Post-implementation Review of the Professional Capabilities for Medical Radiation Practice – Final Report

8 November 2022

Contents

Editorial note: Some minor corrections have been made to Final report based on fact checking and feedback from individuals and organisations.

Executive summary

The Medical Radiation Practice Board of Australia (Board) published revised Professional capabilities for medical radiation practice in November 2019, and these came into effect in March 2020. At the time of publication, the Board gave a commitment to undertaking a review of the professional capabilities to consider if there had been any unintended consequences in the 12 months after they came into effect (this post-implementation review). The review focussed on the implementation of two professional capabilities about recognising and responding to deteriorating patients and taking action if the practitioner identifies any urgent or unexpected findings.

The post-implementation review involved a desktop review of feedback from three key stakeholders in 2018-19 and a review of literature relevant to the capabilities under review, as well as a review of Ahpra's notifications data, and targeted consultation with key stakeholders.

Reflecting on the concerns raised by stakeholders that led to the Board's commitment to undertake this post-implementation review, together with the qualitative and quantitative data gathered, the key findings are:

a) The implementation of the two professional capabilities has not had any unintended consequences.

b) The implementation of the two capabilites has had a positive impact on patient and practitioner safety.

c) Neither capability has impacted on cultural safety.

d) There is no evidence that medical radiation practitioners are going beyond their scope of practice. There were no reports of medical radiation practitioners being asked to perform life-saving treatments beyond their qualifications and training, and there were no reports of medical radiation practitioners being asked to formally report the findings of images.

e) Medical radiation practitioners generally have sufficient training to respond to deteriorating patients within the parameters of workplace policies and procedures.

f) The training required to ensure medical radiation practitioners can identify urgent or unexpected findings may be more complex than that required to recognise and respond to deteriorating patients. While students receive some training in recognising abnormal imaging appearances including urgent or unexpected findings at university, the skills required to accurately and consistently recognise urgent, unexpected or abnormal findings are generally seen by stakeholders to be developed and honed over years of experience in the workplace.

g) Medical radiation practitioners are showing high levels of accuracy in their recognition of abnormal findings on images.

h) Factors that support successful implementation of these professional capabilities include supportive workplace cultures and support from other health practitioners, particularly those in senior roles, including radiologists; adequate training, both as part of entry-level education and on-the-job; and, workplace systems, policies and procedures that formalise the roles and responsibilities of medical radiation practitioners and other health practitioners as relevant to these capabilities.

i) Some practitioners have experienced challenges implementing these two capabilities. Factors identified as impacting implementation include unsupportive workplace cultures, lack of support from other health practitioners, particularly radiologists, and the widespread workforce shortages associated with the COVID-19 pandemic.

Recommendations

While this post-implementation review did not identify any unintended consequences or negative impacts on patient or practitioner safety arising from the two professional capabilities, the Board may wish to consider the following as part of the next scheduled review of its professional capbailities:

1. Including additional explanatory material to support consistent interpretation and shared understanding of the capabilities between professions.

2. Developing communication materials for employers on key factors for success – for example, to encourage positive workplace cultures that support and facilitate the role of medical radiation

practitioners in responding to deteriorating patients and taking action if the practitioner identifies any urgent or unexpected findings.

3. Clarifying that when a medical radiation practitioner recognises a patient whose condition is deteriorating, their response should comply with workplace systems, policies and procedures for responding to deteriorating patients.

4. Exploring systemic barriers to medical radiation practitioners undertaking more advanced post-registration training (for example in Advanced Life Support or image interpretation) to enable them to perform these additional professional capabilities in the interests of patient safety.

5. Specifically recognising the role of radiologists in the professional capability about taking action if the practitioner identifies any urgent or unexpected finding, noting the important role a radiologist plays in implementing this capability.

1. Introduction

The Medical Radiation Practice Board of Australia (Board) published revised Professional capabilities for medical radiation practice in November 2019, and these came into effect in March 2020. At the time of publication, the Board gave a commitment to undertaking a review of the two professional capabilities to consider if there had been any unintended consequences in the 12 months after they came into effect (this post-implementation review).

The post-implementation review was undertaken in four stages, as outlined in Table 1. This document is the Stage 4 draft report to the Board. It includes:

- Section 2 – **background information** on the professional capabilities that were the subject of this review
- Section 3 – the **methodology** used for the stakeholder consultations and the stakeholders who were engaged
- Section 4 – **feedback from the consultations**
- Section 5 – the **key findings and recommendations**, including a summary of key findings from the desktop review and the quantitative analysis, the overall key findings and recommendations

Table 1: Stages in the post-implementation review

Stage	Activities	Status
Stage 1: Project planning	• Finalise project plan and seek approval from the Board.	*Completed*
Stage 2: Desktop review	• Undertake a desktop review of documents from the 2018 and 2019 consultations and subsequent communication with stakeholders to clarify the issues raised by RANZCR, ADIA and AMA about the professional capabilities • Review publicly available literature relevant to these issues.	*Completed*
Stage 3: Engagement and stakeholders	• Develop a stakeholder engagement plan to support focused engagement on issues raised by RANZCR, ADIA and AMA and stakeholder experience using the professional capabilities. • Engage with stakeholders to explore the issues raised by RANZCR, ADIA and AMA and any unintended consequences experienced during the implementation of the professional capabilities.	*Completed*
Stage 4: Analysis and report writing	• Analyse information gathered during the desktop review and the stakeholder consultations and prepare draft and final reports for the Board.	*Completed*

2. Background

2.1 Background to the post-implementation review

Professional capabilities identify the knowledge, skills and professional attributes needed to safely and competently practise as a registered health practitioner in Australia. In the context of the National Registration and Accreditation Scheme (the Scheme), they describe the threshold or minimum level of professional capability required as a health practitioner within a given profession.

