Leveraging effective communication in Radiology.

3 opportunities for improvement

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Introduction:

The last two decades have seen radical innovations within radiology with the advent of advanced imaging hardware and software technologies. The digitisation of imaging has enabled remote work, delivering both new models of care and the potential for unprecedented scale for radiology organisations.

However, these step changes have not been matched with the requisite modernisation of workplace tools that address common workflow issues.

As radiology organisations strive to meet high clinical demands and business goals, innovation is required within organisational communication in order to deliver care efficiently and safely. Solutions that address internal communication workflows and foster engagement with external referrers, whilst minimising noise and unifying systems are paramount.

In this article we explore the evidence base of communication failures in radiology and discuss opportunities for improvement.

In this paper you will:

- **Understand the impact of effective clinical handover on patient care in the radiology setting.**
- **Discover the benefits of direct communication between referrer and radiologist.**
- **Learn about the role of communication in quality improvement and education within your radiology organisation.**
- **Identify the requirement for system-wide changes to facilitate better communication within your organisation and beyond.**

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The Gold Standard in Secure Communication for Health.

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Introduction
Communication as the foundation of better care

Effective communication is the foundation of good healthcare. The relationship between communication breakdowns and medical errors is well established within the published medical literature[1-4].

Medical imaging is not exempt from communication failures[5]. Published literature in radiology clearly demonstrates that communication failures lead to delays in diagnosis and treatment, misdiagnosis and potentially to incorrect treatment[6,7]. For example, in the United States communication failures involving radiology reports have been found to be responsible for up to 25% of malpractice claims[5]. Notably, the average litigation payout was twice as high when appropriate communication had not occurred[7].

In Australia, data from Australia's largest medical indemnity provider highlight the powerful role communication failings play in malpractice claims. In a recent report, whilst 3 out of 4 medicolegal cases against radiologists were coded as due to diagnostic error, in more than 50% of these cases the involved clinician was assessed as having met the expected standard in reporting. Communication failures were identified as the significant underlying contributing factor[9].

Communication among clinicians has been shown to have increasing importance as medicine subspecialises and technological advances further fragment care across physician and institutional providers[8].

According to the American College of Radiology effective communication in radiology requires three core components: timeliness, consultation and reliability[10]. Applying these principles stands to reduce adverse patient events, improve referrer and radiologist relationships and improve business efficiencies. In order to do so, Radiology organisations must adopt innovative solutions that promote step changes within communication workflows to keep pace with ever evolving imaging technologies.

In this article, we explore three fundamental opportunities for communication to improve care within radiology practice.

Opportunity 1:
Understanding the gaps in patient handover in medical imaging

> ***The single biggest problem in communication is the illusion that it has taken place***
>
> ***George Bernard Shaw***

Patient handover is a high risk time for medical error[1]. Patient handover can be defined as the transfer of responsibility and accountability for some or all aspects of patient care from one health professional to another, on a temporary or permanent basis.

Like other facets of healthcare, the handover of patients to and between radiology service providers is prone to error. Literature demonstrates failures in effective handover contribute to delays in the communication of a diagnosis and treatment, allows for potential wrong diagnosis through miscommunication, and contributes to poor resource utilisation and unnecessary test duplications[10-11].

Understanding where these handover errors occur within radiology workflows provides important opportunities for practice improvement.

Figure 1 shows a typical workflow within an Australian based public imaging practice. The graphic highlights the multiple stakeholders involved in referring a single patient for an imaging test in an Australian metropolitan public hospital emergency department. Multiple, sequential communication and handover 'actions' are required, which greatly increases the risk of miscommunication and medical error. The sequential, 'non-parallel' mode of communicating with the multiple stakeholders further introduces inefficiencies and risk.

A useful conceptual framework to understand radiology imaging workflows is the radiology imaging cycle as described by Jones and colleagues[18] **(Figure 2)**. The cycle comprises 4 total phases, 3 of which are based around medical imaging and the fourth around the clinical action undertaken by the referrer. Stakeholders include the referring clinician, administration staff, the radiographer (technologist) and the radiologist and the patient. Communication breakdowns have been demonstrated to occur at all stages of the cycle **(Figure 3)**.

Figure 1.

An Australian study examined the relationship of voluntarily reported handover incidents within radiology according to the stages of the radiological imaging cycle[14] **(Figure 3)**. The most common reported stages where incidents occurred were:

1. Patient preparation (34%)

Inadequate handover was reported in 41% of incidents during patient preparation. In 80% of patient preparation incidents, adverse outcomes ensued.

2. Test requesting (27%)

Inadequate content of the request form was identified in more than half of cases, driving wasting of resources (e.g unnecessary testing) in approximately ¼ of cases. This included imaging the wrong patient, performing unnecessary imaging and delay in performing the appropriate test for 1 in 5 patients.

3. Communication of a diagnosis (23%)

Errors in communication of diagnosis were driven by delayed communication of the diagnosis in 36% of instances and communication of the wrong diagnosis in 36% of instances.

