Executive Summary of Joint Working Outputs
Published on www.bayer.co.uk

Project Title	Radiology Automation in Liverpool
Duration	25 months (July 2019 – April 2022)
Project Partners	Liverpool University Hospitals NHS Foundation Trust Bayer plc
What was the issue to be addressed?	To explore protocol applications, improvement in workflow efficiencies and audit quality from radiation and dose management solutions.
What was the intervention?	Automisation of the current CT service to address the following: • A high number of manual steps in setting up, 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 radiographer/radiology teams. • To create a reliable systematic collection of radiation and contrast dose data per patient.
What were the results?	IT Infrastructure built to accommodate Bayer radiology data management software. Full build, implementation, and integration of software systems successful with third party providers -Picture Archiving and communication system (PACS), Radiology Information System (RIS) Time-interval error (TIE), Intracardiac Echocardiography (ICE). • Compatibility interfaces testing validating data capture and transfer. • Clinical data validation with Bayer radiology data management software. • Qualitative feedback demonstrated a positive belief that automation of contract radiation dose data could support more efficient working. • Rates of sub-optimal imaging were reduced from 15% to 7%. • An increase in number of positive pulmonary emboli discovered on imaging from 11% to 15%. • Formal image optimisation team established: as part of the project two new image optimisation projects were identified and a further 3 separate legacy projects also identified for completion beyond this project. • Average radiation dose reduction of 21.2% across all CT Kidneys, Ureter and Bladder scans using Radimetrics interaction dosimetry software. • Results pre and post protocol change combined with staff education demonstrated a 12.5% reduction in the mean milli-ampere-second (mAs) delivered by the scanners. The standard deviation also reduced significantly suggesting the intervention has helped to consistently deliver a reduced radiation dose to patients.