The Board first published professional capabilities in November 2013. In 2018-19, the Board conducted a comprehensive review and developed revised professional capabilities. The revisions reflected lessons learned from several coronial inquiries and clarified current workforce expectations of capabilities of medical radiation practitioners to ensure that the professional capabilities continued to be relevant for contemporary and safe practice in the profession.

The Board consulted widely with stakeholders during two phases of consultation on the revised professional capabilities. Stakeholders generally suppported the revisions but the Royal Australian and New Zealand College of Radiologists (RANZCR), the Australian Diagnostic Imaging Association (ADIA) and the Australian Medical Association (AMA) repeatedly raised concerns that the professional capabilities would negatively impact patient and practitioner safety. A small number of individual stakeholders also observed that some capabilities were not part of a medical radiation practitioner's role. Grouped together, stakeholder concerns focused on key capabilities for

- taking action if the practitioner identifies any urgent or unexpected findings, and
- recognising and responding to patient deterioration.

The Board considered this feedback and on balance, prioritising public safety, continued to include the relevant capabilities. In November 2019 the Board published the revised professional capabilities which came into effect in March 2020. At that time, RANZCR, the ADIA and the AMA again raised their concerns in correspondence to the Chair of the Board and Ahpra's Chief Executive Officer. In response, the Board gave a commitment to undertaking a review of the professional capabilities about responding to deteriorating patients and see something, say something to consider if there had been any unintended consequences in the 12 months after they came into effect (this post-implementation review).

2.2 The professional capabilities in focus

Consistent with the Board's commitment, this review focused on two professional capabilities:

- Recognising patients/clients whose condition is deteriorating, or who are unable to undergo an examination/treatment and respond to their needs in an appropriate and timely way consistent with standards of safe and high-quality care. This includes calling for emergency help when needed. (Professional capability 1.7a – this report refers to this professional capability as **'Responding to the deteriorating patient'**)

- If the practitioner identifies any urgent or unexpected findings, take appropriately and timely action to ensure the immediate management of the patient/client. (Professional capability 1.7c – this report refers to this capability as '**See something,say something'**)

3. Consultation methodology

Ethics approval for the consultation methodology was received in March 2022. Targeted consultation with key stakeholders was undertaken from March to July 2022 using focus groups, interviews and meetings. The purpose of the consultations was to explore the impact of the professional capabilities on patient safety (including cultural safety) and practitioner safety, and to gather information about any unintended consequences arising from the implementation of the two professional capabilities.

Thirty six stakeholders participated in the consultations across the different engagement modalities involving - eight medical radiation practice stakeholder groups. Table 2 below outlines the stakeholder groups and number of participants in each engagement.

Table 2: Key stakeholders participating in consultations

Stakeholder group	Engagement type	Number of participants
Diagnostic radiographers	Focus group	4
Nuclear medicine technologists	Focus group	2
Radiation therapists	Focus group	4
Professional associations	Focus group	4
Education providers	Focus group	10
Australian Commission on Safety and Quality in Healthcare (ACSQHC)	Interviews (2)	2
Insurance providers	Interview	2
Indigenous Allied Health Australia	Interview	1

Follow up meetings were held with the NSW Clinical Excellence Commission (CEC) and the NSW Agency for Clinical Innovation (ACI) to explore initiatives run by these agencies and referred to in focus groups.

Meetings were held with RANZCR and the AMA to hear their concerns about the professional capabilities. A meeting was scheduled with the ADIA, but cancelled by them due to competing priorities. RANZCR and the AMA documented their concerns. RANZCR provided the following recommendations to the Board following the meeting:

(i)   Remove or soften the two professional capabilities

(ii) Amend the professional capabilities to specifically recognise the role of the radiologist, noting the important role a radiologist plays in implementing the 'see something, say something' professional capability, and

(iii) Use 'understand' in place of 'perform', 'respond', 'operate' and 'determine'. RANZCR argues these verbs are beyond a medical radiation practitioner's competency and scope of practice.The AMA wrote in support of the submission from RANZCR.

The number of participants in focus groups and interviews was small and results should therefore be interpreted with caution. The themes presented in this report emerged across multiple stakeholders. For the remainder of this report, the terms 'medical radiation practice stakeholders' or 'stakeholders' refer to the stakeholder groups listed in Table 2. Where relevant, RANZCR, the AMA and the ADIA are mentioned separately and referred to by name.

4. Feedback from consultation with stakeholders

4.1 Feedback on 'responding to the deteriorating patient'

4.1.1 Impact on patient and practitioner safety

Without exception, medical radiation practice stakeholders reported that implementing the 'responding to the deteriorating patient' capability had a positive impact on patient and practitioner safety. The discussions indicated that this professional capability has:

- Raised awareness and validated the role of medical radiation practitioners in responding to deteriorating patients

- Enabled medical radiation practitioners to advocate for patients experiencing deterioration

- Potentially protected medical radiation practitioners in the event of litigation due to their responses to deteriorating patients.

A number of stakeholders said that all health practitioners need the knowledge and skills to be able to respond to deteriorating patients. One stakeholder said:

> *I don't think anyone, any patient in an acute care setting should be able to be in a room with a health practitioner…that doesn't know how to raise the alarm properly, if not how to work with them in the early stages of managing [deterioration].*

Stakeholders said they regularly witness a range of deteriorating patient situations from minor to severe. Most practitioners and education providers said that recognising deterioration was a challenge for beginning practitioners but that over time most practitioners would develop the confidence to demonstrate accurate clinical judgement in identifying deterioration, and would develop the knowledge and skills to respond appropriately. A radiation therapist said:

> *It could be every second patient we see because it might be a skin reaction... so it could be the level of deterioration is expected and manageable…or it could be a sudden contrast reaction… a patient might have a cardiac event…so in some respects this is absolutely routine and something we have been doing forever and some of the deterioration might be predictable but we still have to respond appropriately.*

