Public consultation

March 2025

Updated Professional capabilities for medical radiation practitioners

Introduction

The Medical Radiation Practice Board of Australia (MRPBA) is updating the *Professional capabilities for medical radiation practitioners* (*Professional capabilities*).

The *Professional capabilities* identify the minimum knowledge, skills and professional attributes needed for safe and competent practice as a medical radiation practitioner in Australia. They are used by the Board and the profession to assess and guide good safe practice, and they support and guide education providers to develop programs that align learning outcomes with the professional capabilities.

Making a submission

The MRPBA is inviting your feedback on the updated *Professional capabilities* for *medical radiation practitioners (2026)*.

We are seeking specifically feedback to questions on page 3 of this document. Additionally, stakeholders are encouraged to provide general comments or feedback as well.

Please use the attached template (Attachment A: Public consultation response template) to record your feedback and email the completed template to medicalradiationconsultation@ahpra.gov.au

We ask that you provide your feedback in a **Word** document (not PDF).

Public consultation closes and submissions must be received by **5pm (AEDST) Wednesday 28 May 2025.**

For further information please contact the MRPBA by email at medicalradiationconsultation@ahpra.gov.au

Publication of submissions

The Board publishes submissions at its discretion. We generally publish submissions on our website in the interests of transparency and to support informed discussion.

Please advise us if you do not want your submission published.

We will not place on our website, or make available to the public, submissions that contain offensive or defamatory comments or which are outside the scope of the subject of the consultation. Before publication, we may remove personally identifying information from submissions, including contact details.

We accept submissions made in confidence. These submissions will not be published on the website or elsewhere. Submissions may be confidential because they include personal experiences or other sensitive information. Any request for access to a confidential submission will be determined in accordance with the *Freedom of Information Act 1982 (Cth),* which has provisions designed to protect personal information and information given in confidence.

Please let us know if you do not want us to publish your submission or would like us to treat all or part of it as confidential.

Published submissions will include the names of the individuals and/or the organisations that made the submission unless confidentiality is requested.

After public consultation closes, the Board will review and consider all feedback from this consultation before deciding the next steps, which may include the Board approving and publishing the updated Professional capabilities for medical radiation practice.

Appendices

Appendix A: Proposed updated *Professional capabilities for medical radiation practitioners*

Appendix B: Comparison table of proposed changes to the current *Professional capabilities*

Appendix C: National Boards' Patient and Consumer Health and Safety Impact Statement

Appendix D: Statement of assessment against Ahpra's Procedures for the development of registration standards, codes and guidelines

Attachments

Attachment A: Low value care statement

Attachment B: Feedback template

Consultation questions

1. Is the content of the updated *Professional capabilities* clear and reflective of autonomous and contemporary medical radiation practice? If no, please explain why.

2. Is there any content that needs to be changed, removed or added in the updated *Professional capabilities?* If yes, please provide details.

3. Would the updated *Professional capabilities* result in any potential negative or unintended effects for people requiring healthcare, including members of the community at risk of experiencing poorer health outcomes? If yes, please explain why.

4. Would the updated *Professional capabilities* result in any potential negative or unintended effects for Aboriginal and/or Torres Strait Islander Peoples? If yes, please explain why.

5. Would the updated *Professional capabilities* result in any potential negative or unintended effects for medical radiation practitioners? If yes, please explain why.

6. The draft Low value care statement (**Attachment A**) has been developed to provide additional guidance for medical radiation practitioners and connects with the requirements of the Code of Conduct and the sustainability principles published by Australian Commission on Safety and Quality in Healthcare (ACSQHC)

    a. Is there any content that needs to be changed, removed or added to the Low value care statement?

    b. Are there any potential negative or unintended affects that might arise?

7. Are there any other potential regulatory impacts the MRPBA should consider? If yes, please provide details.

8. If updated *Professional capabilities for medical radiation practice* where to become effective from **1 January 2026** is this sufficient lead time for the profession, education providers and employers to adapt and implement the changes?

9. Do you have any other feedback on the updated *Professional capabilities*?

Contents

Executive summary

The *Professional capabilities for medical radiation practitioners* (*Professional capabilities*) establish the minimum requirements for safe and competent practice as a registered medical radiation practitioner in Australia. The *Professional capabilities* are developed and approved by the [Medical Radiation Practice Board of Australia](#) (MRPBA) and provide guidance to registered practitioners, education providers employers, patients and the community about the minimum expectations of good, safe professional practice. The *Professional capabilities* are reviewed regularly, at least every five years, to ensure that the requirements for safe, competent practice continue to meet the requirements and expectations of patients, the community, the profession and others.

The MRPBA is consulting on draft updated *Professional capabilities* which builds upon the existing version that came into effect in March 2020. In the last 4-5 years there have been shifts and developments in practice such as: theranostics and greater hybridisation of imaging and therapies, use of medicines; and patient and cultural safety. The emergence of generative artificial intelligence in healthcare is another area where the medical radiation practice workforce, which is already well advanced in terms of digital health capability, can further utilise, expand and lead. Expanding and enhancing interprofessional practice and the need for medical radiation practitioners to assume their role in assisting, contributing to and leading patient centred care has resulted in the inclusion of a leadership domain. This is not leadership in terms of personnel management, rather its focus is on engaging with the broader health system and influencing and advocacy for safe, cost effective, healthcare services and patient centric practice.

While the *Professional capabilities* describe the minimum requirements for safe and competent practice, registered practitioners may develop additional skills and knowledge. This may be in emerging areas of practice not covered in these *Professional capabilities* or it may be in relation to the provision of other health services. Changing scopes of practice and overlapping scopes of practice are common and necessary, and it reflects the dynamic nature of skills and knowledge in healthcare. It also emphasises the importance of good professional judgement and ethical decision-making which are central to the capabilities of medical radiation practitioners.

Regulatory context

The Medical Radiation Practice Board of Australia exercises powers and functions provided by the National Law to regulate the medical radiation practice profession and the three divisions of diagnostic radiography, radiation therapy and nuclear medicine technology in Australia. Its paramount role is to protect the public.

In updating the *Professional capabilities*, the Board has been mindful of the other objectives in the National Law which includes

- to facilitate the provision of high-quality education and training of health practitioners;

- to build the capacity of the Australian health workforce to provide culturally safe health services to Aboriginal and Torres Strait Islander Peoples;

- to facilitate access to services provided by health practitioners in accordance with the public interest; and

- to enable the continuous development of a flexible, responsive and sustainable Australian health workforce and to enable innovation in the education of, and service delivery by, health practitioners.

The MRPBA also carefully considered the guiding principles of the National Scheme[1], that the following are paramount—

a) protection of the public;
b) public confidence in the safety of services provided by registered health practitioners and students.

And the other guiding principles of the National Scheme that include

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[1] Health Practitioner Regulation National Law 2009 Schedule, Part 1 ss3-3A

- to ensure the development of a culturally safe and respectful health workforce that is responsive to Aboriginal and Torres Strait Islander Peoples and their health; and contributes to the elimination of racism.

Strategic context

The draft updated *Professional capabilities for medical radiation practitioners* contained in this consultation paper support the MRPBA Strategic Plan and its mission for being '*a visible, leading risk-based regulator that is responsive to community and workforce needs for safe, effective and integrated medical radiation practice'.*

Our work in reviewing the *Professional capabilities* supports our strategic objective of a 'safe and sustainable workforce' and is 'future focused'. Our work supports the broader goals and objectives of the National Registration and Accreditation Scheme Strategy 2020-25 and the pillars of 'Regulatory effectiveness' and 'Evidence and innovation'.

The draft *updated Professional capabilities for medical radiation practice* also reference support the Aboriginal and Torres Strait Islander Health and Cultural Safety Strategy 2020-2025 National Scheme Engagement Strategy 2020-2025.

The work of the National Boards and delegated decision makers is underpinned by the Regulatory principles for the National Scheme.

Workforce context

Published statistics show that as of 31 December 2024, the medical radiation practice profession has 20,861 registered practitioners including 16,487 (79.0%) diagnostic radiographers, 3,005 (14.4%) radiation therapists and 1,389 (6.6%) nuclear medicine technologists with 0.7% of registered practitioners identifying as Aboriginal and Torres Strait Islander. The gender distribution is approximately 70% female and 30% male and other gender identities making up less than 0.1%. Over the last 10 years there has been an overall growth rate of about 27% and an annual average growth rate of about 2.7%. Growth rates have fluctuated during this time with a negative growth rate between Sept 2020 and Sept 2021. As at December 2024, the current year-on-year increase in registered medical radiation practitioners is approximately 4.3%.

Background

The Board first developed and published the *Professional capabilities for medical radiation practitioners* (the *Professional capabilities*) in 2013. In 2019, the Board reviewed and updated the first edition of the *Professional capabilities* to reflect technological developments and changes to the scope and role of medical radiation practitioners. Building on the 2019 edition, the Board began a review to further revise the *Professional capabilities* in 2024.

Process for reviewing the *Professional capabilities*

In July 2024, the Medical Radiation Practice Board of Australia engaged KPMG Australia to facilitate the review and revision of the *Professional capabilities for medical radiation practitioners*. KPMG used a Project Working Group comprising of registered medical radiation practitioners, education providers, accreditation committee members, nominees from professional associations, community members and Aboriginal and Torres Straits Islander people to guide the review and revision process.

The Project Working Group supported by KPMG met regularly between July and September 2024.

National Board priorities

The MRPBA asked KPMG and the Project Working Group to consider a number of issues when revising the Professional capabilities, including;

- Key capability descriptions to reflect good contemporary practice.

- Patient-centred care and cultural safety are fundamental to good professional practice

- Increase the percentage of Aboriginal and Torres Strait Islander medical radiation practitioners.

- Retaining, to the extent possible, a structure that is based on the CanMEDS framework for practitioner roles and capability, consistent with other regulated health professions and familiar to the profession.

- Descriptions for practice (modalities) should be the same where safe practice requires the same knowledge and skills, regardless of division of registration.

- Where possible, the use of terminology and descriptions that are common across health professions.

- Acknowledge the role of digital health and the capabilities necessary to support the safe use of digital technology and data.

- Consider of how the *Professional capabilities for medical radiation practitioners* can be structured to support efficient recognition of skills and adaptable to an assistant workforce model.

Approach

An iterative approach was applied to the development of the consultation draft of revised professional capabilities. This included a review of current literature, individual and group discovery consultations and sharing and receiving feedback from the Project Working Group.

Desktop review

The desktop review considered several key areas of enquiry, with sub-questions explored in each. The outputs from the desktop review were used to inform the discovery consultation process, Project Working Group workshops, and the drafting process for the revised professional capabilities. The following areas of enquiry were explored as part of this process:

1. International trends in contemporary medical radiation practice.
2. Contemporary professional capabilities documents for other regulated health professions.
3. Digital health capabilities.
4. Emerging technology and practice.

Discovery consultations

Through discovery consultations with individuals and groups of members from the Project Working Group which included: accreditation, education and practitioners in mammography, Magnetic Resonance Imaging (MRI), sonography, and image interpretation; several key themes were identified. The following principles were determined as key considerations for the updated capabilities:

- Emphasise patient-centred care at the core of all practice, encouraging the workforce to empower and advocate for the best interests of the patient.

- Promote a culture of lifelong learning and continuous quality improvement, to continually enhance knowledge and skills and keep pace with evolving technology and practices.

- Provide greater clarity and specificity of key capabilities and better linkages throughout the document to content in other domains in order to enhance navigation and readability.

- Define and emphasise digital health literacy and the skills required to enable medical radiation practitioners to effectively use and assess the value and viability of digital tools.

- Consider future proofing, particularly in rapidly evolving fields, to ensure understanding for both new graduates and experienced practitioners.

- Foster interprofessional collaboration and emphasise the role and value of medical radiation practitioners in multidisciplinary care teams.

- Recognise the body of knowledge that practitioners bring to their roles including complex decision-making, analysis, and evaluation.

- Ensure that the individuality of each division is maintained, and recognise the varying application of modalities across divisions.

- Consider the role of the assistant workforce and the role and capabilities required of medical radiation practitioners to work with and oversee assistants.

- Accommodate evolving scopes of practice across divisions, considering how capabilities across new practice areas can be made more robust.

