

A Straightforward Solution to a Complex Problem: Communication of Critical Findings From Radiology to the Emergency Room

N. Schmidt, K. Blackham

Define the client and what do they value

- Neuroradiology
- ER
- Speed of communication

Measure: what is the value and how do we measure it?

- Number of phone calls
- Imaging report turnaround time
- ER patient turnaround time

Analyze the deviations or defects

- Telephone is the principal method of communication
- Calls interrupt daily work activities

Improve or eliminate the defects

- Develop a communication workflow circumventing the calls
 - Easily implementable
 - User friendly

Research solutions

- Structured interviews were conducted with the neuroradiologists and ER physicians
 - Purpose of the phone calls
 - Number of phone calls
 - Satisfaction
 - Alternative solutions

Literature search

- Evidence for a list of critical findings

Pilot project development

- Interviews were repeated
- Triage dashboard in the ER
- Prototype software was tested
- Short satisfaction survey

Interviews with clinicians

- differentiation between acute/“critical” versus non-acute/“non-critical” -> most important reason for phone calls
- noncontrast computer tomography (CT) head
- “critical” findings were: intracranial bleeding, fracture, tumor, infarct, and hydrocephalus
- 80% prefer shorter reports
- Visualization of the acuteness on a radiologic triage dashboard located on large monitor in the ER

Pilot project implementation

Department of Radiology: exam results

Name	First name	DOB	Exam result	Exam status	Type of exam	Start time
			✗	non-final report	CT head & spine	
			✓	non-final report	CT head	
			✗	final report	CT head & spine	
			✗	final report	CT head & spine	
			✓	final report	CT head	
			✗	final report	CT head	
			✓	final report	CT head & spine	

PACS Notification System

The screenshot displays a software interface for managing medical reports. It is divided into two main sections: 'Befundstatus' (Report Status) and 'Befunddaten' (Report Data).

Befundstatus: This section contains four radio buttons for selecting the report's status: 'geschrieben' (written), 'gelesen' (read), 'gegengelesen' (reviewed), and 'freigegeben' (released). Below these is a checkbox labeled 'Befund unvollständig' (Report incomplete).

Befunddaten: This section contains several text input fields for user identification: 'Schreiber:' (SCHNO), 'Diktierer:' (SCHNO), 'Leser:' (SCHNO), 'Gegenleser:' (SCHNO), and 'Freigeber:' (BLAKR).

Ergebnisbewertung: A dropdown menu is open, showing four options: 'Critical Finding (CF)', 'Critical Finding (CF)', 'NO Critical Finding (NCF)', and 'Leer lassen (L)'. The first two options are identical and are currently highlighted in blue.

At the bottom right of the form, there are two buttons: 'Speichern' (Save) and 'Abbrechen' (Cancel).

Results communication

- For green cases, the phone call would be eliminated
- For red cases, the phone call would remain
- Test phase: 4 weeks

Improvements

- 1629 phone calls - equivalent to 43% of the phone calls - were eliminated