Practitioners and education providers described situations where medical radiation practitioners were working as part of interdisciplinary teams, where everyone had a role to play in responding to a deteriorating patient. They gave examples where practitioners and students had been required to respond to deteriorating patients and stated that having the professional capability documented in writing reinforced the fact that responding to a deteriorating patient was "everyone's responsibility". This was reinforced by the ACSQHC who noted that this professional capability provides medical radiation practitioners the permission to play an active role in responding to deteriorating patients. Stakeholders said:

> *People are more aware of their own responsibilities, because the capabilities are explicit.*

> *I think that's been really helpful to articulate, and then we all know where each other stands.*

Examples cited included patients experiencing vasovagal symptoms when getting up from the table, patients reacting to contrast dye, and patients experiencing cardiac events. Practitioners described situations in which they had raised an alert (such as a MET call in a hospital), called an ambulance and administered basic first aid. They emphasised that they always worked within their scope of practice, within the scope of their training and qualifications and in accordance with the policies and protocols established in their workplace.

Some stakeholders expressed concern about the limitations in the training of medical radiation practitioners, and restrictions in local policies and procedures which could result in medical radiation practitioners being unable to administer life-saving treatments (such as using a defibrillator), and being reliant on other health practitioners for these. They described situations where this had been challenging

and resulted in poor outcomes for patients, and they expressed concerns given the workforce challenges being experienced following the COVID-19 pandemic.

Insurance and education providers stated that the requirement to document the details of a patient's deterioration, who responded to that deterioration and how they responded, enables medical radiation practitioners to position themselves strongly in the event of a possible claim or litigation. This documentation can be used as evidence that practitioners demonstrated their roles and responsibilities at the standard expected for the profession, including the expected capabilities.

Impact on cultural safety

The Indigenous Allied Health Association (IAHA) was consulted to further understand if this professional capability had a negative impact on cultural safety. The IAHA did not identify impacts specifically related to the capability, and highlighted several factors that could improve cultural safety for both patients and practitioners such as:

- Ensuring that medical radiation practitioners take responsibility for their role as a patient advocate in situations of patient deterioration.
- Ensuring that cultural safety training is embedded in all entry-level education programs as well as all workplace induction programs, and embedding culturally safe practice into the day-to-day practice of the health practitioner workforce.

4.1.2 Key success factors

Stakeholders reported a number of factors that supported the effective implementation of this professional capability. The most frequently mentioned of these are outlined in Table 3 below.

Table 3: Key success factors

Key success factor	Description
Workplace culture	Stakeholders reported that having a positive workplace culture that supports all staff to play their role in responding to deteriorating patients was critical to achieving positive outcomes for patients.
	The IAHA and the ACSQHC in particular noted that a positive and inclusive workplace culture is a significant factor for effectively responding to deteriorating patients. They recognised that no standards can prescribe a good workplace culture or one that supports the positive collaboration and strong communication that is required for safely and effectively responding to deteriorating patients. They also acknowledged that implementing effective policies and procedures around deteriorating patients is wholly dependent on the actions of the workforce and the culture within which people work. They agreed that a good workplace culture is something that takes "time to build, and a short time to ruin". One stakeholder said:
	To set a standard which says that a service has to have in place policies and procedures and approaches to ensuring deteriorating patients are appropriately recognised and the need for their care escalated where necessary is absolutely dependent on the people looking after them.
	A number of stakeholders including the CEC, ACSQHC, education providers, professional associations and nuclear medicine technologists all raised the importance of teamwork for executing this professional capability effectively. They highlighted that issues related to responding to deteriorating patients are often due to poor teamwork and poor communication. They talked about how standardised approaches have helped improve communication within and between teams and between different health practitioners. Examples cited included the use of the ISBAR framework and the Between the Flags initiative in NSW. More information on Between the Flags is presented in Appendix 1.

Key success factor	Description
Training	Many stakeholders indicated that education and training in responding to deteriorating patients was limited as part of entry-level qualifications. Education providers stated that developing education programs in this area and embedding recent clinical and theoretical developments is challenging. They further stated that developing scaffolding programs from first year through to final year is complex.
	While some stakeholders expressed concerns about the limitations of formal education, most stakeholders agreed that university programs provided the foundation education and training required and that this could be supplemented by workplace learning and development programs.
	Other stakeholders believed that training was best undertaken in the workplace and in an interprofessional setting where students are surrounded by health practitioners from a variety of professions.
	Education providers stated that not every student would experience a deteriorating patient while on clinical placement, and that this limitation is becoming more frequent as a result of the impact of the COVID-19 pandemic. In response, education providers have implemented deteriorating patient simulation activities which have proven to be a valuable learning tool for students.
	Education providers also stated that the main difficulty for students was developing the confidence to know that they have the knowledge to recognise and respond to deteriorating patients. One education provider stated:
	The difficulty for the student was actually making that decision- to actually press the button and get some help. It was done. But that was just part of the debrief afterwards, that, you know, they just had a little bit of hesitancy but it was enacted which was great.
	Multiple stakeholders including diagnostic radiographers, education providers, nuclear medicine technologists and government jurisdictions indicated that regular training leads to increased confidence and improved capability to manage deteriorating patients. Stakeholders mentioned that confidence encourages practitioners to effectively recognise and escalate cases of deterioration. Stakeholders indicated that while competence in managing deteriorating patient cases starts with knowledge, it predominantly comes through regular practice on-the-job and in workplace training.
	Despite the concerns raised about entry-level training, stakeholders confirmed that entry-level practitioners were still able to respond to deteriorating patients in an appropriate manner, although they may feel less confident in doing so.
Policies and procedures	Most stakeholders talked about the importance of having policies and procedures in the workplace that provide guidance on what practitioners should do in the event of patient deterioration. Many practitioners and education providers described whole-of-hospital and whole-of-practice systems, policies and procedures that defined who should do what in the event of patient deterioration and who should communicate what, to whom, and when.
	Practitioners stated that workplace induction programs were especially important in orienting them to the requirements in different work places.
	Stakeholders recommended that the phrase 'in accordance with local policy and procedure' be embedded in the professional capabilities document, as different workplaces have different protocols that medical