The proposed structure of the updated *Professional capabilities*

The draft updated *Professional capabilities* are organised into six domains common to all medical radiation practitioners in all divisions of the profession (Domains 1-6), and three sub-domains which are specific to each of the three divisions (Domains 1A-1C). Each domain consists of key capabilities and corresponding enabling components.

Domains

The domains comprise key capabilities that are thematically arranged and describe the essential characteristics of a competent registered medical radiation practitioner in Australia.

Domain 1:   Medical radiation practitioner:

Domain 1A: Diagnostic radiographer.

Domain 1B: Nuclear medicine technologist.

Domain 1C: Radiation therapist.

Domain 2:   Professional and ethical practitioner.

Domain 3:   Communicator and collaborator.

Domain 4:   Lifelong learner.

Domain 5:   Safety, quality and risk manager.

Domain 6:   Leader and steward.

Key capabilities

The key capabilities describe the key features of safe and competent practice in a range of contexts and situations of varied complexity and uncertainty. During any one procedure or treatment, practitioners are expected to demonstrate key capabilities from various domains. This recognises that competent professional practice is more than the sum of each discrete part and requires an ability to draw on and integrate the breadth of capabilities to support overall performance.

Enabling components

The enabling components describe the essential and measurable characteristics of the corresponding key capabilities and facilitate assessment of performance in educational, simulated and practice settings. Medical radiation practitioners must be able to demonstrate all enabling components for all key capabilities for safe and competent practice. This includes applying, adapting and synthesising new knowledge from experience to continually improve performance.

Summary of key changes

Following the review, focus groups and development work undertaken by KPMG and guided by the Project Working Group, and including some feedback from the MRPBA, the draft updated *Professional capabilities for medical radiation practitioners* at Appendix A, contain key changes and updates outlined below:

- made minor changes to the overall structure of the *Professional capabilities*.

- clarified expectations for recognising and responding to patient deterioration and strengthened requirements to include recognition and management of anaphylaxis, in response to Coronial recommendations and findings

- clarified the role that medical radiation practitioners play in providing safe care and reducing family, domestic and sexual violence.

- added digital health capabilities, data management and health informatics to support the provision of care.

- re-grouped modalities so that computed tomography remains consistently described and applicable for all divisions.

- re-grouped of modality descriptions which include mammography and angiography.

- added capabilities to support registered practitioners and future graduates in workplace teaching, learning and assessment
- added a new Domain 6 which describes the behaviours and attributes required of medical radiation practitioners to support leadership and stewardship in care of the health system.

Themes from Preliminary consultation

The MRPBA undertook Preliminary consultation between December 2024 and February 2025. The purpose of preliminary consultation was to test the proposed content ahead of public consultation and to identify operational impacts or other impacts or concerns about proposed changes. Preliminary consultation also engages with other policy makers to identify and limit the occurrence or duplicative, cumulative or overlapping regulatory burdens.

Overall, the feedback from preliminary consultation was supportive of the draft updated Professional capabilities for medical radiation practice. The MRPBA has made further refinements to the updated *Professional capabilities* that will be tested during public consultation. In response to the feedback we made some smaller changes to improve clarity or readability of the document, these include:

- replaced a diagram that showed the connections between registration and Australian Qualification Framework (AQF) with the 'circles' diagram from the current version of Professional capabilities.
- clarified requirements relating to theranostics and radionuclide production.
- revised content on family sexual and domestic violence
- expanded descriptions for using health data, digital health systems (including artificial intelligence) and health informatics.
- expanded Intersectional care to specifically recognise Aboriginal and Torres Straits islander people and recognises religious and faith-based belief.
- made minor changes to descriptions for recognising and responding to acute physiological deterioration
- developed a draft video to assist medical radiation practitioners understand their role in anaphylaxis management
- updated Domain 6 to establish greater alignment between the role of medical radiation practitioners and their roles of leader and steward within the health system.
- developed a draft Low value care statement to support collaboration on health system sustainability.
- developed additional Frequently Asked Questions to address issues raised during preliminary consultation.

For more detailed descriptions of the changes please refer to the Change tables below at Appendix B.

Options

Options statement

The Board has considered two options in developing this proposal.

Option 1 – Status quo

The *Professional capabilities* was last revised in 2019 and the new *Professional capabilities* become effective on 1 March 2020. In the five years since the professional capabilities were last reviewed there have been changes in community expectations of practitioners, greater awareness of national regulation, changes in technology in practice and changing needs of the workforce.

Maintaining the status quo and retaining the current professional capabilities represents a missed opportunity to review, contemporise and ensure suitability of the capabilities. It also increases the risk of the MRPBA regulating with outdated capabilities which may lead to misaligned practice and health service expectations, reduction in public confidence in the profession and reduced capacity and capability of the workforce.

Option 2 – Update the capabilities

The MRPBA's preferred option is to update the *Professional capabilities*. This will ensure they are fit for purpose, specify the minimum requirements for safe and competent practice and reflect contemporary practice. The updated professional capabilities incorporate domestic and international research as well as feedback and the expertise of the Project Working Group.

This paper further outlines the proposed changes and benefit of updating the professional capabilities. The change tables in Appendix B outline the major changes to the Professional capabilities.

Preferred option

The preferred option of the MRPBA is Option 2 – Update the capabilities. The MRPBA supports that an update of the current capabilities will generate a net benefit for patients, the public, registered practitioners, and the profession.

Impact analysis – considerations and potential benefits and costs of the proposal

While the professional capabilities are not a registration standard, code or guideline as such, they do describe minimum requirements for safe professional practice in the medical radiation practice profession and act as defining guide for learning outcomes in accredited programs of study. Professional capabilities have been in existence for the medical radiation practice profession since 2014 and have been generally well accepted by a range of stakeholders in that time. Indeed, the MRPBA, the Medical Radiation Practice Accreditation Committee, the profession and education providers generally regard the *Professional capabilities* as necessary and essential guidance for safe professional practice. The MRPBA observes that the current and past versions of the *Professional capabilities* have had a positive impact on patients, communities, the profession, education providers and the health system overall and generally there have been no reported negative impacts to patients, the public or vulnerable communities. We acknowledge however the comments and recommendations of the Coroner in the matter of Peta Hickey and in response, have included the requirement for medical radiation practitioners to recognise, respond and to manage anaphylaxis.

In developing this proposal, the MRPBA has carefully considered the impact of reviewing and updating the professional capabilities and has considered the guiding principles in the National Law including enabling continuous development of the medical radiation workforce, sustainability of the workforce, building the capacity of the workforce to provide culturally safe health care and facilitating access and ensuring registered practitioners are suitably qualified to practise in a competent, ethical and safe manner. Importantly, the MRPBA considers it essential that the *Professional capabilities* continue to contribute to the development of a culturally safe and respectful health workforce that is responsive to Aboriginal and Torres Strait Peoples and their health and the elimination of racism in the provision of health services.

The MRPBA has weighed the important factors of ensuring the requirements are reflective of contemporary practice in Australia, ensuring the public's continued confidence in the profession, and meeting government priorities for a racism free, culturally safe workforce and a digitally capable workforce. The MRPBA assessment is that the benefits of the proposed changes significantly outweigh the minor impacts and costs on the community and patients, registered practitioners, students and organisations that employ or use registered practitioners to provide health services and the impact on education providers. In considering these impacts the MRPBA has considered the needs of regional, rural and remote communities in Australia.

The proposal has considered guiding principles in the National Law including enabling continuous development of the medical radiation workforce, sustainability of the workforce building the capacity of the workforce to provide culturally safe health care and facilitating access and ensuring registered practitioners are suitably qualified to practice in a competent, ethical and safe manner. Overall, the benefits of updating the *Professional capabilities* significantly outweigh the costs of doing so.

Preliminary and public consultations are used to test and refine updated professional capabilities but are also an opportunity to understand stakeholders feedback about potential or likely impacts. The MRPBA has identified specific questions that seek to discover what impacts may arise from the updated professional capabilities and has further identified thematic areas where change and impact may occur. Further assessment of the impacts of the proposed updated *Professional capabilities* will take place following public consultation.

Benefits

The proposed changes to the *Professional capabilities* ensure that current and future practitioners build upon existing capabilities that are essential to safe and contemporary practice. The updated *Professional capabilities* expand on domestic and international research and utilise local expertise. The updated *Professional capabilities* have considered and are drafted to more closely align with common capability descriptions used across regulated health professions. This assists with better understanding and application of capabilities interprofessionally, while retaining relevance and purpose for medical radiation practice.

The updated *Professional capabilities* is intended to enable education and workforce participation by describing practice that is common to all practitioners except where it is necessary to describe a division of practice. It recognises that there are different expectations and requirements of the workforce. Geographic location and the needs of local communities are an important consideration in describing minimum capabilities and this has been reflected in the way some capabilities have been described, e.g. computed tomography. The professional capabilities are unlikely to restrict competition or limit provision of health services or create restrictions for current or future medical radiation practitioners.

The alternative - to maintain the status quo and retain the current professional capabilities - represents a missed opportunity to contemporise and ensure suitability of professional regulation. It also increases the risk of the Board regulating with outdated capabilities which may increase the risk of unrealised capacity, capability and service delivery, reduce confidence of the public in the profession and less likely an increase in the potential risk of harm to the public and patients.

Costs

The MRPBA has considered the potential costs associated with the proposal during the development of this consultation paper. The MRPBA considers these updated professional capabilities will a have minor impact on practitioners, employers, consumes and community members, including Aboriginal and Torres Strait Islander Peoples as the proposed *Professional capabilities* substantially replicate existing professional capabilities and make updates in essential areas of safety, quality, practice and technology.

Education providers may incur some cost in ensuring education and learning outcomes map to the updated *Professional capabilities*, however this is expected to be minor given the changes to the content are minimal and build upon the current professional capabilities in line with contemporary directions in practice.

There may be some costs for existing practitioners to update their skills and knowledge to meet the updated *Professional capabilities*, but these too are expected to be minimal.

The MRPBA considers that the costs are outweighed by the benefits of updating the Professional capabilities and ensuring education and assessments reflect contemporary practice across a variety of settings.

Medical radiation practitioners and employers are expected to familiarise themselves with the updated capabilities during the implementation / transition period (the time period between publication and when the updated *Professional capabilities* come into effect)

Appendix A: draft updated Professional capabilities for medical radiation practitioners

March 2025

Introduction

The Medical Radiation Practice Board of Australia (the Board) has powers under the Health Practitioner Regulation National Law, as in force in each state and territory (the National Law), to develop standards, codes and guidelines about the eligibility of individuals for registration in the medical radiation practice profession.

The Board first developed and published the *Professional capabilities for medical radiation practitioners* (the *Professional capabilities*) in 2013, which applied to entry-level medical radiation practitioners seeking to qualify for registration as a diagnostic radiographer, a nuclear medicine technologist or a radiation therapist. Since then, there have been technological developments and changes to the scope and role of medical radiation practitioners, in addition to developments in capability frameworks.

In 2019, the Board reviewed and updated the first edition of the *Professional capabilities*. Building on the 2019 edition, the Board further updated the professional capabilities in 2024. This latest update reflects recent advancements in medical radiation practice, ensuring the *Professional capabilities* remain contemporary and fit-for-purpose for the current scope of practice of medical radiation practitioners in Australia.

Purpose of the Professional capabilities for medical radiation practitioners

The professional capabilities identify the knowledge, skills and professional attributes needed to safely and competently practise as a diagnostic radiographer, a nuclear medicine technologist or a radiation therapist in Australia. They describe the threshold level of professional capability needed for both initial and continuing practice.

Format of the Professional capabilities for medical radiation practitioners

The format of the professional capabilities draws on the CanMEDS competency framework, developed by the Royal College of Physicians and Surgeons of Canada. A key feature of the CanMEDS framework is the thematic arrangement of competencies based on the roles of practitioners in practice. The framework has been adopted and adapted by many other health professions in Australia and internationally to describe the competencies that are 'essential' at the beginning of, and throughout, a practitioner's career.[2]

In applying the CanMEDS approach, the *Professional capabilities for medical radiation practitioners* are organised into six domains that cover capabilities common to all divisions of medical radiation practice and three sub-domains related to the different divisions of medical radiation practice. As shown in **Figure 1** below, each domain consists of key capabilities and enabling components. Explanatory notes are also provided where required to provide additional information.

