Improving Radiology Request Form Quality in a Neurosurgical Setting: A Snapshot Audit and Targeted Intervention

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Background

- Incomplete radiology request forms can lead to delays, inappropriate imaging, or misinterpretation of results.
- According to the Nottingham University Hospital (NUH) Trust and Royal College of Radiologist (RCR) standards, an ideal request form should have **demographics, clinical background, and a clear clinical question**
- Target: ≥95% of requests should have complete demographics, clinical background and clinical question to be answered.

Aims & Objectives

Aim: Assess and improve compliance of the radiology request forms generated from the neurosurgery ward at Queens Medical Centre (QMC) NUH.

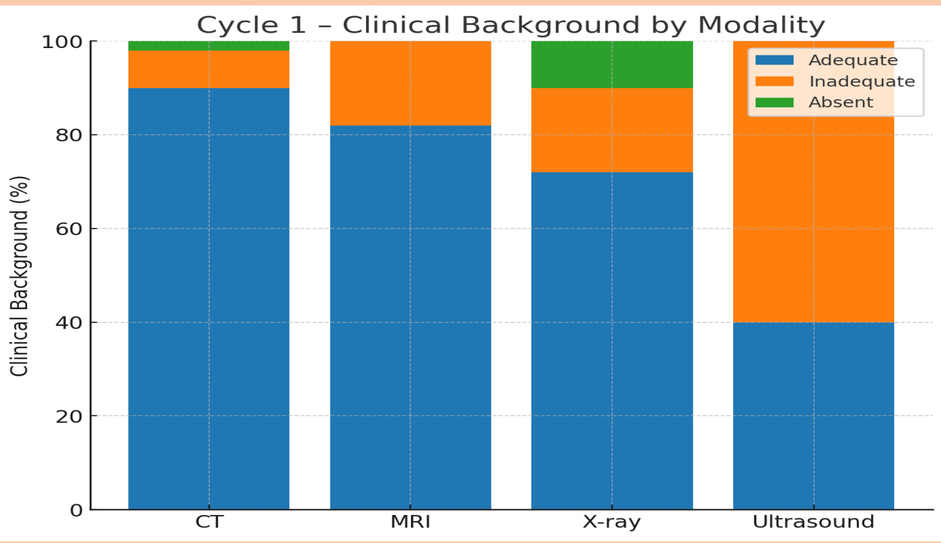
Objectives:
- Evaluate completeness of forms.
- Identify commonly omitted fields.
- Implement simple interventions to improve compliance.

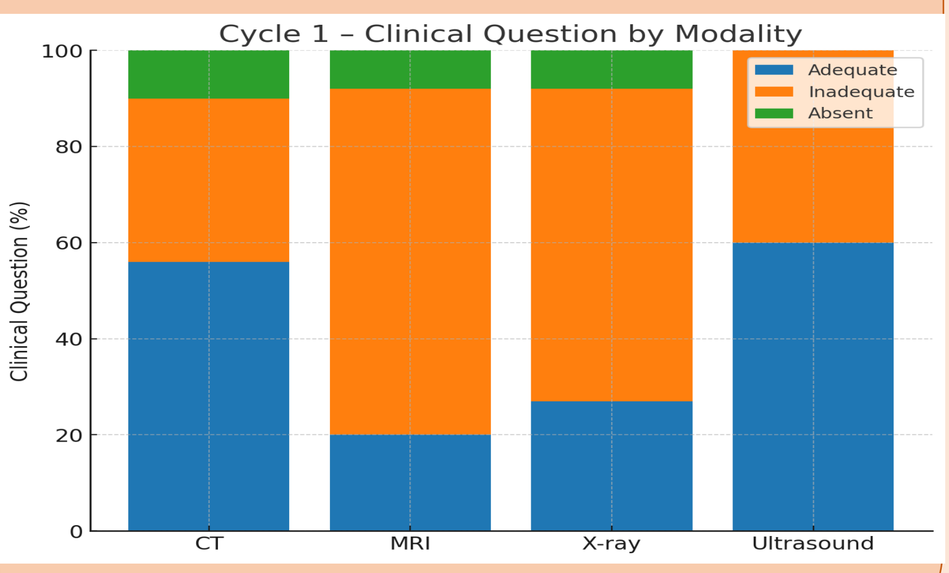
Methodology

Audit Type: Snapshot closed-loop clinical audit (two cycles).
Inclusion: All radiology requests (CT, MRI, XR, US) during current admission. **Exclusion:** Non-radiology forms, previous admissions.
Assessment: ● Forms reviewed for demographics, clinical background, and clinical question. ● Graded as Adequate / Inadequate / Absent.
Data Collection & Analysis: ● Two independent reviewers assessed forms. ● Disagreements resolved by consensus.
● Inter-rater reliability measured using Cohen's Kappa (>0.8–0.9, excellent). ● Proportions calculated for adequate completion across modalities. ● Comparison made between Cycle 1 and Cycle 2.

