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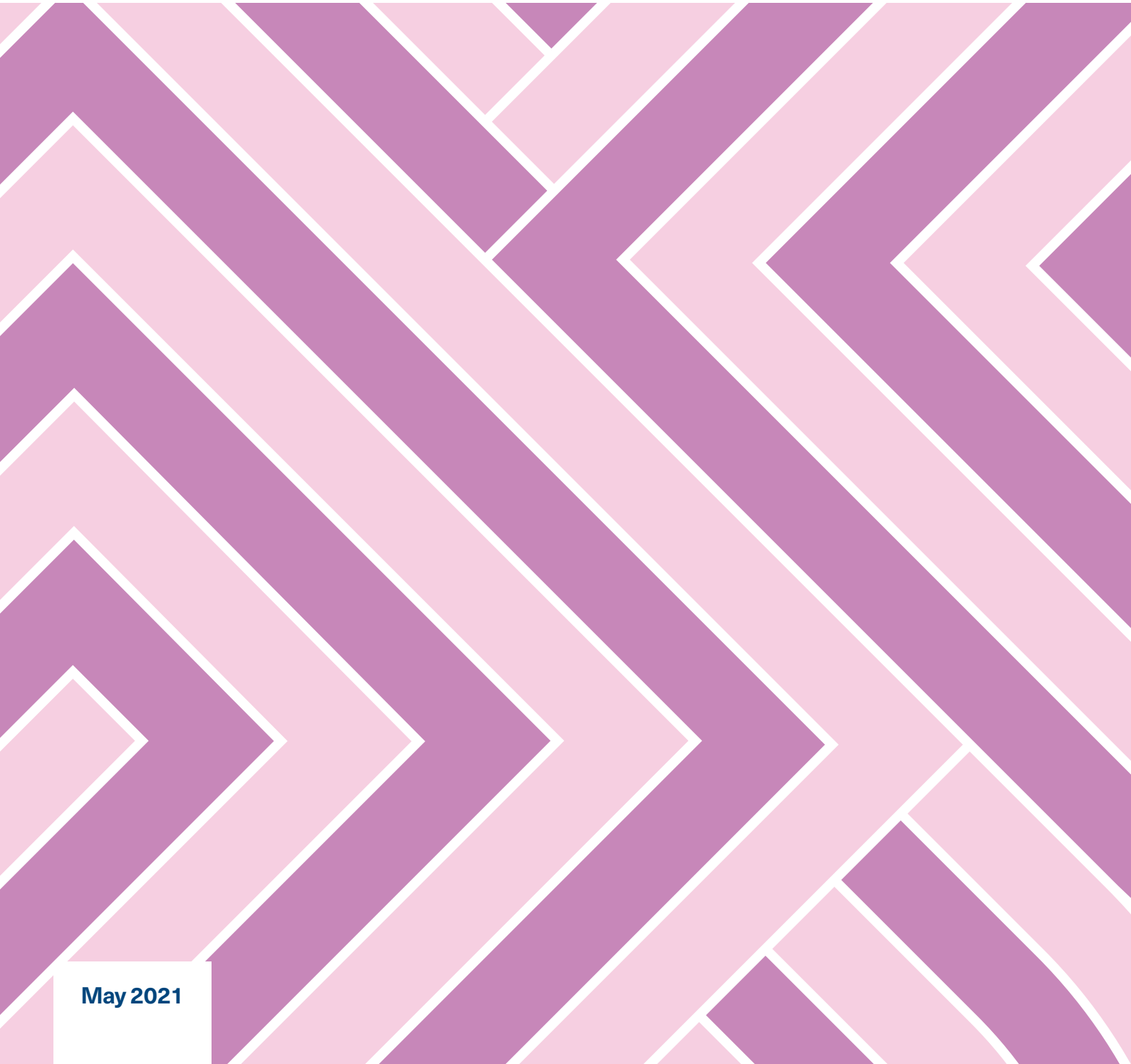
Clinical Radiology
The Royal College of Radiologists

Vetting (triaging) and cancellation of inappropriate radiology requests



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Contents

Foreword

Ensuring the appropriate investigation has been requested through the review of imaging requests is an extremely important but often under recognised role of the radiologist. This expert review prevents unnecessary radiation, inappropriate and duplicate examinations and makes the overall delivery of radiological services both safer and more efficient.