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[2] Royal College of Physicians and Surgeons of Canada. (2015). CanMEDS 2015 Physician Competency Framework. CanMEDS Framework (royalcollege.ca)

Figure 1: Format of the medical radiation practice professional capabilities
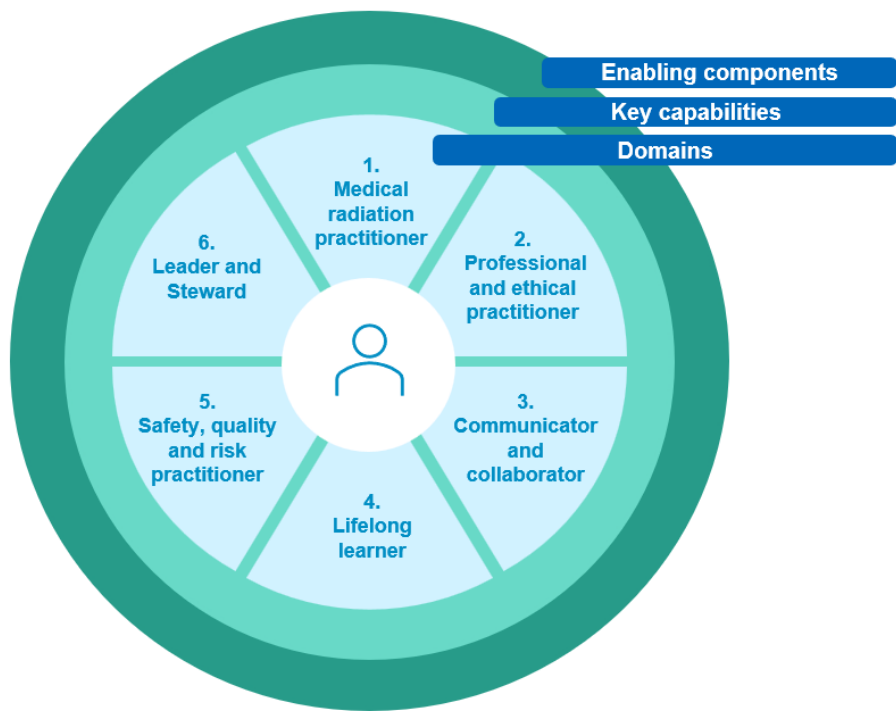
Domains

The professional capabilities are thematically arranged into six domains, as shown in **Table 1.**

Table 1: The six domains included within medical radiation practice professional capabilities

Domain 1	Medical radiation practitioner • Domain 1A: Diagnostic radiographer • Domain 1B: Nuclear medicine technologist • Domain 1C: Radiation therapist
Domain 2	Professional and ethical practitioner
Domain 3	Communicator and collaborator
Domain 4	Lifelong learner
Domain 5	Safety, quality and risk management practitioner
Domain 6	Leader and Steward

Key capabilities

The key capabilities describe the key features of safe and competent practice in a range of contexts and situations of varied complexity and uncertainty. During any one procedure or treatment, practitioners are expected to demonstrate key capabilities from various domains. This recognises that competent professional practice is more than a sum of each discrete part and needs an ability to draw on and integrate the breadth of capabilities to support overall performance.

Enabling components

The enabling components describe the essential and measurable characteristics of the corresponding key capabilities and facilitate assessment of performance in the practice setting. Medical radiation practitioners must be able to demonstrate all enabling components for all key capabilities for safe and

competent practice. This includes applying, adapting and synthesising new knowledge from experience to continually improve performance.

The enabling components include different ways of demonstrating capability, including:

- **Apply knowledge / principles of** indicates a practitioner is expected to apply detailed knowledge in the practice setting.

- **Understand** indicates a practitioner is expected to apply broad knowledge and understanding of information for safe practice.

- **Performance, e.g. 'perform', 'identify', 'respond' and/or 'operate',** are used for the majority of enabling components **–** these are abilities needed in the practice setting.

Explanatory notes

Explanatory notes are provided for clarification and additional information. Where a note includes a list of items e.g. of legal responsibilities or equipment, the wording used indicates when some or all the listed items are needed:

- If a note states, 'must include', all items on the list are needed.

- If a note states, 'may include', all items on the list are not needed, any item on the list may be demonstrated.

- If a note states, 'but is/are not limited to', additional items to those listed may be demonstrated to enable flexibility and innovation.

- If there is no note, all items listed in the enabling component and/or capability statement are needed.

Professional capabilities to recognise socio-cultural factors in delivering care

In this document, the professional capabilities reinforce the importance of medical radiation practitioners recognising the unique needs, values, and circumstances of individual patients, their families and carers. Key capabilities to enable culturally safe, sensitive and person-centred care are integrated through each of the six domains to promote equitable and respectful approaches to care.

Cultural competence

Cultural competence is defined as a set of consistent behaviours, attitudes, and policies that come together in a system, agency, or among professionals and enable that system, agency, or those professionals to work effectively in cross-cultural situations.

The word "culture" is used because it implies the integrated pattern of human behaviour that includes thoughts, communications, actions, customs, beliefs, values, and institutions of a racial, ethnic, religious, or social group. The word "competence" is used because it implies having the capacity to function effectively. A culturally competent system of care acknowledges and incorporates – at all levels:

- the importance of culture;

- the assessment of cross-cultural relations;

- vigilance towards the dynamics that result from cultural differences;

- the expansion of cultural knowledge, and

- the adaption of services to meet culturally unique needs.

Medical radiation practitioners in Australia must be able to work effectively with people from various cultures that may differ from their own. Culture may include, but is not limited to, age, gender, sexual orientation, race, socio-economic status (including occupation), religion, physical, mental or other health needs, ethnicity and health service culture. A holistic, patient/client and family-centred approach to practice requires cultural competence.

Cultural safety

All health practitioners in Australia, including medical radiation practitioners, need a working knowledge of factors that contribute to and influence the health and wellbeing of Aboriginal and Torres Strait Islander Peoples. These factors include history, spirituality and relationship to land, and other social determinants of health in Aboriginal and Torres Strait Islander communities.

The Board is part of the National Registration and Accreditation Scheme's (the National Scheme's) Aboriginal and Torres Strait Islander Health Strategy Group[3] (the Health Strategy Group) which published a *Statement of Intent* (the Statement) in July 2018. The Statement highlights the Health Strategy Group's intent to achieve equity in health outcomes between Aboriginal and Torres Strait Islander Peoples and other Australians to close the gap by 2031. Their vision is that patient/client safety for Aboriginal and Torres Strait Islander Peoples is the norm.

The definition of cultural safety has been developed for the National Scheme and adopted by the National Health Leadership Forum. The Health Strategy Group developed the definition in partnership with a public consultation process.

Definition

Cultural safety is determined by Aboriginal and Torres Strait Islander individuals, families and communities.

Culturally safe practise is the ongoing, critical reflection of other health practitioners' knowledge, skills, attitudes, practising behaviours and power differentials in delivering safe, accessible and responsive healthcare free from racism.

To ensure culturally safe and respectful practice, health practitioners must:

a. Acknowledge colonisation and systemic racism, social, cultural, behavioural and economic factors which impact individual and community health.
b. Acknowledge and address individual racism, their own biases, assumptions, stereotypes and prejudices and provide care that is holistic, and free of bias and racism.
c. Recognise the importance of self-determined decision-making, partnership and collaboration in healthcare, which is driven by the individual, family and community.
d. Foster a safe working environment through leadership to support the rights and dignity of Aboriginal and Torres Strait Islander peoples and people from culturally and linguistically diverse backgrounds.

Intersectional approaches to care in medical radiation practice

This document supports an intersectional approach to person-centred care delivered by medical radiation practitioners. The *Professional capabilities* recognise that different aspects of a person's identity interact and shape their experiences of healthcare. The *Professional capabilities* emphasise that safe care - the delivery of equitable and effective care for every individual, recognises the diversity of overlapping socio-cultural factors that intersect to impact person's experience of healthcare which includes but is not limited to:

- Aboriginal and Torres Strait Islander Peoples;
- culturally and linguistically diverse populations;
- religious or faith-based beliefs;
- neurodiverse people;
- people living with disability;
- lesbian, gay, bisexual, transgender, intersex, queer/questioning, asexual (LGBTIQA+) people;
- children and young people;
- older people, and
- people living in rural and remote communities.

The Professional capabilities also acknowledge that consideration for intersecting factors, such as language barriers, cultural differences, or accessibility to services, is essential to providing effective, person-centred care that caters to the diverse needs of all patients.

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[3] For more information on the National Scheme's Health Strategy Group, see https://www.ahpra.gov.au/About-AHPRA/Aboriginal-and-Torres-Strait-Islander-Health-Strategy.aspx

Family, sexual and domestic violence

The Board recognises the gendered drivers of violence, and that women and children are disproportionately affected and experience more harm. Women are also at higher risk of violence during pregnancy and in the period immediately after birth. Family violence occurs in all cultures and communities and impacts people of varied personal identities, backgrounds, religions, ages, genders, sexual orientations, education, income levels and social positions. Some people are further impacted by other forms of systemic and structural inequality, exacerbating their experiences of violence.

It is important that health practitioners responding to family violence understand its serious consequences and the barriers to disclosure that victim-survivors can experience. They have a vital role to play in the early detection, support, referral, documentation of incidents, and delivery of specialised treatment for people experiencing family violence.

Health practitioners are often the first point of contact for many people who have experienced or are experiencing family violence. They play an essential role in recognising family violence and in responding sensitively, respectfully, and safely to prevent further harm. This includes referring victim-survivors to specialist services where appropriate.

Medical radiation practitioners are often in a unique position to recognise and respond to signs of family, sexual and domestic violence, given their close, and often private, consultation opportunities with patients. The responsibility and commitment to the role of medical radiation practitioners to address family, domestic and sexual violence is outlined further in **Domain 2: Professional and Ethical Practitioner**.

Definition

Family violence is defined differently in legislation in each Australian state and territory. The Board along with other health regulators in Australia[4] takes a broad definition of family violence acknowledging that it encompasses violence between family members, as well as domestic violence between intimate partners, including a current or previous partner, regardless of whether they lived together. It also refers to carers, extended family, and the broader range of marital and kinship relationships in which violence may occur. Family violence can also refer to situations where other family members of the perpetrator are abusive towards the victim-survivor or arrange for violent acts to be committed against the victim-survivor. Children experience family violence and its impacts in their own right, whether or not they experience the violence directly. Family violence includes, but is not limited to:

- coercive control, which is violent, threatening, isolating or other behaviour by a person to coerce or control a member of the person's family or cause the family member to be fearful;
- homicide;
- physical violence and abuse;
- sexual violence;
- reproductive abuse;
- emotional and psychological abuse;
- harassment and stalking;
- elder abuse;
- financial abuse;
- technology-related violence;
- social violence; and
- spiritual violence.

The Board is committed to the national priority to reduce and ultimately end family, domestic and sexual violence outlined in the *National Plan to End Violence against Women and Children 2022-2032* and supports the active role that registered health professionals play in meeting this priority[5]. The professional

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[4] 2024 Joint Position on Family Violence by Regulators of Health Practitioners
https://www.ahpra.gov.au/Resources/Joint-Position-on-Family-Violence.aspx

[5] Campbell, E., Fernande, T., Gassner, L., Hill, J., Seidler, Z., Summers, A. Unlocking the Prevention Potential: Accelerating action to end domestic, family and sexual violence.
https://www.pmc.gov.au/sites/default/files/resource/download/unlocking-prevention-potential.pdf

capabilities acknowledge the need for medical radiation practitioners to be equipped with the knowledge and skills to effectively support the identification of, and responses to, suspicions or disclosures of family, sexual, and domestic violence.

NB: updated guidance on minimum capabilities for medical radiation practitioners with respect to Family, sexual and domestic violence may be published by the Board within the lifecycle of these Professional capabilities.

Uses of the *Professional capabilities for medical radiation practitioners*

The Board has statutory functions as a regulator of the medical radiation practice profession in Australia. One of the Board's statutory functions is to "register suitably qualified and competent persons in the health profession"[6].

The Board uses the *Professional capabilities* as a reference point for a threshold of competence when exercising its statutory functions including for:

registration of individuals who complete an approved medical radiation practice program of study in Australia **(see the section The Professional capabilities and accreditation of medical radiation practice education programs in Australia below for more details)**;

- registration of individuals who are relying on medical radiation practice qualifications issued in other countries to qualify for general registration in Australia;

- re-registration of individuals who were previously registered as a medical radiation practitioner in Australia; and

- evaluation of a registrant whose level of competence to practise may pose a risk of harm to the public, for example, if the Board receives a concern or notification about that registrant.