Cycle 1: April 2025 (n=121 requests)

Demographics: 100% complete (auto-populated fields).
Free-text compliance poor:





Biggest gap: Clinical questions missing/vague in majority.

INTERVENTION

- Awareness posters. Displayed in wards, doctor's rooms, and request stations. Poster content included:

✓ How to write a high-quality request
✓ Examples of good VS poor requests
✓ Quick checklist

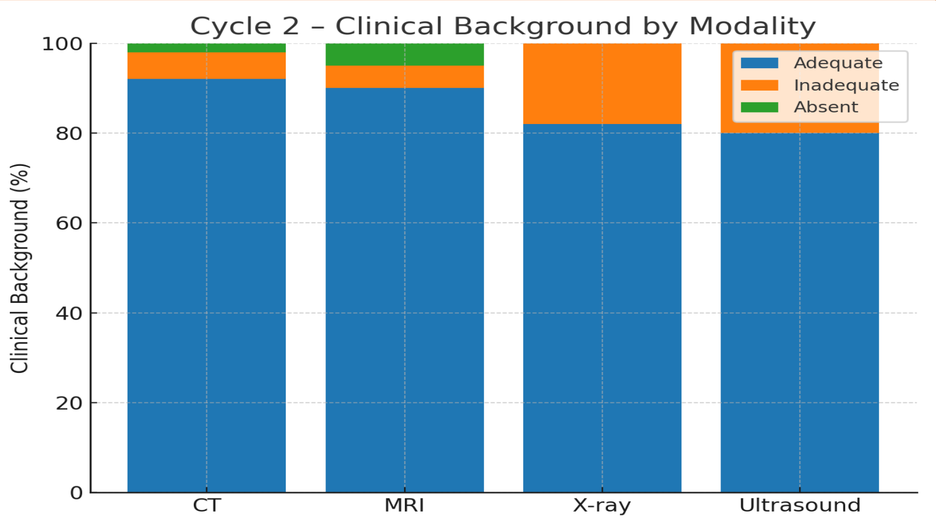
QUICK CHECKLIST BEFORE YOU SUBMIT:
❑ Clinical background provided
❑ Clinical question clearly stated
❑ Demographics checked
❑ Urgency justified if marked urgent
❑ Post-op? Mention date & procedure

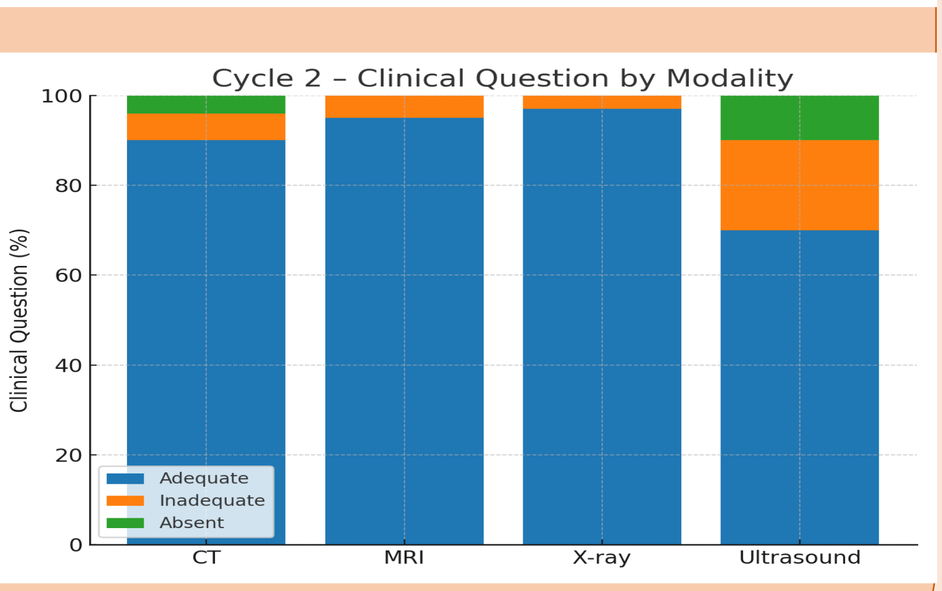
Clinical Background: Presenting complaint, clinical scenario, relevant history, post-op status. **Good Example:** '72M, post-evacuation of SDH, developed sudden onset headache and dropped GCS by 2 points.' **Poor Example:** 'severe headache.'