In addition to ensuring the efficient operation of the radiology department, review of imaging requests provides an opportunity to share informative feedback with the referrer indicating why a request has not been sanctioned. As such, an effective vetting service depends on good communication.

This document sets the standards for a robust method of vetting and communicating with the referrer and defines how to maximise the effectiveness of the process in the most efficient manner. It also illustrates how a decision-support tool such as *iRefer* can be incorporated into this process.[1]

These standards have been produced by the Radiology Informatics Committee and in particular Dr Neelam Dugar and I would like to offer huge thanks for this work.

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1. Introduction

Referrers sometimes make inappropriate requests or even duplicate requests for medical imaging. These requests can place additional burden on the workload of the radiology department. Use of The Royal College of Radiologists' (RCR) referral guidelines, *iRefer*, along with integration of decision-support software into the hospital's electronic referral workflow will help to improve the quality of referrals to radiology.[1]

However, vetting and protocolling of radiology referrals remain a means for ensuring the correct investigation is performed and correct scan protocols are applied. The ability to vet and cancel requests is vital to ensure that appropriate examinations are performed on patients. Performing inappropriate imaging examinations puts a huge cost burden on the NHS and – if the examinations involve ionising radiation – can add to the patient's radiation burden which may be illegal under IR(ME)R.[2,3] Efficient technology to support the workflow is necessary to make vetting and cancellation effective. This requires robust and effective ways to communicate the cancellation reason to the referrer – whether by electronic or paper means. Formal vetting processes are particularly valuable in complex and high radiation dose examinations.

2. The role of radiologists in the vetting of referrals

As doctors, radiologists understand referral pathways and diagnostic tests for the majority of conditions. They are also aware of the most appropriate imaging modalities for specific presentations and in specific age groups, taking into account previous investigations (both radiological and non-radiological). Through their involvement in multidisciplinary team meetings (MDTMs), radiologists can align investigations with clinician preference for the mode of imaging.

Radiologists are becoming more patient facing and this will increase further with rapid-access diagnostic centres and one-stop imaging/biopsy/clinical pathways. In their reports, radiologists provide not only a diagnosis or appropriate differentials but also advice on further imaging. This will become more important with diagnostics having become first step in many patient pathways.

3. Current issues

Due to cumbersome, time-consuming processes for vetting and cancelling inappropriate requests, some radiology departments are unwilling to involve staff in vetting processes. In addition, the vetting workload often lacks recognition as a clinical task and there is no national benchmarking of vetting activity. Improving vetting and cancellation workflow processes within radiology information systems (RIS) would certainly reduce the departmental workload. Efficient communication of the reason for cancellation is key to the success of acceptance of vetting by frontline clinicians.

4. Using vetting as a national benchmark

Vetting should be used as a benchmark to ensure it supports *Choosing Wisely* (England), *Prudent Healthcare* (Wales), *Realistic Medicine* (Scotland) and similar for Northern Ireland.[4–6] It should also be a benchmark for IR(ME)R compliance.[2,3] Appropriately trained staff should undertake vetting.

5. Staff involved in vetting

Modality-based radiographers usually perform vetting and protocolling for computed tomography (CT), magnetic resonance imaging (MRI) and ultrasound (US) imaging requests. In the case of complex/specialist imaging, vetting is likely to be undertaken by a radiologist/special interest radiologist to ensure the most appropriate test. Vetting should be recognised as an important value-added task. Radiographers are comfortable to cancel exams when a duplicate request is made but often find it difficult to challenge inappropriate requests on clinical grounds. Good teamworking in departments is required to optimise the vetting and protocolling workflow. Radiographers should be able to pass exams on to radiologists to vet, communicating their specific comments or concerns to the radiologists. This will allow radiologists to perform vetting and cancellation in the more complex areas. Vetting should be added as an item in terms of productivity calculations for radiologists and radiographers. Radiographers involved in vetting complex examinations should receive appropriate training.