As reducing medical error is a foundation to delivering value based care and promoting professional accountability, system wide changes that foster effective communication are required to reduce medical error and ensure timely, accurate and accountable clinical communication[13]. Structured approaches to patient handover should be adopted and become 'core business' for the organisation, in alignment with the standards proposed by National Commision of Safety and Quality in Healthcare[13].

The Stages of the Imaging Cycle

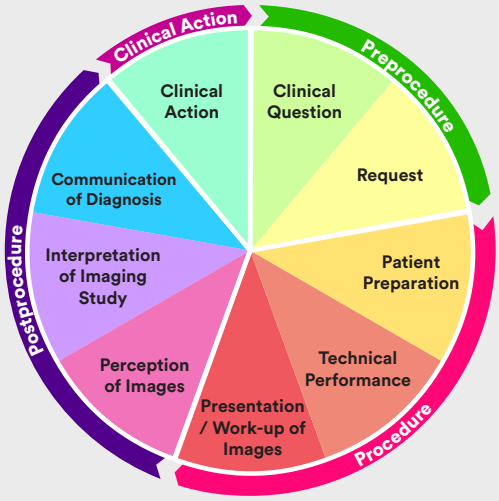


Figure 2. Adapted from J Am Coll Radiol 7 (8) Jones DN. et al (2010) Where failures occur in the imaging care cycle: lessons from the radiology event register, 593-602, 2010.

Stages of Imaging Cycle where Handover Incidents Occur (%)

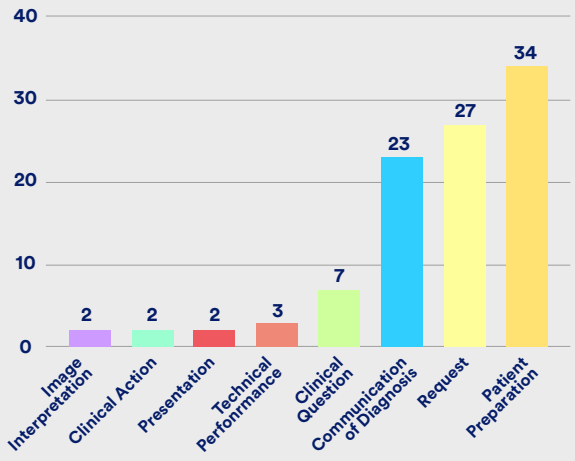


Figure 3.

Key takeaway:

Communication failings in the handover of patients within the radiology imaging cycle are common and contribute to poor resource utilisation, patient harm and misdiagnosis. The involvement of multiple stakeholders requires a system wide approach to address communication failures across stakeholders and within your organisation.

Opportunity 2:
Reinventing the radiologist-referrer relationship

> ***A relationship is like a house. If a light bulb goes out, you fix the lightbulb, you don't go and buy a new house.***
>
> ***Faraaz Kazi***

In contemporary practice, radiologists are constantly challenged by work demands, economic pressures driven by productivity goals and a sense of commoditisation. The corporatisation of radiology and decentralisation through digital workflows has effectively dehumanised radiology, reducing opportunities for real time, face to face communication.

A referrer's knowledge of the individual radiologists within a practice is often non-existent. Increasingly, a referrer's perception is that radiologists sit behind faceless organisations.

When was the last time a referrer contacted your radiology staff prior to ordering a test?

The disconnect between radiologist and referrer has undermined the referrer-radiologist relationship. In turn, this disconnect has degraded the quality of the patient journey across the entire radiological imaging cycle by reducing direct engagement of the radiologist and referrer.

Best practice encourages direct communication between referrer and radiologist if advice is required or clarification is needed. For instance, the NSW Clinical Excellence Commission guidelines on avoiding diagnostic error encourage primary care practitioners to *"speak directly with the staff providing you with diagnostic test results: radiologists, pathologists, and clinical pathologists"*.

Practically speaking, this is easier said than done. Radiologists working at multiple practice locations, contract radiologists, poor roster transparency, the reliance on intermediaries like administration staff, and utilisation of traditional systems like telephone, introduces communication blocks within the referrer-radiologist pathway. With ever increasing time pressures on the average general practitioner, unless access is direct and immediate, it is unlikely to occur.

However, referrer satisfaction by direct access to radiologist staff has been identified as an important factor in strengthening referrer and radiologist relationships and referrer satisfaction[15].

In this increasingly dehumanised and decentralised style of practice how then can we establish 'old-school' style relationships? Innovation is required in the communication schema[17]. Radiologists require a step change in their communication process to keep pace with their imaging technologies. Optimising communication with the referrer and radiologist has the ability to improve the quality of the test provided, avoids unnecessary tests and improves patient safety by avoiding inappropriate contrast utilisation and/or radiation exposure. In turn, enhanced communication with the radiologist and referrer ensures ongoing feedback and educational opportunities are leveraged.

At a practical level, then, a direct referrer -radiologist connection via a realtime communication platform could:

- Identify gaps in referral information more effectively.
- Enhance critical results notifications through closed-loop communication.
- Report diagnostic uncertainty more effectively.
- Allow reporting of actionable items.
- Effectively identify limitations of testing.
- Document a permanent history of communication.