The professional capabilities may also be also used:

- by universities for the development of medical radiation practice curricula (learning and assessment); and

- to communicate to the public, consumers, employers, insurance companies and other stakeholders the standards that they can expect from medical radiation practitioners.

The Board recognises that other organisations and individuals may use the professional capabilities as a reference point for a threshold of competence for other purposes. This may include: registrants' self-assessment of their competence; employers' performance evaluation ;and management of registered medical radiation practitioners in the workplace and agencies responsible for health policy or health workforce strategy.

The *Professional capabilities* and accreditation of medical radiation practice education programs in Australia

The Board is responsible for the regulation of medical radiation practitioners and, in July 2012, established the Medical Radiation Practice Accreditation Committee (the Committee) under the National Law.

The Committee is responsible for accrediting education providers and medical radiation practice programs of study. It assesses programs against the *Medical radiation practice accreditation standards* (the accreditation standards) that were developed by the Committee and approved by the Board. The Committee accredits programs that meet the accreditation standards and monitors programs to ensure they continue to meet the standards.

The accreditation standards refer to the professional capabilities. The accreditation standards require education providers to design and implement a program where learning outcomes and assessment tasks map to all the professional capabilities. Accreditation of a program therefore provides assurance to the Board and the community that graduating students from the medical radiation practice program have the knowledge, skills and professional attributes that are necessary for safe and competent medical radiation practice in Australia.

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[6] Section 35(1)(a) of the Health Practitioner Regulation National Law Act as in force in each state and territory in Australia.

Figure 2: Relationship between professional capabilities and accreditation standards

Professional capabilities

The knowledge, skills, and professional attributes needed to safely and competently practise as a medical radiation practitioner in Australia. Describing the threshold capability required for registration

Accreditation standards

Standards that education providers and their programs must meet to demonstrate that students graduating from the program have achieved the professional capabilities

Concept of threshold professional capability and competence

Professional capability is the ability to take appropriate and effective action to formulate and solve problems in both familiar and unfamiliar, complex and changing settings[7]. Competence refers to the ability to perform specific tasks to the standard of performance needed in the workplace[8,9]. The definition of competence needed for the job will change as the job role evolves.

While competency is a part of capability, capability extends beyond competency by incorporating adaptability, critical thinking, and decision-making to perform a job effectively in the real-world, often with novel or unpredictable conditions.

Capable people have high levels of self-efficacy, know how to learn, work well with others and are creative[10,11]. A practitioner's capability will expand and improve as they gain professional experience. Professional capability reflects how a practitioner uses their professional judgement, decision-making skills and experiential knowledge to apply their scientific knowledge, practical skills and ability in any given situation.

A capability framework can be pitched at the level of ongoing practice, rather than being designed for a specific point-in-time assessment. It focuses on activities at the broad level that apply across the profession and allow individuals to develop their capabilities in complex and continually evolving work contexts. The enabling components in these professional capabilities describe the threshold behaviours for safe and competent practice.

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[7] Davis L and Hase S. 'Developing capable employees: the work activity briefing', Journal of Workplace Learning. 1999;8:35-42.

[8] Department of Health and Human Services State of Victoria. Allied health: credentialing, competency and capability framework (revised edition). Melbourne: State of Victoria Department of Health and Human Services; 2016 [available from https://www2.health.vic.gov.au/health-workforce/allied-health-workforce/allied-health-ccc-framework].

[9] Australian Skills Quality Authority. Users' Guide to the Standards for RTOs 2015, Canberra: Australian Government 2017 [available from: www.asqa.gov.au/standards].

[10] Lester S. Professional standards, competence and capability. Higher Education, Skills and Work-based Learning. 2014;4(1):31-43

[11] Cairns, L & Malloch, M "Lifelong Learning for Capability" 2024. Springer. ISBN 978-3-031-68239-1 ISBN 978-3-031-68240-7 (eBook) https://doi.org/10.1007/978-3-031-68240-7

The enabling components that describe behaviours for more advanced levels of practice are not covered in this document. That is, this document describes capability at the level of a beginning practitioner, rather than that of an expert.
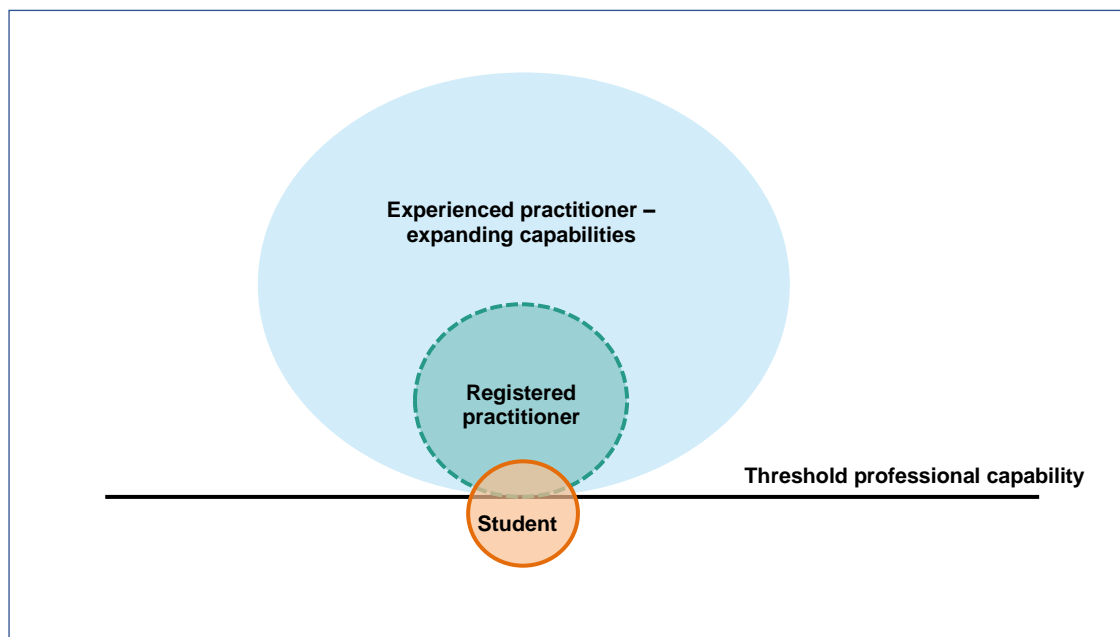

Figure 3

Maintenance of professional capability

Professional capabilities are relevant throughout a registered medical radiation practitioner's career. Registered medical radiation practitioners need to maintain at least the threshold level of professional capability in all areas relevant to their practice and maintain the currency of their skills and knowledge through continuing professional development.

The level of professional capability and scope of practice for practitioners are likely to change over time as the profession advances and as new roles emerge in the evolving healthcare environment. Practitioners may move into new roles that have different responsibilities. These roles may no longer include the direct provision of patient care, for example, in research, education or management. With changes to a practitioner's scope of practice, some of the key capabilities may no longer be relevant to their practice.

Many medical radiation practitioners strive to excel when providing services and maintain a level of professional capability above the threshold. If a medical radiation practitioner fails to maintain at least the threshold level of professional capability in all areas relevant to their practice, they could pose a risk to the public.

The *Professional capabilities* and assessment of competence

The *Professional capabilities* provide a consistent reference point for assessing an individual's performance in the relevant context of medical radiation practice. The key capabilities and enabling components describe abilities and skills that can be assessed in practice and provide a reference point of threshold competence that can be applied across a range of contexts of practice. This includes assessment of:

- a medical radiation practitioner's performance in the context of the workplace or a simulated setting for maintenance of registration;

- a medical radiation practice student's performance in the context of a clinical placement or simulated setting for education purposes; and

- individuals who qualify as medical radiation practitioners in other countries in the context of a competence assessment for initial registration in Australia.

The professional capabilities are not designed as a stand-alone means of measuring competence. The document supports the establishment of additional performance indicators and rating scales for valid

measurement of a medical radiation practitioner's performance for different purposes, in different settings and across different scopes of practice.

The context of a medical radiation practitioner's practice may not be limited to (and may not necessarily include) direct interaction with patients. Many of the abilities described in the key capabilities and enabling components are needed when registered medical radiation practitioners work in management, administration, education, research, policy development, advisory contexts, regulatory or other contexts that impact on safe, effective delivery of medical radiation practice services.

The performance indicators and rating scales for valid measurement of practitioners' competence depend on the purpose of the assessment of an individual's competence and the context of the medical radiation practice in which the assessment is taking place.

The *Professional capabilities* and practice in computed tomography (CT) imaging

The 2019 *Professional capabilities* document described the key capabilities relating to CT imaging independently, with their individual inclusion in **Domain 1A, Domain 1B and Domain 1C** respectively. This document contains updated content related to CT imaging, with its inclusion as a capability common to all three divisions of practice.

The application of CT practice continues to evolve across the three divisions of medical radiation practice, principally driven by improvements in medical imaging and radiation therapy planning technology.

The professional capabilities cover the knowledge, skills and attributes needed by all diagnostic radiographers, nuclear medicine technologies and radiation therapists who use CT as part of their practice.

Professional capabilities for magnetic resonance imaging (MRI), ultrasound, mammographic imaging, and angiography

The 2019 *Professional capabilities* document described the key capabilities related to the use of MRI and ultrasound for medical radiation practitioners who use these modalities as part of their practice, within **Domain 1**. Professional capabilities relating to mammographic imaging were removed from the 2019 *Professional capabilities*, having previously been included in the 2013 version, and angiography was included as a key capability in **Domain 1A** only.

This document contains updated content related to MRI, ultrasound, mammographic imaging, and angiography as capabilities common to all three divisions of the register of medical radiation practitioners who use these modalities. These key capabilities and enabling components are outlined further within **Domain 1**.

Medical radiation practice professional capabilities and practice in ultrasound

It is important to note that sonographers are not regulated under the National Law, and the medical radiation practice capabilities do not establish frameworks or capabilities that seek to enforce any regulation of sonographers. The professional capabilities apply in the context of registered medical radiation practitioners only, therefore any reference to ultrasound practices applies to day-to-day practice by a registered medical radiation practitioner.

Medical radiation practice professional capabilities and practice in MRI

This document contains updated content related to the use of MRI in practice to address the requirements for a practitioner to use MRI safely and competently. This includes consideration for emerging MRI technology and its use in a range of different clinical practice settings. The professional capabilities apply in the context of registered medical radiation practitioners only.

Identifying urgent or unexpected findings

The Board outlines a policy for *Communicating safely – if urgent or unexpected findings are identified* to help medical radiation practitioners meet their obligations if urgent or unexpected findings are identified[12].

It is recognised that the formal report is the gold standard and the most appropriate way to communicate findings in medical images. If a medical radiation practitioner identifies something urgent or unexpected in

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[12] Medical Radiation Practice Board of Australia. (2019). Communicating safely – if urgent or unexpected findings are identified

a medical image, they must communicate this in a timely way to another health practitioner involved in the care of the patient. In most cases, the appropriate health practitioner to communicate urgent or unexpected findings to is the reporting practitioner. This allows the report writer to prioritise the production and communication of a formal report.

Medical radiation practitioners are expected to exercise professional judgement. If critical information emerges or there is a risk to patient care, timely communication of this information to clinicians involved in the care of the patient is essential.

The medical radiation practitioner must ensure that urgent or unexpected findings are shared with, and understood by, the appropriate persons. This may include the reporting practitioner, the requesting health practitioner and/or other health practitioners, for the immediate and appropriate management of the patient.

Health data, health informatics and digital health systems, including Artificial Intelligence (AI)

As emerging technologies, including Artificial Intelligence (AI), continue to evolve in relation to medical radiation practice, it is crucial that their implementation and use occurs both safely and responsibly.

The Board recognises that in Australia (at the time of writing), governance and regulation of AI in healthcare is evolving and occurs through a range of approaches, including privacy and consumer law, regulation of software as medical devices, and proposed governance arrangements through research and health organisations[13].

The Board has established some descriptions for the use of data, health informatics and digital health which are interconnected and relevant to the use of artificial intelligence. Using data and digital health capabilities appear in Domain 1, while capabilities for health informatics has been placed Domains 6.