6. Optimum technology for vetting

For the purpose of this document, it is assumed that vetting is done in the RIS. This is the most common information technology (IT) system used in the NHS for the vetting of radiology requests. These are some fundamental requirements to make vetting useful and efficient.

1. Vetting and cancellation should normally only take one or two mouse clicks.
2. Communication of the cancellation reason should be identical to report communication. That is, if reports are communicated to the picture archiving and communication system (PACS), electronic patient record (EPR) or general practitioner (GP) systems electronically and printed on paper, the same process should be followed for cancellation reasons.
3. Access to comprehensive information for radiologists and radiographers when vetting should include:
    a. Full local imaging history on RIS
    b. One-click access to images and reports on PACS
    c. One-click access to blood results, histopathology reports, clinic letters and discharge summaries and so on
    d. One-click access to the RCR's *iRefer* guidelines linked to the exam code.[1]
4. The vetting workload should be recognised as work activity. It should be possible for radiologists to count vetting work within the RIS (in the same way as reporting is counted).

Appendix 1 provides the specification that should be incorporated into all RIS procurement or contract extensions.

This document was approved by the Clinical Radiology Professional Support and Standards Board on 28 January 2021.

References

1. The Royal College of Radiologists. *iRefer: making the best use of clinical radiology, eighth edition.* London: The Royal College of Radiologists, 2017.
2. UK Government. Ionising Radiation (Medical Exposure) Regulations 2017. London: The Stationery Office, 2017.
3. UK Government. *Ionising Radiation (Medical Exposure) Regulations (Northern Ireland) 2018*. London: The Stationery Office, 2018.
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7. www.gmc-uk.org/education/standards-guidance-and-curricula/curricula (last accessed 3/3/21)
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Appendix 1. RIS specification for the vetting and protocolling workflow

When procuring or extending RIS contracts, radiology departments must ensure that the RIS is able to support radiologists and radiographers with an efficient vetting workflow. The following specification should be included in every RIS contract that is procured or extended.

1. **Statuses within RIS for vetting:** every RIS should include statuses 'in-vetting' and 'vetted'. It should be possible to move an exam to 'in-vetting' at any stage of the workflow prior to exam completion or cancellation, for example, requested, held, vetted, scheduled, arrived, in-progress. Any member of staff, including reception and appointments staff, should be able to send an exam for vetting. An exam may need to be vetted more than once. More than one vetter maybe involved in vetting.
2. **Intended vetter:** staff should be able to allocate exams to a 'group of staff' or individual radiologists for vetting using an 'intended vetter' field. Departments may have modality-based radiographers to do vetting such as a CT vetter, MRI vetter and so on and specialty-based vetters for radiologists, for example paediatric vetter, musculoskeletal (MSK) vetter and so on.
3. **Vetting worklist filters:** users should be able to filter exams sent to vetting worklists based on the:
    a. Specialty of referring clinician (main speciality as per General Medical Council [GMC] and NHS Data Dictionary)[7,8]
    b. Named referring consultant/GP
    c. Referral type, for example emergency department, inpatient, outpatient, GP and other
    d. Modality, for example CT, MRI and so on
    e. Intended vetter, this may be individuals or vetting groups and could be specialty-based radiologists or modality-based radiographers and so on
    f. Date and time of request
    g. Clinical priority – urgent, two week wait (2WW) or routine.
4. **Vetting page information display:** during vetting, radiologists and radiographers should have the following information instantly available on the vetting page with no extra clicks:
    a. Exam related information:
        1. Full patient demographics on patient banner
        2. Referrer- and responsible-consultant-related information including their name, job role and specialty
        3. Location from which the referral originated, for example, inpatient, outpatient and so on
        4. Study related information such as the exam description, priority, date of request and so on.
    b. Narrative clinical history
    c. Comprehensive local imaging history including previous exams and reports.

