



ACCEPT-AI

A stepped-wedge, cluster randomised study to assess the clinical effectiveness and acceptability of qER artificial intelligence software to prioritise CT head interpretation.



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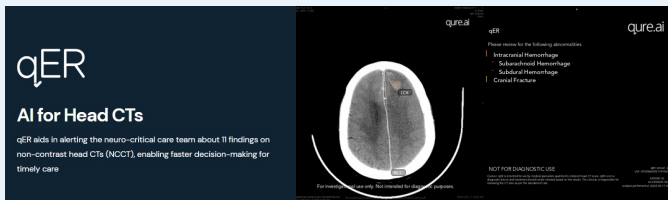
Introduction

A deep learning algorithm for detection of critical findings in head CT scan. CE Class IIa approved medical device.

It can detect nine critical findings on head CT scans.

Validated on over 300,000 scans versus clinical radiology reports.

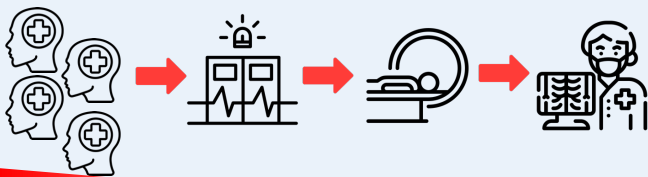
Can potentially be used for triaging or notification of patients with critical findings as soon as a head CT is acquired.



Aim: To assess if qER based reporting and triage significantly reduced report turnaround time (TAT) of prioritised non-contrast head CT scans for patients attending the emergency department.

Rationale

Emergency Department CT Head Pathway – meeting a need



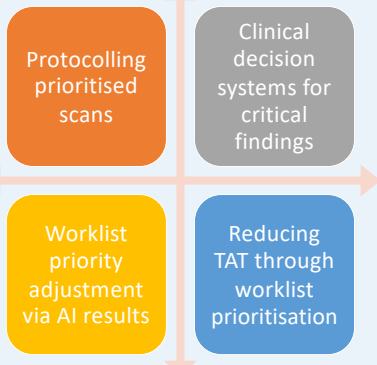
Rising ED attendances

Radiologist shortages

AI – the opportunity

The potential of AI in imaging goes well beyond image analysis for diagnostic and prognostic opportunities.

Focus on improving productivity, operational efficiency, and accuracy in diagnostic radiology.



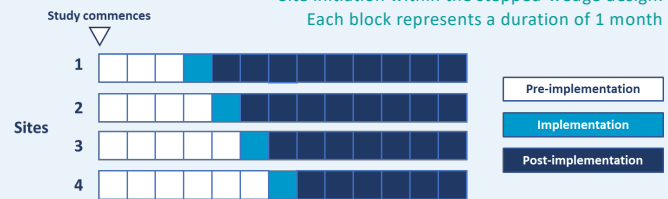
Study design

Multi-site national clinical trial

16,800 patients to be recruited across 4 sites over 12 months



Site initiation within the stepped-wedge design. Each block represents a duration of 1 month



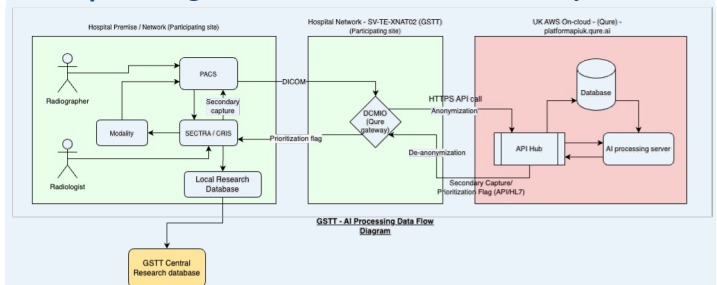
Technical Integration | qER RIS Worklists with AI Findings

Integration with current reporting software will assign a priority class to patients where a critical abnormality has been identified.

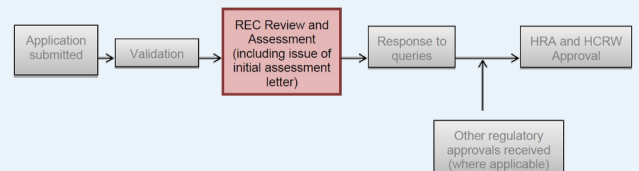
AI Interpretation	qER Findings	Serial number	Name	Study ID	Modality	Study Description	DOB	Gender
qER prioritised	ICH	AA05	David Townsend	1.3.276.0.7230.1	CT	HEAD	1989-08-08	M
qER no finding	AA05	Ronald Nutt	1.3.276.0.7230.2	CT	HEAD	1989-08-05	F	
qER prioritised	ICH	AA05	Francis Juliett-Coxe	1.3.276.0.7230.8	CT	HEAD	1981-12-14	F
qER prioritised	ICH	AA05	Andrina Henri-Resquet	1.3.276.0.7230.9	CT	HEAD	1979-07-10	M
qER prioritised	ICH, Middle Shift	AA05	John Lawrence	1.3.276.0.7230.10	CT	HEAD	1982-03-21	M
qER no finding	Atrophy	AA05	David E. Kuhl	1.3.276.0.7230.11	CT	HEAD	2000-01-18	F
qER prioritised	Cranial Fracture	AA05	Charles Dettler	1.3.276.0.7230.12	CT	HEAD	1982-04-13	M
qER no finding	Mass Effect	AA05	Thomas Alex Edson	1.3.276.0.7230.13	CT	HEAD	1985-04-16	M
qER no finding	AA05	Raymond Vahan Deroussian	1.3.276.0.7230.3	CT	HEAD	1976-07-17	M	

Challenges

Complex integration and Assessment of Security Risk



Ethical & Legal Issues for Data Sharing



Managing Strategic Change for Implementation