The *Professional capabilities* emphasise that medical radiation practitioners must understand health data, sources of data and factors that impact safety, reliability and privacy. They must also understand how to use emerging technologies, including AI, use health data to deliver appropriate, safe, and effective person-centred care. This includes understanding how to use technology to support evidence-based clinical decision-making, appraising the ethical use of technology, and considering any potential impacts on patient safety and quality of care.

NB: updated guidance on minimum capabilities for medical radiation practitioners with respect to Digital Health including Artificial intelligence may be published by the Board within the lifecycle of the Professional capabilities.

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[13] Australian Institute of Health Innovation. (2024). Literature review and environmental scan report: AI Implementation in Hospitals: Legislation, Policy Guidelines and Principles, and Evidence about Quality and Safety. artificial_intelligence_-_literature_review_and_environmental_scan.pdf (safetyandquality.gov.au)

Key capabilities and enabling components

Domain 1: Medical Radiation Practitioner

This domain covers the knowledge, skills and attributes a medical radiation practitioner needs in order to practise independently and deliver efficient, effective, and culturally safe, person-centred care.

Key capabilities in this domain are common to all three divisions of the register of medical radiation practitioners.

Key capabilities	Enabling components
1. Deliver efficient, effective, and culturally safe person-centred care.	a. Perform patient assessment and medical radiation examination/ treatment in accordance with patient need and preferences, legislation, registration standards, codes, and guidelines.
	b. Continually assess the patient's capacity to receive care, including factors or conditions that may affect the patient's behaviour and/or capacity to provide informed consent and undergo the procedure, and triage patients when needed.
	c. Identify patient preparation requirements and provide appropriate patient care before, during and after the examination/treatment.
	d. Recognise, evaluate, and make appropriate adjustments for social, cultural, personal, and environmental factors for each patient undergoing an examination or receiving treatment.
	e. Identify and make appropriate adjustments for patients who are vulnerable or otherwise most at risk, including for example pregnant patients and the fetus, breastfeeding patients, and children.
	f. Evaluate the purpose of the proposed examination or treatment and review existing protocols to deliver safe, high-quality care. Select the appropriate equipment, and triage patients according to their clinical presentation, national standards, and other relevant factors.
	g. Identify contraindications and limitations of medical radiation services. Recognise when an alternative examination or treatment may be more appropriate for a patient and communicate this to relevant other practitioners.
	h. Recognise circumstances of impending or acute physiological deterioration, including anaphylaxis and other adverse events. Respond to the person's needs in an appropriate and timely way, consistent with standards of safe and high-quality care. This includes calling for emergency help when needed and documenting actions taken.
	All registered medical radiation practitioners must be trained and current in basic life support techniques that includes cardiopulmonary resuscitation (CPR), using automatic external defibrillator (AED) and management of anaphylaxis. Also see the Explanatory notes.
	i. Apply quality criteria to assure image quality, evaluate medical images and identify any urgent and/or unexpected findings. If any urgent and/or unexpected findings are identified, take appropriate and timely action to ensure the immediate management of the patient.
2. Apply knowledge of anatomy, physiology and pathology to deliver safe, high-quality health services.	a. Apply knowledge of anatomy and physiology of the human body to practice.
	b. Apply knowledge of the scientific explanations underpinning disease and injuries affecting the human body to enable delivery of safe, high-quality examinations, treatments, and screenings.

Key capabilities	Enabling components
	c. Identify anatomical structures and physiological processes and frequently occurring injuries and diseases of the human body in medical images.
3. **Appropriately and accurately record, manage, and store clinical information.**	a. Understand and comply with legal and ethical responsibilities for health data privacy, use, ownership, storage, retention and destruction in healthcare.
	b. Use health information systems to record and store health data, including patient history, examinations, treatments, and images, ensuring data is associated with the correct patient.
	c. Manage and integrate health data across different health information systems, recognising the interdependencies that may exist between them.
	d. Identify, respond or report data errors or inconsistencies, system failures, or incorrect patient-data associations to maintain accuracy and patient safety.
	e. Ensure health data (images, reports etc) are available to authorised persons or systems to facilitate efficient and co-ordinated patient care.
4. **Use health data to improve clinical decision making and support safe patient care.**	a. Understand the role of health data in enhancing clinical decision making, reducing errors and improving patient outcome.
	b. Understand the importance of accurate, complete, and reliable health data in delivering safe and effective healthcare services.
	c. Apply knowledge of confidentiality, ethics, and legal requirements to responsibly collect, store, link, and access health data from multiple sources, including patient-generated data.
	d. Evaluate the benefits, limitations, and risks associated with integrating data from multiple health data sources to maintain data integrity, security, and compliance while supporting safe and effective healthcare delivery.
	e. Identify and evaluate the credibility, relevance and quality of available health data, analytics and information to ensure evidence-based decision-making.
	f. Use relevant health data and informatics to inform clinical decisions, improve workflows, and enhance safe service delivery.
5. **Appropriately and accurately use digital health systems, tools and services.**	a. Use digital health systems, tools, and services, including health information management systems, appropriately and accurately in medical radiation practice.
	b. Understand regulatory and national frameworks for the safe use of artificial intelligence (Ai) in healthcare.
	c. Understand the ethical challenges posed by artificial intelligence
	d. Understand the role of bias in artificial intelligence and how it may skew Ai outputs.
	e. Understand how digital health systems may adversely impact health equity.
	f. Critically evaluate the risk and benefits of digital health systems used in connection with practice or provision of health services, identify potential impacts to patient safety, privacy or quality of care, and act to limit or manage risk.

Key capabilities	Enabling components
	g. Advocate for the safe and justified use of emerging technology to promote safe and high-quality patient care.
	h. Uses digital health systems in partnership with patients to aid culturally and personally appropriate, informed decision making.
	g. Support health literacy for users of digital health systems, tools and services.
6. **Understand and apply the different methods of imaging and treatment.**	a. Understand the different imaging and treatment pathways in medical radiation practice.
	b. Understand the modalities and equipment used in the different imaging and treatment pathways across medical radiation practice.
	c. Operate equipment and apply knowledge of physics and laboratory procedures relevant to practice.
7. **Confirm the procedure according to clinical indicators.**	a. Where relevant, understand the patient's clinical history, referral and current medical information to confirm that the requested or prescribed procedure is appropriate, drawing on knowledge of other imaging and treatment pathways.
	b. Determine the appropriate imaging and/or treatment protocols and priorities which consider the information collected during the interaction with the patient and knowledge of imaging and/or treatment options.
	c. Where appropriate, tailor the requested examination/treatment to an individual patient, considering available clinical information and patient preferences.
8. **Enable reproducibility of procedures and outcomes.**	a. If available, review the patient's previous images, history, condition and presentation and consider the limitations/restrictions that may impact reproducibility imaging or treatment.
9. **Apply knowledge of safe and effective use of medicines.**	a. Understand the regulation of medicines and scheduled medicines in Australia and the authorisations pathways for use by health practitioners.
	b. Apply the principles of safe and effective use of medicines to practice.
	c. Recognise the risks, precautions (including known side effects) and contraindications for the use of medicines.
	d. Apply knowledge of pharmacokinetics, pharmacodynamics and the potential range of reactions to medicines.
	e. Safely and effectively deliver medicine to patients, in accordance with relevant procedures and national and state legislation.
	f. Actively monitor the effects of medication and manage adverse reactions to medicines, in accordance with protocols.
10. **Perform CT imaging.**	a. Effectively triage patients undergoing CT imaging according to their clinical presentation, national standards and other factors.
	b. Operate CT systems safely and effectively.
	c. Apply appropriate imaging parameters for the patient presentation.
	d. Adjust relative radiation dose levels appropriate to the individual patient, in particular for young patients.
	e. Collaborate in the design and evaluation of CT protocols.

Key capabilities	Enabling components
	f. Perform and evaluate contrast and non-contrast CT examinations of the body and, where appropriate, modify them to consider patient presentation and clinical indications.
	g. Process data image sets, including multi-planar reformats and volume imaging.
	h. Record urgent or unexpected findings and communicate in a timely manner

Domain 1: Explanatory Notes

Recognising and responding to a patient's deteriorating condition should be interpreted in the context of the Australian Commission on Safety and Quality in Healthcare's *National consensus statement: essential elements for recognising and responding to clinical deterioration* (National Consensus Statement) and the National Safety and Quality Health Service's (NSQHS) – Standard 8 Recognising and Responding to Acute Deterioration.

These documents help practitioners to recognise patients whose condition is deteriorating and to respond to patient needs in an appropriate and timely way as essential components of safe and high-quality care.

The National Consensus Statement also identifies that recognition of, and response to, deterioration requires practitioners who are appropriately trained.

Medical radiation practitioners must be appropriately trained to support the Consensus Statement and as part of this they must know normal range values be able to identify abnormalities with the following physiological parameters:

- respiratory rate
- oxygen saturation
- heart rate
- blood pressure
- temperature, and
- level of consciousness.

Basic Life Support and Anaphylaxis management are critical enablers for recognising and responding. to acute physiological deterioration

All medical radiation practitioners must be able to provide cardio pulmonary resuscitation (CPR) and use automatic defibrator devices (AED) To meet this capability registered practitioners must complete education or training with learning outcomes equivalent to *HLTAID010 Provide basic emergency life support.*

All medical radiation practitioners must be able to recognise the signs and symptoms of anaphylaxis, know and apply the standard protocols for managing anaphylaxis, understand the purpose and pharmacology of medicines used as first line treatment and confidently use Epi-pens or similar dose regulated medication delivery devices.

The Australasian Society of Clinical Immunology and Allergy (ASCIA) has published resources for anaphylaxis and provides online learning courses for health professions which is free of charge to practitioners in Australia and New Zealand. (See Anaphylaxis training for health professionals)

Taking appropriate and timely action is a key responsibility if a medical radiation practitioner identifies medically significant findings on an image and must be interpreted in the context of Australian Commission on Safety and Quality in Healthcare NSQHS Standard 6 Communicating for Safety. Information must be conveyed and documented in line with relevant guidelines. Medical radiation practitioners must ensure information is conveyed to, and understood by, the appropriate persons who may include the reporting practitioner, the requesting practitioner or other practitioners for the immediate and appropriate management of the patient. The patient and their family/carers should also be informed if further medical advice is required prior to them leaving the hospital/clinic. Communication between health practitioners about the clinical status of a patient should be recorded in accordance with relevant procedures.

If you see something, say something. Identifying urgent and unexpected findings includes recognising and applying knowledge of normal from abnormal imaging appearances and relating appearances to the patient's clinical history. If a medical radiation practitioner identifies something urgent or unexpected in an image, they must communicate this in a timely way to another health practitioner involved in the care of that patient.

Understanding legislation may include relevant state and territory and/or federal legislation about privacy of data, radiation safety and the differences across states and territories.

Clinical information management systems may include, but are not limited to, picture and archiving communication system (PACS), radiology information system (RIS), radiation oncology information systems (ROIS), risk management systems, radiation dose tracking systems, electronic medical records (EMR) or My Health Record (MHR). Medical radiation practitioners must understand the interaction between different systems, such as between RIS and PACS, as well as the interplay of these systems with emerging technologies which support clinical decision-making.

Managing clinical information includes understanding and following patient and examination/treatment workflows (enter, begin, complete), searching correctly (e.g. by examination, patient, modality, location and/or date etc.), and understanding and following the folder structures.

Responding to data errors and/or system failures includes troubleshooting and fixing errors where possible or reporting errors/failures to the systems administrator in a timely manner.

Using health data is a key capability for medical radiation practitioners. Understanding the various aspects of data is essential to using and applying that data through various means. It is closely connected with health informatics and the use of digital health systems

'Health data' refers to any information related to an individual's health status, healthcare history, treatment records, and healthcare services. It encompasses a broad range of data collected from various sources, including electronic health records (EHRs), medical imaging, laboratory results, wearable devices, patient-reported outcomes, and public health databases. In Australia, legislation exists at both the Commonwealth and State level that describes how health data or health information must be handled.

Digital health systems includes (but is not limited to): mobile health and applications (such as SMS reminders via mobile messaging, wellness apps, My Health app and Medicare Online), digital medicines including electronic prescribing and electronic medication charts, healthcare identifiers, electronic health records (including My Health Record), telehealth and telemedicine, wearable devices (such as fitness trackers and monitors), robotics and artificial intelligence, electronic referrals, access to private personal health data.

