



COLLABORATIVE WORKING EXECUTIVE SUMMARY

Project Title: Developing Clinical Informatics Using Real World Data Towards Personalised Healthcare

Great Ormond Street Hospital for Children NHS Foundation Trust ('GOSH') is an international centre of excellence in child healthcare, recognised as one of the most digitally mature Hospitals in Europe¹ and leads the NHS North Thames Genomics Laboratory Hub, one of seven in England². GOSH's Data Research, Innovation and Virtual Environments Unit ('GOSH DRIVE') aims to become a world-leading clinical informatics unit focused on data analysis, accelerating research and the deployment of cutting-edge technology. GOSH DRIVE uses data and technology to improve clinical care and patient experience. Roche believes that better patient care can be achieved through collaborative working with the NHS.

As identified by The Topol Review³, there is a need to attract new talent in to the NHS and generate a pipeline of data scientists, robotics engineers and other technical specialists able to create new technological solutions that will improve care and productivity. Roche funding, under its collaboration with GOSH, will be used to catalyse this pipeline and demonstrate the benefits for the NHS.

Collectively, the aims of this collaboration are to:

- Establish a 'Clinical Informatics and Innovation Unit' as an exemplar for the NHS
- Improve clinical decision support (CDS) and research capability
- Improve research and trial data capture using digital tools and applications
- Use real world data (RWD) to improve paediatric personalised healthcare
- Improve clinical and research data using sensors, devices and wearables

No data will leave the GOSH DRIVE infrastructure.

Organisations involved:

Roche Products Ltd and GOSH are parties to this Collaborative Working Agreement. GOSH will provide access to the GOSH DRIVE infrastructure for the purpose of the collaboration. Roche will second staff to GOSH to work in partnership with GOSH DRIVE employees to deliver the project. Roche will also provide funding for the project. This collaboration will also aim to work with patients, the public, healthcare partners, UK Government & regulators and global partners and adopt a system change approach that creates benefit for all.

Project approach:

This collaboration aims to develop products and tools using new technology, such as artificial intelligence (AI), enabling automated consumption of unstructured information (genomics, images, text) into clinical workflows to augment clinical decision-making at scale across the NHS. The partnership will be supported by a project steering group made up of representatives of GOSH and Roche and is expected to last for five

¹ <https://www.digitalhealth.net/2020/09/gosh-himss-stage-7/>

² <https://www.norththamesglh.nhs.uk/about/>

³ An independent report on behalf of the Secretary of State for Health and Social Care, 2019



years.

Benefits to Patients:

It is now evident that patients have increased understanding of their natural disease history (including, but not limited to, paediatric disease). The aim is to develop optimal methods of disease or therapy monitoring that include the identification of adverse therapy effects. The collaboration also seeks to develop earlier markers of disease activity, with the potential to identify patients that may benefit from targeted therapies, through recruitment to clinical trials.

Benefits to GOSH and the NHS:

All intellectual property will be owned by GOSH and shared with the NHS, through an open-source framework with the aim of accelerating learnings through access to prototypes. In addition, there will be significant dissemination of learnings and expertise through open-access publications and round table discussions with other NHS partners. Roche believes this approach will help to break down existing barriers to the rapid uptake of new technology advances across the NHS.

Benefits to Roche:

Roche wish to better understand data quality and data engineering challenges within the NHS and seize the opportunity to deploy real world applications in healthcare. Roche are committed to demonstrating the value that working in a collaborative partnership with the NHS can bring be it through early identification of patients and/or optimisation of their clinical pathway and improved treatment outcome.

This document has been produced by Roche Products Ltd.

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