Furthering the last point, medicolegal complaints commonly arise around misunderstandings about the limitations of radiologic studies[9]. Providing radiologists with an additional avenue to provide more context to the intricacies in the case is ideal but often challenging within the limitations of a structured clinical report.

Key takeaway:

> **Providing referrers with direct access to radiology staff is considered best practice. Enhanced communication between the radiologist and referrer stands to optimise image testing, and allows actionable items, diagnostic uncertainty and limitations of testing to be more clearly communicated.**

Opportunity 3:
Education and quality improvement through enhanced communication

> ***Make feedback normal. Not a performance review.***
>
> ***Ed Batista***

With the transition from plain films to digitised images, radiologists have been early adopters of the remote working revolution. Teleradiology has provided certain productivity improvements to organisations with remote delivery of 24 hour imaging services, often via third party contractors. However, the shift from a centralised to distributed workforce has disconnected radiologists from one another and from radiographer staff. The ability for radiologists to seek second opinions and undertake peer review and clinical feedback has been undermined, in part due to the diminished interpersonal connection among health providers[16].

However, shared knowledge in medicine has long been a part of medical education and quality improvement. Historically, imaging grand rounds and multi-disciplinary team meetings have formed an integral component of the practice and art of medicine.

Education and feedback to the radiologist is degraded if feedback is delayed[16]. This also creates efficiency problems. Therefore solutions should not diminish productivity and should aim to deliver feedback in realtime or without significant delay.

Educational opportunities for radiologists through peer to peer communication also have been diminished by the distributed workforce. Peer review, realtime consultations and post reporting feedback remain important aspects of better care and improved patient outcomes. Reiner notes that effective feedback should not hinder workplace efficiencies if adoption is to be expected. A solution is proposed by integrating the imaging data directly into the communication process, thereby avoiding a discontinuous feedback process and associated delays[16].

In Summary

There is significant scope within radiology organisations to optimise communication pathways. Three opportunities have been identified here as ways to achieve this. Addressing these communication gaps stands to optimise the patient journey across the entire imaging cycle, reducing the potential for medical error and organisational inefficiencies. Radiology organisations should look to 'reinvent' the radiologist-referrer relationship by leveraging innovative communication solutions to foster referrer engagement and effective two-way feedback. Such solutions promote 'best practice' by enabling educational and quality assurance activities internally within the organisation and with the radiology referral base in a timely and relevant manner.

Key takeaway:

Feedback is more relevant if delivered in a timely and contextual manner. Integrating communication solutions into radiology workflows maximises the opportunity for effective feedback, education and quality improvement initiatives within an organisation.

What needs to change?

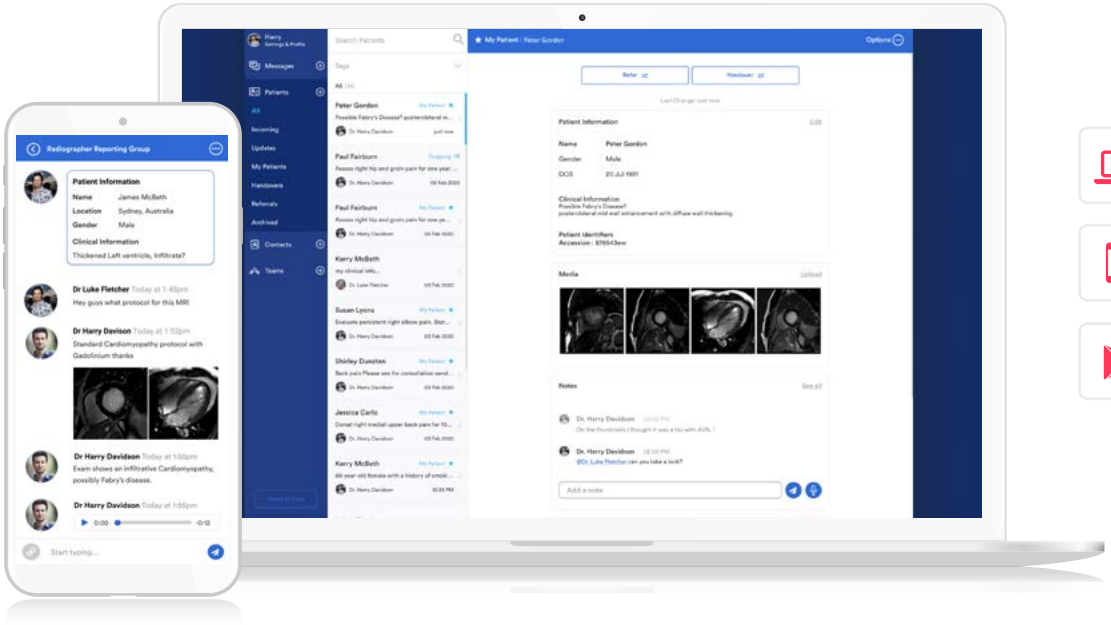
Communication processes for all stakeholders involved in patient care.

Why?

Minimise medical error and potential malpractice, maximise work efficiencies, improve relationships and patient outcomes.

How?

Contact Foxo.



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