Artificial Intelligence - An AI system is a machine-based system that, for explicit or implicit objectives, infers, from the input it receives, how to generate outputs such as predictions, content, recommendations, or decisions that can influence physical or virtual environments. Different AI systems vary in their levels of autonomy and adaptiveness after deployment. Definition taken from *'Policy for the responsible use of AI in government.'* Commonwealth of Australia (Digital Transformation Agency) 2024 | Version 1801

Modalities and equipment may include, but are not limited to, x-ray equipment, computed radiography, digital radiography, mammography, dental panoramic radiograph, fluoroscopy, angiography, computed tomography, magnetic resonance imaging, ultrasound, positron emission tomography, single photon emission computed tomography, dose calibrator, bone mineral densitometry, sample counters, superficial x-ray, linear accelerator, brachytherapy, ion chambers, planning systems, hybrid imaging systems, radiochemistry synthesis units, technegas machines, survey meters and Geiger counters, personal dose meters, auto injectors, contrast injectors or radiation therapy treatment delivery systems.

Clinical history may include patient records, previous medical radiation practice services, and information collected from the patient during the procedure.

Patient capacity or behaviour may be influenced by pre-existing medical conditions, including physical, physiological or psychological, age, pregnancy, culture, English language skills, or psycho-social and socio-economic factors.

Selecting appropriate equipment and triaging patients must be undertaken with the application of the *Principle of Justice* to ensure the fairest distribution of care.

Knowledge of safe and effective use of medicines relevant to practice includes state and territory and/or federal legislation regarding the supply and administration of medicines. It also includes understanding how pathological conditions may affect the delivery of some medicines.

Procedures for safe and effective delivery of medicines must be consistent with the [NSQHS's Medication Safety Standard](#) and may include checking products, confirming correct labelling, accurate calculations and measurements and correct route.

Performing CT Imaging:

- **Diagnostic radiographers** are expected to perform a wide range of CT examinations, including imaging using contrast media in a range of haemodynamic phases (arterial, venous and delayed etc) (entry level competency does not include more complex vascular imaging such as brain perfusion imaging or cardiac angiography)

- **Radiation therapists and Nuclear medicine practitioners** may perform diagnostic CT imaging in addition to their role in using CT for physiological information. If Radiation therapists and/or nuclear medicine practitioners use contrast agents during a CT imaging procedure they must be able to safely and effectively use contrast media in line with Domain 1, Key capability 7/8.

Capabilities for MRI, ultrasound, mammographic imaging, and/or angiography

(these capabilities apply if MRI, ultrasound, mammographic imaging or angiography are part of your practice)

The following key capabilities and enabling components cover the knowledge, skills and attributes needed by all diagnostic radiographers, nuclear medicine technologists and radiation therapists who use MRI, ultrasound, mammographic imaging and/or angiography as part of their practice. These key capabilities and enabling components are required to enable practitioners who use MRI, ultrasound, mammographic imaging and/or angiography to deliver efficient, effective, and culturally safe, person-centred care.

Key capabilities	Enabling components
1. Perform MRI.	a. Operate MRI systems safely and effectively.
	b. Apply knowledge of the principles of MRI physics and the protected environment to ensure patient and others' safety.
	c. Apply knowledge of cross-sectional anatomy, embryology, pathophysiology, haemodynamic and MRI appearances of normal and abnormal anatomy.
	d. Select equipment and imaging parameters relevant to the patient presentation and clinical indications and where appropriate, modify techniques or parameters to achieve optimal diagnostic outcomes.
	e. Collaborate in the design and evaluation of MRI protocols.
	f. Perform and evaluate MRI examinations and, where appropriate, modify the examination according to the MRI findings and clinical presentation.
	g. Process image data sets.
	h. Record urgent or unexpected findings and communicate in a timely manner
2. Perform ultrasound imaging.	a. Operate ultrasound imaging systems and parameters safely and effectively.
	b. Apply knowledge of the principles of ultrasound physics to minimise the likelihood of biological effects and identification of artefacts.
	c. Apply knowledge of cross-sectional anatomy, embryology, pathophysiology, haemodynamic and sonographic appearances of normal and abnormal anatomy.
	d. Select equipment and imaging parameters relevant to the patient presentation and clinical indications and where appropriate, modify techniques or parameters to achieve optimal diagnostic outcomes.
	e. Perform and evaluate ultrasound imaging and, where appropriate, extend or modify the examination according to the sonographic findings and clinical presentation.
	f. Document the real-time ultrasound examination and sonographer impressions and evaluate the findings.
	g. Record urgent or unexpected findings and communicate in a timely manner
3. Perform mammographic imaging.	a. Operate mammography systems safely and effectively

Key capabilities	Enabling components
	b. Understand the different pathways and imaging options for breast imaging including screening and diagnostic mammography
	c. Apply knowledge of cross-sectional anatomy, embryology, pathophysiology, haemodynamic and radiographic appearances of normal and abnormal anatomy in mammography.
	d. Select equipment and imaging parameters relevant to the patient presentation and clinical indications and where appropriate, modify techniques or parameters to achieve optimal diagnostic outcomes.
	e. Prepare the patient for the examination, including positioning the patient for the best diagnostic outcome.
	f. Perform and evaluate mammographic images used in screening and diagnostic mammography.
	g. Perform image post-processing techniques.
	h. Assess images to ensure they meet defined image quality criteria for screening and diagnostic mammography, including assessment of exposure index, field of view and anatomical positioning.
	i. Record urgent or unexpected findings and communicate in a timely manner
4. **Perform angiography examinations in a range of settings.**	a. Operate angiography systems safety and effectively in a range of settings.
	b. Effectively communicate and collaborate with the multidisciplinary team as the imaging request, patient history and previous medical images are reviewed, the patient is assessed to receive care and the procedure is planned.
	c. Prepare the patient for the examination, including positioning the patient for the best diagnostic outcome.
	d. Apply knowledge of equipment geometry for procedures.
	e. Apply knowledge of imaging acquisition modes and radiation dose rates.
	f. Perform image post-processing techniques.
	g. Prepare the patient and delivery systems with the appropriate contrast agent using aseptic techniques.
	h. Apply knowledge of medical equipment and prostheses used in the angiography setting.
	i. Collaborate in the design and evaluation of and angiography protocols.

Explanatory Notes

MRI:

MRI includes contrast-enhanced studies and the safe and appropriate selection of MRI contrast agents for the patient presentation. It also includes safely managing the use of contrast agents and recognising and responding to adverse reactions.

MRI safety includes but is not limited to:

- Maintaining the integrity of MRI safety zones.

- Applying principles of electro-magnetic forces and fields (static and gradient and radiofrequency).

- Minimising the bioeffects of magnetic fields (including tissue heating and peripheral nerve stimulation).

- Understanding exposure limits (including specific absorption rates).

- Assessing and managing risks associated with devices/implants/projectiles, and acoustic risks.

- Implementing emergency procedures in the event of quench or the distressed and/or deteriorating patient.

Ultrasound:

Ultrasound imaging systems must include 2D, Doppler and may include contrast and 3D, where appropriate.

Ultrasound physics includes transducer design and operation, identification of artefacts and understanding of the biological effects of ultrasound.

Documenting the real-time examination must follow organisational protocols and still images/cine loops must accurately represent any pathology present or absent.

Angiography:

Range of settings may include, but are not limited to, an imaging department, emergency department, operating theatre, intensive care unit, cardiac catheterisation lab and an angiography suite with both fixed and mobile equipment (both within and externally to the hospital setting).

Knowledge of equipment geometry for the procedure may include, but is not limited to, beam-receptor angulation, source-image distance, rotational imaging, anti-scatter equipment (physical and digital) and radiation protective shielding.

Knowledge of radiation dose delivery may include, but is not limited to, radiation dose factors, x-ray beam collimation and filtration, geometric and digital magnification.

Delivery systems may include, but are not limited to, intra-arterial, intravenous, oral, and hepatobiliary.

Medical equipment used in angiography may include, but is not limited to, catheters, guide wires, stents, vascular occlusion devices, vascular clips and filters, and prostheses.

Domain 1A: Diagnostic Radiographer

This domain covers the additional knowledge, skills and attributes a diagnostic radiographer needs in order to practise independently. Diagnostic radiographers are responsible for the outcome of the diagnostic imaging examination, for patient care before, during and after the examination, and for the timely authorised distribution of medical images to allow for consultation with other health practitioners. Diagnostic radiographers produce high-quality medical images and perform diagnostic procedures using ionising radiation, often in a team setting of health practitioners.

Key capabilities	Enabling components
1. **Perform projection radiography examinations in a range of settings.**	a. Operate projection radiography systems safely and effectively in a range of settings.
	b. Prepare the patient for the examination, including positioning the patient for the best diagnostic outcome.
	c. Use standard radiographic projections and exposure factors for the patient's body area being examined and, when appropriate, modify them to consider patient presentation, clinical indications and mechanisms of injury.
	d. Select appropriate equipment, receptor type and set equipment geometry for the examination.
	e. Perform image post-processing techniques.
	f. Critically evaluate images against radiographic criteria, including assessment of exposure index, field of view and anatomical positioning.
	g. Record urgent or unexpected findings and communicate in a timely manner
	h. Collaborate in the design and evaluation of projection radiography protocols.
2. **Perform fluoroscopy examinations in a range of settings.**	a. Operate fluoroscopy systems safely and effectively in a range of settings, including in the operating theatre setting.
	b. Effectively communicate and collaborate with the multidisciplinary team as the imaging request, patient history and previous medical images are reviewed, the patient is assessed to receive care, and the procedure is planned.
	c. Prepare the patient for the examination, including positioning the patient for the best diagnostic outcome.
	d. Apply knowledge of equipment geometry for procedures.
	e. Apply knowledge of imaging acquisition modes and radiation dose rates.
	f. Perform image post-processing techniques.
	g. Prepare the patient and delivery systems with the appropriate contrast media using aseptic techniques.
	h. Apply knowledge of medical equipment and prostheses used in the operating theatre setting.
	j. Collaborate in the design and evaluation of fluoroscopy protocols.

Domain 1A: Explanatory Notes

Projection Radiography examinations may include, but are not limited to, appendicular and axial skeleton and associated soft tissues, chest and abdomen performed on patients from across the life span using fixed and mobile projection radiography equipment. It may also include bone mineral densitometry, mammography, orthopantomography and dental imaging.

Range of settings for radiography examinations may include, but are not limited to, the imaging department or private practice, emergency department, operating theatre, intensive care unit, diagnostic and screening mammography facility or use of mobile systems.

Appropriate equipment parameter settings for radiography examinations include, but are not limited to, source-image distance, x-ray scatter reducing devices, vertical or horizontal configuration, fixed or free receptor configurations, anatomical and directive radio-opaque markers, x-ray beam collimation and filtration.

Range of settings for fluoroscopy may include, but are not limited to, an imaging department, emergency department, operating theatre or an intensive care unit.

Working safely and effectively in the operating theatre includes ensuring that appropriate aseptic techniques are used to maintain a sterile field.

Knowledge of equipment geometry for fluoroscopy may include, but is not limited to, beam-receptor angulation, source-image distance, rotational imaging, anti-scatter equipment (physical and digital) and radiation protective shielding.

Knowledge of radiation dose delivery for fluoroscopy may include, but is not limited to, radiation dose factors, image frame rate for fluoroscopy and image acquisition, x-ray beam collimation and filtration, geometric and digital magnification, and fluoroscopic road-mapping.

Delivery systems for fluoroscopy may include, but are not limited to, intra-arterial, intravenous, oral, and hepatobiliary.

Domain 1B: Nuclear Medicine Technologist

This domain covers the additional knowledge, skills and attributes a nuclear medicine technologist needs in order to practise independently. Nuclear medicine technologists are responsible for the outcome of the nuclear medicine examination, for patient care before, during and after the examination and for the timely, authorised distribution of medical images to allow for consultation with other health practitioners. Nuclear medicine technologists prepare, deliver, image and quantify diagnostic radiopharmaceuticals to demonstrate organ and molecular function as well as therapeutic radiopharmaceuticals to treat pathology.

