



Test and Trace



Public Health
England

UK Global Sequencing Offer New Variant Assessment Programme (NVAP) - UK

**Dr Leena Inamdar, New Variant Assessment Programme Lead
Epidemiologist/Communicable Diseases Control Specialist
Public Health England**

UK Global Offer: New Variant Assessment Programme (NVAP)

Context

The assessment of variants of SARS-CoV-2 for potential impact on viral characteristics (e.g., in virulence, transmission) and countermeasures (e.g. diagnostics, vaccines and therapeutics) is critical to implement timely public health measures.

Rapid sequencing has helped to understand the dynamics of viral epidemics and evaluate effectiveness of pandemic control measures

There is a lack of capacity and capability globally to systematically undertake genome sequencing

UK's experience and infrastructure to link epidemiological, clinical and genome sequence data sources are key to variant discovery and monitoring of both biological impact and transmission and we are in a position to advice and help shape the WHO led Global Strategy

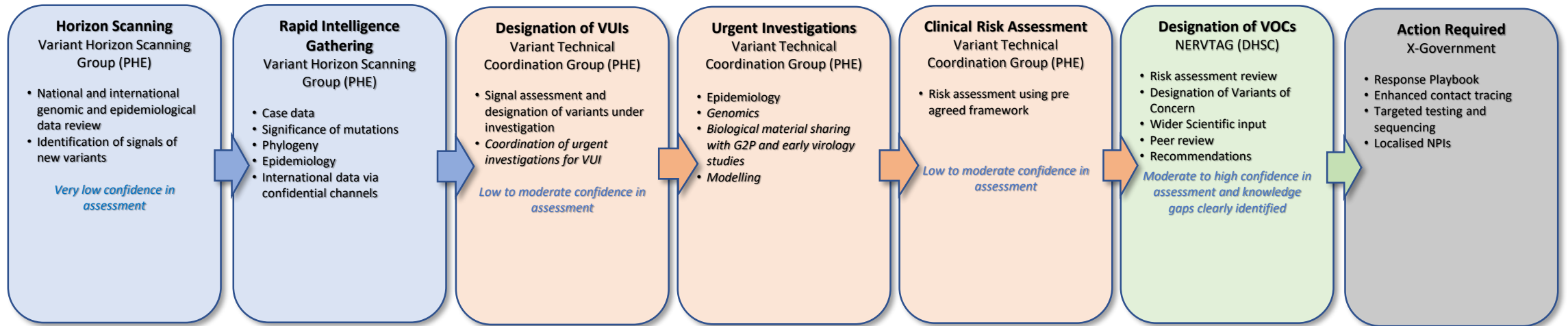
Objectives

- 1 Leverage the UK's large-scale sequencing capability and extensive specialist expertise to help address global regional sequencing capability gaps
- 2 Contribute to global efforts to answer specific questions related to variants of concern to inform prompt public health action
- 3 Reaffirm the UK's commitment to improving global health security, in the context of current pandemic response and help strengthen and sustain genomic capabilities globally

Variant Identification Process

Identifying Variants of Concern (VOC) and Variants Under Investigation (VUI)

- Flow chart showing variant detection and escalation pathway



The UK's catalytic contribution through the NVAP offer

1

Comprehensive genomics service from the UK for countries with no existing sequencing capability

- Sequence samples in the UK
- Generate, analyse and compare data to characterise mutations, relatedness to known variants
- Biological assessment to determine vaccine efficacy
- Recommendations for further investigation or public health action

