

Improving the quality of radiology requests for CT/MRI head scans in a tertiary neurology ward

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Background

One of the key challenges in neurology is to identify the location of a lesion. The following clinical details are helpful for the reporting radiologist and result in a more focussed report:

- timing (gradual vs acute),
- location (unilateral, bilateral, proximal, distal),
- symptoms (sensory/motor/combined)
- clear clinical question/provisional diagnosis

100% inclusion of the above 4 parameters on the radiology requests will improve patient safety by improving communication between the departments.

Methods

In the first PDSA cycle we used visual education measures to make scans requesters aware of the details they need to include in the requests for head scans. This included putting up posters in the common areas including L1 and L2 doctor and nurse areas. The poster was simple but informative. This included information regarding the inclusion of the 4 parameters (timing, location, symptom and clinical question/provisional diagnosis) in all CT/MRI head requests.

The 2nd part of the PDSA cycle involved smaller versions of the posters being stuck onto computer monitors (on the computers used most commonly for requesting investigations). A total of 50 scan requests were assessed pre-intervention, and after each intervention, and we found a significant increase in the number of imaging requests compliant with the set standards

Aim

100% compliance with the inclusion of the following 4 parameters in CT/MRI head requests: 1. Symptom 2. Site 3. Onset 4. Question asked/provisional diagnosis. The adequate completion of radiology request forms including clinical background and clinical question are a key standard of IR(ME)R 2000 (1)

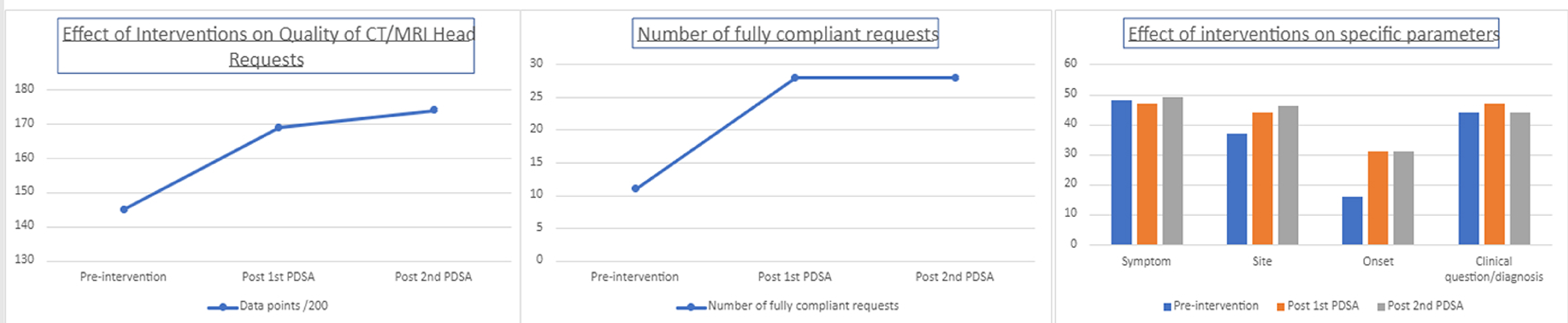
Assess 50 CT/MRI head requests at baseline for presence of 4 criteria

Re-assess 50 requests after 1st intervention

Re-assess after 2nd intervention

Results

- There was a significant increase in the quality of CT/MRI head requests after the 1st intervention – overall data points increased by 12%
- The presence of small stickers on computer monitors resulted in a small increase of 2.5% in overall data points in requests
- The number of requests fully compliant with the inclusion of all 4 parameters increased dramatically pre and post 1st intervention (11 to 28), however remained the static between the 1st and 2nd PDSA
- Parameters affected were the inclusion of site and onset in the imaging request



Discussion

Barriers to projects success: When human factors are taken into consideration in the quality improvement, it is seen that the improvement changes will revert if the educational measures are not continued. The other solutions could be in the ICE software and including the information in the induction package for new doctors.

Lessons learned: It is possible to modify behaviour and increase imaging request quality with cheap visual education measures. This is especially useful in departments with frequent junior doctor rotations.

Conclusion

The next steps in this QIP involved collating this information and including it in the 4-monthly induction morning for incoming junior doctors on the neurology ward at the RHH. Another potential solution would be to include these parameters as set mandatory criteria in CT/MRI head scans requests on the electronic requesting system (ICE)

References

1. Royal College of Radiologists. iRefer: RCR referral Guidelines 8th Edition London: RCR, 2017 <https://www.irefer.org.uk/guidelines/about-guidelines/communication-radiology-service>