promote a ‘do once, learn and share’ approach, facilitating the dissemination of genomics expertise nationwide and reducing duplication.

5. Recommendations and Next Steps

ICBs are urged to implement a dedicated genomics pharmacy role to champion, support and inform the use of genomics informed medicines optimisation and pharmacogenomics. The individual will provide specialist genomics knowledge across the ICS. This additional responsibility will be included in the work plan of the individual and will require membership of a regional network of ICB genomics pharmacy professionals across the South East region led by the SE GMSA Consultant Pharmacist in Genomic Medicine. The network will meet regularly to discuss recent developments in pharmacogenomics and work collaboratively to implement genomics informed medicines optimisation across each ICS.

Get in touch!

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