Clinical Question: Be specific. State what the radiologist should look for. **Good Examples:** 'Is there recurrence of hematoma?' 'Assess for hydrocephalus.' **Poor Examples:** 'Check scan' or 'Follow-up.'

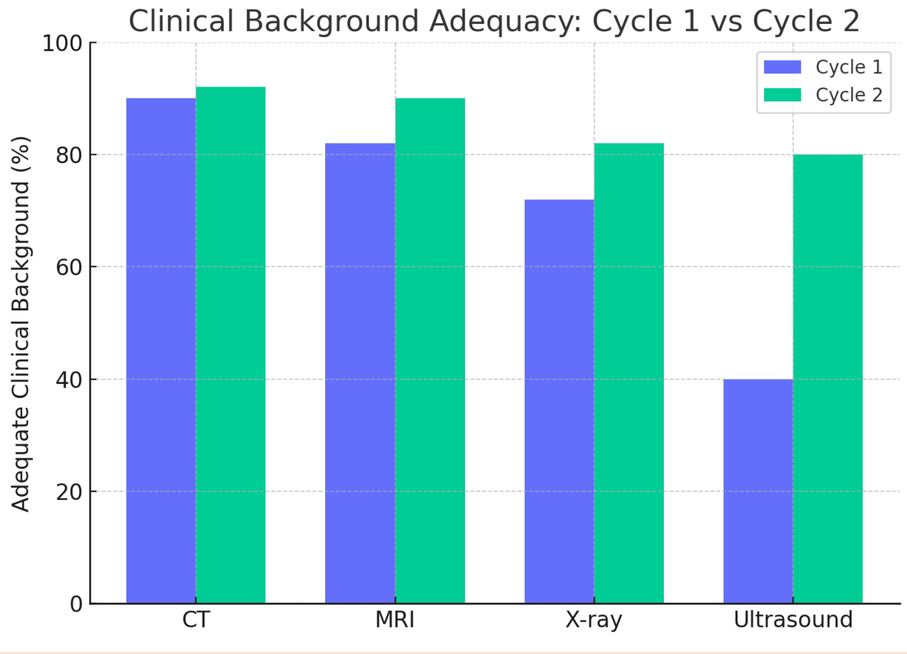
Cycle 2: July 2025 (n=127 requests)

Demographics: 100% complete (auto-populated fields).
Free-text fields: Marked improvement post-intervention.

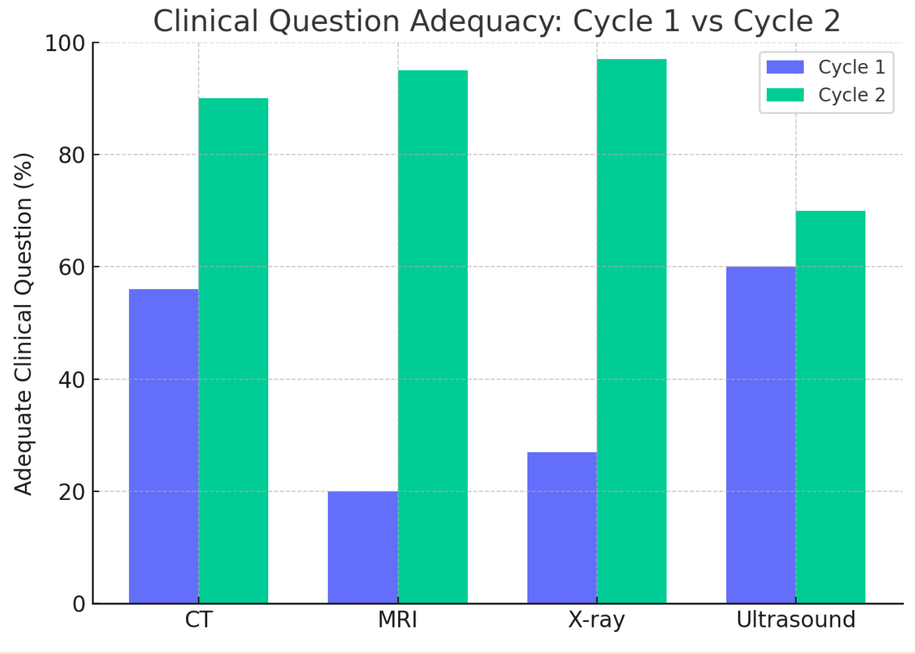




All modalities showed improvements in *Clinical Background* and *Clinical Question* documentation



Overall compliance improved substantially, demonstrating the effectiveness of a simple awareness intervention.



Conclusion

- Quality of radiology requests directly impacts quality of radiology reports.
- Closed-loop audit shows posters are effective and sustainable.
- Next steps: structured request templates, induction teaching, continued reinforcement, and annual re-audit