Key success factor	Description
	radiation practitioners are required to follow. Stakeholders believed this may help to further protect patients and minimise risks to practitioners.
Senior health practitioners	A number of stakeholders mentioned the importance of having senior health practitioners available to provide comprehensive support to deteriorating patients, especially where there is the possibility of a sudden deterioration. They also talked about the challenges of working in regional, rural and remote settings where senior health practitioners are not always available on site.
Documenting patient deterioration	Practitioners reported that documenting patient deterioration in patient records helps support both patient and practitioner safety. Insurance providers and radiation therapists also stated that documenting deterioration minimised the potential for claims against medical radiation practitioners.

4.1.3 Key challenges associated with implementing this professional capability

Insights from stakeholders during consultation indicate a number of challenges being experienced across the medical radiation professions in implementing this professional capability. These challenges relate to the individual capabilities of practitioners, lack of support from other practitioners and leaders in the work place and interprofessional differences understanding this capability. These are outlined below in Table 4.

Table 4: Challenges in implementing this professional capability

Key challenges	Description
Capability	Most practitioners stated that, as beginning practitioners, they did not feel adequately prepared to respond to deteriorating patients. However, they indicated that their confidence grew with experience, and in hindsight they were adequately equipped to respond as beginning practitioners, whether that was raising an alert with other staff or performing basic life support.
	Some practitioners stated that they would like more training to respond to the needs of deteriorating patients at a more advanced level – for example, by being able to perform Advanced Life Support or being able to administer life saving medications in the event of an allergic reaction.
	Nuclear medicine technologists stated that they undertake Advanced Life Support training to support their role but are not permitted to use these skills in responding to deteriorating patients, as local policies state this is the role of medical practitioners and nurses only.
	The ACSQHC stated that there is evidence to suggest that the main challenge for health practitioners is in *recognising* (rather than responding to) patient deterioration. They suggested that some health practitioners may need more training in recognising deterioration, although these comments were not specific to any profession.
Lack of support	Many practitioners and education providers spoke about practitioners' and students' fears of raising patient deterioration in the workplace, for fear of being bullied, harassed or penalised by senior medical practitioners for doing so.
	Education providers also raised concerns about situations where students had flagged a possible deteriorating patient with supervisors but had been "blown off". They stated that situations where superviors

Key challenges	Description
	did not effectively support a student frequently resulted in increased stress for the student/s involved.
	Some practitioners also gave examples of situations in which they had felt unsupported when there were no radiologists available on site to respond to a deteriorating patient, or where the radiologist had been on site but unable to respond.
	Practitioners also talked about the widespread workforce shortages being experienced since the COVID-19 pandemic, resulting in situations where there were no nursing staff available to respond to a deteriorating patient.
Interprofessional differences	Some practitioners and education providers stated that there are some interprofessional differences in the way this capability is interpreted and the way that a deteriorating patient is defined. This can create challenges with how the capability is implemented and how deteriorating patients are managed. For example, this capability could be applied to a broad range of patients who experience manageable deterioration (such as a skin reaction to radiation therapy) through to very severe deterioration (such as a cardiac arrest). Standardisation of policies and procedures in workplaces can assist in reducing the risk that these professional differences may otherwise present.

4.2 Feedback from consultation on 'see something, say something'

4.2.1 Impact on patient and practitioner safety

Most stakeholders stated that the implementation of 'see something, say something' has had a significant positive impact on patient safety, has prevented harm to patients and improved patient outcomes. Stakeholders said:

> *A radiographer detected what he thought was COVID on a chest xray of a patient, and the patient was walking around the ED without a mask. [The radiographer] alerted ED, put a mask on him and prevented that patient from infecting the entire hospital.*

> *I was assisting an evening CT shift. A patient came through from road trauma. Completed a typical head to toe scan on trauma and colleague detected a cervical spine fracture on a patient without a cervical collar on. Immediately rang the referring doctor who came and saw the scans and confirmed the diagnosis. Able to put a collar on straight away before they moved patient off the scan table.*

> *It has a large impact on their safety. I think its very important and could prevent serious impact on potentially their life.*

Stakeholders emphasised that medical radiation practitioners can be the first practitioner to identify issues on an image, and that such information can alter the patient pathway and expedite the best outcome for the patient if action is taken early, whether that is by escalating immediately via a phone call to the referring team, or escalating to a 'fast track' pathway within a hospital. One stakeholder said:

> *Immediate documentation and phonecall expedites patient care in a critical way, otherwise it can take a long time for the patient to get the care they need.*

The stakeholders indicated that this capability had particularly benefited patients in rural and regional areas. They mentioned that the capability, together with their local networks, had enabled medical practitioners to be more comfortable with medical radiation practitioners directly contacting referrers about image evaluation. They also mentioned that the capability had potentially reduced long travel times for some patients. Stakeholders said:

> *Because we're regional, I have quite a good working relationship with all my referrers, they tend to ring me straight away…my doctors are happy if I sort of let the referrer know what's going on and that our radiologist will contact them too. So that sometimes is a sort of a sidestep that occurs as well*

> *Once again being regional, it's quite important that we make sure our patients don't travel those distances too with their urgent scans or urgent issues. We obviously don't want to send a patient home 5 hours to find out they've got something serious that they need to come back for.*

Multiple stakeholders, including education providers, diagnostic radiographers, professional associations, government jurisdictions, radiation therapists and the ACI, stated that this capability is not new, but is something that medical radiation practitioners have done for many years. One practitioner said:

> *If you go back to when I trained and we had films. You would bring that film, when it came out of the processor to the radiologist, so we've always recognised abnormalities and we've always done something about it, its just never been documented… its not that its anything new.*

Stakeholders also discussed how this capability has encouraged medical radiation practitioners to take ownership of their role as a patient advocate and had improved job satisfaction.

