Joint Working Executive Summary

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Project title	Radiology Automation in Liverpool (RAiL) To explore protocol application, improvement in work flow efficiencies and audit quality from Radiation and Dose Management Software solutions
Project partners	• Royal Liverpool and Broadgreen University NHS Trust • Bayer plc
Project resources	• Total NHS resources = £84,700 • Total Bayer resources = £83,600
Project summary	Liverpool has an increased demand for radiographic diagnosis within its CT service, which sees overall growth year on year by around 10%, predominantly through increased scanning to diagnose disease earlier in a generally ageing population. This requires the department to expand its capacity to meet the demand. Higher utilisation rates are hindered by several aspects: • A high number of manual steps in setting up and documenting each scan, the need for further imaging, or possibly extended stay in hospital • The lack of an effective platform to identify good workflow practice for roll out across several radiology suites and radiography/radiology teams • In addition, there is no reliable systematic collection of radiation and contrast dose data per patient, preventing Liverpool from accurately and effectively benchmarking their work against Dose Reference Levels (DRLs) possibly leading to over-/under dosing of patients Liverpool have identified that the above issues could be addressed by automisation of the current CT service. The project will measure progress and success along several metrics.
Expected benefits to patients, the NHS and Bayer	**Benefits for Patient:** • Aim to increase accuracy and improve care by ensuring the patient receives the optimal scan protocol, contrast dose and radiation dose • Aim to reduce delay in diagnosis and need for further imaging or unnecessary hospital attendances • Aim to reduce unnecessary additional radiation or contrast doses

	Benefits for the NHS: Best Protocols application • Compliance with legislation, accredited standards and Department of Health guidance • Standardisation and optimisation of protocols, regular and efficient review and analysis of protocol effectiveness and protocol adherence • To quickly identify a drop in scanner performance in terms of radiation dose requiring service or maintenance • Education via interactive dosimetry ensures Radiographers employ best practice and retain competencies Workflow efficiencies • Aim to increase capacity. By identifying downtime during a shift decisions can be made on better utilisation of staff and equipment • Aim to reduce contrast media waste • Highly skilled staff spend time on patient care and workflow rather than manual data capture/audit Audit quality data • Easy and efficient access to accurate data and analytics • Gain insight for future protocol design and optimisation • Potential to reduce radiation dose across CT protocols **Benefits for Bayer:** • Deeper insight into internal procedures and processes of radiology suites, their challenges and opportunities • Aim to increase the market for informatics platforms of which Bayer currently has two informatic platforms in this therapy area • Insight generation into requirements for providing an integrated service
Start date	November 2019

Date of Reapproval: August 2021

Job bag number: RP-OTH-GB-1136