2

Support genomic sequencing at country and regional level

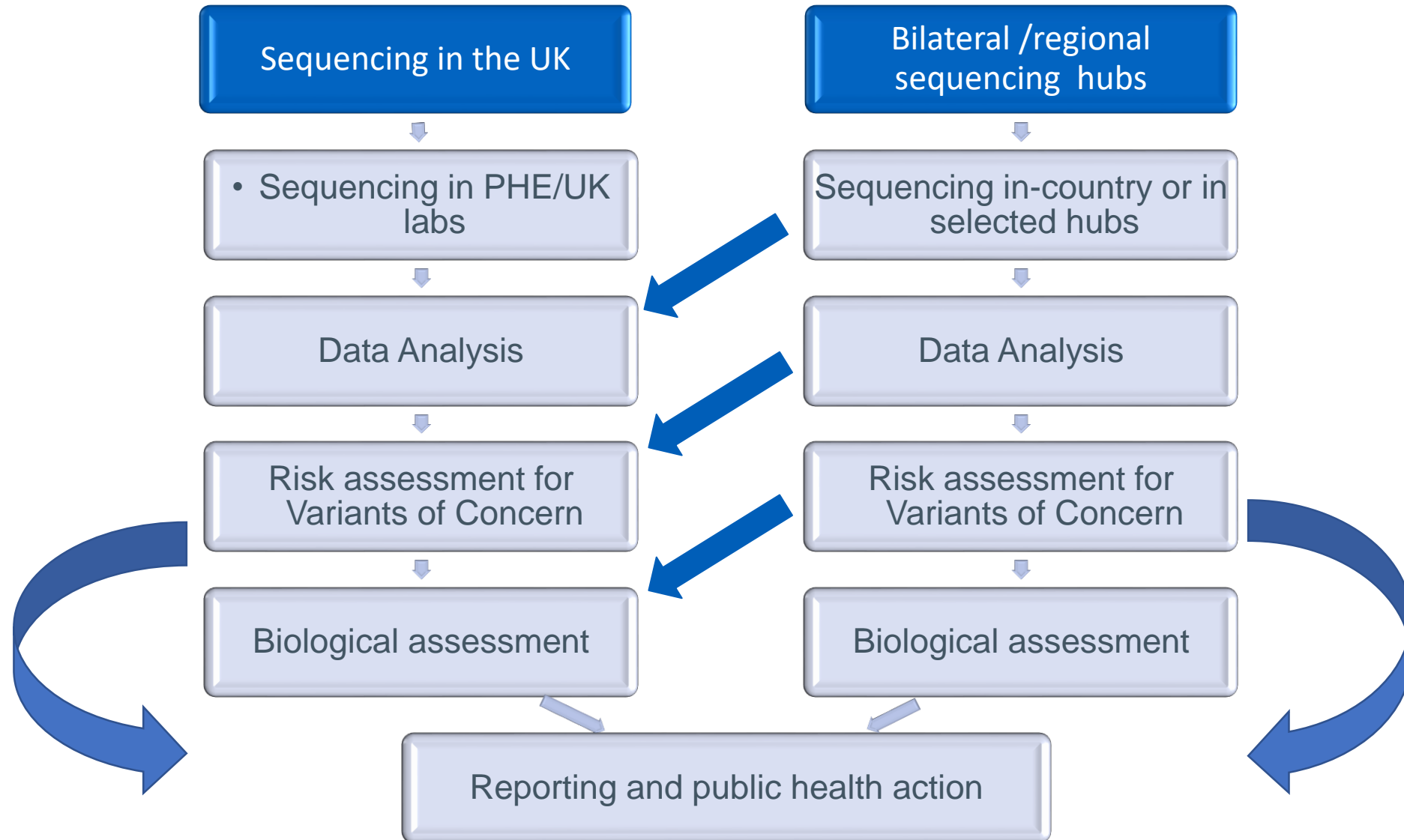
- Tailor support based on needs assessment
- Country level support at bilateral level to increase capacity
- Develop and/or strengthen regional sequencing hubs
- Provide training and mentoring for bioinformatics, data analysis, risk assessment and public health decision-making (remote/in-person)

3

Deploy experts to support public health investigations of new variants

- Deploy experts for analytical and epidemiological investigations to support control measures for investigation of new variants

Tailored offer to countries requesting NVAP support



Summary

Thanks to achievements made over the last 70 years, the UK is rightly recognised as a world-leader in genomics.

The UK's genome sequencing programmes have demonstrated the crucial importance of genomics in the fight against COVID-19.

The UK has sequenced over half of all the COVID-19 viral genomes that have been submitted to the global database.

The New Variant Assessment Platform will help boost global sequencing capacity, so we're all better prepared for future emergencies.

We are working with the WHO to offer our UK genomic capacity to help other countries to analyse new variants and offer our training and resources to help them build their capacity.

We are forging collaborations with national and international partners to ensure the NVAP support is coordinated and targeted to maximise global public health benefits for the pandemic response.