However, stakeholders did state that there have been situations where medical practitioners make inaccurate imaging requests that are picked up by a medical radiation practitioner. Practitioners had noticed an increase in these errors and suggested this could be due to high workloads. Two practitioners said:

> *I'm seeing greater medical errors occur that could have been prevented, however other practitioners are unable or do not have capacity to identify on the ground due to high workloads.*

> *I had one scenario with a laterality issue and yeah we did call a consultant to the CT and it was found that they had actually consented for the incorrect side of the patient ….so having that conversation and then the consultant having to actually take the patient aside and explain everything as to what's happening, Depends on the patient. Some patients would be extremely grateful that you've paid attention…other patients would panic.*

Stakeholders also discussed research in Queensland that is demonstrating the need for the capability given the significant time delays with reports and, as a result, findings getting missed. They mentioned that current workforce shortages are causing high workloads for radiologists, resulting in reporting delays and some abnormal findings being missed.

Other positive outcomes identified by stakeholders include that this capability has:

- Set clear expectations for what is required of medical radiation practitioners
- Given medical radiation practitioners permission to speak up in the event that a clinically significant finding is identified
- Driven the early detection of clinically significant findings
- Improved job satisfaction for medical radiation practitioners

Stakeholders stated that having 'see something, say something' as a documented capability had clarified the expectations of medical radiation practitioners when it comes to identifying urgent and unexpected findings, both for themselves and other health practitioners. It has also helped reduce the common misunderstanding that the capability is a form of reporting, although there are still some misconceptions in this regard. Stakeholders said:

> *I don't think the inclusion of that professional capability in any way has changed what radiation therapists would do. It makes explicit one aspect of the role that probably hasn't been made explicit before.*

> *The difference, in my opinion, between see something say something which is, if you see an abnormality bring it to somebody's attention, compared to reporting.. And I think that's where other groups can take an opportunity to misunderstand what it*

represents…I don't think that's what the intent of this is at all. It is something that we have done forever, in that you'll walk into a radiologists and say 'have a look at this'.

Stakeholders also stated that formalising this capability has helped students, experienced health practitioners and education providers to focus on ensuring that this skill is developed to a high standard. One education provider said:

I think the fact that its there will have an inherent benefit that time will be spent discussing this issue specifically and it'll be embedded into our programs. at the very least, the students will be looking more diligently at their images, and the qualifieds as well.

However, education providers also discussed that the removal of the list of conditions from the accreditation standards had created ambiguity around what students need to learn and be able to recognise by the time they graduate.

Stakeholders also stated that 'see something, say something' has given practitioners the permission they needed to speak up in the event a clinically significant finding is identified. A number of stakeholders including practitioners, education providers, insurance providers and professional associations stated that this has given practitioners the confidence to flag such findings if detected.

Impact on cultural safety

There was no feedback specifically on the impact of 'see something, say something' on cultural safety. The IAHA emphasised the importance of embedding cultural safety in practice, stating that 'cultural and clinical safety are two sides of the same coin; you can't have one without the other.'

The IAHA further noted that there are several actions that can be undertaken to further embed cultural safety within the capability, including increasing health practitioner understanding of the social and cultural determinants of health and how they impact a person's experiences including access to resources, strengths of the family unit and connection to country.

4.2.2 Key success factors

Stakeholders identified a number of factors that have supported the successful implementation of 'see something, say something'. These are outlined in Table 5.

Table 5: Key success factors for 'see something, say something'

Key success factor	Description
Workplace culture	Most stakeholders identified the importance of a positive workplace culture to ensure successful outcomes from the implementation of this capability. They discussed how good patient outcomes have occurred as a result of all health practitioners working collaboratively as a team, and that staff feelings of safety in the workpace were paramount to ensuring they felt confident and secure in speaking up to enable timely escalation processes. They also mentioned how the implementation of the capability has helped to improve the relationship between medical practitioners and medical radiation practitioners. Stakeholders said: *It comes into that general area of people feeling safe and secure in their workplaces … ones which enable them to be a good professional. Particularly if they are not high in the hierarchy.* *Working as team with, our doctors and also we have found some really good patient care improvements as part of that.*
Confidence	Several stakeholders, including diagnostic radiographers, nuclear medicine technologists, radiation therapists, education providers and professional associations all talked about the importance of medical radiation practitioners having the confidence to identify urgent or

Key success factor	Description
	unexpected findings and to raise these with the radiologist or another medical practitioner. One stakeholder said:
	It does take a confidence to… pick up the phone…in a way you feel like you're encroaching maybe on radiologists' turf when you're not.
	They also talked about the importance of experience in building this confidence to 'see something, say something' and the challenges of generating it in students and graduates. One diagnostic radiographer said:
	I do think maybe that confidence level is sometimes lacking, if someone doesn't know they've done image interpretation as part of their course of study or hasn't done postgraduate study…I suppose that's where that other question comes in about supporting and what resources can we make available to boost those confidence levels.
	Stakeholders discussed how confidence is built over time with experience of reviewing images as clinical decision making is developed, and how increased autonomy and having the support of senior medical practitioners onsite to enable support and knowledge transfer was essential to building confidence. One practitioner stated:
	The experience of looking at lots of images…that's where graduates will struggle, you have to see hundreds of images before you can recognise something that's abnormal and have the confidence to say it.
	Lastly, stakeholders noted that since the implementation of the capability, students and medical radiation practitioners have become quite proud of their capability in this area, which in turn enables a natural confidence to be developed. An education provider said:
	I have seen some evidence…in the reflections that the students..and just the fact that they're actually quite proud of that ability, that they've been able to, to act upon, you know, what they've seen and follow that through.
Training	Stakeholders from Queensland reported that image interpretation is a developing skill for Queensland medical radiation practitioners, but there is an increased uptake in image interpretation courses by medical radiation practitioners participating. However, there is still some variation in follow through process on commenting and image interpretation by medical radiation practitioners.