Key capabilities	Enabling components
1. **Prepare and assess the purity of radiopharmaceuticals.**	a. Perform the elution and quality control of the radioisotope generator. b. Understand the theoretical concepts that are employed production of radiopharmaceuticals with appropriate manufacturing and quality control procedures. c. Assay the eluate and prepare radiopharmaceuticals ensuring critical procedure features are observed, such as correct volume and radioactivity. d. Perform quality control on radiopharmaceuticals and assess for patient use.
2. **Perform nuclear medicine examinations and therapies.**	a. Calculate the dose and decay of radiopharmaceuticals used in examinations and therapies. b. Recognise the difference between therapeutic and diagnostic doses, as it affects the patient, health practitioner and the public. c. Deliver appropriate dosage of radiopharmaceutical delivery systems and safe aseptic techniques for each patient. d. Use appropriate radiopharmaceutical delivery systems. e. Perform planar, Single-Photon Emission Computed Tomography (SPECT/CT) and PET/CT, and other emerging PET studies, including positioning the patient for the best diagnostic outcome. f. Process data image sets, including multi-planar reformats and volume imaging. g. Determine whether the biodistribution of radiopharmaceuticals is normal, altered or unexpected. h. Apply the principles underpinning nuclear medicine therapies to practice. i. Prepare the patient and delivery systems for nuclear medicine radiopharmaceutical therapies. j. Record urgent or unexpected findings and communicate in a timely manner
3. **Perform in vivo and in vitro laboratory procedures when necessary.**	a. Perform safe aseptic blood labelling procedures. b. Perform in vivo laboratory procedures. c. Implement appropriate methods to determine if results of laboratory procedures are normal, altered or unexpected.
4. **Support the provision of theranostics as part of a multidisciplinary team.**	a. Understand the theoretical concepts which are employed for theranostics in nuclear medicine, including principles of radiopharmacology, imaging instrumentation, and radiation protection. b. Support patient selection and preparation and understand the indications and contraindications for theranostics use.

Key capabilities	Enabling components
	c. Prepare radiopharmaceuticals and measure their activity pre- and post-treatment.
	d. Perform imaging, administration, and manufacture of theranostic radiopharmaceuticals for target therapy.
	e. Supervise patients throughout the treatment process. Identify and assist in managing instances of adverse events.
	f. Assist in dosimetry estimations, where required.
	g. Provide advice on patient release following outpatient treatments.

Domain 1B: Explanatory Notes

PET radiopharmaceuticals include, but are not limited to, Gallium-68 and Fluorine-18 based radiopharmaceuticals.

Radiopharmaceuticals for target therapy, such as Alpha-emitters, Beta-emitters and Gamma-emitters, include, but are not limited to Lutenium-177 (177Lu), Yttrium-90 (Y90) and Actinium-225 (225AC), Lead-212 (212Pb).

Quality control procedures for radiopharmaceuticals include, but are not limited to, pipetting and fractionating of radioactive compounds and using High-Performance Liquid Chromatography (HPLC) and Thin-Layer Chromatography (TLC) systems.

Delivery systems for nuclear medicine examinations and therapies may include, but are not limited to, intra-arterial, intravenous, oral, subcutaneous and inhalation.

Planar, SPECT/CT and PET/CT and other emerging PET Studies may include, but are not limited to, bone, myocardial perfusion, gated heart pool, lung perfusion/ventilation, PET/MRI, thyroid, and renal studies as well as oncologic, cardiac and neurologic PET studies.

Laboratory procedures must be understood by nuclear medicine technologists and may include the use of sample counters, such as well counters, use of survey meters and Geiger counters, operation of centrifuges, and use of fume hoods.

Theranostic tasks for nuclear medicine technologists must be performed in collaboration with a theranostic specialist or in accordance with a standard operating procedure.

Domain 1C: Radiation Therapist

This domain covers the additional knowledge, skills and attributes a radiation therapist needs in order to practise independently. Radiation therapists are responsible for planning and delivering radiation treatment, primarily for people diagnosed with cancer. Radiation therapists create and evaluate images for the localisation, planning and delivery of radiation treatment according to the prescription of the radiation oncologist and provide patient care before, during and after radiation therapy.

Key capabilities	Enabling components
1. **Use equipment and perform techniques to ensure reproducibility of the patient's position for radiation therapy.**	a. Identify and apply appropriate equipment and techniques to ensure accurate and reproducible localisation, pre-treatment imaging, planning and treatment, for the patient's diagnosis and condition. b. Fabricate or adapt suitable stabilisation and ancillary equipment as needed.
2. **Perform localisation and pre-treatment imaging.**	a. Select imaging modalities suited to individual patient presentations and related planning procedures. b. Perform localisation for a range of cancer sites using other modalities. c. Apply knowledge of a range of imaging modalities for use in localisation.
3. **Perform treatment planning.**	a. Apply the principles of radiation physics, dosimetry and radiobiology to treatment planning. b. Apply knowledge of tumour and target volumes, and normal tissue volumes to treatment planning. c. Apply knowledge of cross-sectional anatomy, physiology and oncology to treatment planning. d. Create clinically acceptable treatment plans. e. Evaluate treatment plans to ensure they are clinically acceptable and safe.
4. **Perform radiation therapy treatment according to approved radiation therapy prescriptions and treatment plans.**	a. Operate imaging equipment and radiation therapy treatment systems safely and effectively. b. Operate treatment delivery record and verification systems safely and effectively. c. Implement the radiation therapy treatment plans for a range of treatment techniques. d. Apply knowledge of radical and palliative treatment doses and acceptable dose limits to critical structures during implementation of treatment plans. e. Evaluate treatment verification images and modify the patient's treatment delivery according to local protocols. f. Record urgent or unexpected findings and communicate in a timely manner

Domain 1C: Explanatory Notes

Treatment planning may include, but is not limited to, imaging and treatment modalities used, including CT, MRI, PET and may include brachytherapy, superficial radiation therapy, radiosurgery/stereotactic radiation therapy, paediatric radiation therapy, total body irradiation, and proton beam therapy.

Treatment plans may include, but are not limited to, 2D, 3D and 4D, conformal radiation therapy (CRT), intensity-modulated radiation therapy (IMRT) and may include volumetric-modulated arc therapy (VMAT).

Evaluating radiation therapy treatment plans may include, but are not limited to, radiation therapists evaluating and analysing treatment plans that they create, as well as treatment plans created by other practitioners.

Note: Proton therapy - at the time of drafting proton therapy is gaining greater usage in clinical practice and may potentially evolve into common practice in Australia during the lifespan of these updated Professional capabilities. Registered practitioners should consider engaging in professional development and training as proton therapy becomes a relevant to their practice. Education providers should also monitor and consider introducing learning outcomes, teaching content and Work Integrated Learning (WIL) assessments that enable graduates to include proton therapy in their practice.

Domain 2: Professional and Ethical Practitioner

This domain covers medical radiation practitioner's responsibility and commitment to the health and wellbeing of individual patients and to the community through professional and ethical practice in the current medico-legal framework, professional standards of behaviour, maintenance of personal health, and accountability to the profession and the public. It also addresses medical radiation practitioners' responsibility for ensuring that patient confidentiality and privacy is maintained at all times, while recognising their own role as a patient advocate.

Key capabilities in this domain are common to all three divisions of the register of medical radiation practitioners.

Key capabilities –	Enabling components
1. **Practise in an ethical and professional manner, consistent with relevant legislation and regulatory requirements.**	a. Comply with legal, regulatory and professional requirements, responsibilities and guidelines, including but not limited to: - All relevant Commonwealth, state and territory legislation. - All relevant codes, standards and guidelines issued by the Medical Radiation Practice Board of Australia, including the *Code of conduct*[14]. - Relevant national safety and quality standards for the health and disability sectors, including those published by the Australian Commission on Safety and Quality in Health Care and the National Disability Insurance Scheme Quality and Safeguards Commission. - Safe and effective use of scheduled medicines. - Restrictions on importing and/or exporting and using medicines and medical devices as regulated by the Therapeutic Goods Administration. - Data privacy and the ownership, storage, retention, and destruction of patient records and other practice documents. b. Respect patient confidentiality, privacy, and dignity. c. Provide accurate information to patients and their families/carers about their care and implement appropriate methods for obtaining, and facilitating the withdrawal of, informed consent. d. Ensure patients and their families/carers are aware of the likelihood and degree of risk inherent to proposed examinations or treatments for which the medical radiation practitioner is responsible. e. Apply knowledge and understanding of relevant systems to practice, including the Australian health and social care systems. f. Manage own personal mental and physical health to ensure fitness to practise safely at all times, including recognising the impact of stress and fatigue on physical and mental health. g. Understand mandatory reporting obligations outlined in the *Guidelines: Mandatory notifications about registered health practitioners*[15] and recognise the grounds for a voluntary notification.

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[14] Medical Radiation Practice Board of Australia (2022). Code of conduct. https://www.medicalradiationpracticeboard.gov.au/Registration-Standards/Code-of-conduct.aspx

[15] Ahpra & National Boards (2020). Guidelines: Mandatory notifications about registered health practitioners. Australian Health Practitioner Regulation Agency - Making a mandatory notification (ahpra.gov.au)

Key capabilities –	Enabling components
	h. Exercise appropriate levels of autonomy and professional judgement in a variety of medical radiation practice settings.
	i. Show respect and collegiality towards other health practitioners and other members of multi-disciplinary health care teams.
	j. Identify and manage own conflicts of interest, including personal, professional and financial interests.
	k. Apply the Principles of biomedical ethics and recognise and respond appropriately to ethical issues encountered in practice.
	l. Understand the impact of resourcing health services and use health resources safely and sustainably.
	m. Understand the role of health literacy as a determinant of health. Promote and enable the health literacy of patients, their families and carers.
2. Treat each patient with respect, dignity, and care.	a. Recognise and evaluate the socio-cultural factors that may influence patient attitudes and responses to medical radiation services.
	b. Recognise and respect Aboriginal and Torres Strait Islander Peoples' ways of knowing, being and doing in the context of history, culture and diversity and affirm and protect these factors through ongoing learning in health practice.
	c. Apply the principles of cultural competence and culturally safe care to practice.
	d. Identify, recognise and respect appropriate boundaries between patients and health professionals.
	e. Involve patients and their families or carers in all aspects of their care and associated decision-making.
3. Assume responsibility and take accountability for professional decisions.	a. Recognise and work within the limits of individual competence and scope of practice.
	b. Make appropriate professional decisions about the care of patients and demonstrate commitment to the health and wellbeing of individual patients through professional standards of behaviour.
	c. Reflect on practice and recognise and respond appropriately to unsafe or unprofessional practice.
	d. Apply relevant clinical protocols and organisational policies and guidelines to practice, in accordance with professional standards.
4. Advocate on behalf of the patient when appropriate.	a. Support and promote the rights and interests of patients and support them to represent their own interests, when appropriate.
	b. Reflect on socio-cultural factors and respond to the rights and cultural needs of the patient and relevant others.
	c. Recognise when it may be appropriate to intervene on behalf of the patient.
	d. Recognise when an alternative patient pathway may be more appropriate and make recommendations to other practitioners.
	e. Where relevant, advocate for adequate resources to achieve positive outcomes for patients.

Domain 2: Explanatory Notes

Legal responsibilities must include, but are not limited to, responsibilities contained in relevant state and territory and/or federal legislation and regulations, specific responsibilities to maintain confidentiality, obtain informed consent and exercise duty of care.

Principles of bio-medical ethics are autonomy, non-maleficence, beneficence and justice (see Beauchamp and Childress[16]).

Key elements of fitness to practise must include competence and professionalism, including a sense of responsibility and accountability, self-awareness and professional values, sound mental health and the capacity to maintain health and wellbeing for the practice.

Reporting obligations must include making a mandatory notification when needed about impairment, intoxication while practising, significant departure from accepted professional standards, and sexual misconduct and when to notify the Australian Health Practitioner Regulation Agency (Ahpra) about certain notifiable events.

Relevant information provided to patient may include explaining the implications of a procedure, such as contrast/radiopharmaceutical administration, and explaining the considerations for people at risk, such as children, pregnant patients and their fetus and breastfeeding patients.

Relevant aspects of the Australian healthcare system must include, but are not limited to, knowledge of service provision arrangements, the structure and role of Medicare and billing arrangements.

Socio-cultural factors may include, but are not limited to, cultural and linguistic diversity, age, gender, disability, religion, socio-economic, geographic locations and identifying as Aboriginal and/or Torres Strait Islander Peoples.