5. **One-click context links:** during vetting, radiologists should have one-click context links to the following:
    a. Patient context link to blood results, histopathology reports, clinical letters, discharge summaries, medications and so on
    b. Request exam context link to RCR *iRefer* guidelines to check for appropriateness criteria[1]
    c. Desktop integration to PACS from the previous imaging history to review images if required.
6. **Vetting options:** vetting radiologists/radiographers should have the following options during vetting:
    a. Approve
    b. Decline or cancel
    c. Change vetter (intended vetter is changed to another radiologist or vetting group).
7. **RIS memo or notepad:** There should be a memo or notepad attached to each RIS episode for staff to include comments. This will include documentation of concerns of radiographers when passing on the vetting to a radiologists, any additional reformats or sequences requested by the radiologists and so on. Vetters should be able to add protocol information if appropriate.
8. **Data collection:** when an exam is 'approved' it should be logged within the RIS database as being 'vetted' with the following:
    a. Name of the vetter/s – person who vetted and approved the exam should be stored in the RIS database
    b. Each exam should have a database entry to show whether or not it has been vetted
    c. The above two data items should be available on all worklists – reception, appointment and so on. This would allow appointment/reception staff to filter exams that have been vetted to enable scheduling as per departmental protocols
    d. Radiologists and radiographers should be able to assess their vetting workload by interrogating the RIS.
9. **Cancellation workflow:** When a user clicks on the 'decline' option the following should happen.
    a. The user should be asked to provide a reason for cancellation. In addition to coded reasons for exam cancellation (such as did not attend, duplicate request and so on), there should be the option to enter free-text narrative information. (Coded reasons will help with data mining and narrative content will help in clinician-to-clinician communication.)
    b. Electronic communication: the reason for cancellation must be transmitted in ORC16 field of HL7 ORM message back to Ordercomms/EPR (the application used for sending the electronic request), PACS or any other application with which the RIS communicates.
    c. Paper-based communication: if paper-based communications are being used for reports, there should be an option for the user to print a letter to be sent to the referring clinician which includes the reason for cancellation. This may or may not also be sent to the patient for information.

10. **Editing or changing exams:** radiologists should be able to edit and change the exam requested. They should be able to:
    a. Change the exam code and description if a wrong exam has been requested, for example, when a CT chest has been requested but the radiologist knows that a CT chest and abdomen is required for complete staging
    b. Change the modality type, for example, from CT head to MRI head
    c. Change priority, for example changing between urgent, 2WW and routine.
    All changes made must have robust audit trails.
11. **Adding and editing protocols during vetting:** it should be possible to embed standard protocols to specific exam codes in the RIS. These protocols should be visible during the vetting process. It should be possible for radiographers and radiologists to add or edit protocols during vetting.

Appendix 2. Audit template

This audit template provides evidence of clinical effectiveness in radiology.

Organisation and delivery of the audit

The responsibility lies with the clinical director and radiology services manager.

The cycle

1. The standard

- All radiology exams should be vetted by an appropriately qualified/trained individual.
- The vetting process should be subject to regular audit.
- This audit should be performed annually.

2. The target

Vetting performed for radiology exams: 100%

3. Assess the local practice

Choose a modality, for example CT which has a high radiation dose exposure, to audit the standard.

Collect data for CT scans performed in the last three months.

Data collection:

1. Was the exam vetted: yes/no
2. Who was it vetted by: name
3. Who was it vetted by: job role (radiologist or radiographer)

4. Resources required

Admin staff – to extract the above data from RIS to produce a report. Normally with a good modern RIS which logs vetting processes during the workflow it should take between two and eight hours to generate a report.

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