4.2.3 Key challenges associated with implementing this professional capability

Insights from stakeholders during consultation indicate a number of challenges being experienced in implementing 'see something, say something'. Education providers and professional associations stated that implementation had been inconsistent and patchy, and that some staff are still unaware of the capability and the fact it has been implemented. Stakeholders said:

> *I wasn't even aware it was implemented to be honest…we being in private practice these documents and standards don't always filter the way down through to a setting such as mine as quick as what they would in a public setting. There's no consistency….[I have] concerns that this is setting people up for failure.*

Education providers agreed that it will take time for 'see something, say something' to be put into practice, as it will require medical radiation practitioners to be able to apply the skill critically and develop the confidence to convey clinically significant findings with radiologists and other senior medical practitioners. One stakeholder said:

It clearly takes a long time to put into practice…to critically being able to do it and apply that and so on…Many of us tend to be very good at pointing at stuff, if you like, or identifying, but not necessarily always very good at conveying those findings…there's still some ground I suppose to get in that space and to get people the confidence to be able to do that.

The main challenges are identified in Table 6 below.

Table 6: Challenges in implementing 'see something, say something'

Key challenges	Description
Lack of support	This challenge largely related to what stakeholders described as a lack of support from radiologists. Some stakeholders stated this arose because of "turf wars" between radiologists and medical radiation practitioners. Some stakeholders described situations in which radiologists and sometimes other senior medical practitioners had not welcomed a medical radiation practitioner identifying potential findings on an image. Some stakeholders said: *The radiologists are the ones that we have the biggest trouble gaining real support from. Some are happy to be alerted by radiographers of a potential abnormality, some are not.* *I have had members who've come to me and said when this was implemented and they started actually going to their registrars and saying 'I'm just pointing this out to you' and they said 'none of your business'... I can quote examples of that actually playing out in a workplace which is really disappointing.* In addition, practitioners again talked about the widespread workforce shortages being experienced since the COVID-19 pandemic, resulting in situations where there was sometimes no radiologist on site.
Lack of clarity	Stakeholders discussed the fact that there are some misunderstandings between professions about the role of medical radiation practitioners in relation to 'see something, say something'. There were particular concerns that some stakeholders see this as a reporting role. *Can be seen as a controversial topic because its linked to the idea of radiography reporting and advanced practice and everybody is two very separate capabilities and two very different skill sets, although …one provides a foundation for the other.* It was also mentioned that there are no current guidelines for medical radiation practitioners around what findings have to be escalated, and if something is found, who this has to be reported to and who is held responsible, resulting in further ambiguity around the escalation process.
Training	Education providers stated that the requirement for medical radiation practitioners to have the skills to 'see something, say something' has been around a long time. Current education programs have addressed this training need by embedding imaging interpretation units within programs of study. These units ensure students understand the patient diagnostic pathway, the different health practitioners involved, the pathologies and abnormalities to look out for, and how both metropolitan and regional and rural settings operate with regards to the capability.

Key challenges	Description
	However, stakeholders also suggested that there is a requirement for university education to go 'to the next level' to enable students to accurately understand what abnormalities require urgent escalation, and which don't, and when an abnormality is found, how this is best communicated with other professions. A number of stakeholders including diagnostic radiographers, nuclear medicine technologists, and radiation therapists suggested that image interpration skills are best gained through on the job training. They indicated that while graduates do not have this knowledge on commencement, that with the experience and mentorship by senior health practitioners that occurs, this learning comes with time. Stakeholders discussed a number of on the job training opportunities that have occurred both nationally, and internationally. Stakeholders noted they develop 'on the job' case studies of previous abnormality escalation situations to educate their graduates. They also mentioned that in the UK, the doctors provide their junior practitioners with greater autonomy to support them wih gaining knoweldge and enabling them to make the decisions needed to execute 'see something say something' successfully. Stakeholders said: *We actually keep interesting case studies. So we keep references of images so that that's the way that we would show our junior techs or our students. Some of those unusual presentations, some of those urgent presentations … to educate on our urgent scans and what you'd escalate to the reporting doctor.* However, practitioners also mentioned a number of 'see something say something' training gaps that needed to be addressed. This included, for example, some older radiographers who had not completed post-graduate study, and therefore may not be equipped to execute the capability, whereas new graduates are well-equipped as they study image interpretation as part of their undergraduate course. *The people of my vintage, who haven't done post graduate study, probably are very underequipped. Whereas more recent graduates study image interpretation as part of their undergraduate course. And I find that they have a very high standard of ability to interpret images.*
System challenges	Some practitioners talked about the challenges of working with multiple IT systems in the workplace and having to manually transcribe data from one system to another.

5. Key findings and recommendations

5.1 Summary of findings from the desktop review

Stage 2 of the post-implementation review involved a desktop review of documents from the 2018 and 2019 consultations and subsequent communication with stakeholders to clarify the issues raised by RANZCR, the AMA and/or the ADIA about the professional capabilities and a review of publicly available literature relevant to these issues. The desktop review was completed in late 2021.

5.1.1 Summary of concerns

Responding to the deteriorating patient

In relation to the deteriorating patient there were concerns raised about:

- **Training:** concerns indicated that medical radiation practitioners are not adequately trained to respond to a deteriorating patient. The ADIA stated that 'beyond basic CPR, the expectation for a medical radiation practitioner to initiate appropriate early interventions for patients who are deteriorating is unreasonable and potentially unsafe'.

- **Scope of practice:** concerns indicated that responding to deteriorating patients was beyond the scope of practice of medical radiation practitioners.

See something, say something

In relation to 'see something, say something' there were concerns raised about:

- **Reporting:** RANZCR, the ADIA and the AMA shared the view that any communication of findings is the equivalent of providing a radiology report or medical opinion and that this is not appropriate for medical radiation practitioners, except when a clinical radiologist is unavailable or in a medical emergency. The stakeholders also raised concerns that medical radiation practitioners' findings would substantially vary from the specialist medical findings of radiologists, and that allowing medical radiation practitioners to communicate those findings could place patients and practitioners at risk.

- **Training:** RANZCR, the ADIA and the AMA also expressed concern that entry level medical radiation practitioners are neither adequately trained nor sufficiently experienced to identify urgent and unexpected findings. These stakeholders believed that 'see something, say something' requires substantial additional medical training.

- **Scope of practice:** RANZCR, the ADIA and the AMA were concerned that 'see something, say something' was encouraging medical radiation practitioners to go beyond their scope of practice into areas where it was asserted that specialist medical training was required. The stakeholders did acknowledge, however, that it was accepted practice for medical radiation practitioners to escalate urgent or unexpected findings to the radiologist for interpretation and reporting.

5.2 Summary of findings from quantitative analysis

This review also examined Ahpra notifications data for medical radiation practitioners both before and after the revised professional capabilities were introduced to determine if there had been any impact on the number of notifications received. The analysis was undertaken by organising the Aphra notifications data and splitting into two data sets, one before the revised professional capabilities were implemented, and one for afterwards and with the most recent data at the top. The data was filtered to exclude any irrelevant data sets, and personal information was removed. A value was allocated to the data if it related to 'see something say something', 'deteriorating patient', 'other', 'unsure' or 'not relevant'.

In the period prior to the revised capabilities coming into effect (2012 to 2020), there were 130 notifications about medical radiation practitioners. Not enough information was available for around one third of these (39) to determine their relevance to the current review. Of the remaining 91 notifications, none related to the capabilities 'see something, say something' or 'responding to the deteriorating patient'.

In the period following the implementation of the revised professional capabilities, 70 notifications were received about medical radiation practitioners. Information was lacking for four notifications, and the remaining 66 were not relevant to the capabilities under review.

While the lack of notifications relevant to this review makes it difficult to draw conclusions about the impact of the professional capabilities, the lack of any increase in relevant notifications between the two periods does suggest that the implementation of the revised capabilities has not had a significant negative impact on patient safety.

5.3 Conclusions

Reflecting on the concerns raised by stakeholders that led to the Board's commitment to undertake this post-implementation review, together with the qualitative and quantitative data gathered, the key findings are:

a)   The implementation of the two professional capabilities has not had any unintended consequences.

b)   The implementation of the two capabilites has had a positive impact on patient and practitioner safety.

c)   Neither capability has impacted on cultural safety.

d)   There is no evidence that medical radiation practitioners are going beyond their scope of practice. There were no reports of medical radiation practitioners being asked to perform life-saving treatments beyond their qualifications and training, and there were no reports of medical radiation practitioners being asked to formally report the findings of images.

e)   Medical radiation practitioners generally have sufficient training to respond to deteriorating patients within the parameters of workplace policies and procedures.

f)   The training required to ensure medical radiation practitioners can identify urgent or unexpected findings may be more complex than that required to recognise and respond to deteriorating patients. While students receive some training in recognising abnormal imaging appearances including urgent or unexpected findings at university, the skills required to accurately and consistently recognise urgent, unexpected or abnormal findings are generally seen by stakeholders to be developed and honed over years of experience in the workplace.

g)   Medical radiation practitioners are showing high levels of accuracy and precision in their recognition of abnormal findings on images.

h)   Factors that support successful implementation of these professional capabilities include supportive workplace cultures and support from other health practitioners, particularly those in senior roles, including radiologists; adequate training, both as part of entry-level education and on-the-job; and, workplace systems, policies and procedures that formalise the roles and responsibilities of medical radiation practitioners and other health practitioners as relevant to these capabilities.

i)   Some practitioners have experienced challenges implementing these two capabilities. Factors identified as impacting implementation include unsupportive workplace cultures, lack of support from other health practitioners, particularly radiologists, and the widespread workforce shortages associated with the COVID-19 pandemic.

Recommendations

While this post-implementation review did not identify any unintended consequences or negative impacts on patient or practitioner safety arising from the two professional capabilities, the Board may wish to consider the following as part of the next scheduled review of its professional capabilities:

1.   Including additional explanatory material to support consistent interpretation and shared understanding of the capabilities between professions.

2.   Developing communication materials for employers on key factors for success – for example, to encourage positive workplace cultures that support and facilitate the role of medical radiation practitioners in responding to deteriorating patients and taking action if the practitioner identifies any urgent or unexpected findings.

3. Clarifying that when a medical radiation practitioner recognises a patient whose condition is deteriorating, their response should comply with workplace systems, policies and procedures for responding to deteriorating patients.

4. Exploring systemic barriers to medical radiation practitioners undertaking more advanced post-registration training (for example in Advanced Life Support or image interpretation) to enable them to perform these additional professional capabilities in the interests of patient safety.

5. Specifically recognising the role of radiologists in the professional capability about taking action if the practitioner identifies any urgent or unexpected finding, noting the important role a radiologist plays in implementing this capability.

Appendix 1: Between the Flags

One initiative mentioned by a number of practitioners and education providers was the 'Between the Flags' initiative developed by the Clinical Excellence Commission (CEC) in NSW. Between the Flags was introduced in 2010 and has been embedded in 225 acute public health services across NSW. It is a 'deteriorating patient safety net system' that assists all health practitioners to recognise patients who are deteriorating and enables them to respond appropriately. The 'Slippery Slope' diagram below illustrates the underlying premise and design concept of Between the Flags, where early recognition and intervention reduces harm to patients, and the earlier this happens prior to cardiac arrest, for example, the better the outcome for the patient.

Figure 1: Between the Flags intervention on the 'slippery slope' of patient deterioration

🏳 *'Between the Flags' intervention on the 'Slippery Slope' of patient deterioration.*
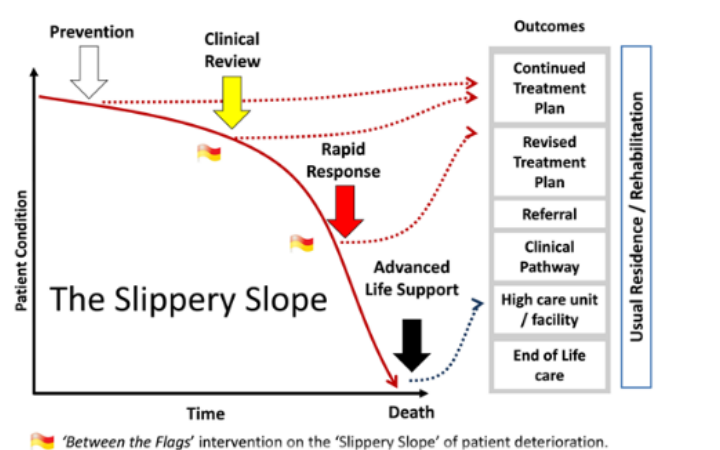
Source: Overview – Between the Flags, Clinical Excellence Commission and NSW Government website

Between the Flags helps health practitioners (including medical radiation practitioners) to identify patients who may be deteriorating or at risk of deterioration when their observations (e.g oxygen, blood pressure, among others) stray 'outside the flags'. The program uses purpose-built observation charts with red (rapid response) and yellow (clinical review) zones used to activate the facility's clinical emergency response system and mobilise health practitioners to assess, treat and review patients who are deteriorating, or are at risk of doing so. To participate in the program, practitioners must complete the mandatory training.

Studies of Between the Flags have shown that it has significantly improved the recognition and response for deteriorating patients in NSW public health facilities, with an increase of 139.5% in the Rapid Response rate along with significant contribution to reduction in cardiac arrests in hospital and ICU admissions (-42%). Studies have shown that that a potential 912 cardiac arrests may have been prevented through the program along with a -6.2% decline in all-cause hospital mortality.[1] The studies also show that there is strong health practitioner support for the program and that it is effective in supporting improvements in patient safety and empowering health practitioners to escalate patient care issues.[2]

The CEC highlighted that the implementation of the program has:

- Enabled all health practitioners to better respond to deteriorating patients within their scope of practice

- Encouraged responsibility for deteriorating patients to be "pushed back to the home team"

- Enabled significant improvements in patient safety outcomes

- Enabled improvements in team work and communication amongst healthcare teams, professions and providers, both interprofessionally and intraprofessionally

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[1] Bhongari D, Lander H, Green M, Straney L, Jones D, Pilcher D. Reduction of in-hospital cardiac arrest rates in intensive care-equipped NSW hospitals in association with implementation of Between the Flags rapid response system. *Internal Medicine Journal - Royal Australian College of Physicians*. 2019;51;375-384

[2] Pain C, Green M, Duff C, Hyland D, Pantle A, Fitzpatrick K et al. Between the flags: implementing a safety-net system at scale to recognise and manage deteriorating patients in the New South Wales Public Health System. *International Journal for Quality in Health Care Advance Access*. 2016;29;130-136

- Encouraged other jurisdictions across Australia to adopt similar programs, including parts of Victoria, Queensland, South Australia, Western Australia, Northern Territory and Tasmania

Although the program has been successful in a number of ways, there have also been some challenges:

- There are some situations where health practitioners overtake another profession's scope of practice (e.g the medical team would cede power to the rapid response team)

- The high number of calls to the rapid response team causes them to divert regularly from their every day work, sometimes creating pressure in critical care units

- There are limitations in health practitioner time, money and resourcing

Some professions felt the program trivialised the role of nursing personnel in deteriorating patient care and that the program may de-skill some professions. Some surgeons resisted being called back to the ward where there were concerns for surgical patients, for example.

Appendix 2: The Agency for Clinical Innovation, ACI, Radiographer Comment and Flag pilot program in NSW

An initiative highlighted during consultation was the ACI's pilot program which addresses 'see something, say something' in NSW.

This pilot program was developed to provide a whole-of-hospital system for 'see something, say something'. The program is progressively being piloted and rolled out in public hospitals across NSW, and is driven by medical radiation practitioners. It enables medical radiation practitioners to document in patient records when they recognise an abnormality on a image. Medical radiation practitioners can provide comment either by writing their comment in full in the patient record, or adding an image annotation known as a 'radiographer flag' on the image to prompt senior medical practitioners to review their comments.

The ACI highlighted that the pilot program has:

- Driven improvements in patient safety due to earlier detection of clinically significant findings

- A pooled average Positive Predictive Value (PPV) of 0.96 was obtained across five disparate health contexts.(N= 1,102)

- Improved the response times of senior health practitioners, enabling them to respond to clinically significant findings in a timely manner

- Improving the capability of junior health practitioners as sites actively train them in image interpretation

Although the program has been successful in a number of ways, the ACI highlighted a number of challenges that are important to consider:

- It requires senior management to be on board, and health practitioners to act as a multidisciplinary team, with support from radiologists, and strong leadership and mentoring capabilities delivered onsite

- There has been some resistance from radiographers who don't believe that 'see something, say something' is within their job description

- Some pilot sites are unable to accommodate the demand due to workforce supply issues, therefore some images will not be reported until the following day

- Most patient record systems in NSW are not set up to enable medical radiation practitioners to provide notes on patient images

- Slow, non-integrated patient record systems have meant some medical radiation practitioners report are having to manually transcribe comments between systems

- Educating junior health practitioners takes time