Professional standards of behaviour include behaviour that is non-discriminatory, empathetic and respects socio-cultural differences.

Cultural competence/ cultural capability is a set of congruent behaviours, attitudes, and policies that come together in a system, agency, or among professionals and enable that system, agency, or those professionals to work effectively in cross-cultural situations. The word 'culture' is used because it implies the integrated pattern of human behaviour that includes thoughts, communications, actions, customs, beliefs, values and institutions of a racial, ethnic, religious or social group. The word 'competence' is used because it implies having the capacity to function effectively.

A culturally competent system of care acknowledges and incorporates – at all levels:

- the importance of culture

- the assessment of cross-cultural relations

- vigilance towards the dynamics that result from cultural differences

- the expansion of cultural knowledge

- the adaption of services to meet culturally unique needs.

Medical radiation practitioners must be able to work with people from various cultures that may differ from their own. The workforce should foster a positive, inclusive, and culturally safe work environment by practising in a way that is culturally safe and supports the rights, dignity, and safety of others.

The Medical Radiation Practice Board acknowledges the importance of cultural competence in Australia's multicultural society to support 'cultural safety' in the delivery of care. Cultural safety is about creating an environment that is safe (spiritually, socially, emotionally and physically) for Aboriginal and Torres Strait Islander Peoples and culturally and linguistically diverse peoples.

Culturally safe care recognises the social, economic, cultural, historical, and behavioural factors that influence the health of individuals, communities, and populations. It is defined by respect for the diverse cultures, beliefs, gender identities, sexualities, and experiences of people, including patients, their families, and carers.

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[16] Beauchamp, Tom L & Childress, James F (2019) *"Principles of Biomedical Ethics"* 8th edition. Oxford University Press ISBN: 9780190640873

Cultural safety for Aboriginal and Torres Strait Islander Peoples is defined in the [National Schemes Aboriginal and Torres Strait Islander Health and Cultural Safety Strategy 2020-2025](#) as

Cultural safety is determined by Aboriginal and Torres Strait Islander individuals, families and communities.

Culturally safe practice is the ongoing critical reflection of health practitioner knowledge, skills, attitudes, practising behaviours and power differentials in delivering safe, accessible and responsive healthcare free of racism.

Aboriginal and Torres Strait Islander Peoples' ways of knowing relate to entities of people, land, animals, plants, skies, waterways and climate. Aboriginal and Torres Strait Islander Peoples' ways of being is a concept about how to be respectful, responsible and accountable in relation to self and entities. Aboriginal and Torres Strait Islander Peoples' ways of doing is the lived expression of relatedness[17].

Family, domestic, and sexual violence

Family, domestic, and sexual violence is a major health and welfare issue in Australia, and can have a serious effect on people, families, and communities. Family, domestic, and sexual violence refers to any behaviour that occurs in families or intimate relationships that causes physical, sexual, or psychological, harm[18].

Health practitioners have an important role to play in addressing family, domestic, and sexual violence in the community, as they are often the first point of contact for victim survivors. It is important that medical radiation practitioners are able to identify and respond to suspicions and disclosures of violence in the clinical setting.

An understanding of the interplay and influences of gender, power, control, and race, enhanced by an intersectional perspective, is important to formulating effective responses to family, domestic, and sexual violence. Adopting an intersectional perspective recognises that the intersection of various identity aspects, such as gender, class, ethnicity, cultural background, religion, disability, and sexual orientation, can increase the risk of violence and discrimination for individuals.

Being aware of the risks and indicators of family, domestic, and sexual violence, as well as relevant local escalation and referral pathways, allows medical radiation practitioners to be capable of effectively responding to patients who have been impacted by family, domestic, and sexual violence.

Recommendations on alternative patient pathways are made when it is recognised that the planned patient pathway may not provide the optimal outcome for the patient.

Medical radiation practitioners must:

- provide patient-centred care

- advocate for the patient's equitable access to effective examinations/treatment, other health professionals and services that address their needs

- acknowledge that access broadly includes availability, affordability, acceptability and appropriateness.

Promoting and enabling health literacy Health literacy is critical to empowering patients, carers, families and the community to make decisions about personal health, and in enabling their engagement in the health environment to address determinants of health. It includes the ability to think critically about, as well as the ability to interact and express personal and societal needs for promoting health. Importantly, differences in health literacy exist within and across population groups and settings which can be further exacerbated by digital determinants of health and commercial determinants of health.

See World Health Organisation Health Literacy webpage https://www.who.int/news-room/fact-sheets/detail/health-literacy

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[17] Martin K and Mirraboopa B (2003) 'Ways of knowing, being and doing: A theoretical framework and methods for indigenous and indigenist research'. Journal of Australian Studies. 27(76):203-214.

[18] Department of Health and Aged Care (2024). About family, domestic and sexual violence. [About family, domestic and sexual violence | Australian Government Department of Health and Aged Care](#)

Domain 3: Communicator and Collaborator

This domain covers medical radiation practitioner's responsibility to communicate clearly, effectively and appropriately with patients and their families or carers. It requires practitioners to support health literacy in others by using plain language, providing accessible materials and encouraging patients, families and others to actively participate in their healthcare. It also addresses practitioners' responsibility to work effectively with other health practitioners to deliver efficient, effective, and culturally safe, person-centred care.

Key capabilities in this domain are common to all three divisions of the register of medical radiation practitioners.

Key capabilities	Enabling components
1. **Communicate clearly, effectively, empathetically and appropriately with the patient and their family or carers.**	a. Engage in culturally appropriate, safe, empathetic, and sensitive communication that facilitates trust and the building of respectful relationships with • Aboriginal and Torres Strait Islander Peoples and • people from culturally and linguistically diverse backgrounds
	b. Establish rapport with the patient and/or their families or carers to gain understanding of their issues and perspectives and communicate in ways that engender trust and confidence.
	c. Communicate effectively with the patient (and, at times, beyond the patient) to collect and convey information about the proposed examination/treatment. Identify likely communication barriers specific to individual patients and/or family/carers and implement strategies to avoid or overcome them.
	d. Listen effectively to the patient and their family or carers and respond appropriately to verbal and non-verbal communication.
	e. Convey knowledge and procedural information in ways that create trust and confidence and respects the patient's confidentiality, privacy and dignity.
	f. Provide an opportunity for the patient to explore the purpose of the proposed examination/treatment, the methods used and the typical patient experience.
	g. Explain the purpose, risks, and benefits of the proposed examination/treatment, and obtain informed consent to proceed. Continually communicate with the patient to ensure ongoing consent throughout the examination/treatment.
	h. Recognise patients for whom English may not be a first language, and make provisions to use qualified language interpreters, cultural interpreters, or cultural care coordinators to facilitate effective communication where needed.
2. **Communicate and collaborate with members of the patient's healthcare team and relevant others.**	a. Establish and maintain effective and respectful working relationships with members of the patient's healthcare team.
	b. Understand, acknowledge and respect the roles and responsibilities of members of the patient's healthcare team, and other service providers, and work effectively and collaboratively with them in the interests of shared patient care.
	c. Use verbal and written communication to share information with others in the patient's healthcare team, following accepted protocols and procedures to clarify responsibilities and transfer information in a timely manner.

Key capabilities	Enabling components
	d. Make recommendations to other members of the healthcare team about the suitability and application of the proposed medical radiation examination/treatment, including any limitations, when appropriate. e. Effectively and appropriately use digital tools to communicate and collaborate with the patient, members of the patient's healthcare team and relevant others.
3. Effectively communicate and collaborate with assistants, students, and other supervised workers.	a. Use appropriate skills, training, strategies, and knowledge to effectively mentor, supervise and delegate tasks to assistants, students, and other supervised workers. b. Proactively recognise opportunities to educate assistants, students, and other supervised workers in the delivery of efficient, effective, and safe person-centred care. c. Deliver timely feedback (verbal and written) to assistants, students, supervised workers and relevant others, including education providers, on their performance. d. Engage with assistants, students, and other supervised workers to support their professional development, including engaging with self-directed learning and critical reflection. For students, this may include supporting their work readiness, in preparation for entering the workforce.
4. Reflect on one's own culture and how it influences perceptions and interactions with others from different cultures.	a. Understand the impact of systemic racism and recognise the influence of one's own cultural identify on perceptions of, and interactions with, • Aboriginal and Torres Strait Islander Peoples • and people from other culturally and linguistically diverse backgrounds. b. Recognise how the cultural diversity of the patient's healthcare team can influence perceptions of, and interactions with, the patient and other members of the healthcare team. c. Recognise different forms of cultural bias and associated stereotypes that impact on the health of Aboriginal and Torres Strait Islander Peoples, and practise in a culturally sensitive and inclusive manner. This includes people from other culturally and linguistically diverse backgrounds. d. Recognise the role of history and relationships between Aboriginal and Torres Strait Islander Peoples and non-Indigenous Australian society and how this has affected the inequitable distribution of privileges.

Domain 3: Explanatory Notes

Communication barriers may arise because the medical radiation practitioner's own culture and experience affect their interpersonal style, or because of the patient's or family's/carer's culture and experience. The patient's or family's/carer's capacity to understand may be influenced by English language skills, health literacy, age and health status.

Communication beyond the patient may include with family, significant others, carers, interpreters, legal guardians and medical advocates. Communication beyond the patient should be undertaken with the patient's consent, unless they are incapacitated, to be compliant with the *Commonwealth Privacy Act*.

Effective communication includes active listening, use of appropriate language and detail, use of appropriate verbal and non-verbal cues and confirming that the other person has understood.

Informed consent is a person's voluntary decision about healthcare that is made with knowledge and understanding of the benefits and risks involved (for further guidance, see the NSQHS Standards).

The patient's healthcare team includes the range of health and support professionals who may be involved in the patient's care. This could include, for example, the referring practitioners, specialists, nursing team members, care coordinators, and other medical radiation practitioners.

Communicating and collaborating with other health practitioners includes accepting referrals from other practitioners, referring patients to other practitioners and/or engaging in inter-professional collaborative practice, as part of a multidisciplinary team. When referring patients or accepting referred patients, practitioners are expected to communicate verbally and/or in writing.

Assistant workforce encompasses a range of professionals who support elements of medical radiation practice but are not the primary practitioners.

Supervised workforce refers to professionals who perform elements of medical radiation practice, including imaging, under the supervision of a medical radiation practitioner.

Making recommendations about the suitability and application of procedures requires understanding of the relative radiation risks and benefits to patients of each examination/treatment used and effective collaboration with other members of the healthcare team. More experienced medical radiation practitioners may be expected to direct other members of the healthcare team, when appropriate.

Communication methods must consider the information needs of the patient, family/carers and other members of the patient's care team and may include the medical radiation practitioner using medical terminology and applying knowledge of departmental/practice protocols.

Domain 4: Lifelong Learner

This domain covers medical radiation practitioner's responsibility to engage in evidence-informed practice and to critically monitor their actions through a range of reflective processes. It also addresses their responsibility for identifying, planning and implementing their ongoing professional learning needs to deliver efficient, effective, and culturally safe, person-centred care

Key capabilities in this domain are common to all three divisions of the register of medical radiation practitioners.

Key capabilities	Enabling components
1. **Manage issues and challenges by applying critical thinking, reflective practice and evidence-based practice.**	a. Identify the issue, challenge or uncertainty and the information that is needed to respond. b. Find, appraise, analyse, interpret, and implement best available research evidence to inform clinical reasoning and professional decision-making. c. Integrate best available research evidence with other evidence sources, including clinical expertise, clinical context and patient values, in the provision of care. d. Regularly review existing practice – reflecting on professional experiences or challenges – and integrate knowledge and findings into practice. e. Identify and engage in opportunities to contribute to the development of new knowledge through research and enquiry.
2. **Identify ongoing professional learning needs and engage in professional learning and development opportunities.**	a. Comply with legal and professional responsibilities to undertake relevant continuing professional development and ongoing cultural learning. b. Critically reflect on own strengths and limitations to identify learning opportunities to improve and adapt professional practice. c. Seek input and feedback from peers, supervisors and others to confirm development areas. d. Plan and implement steps to address professional learning and development needs and proactively recognise opportunities to educate self and peers.
3. **Peer learning and development**	a. Identify learning needs and plan for effective learning and development b. Understand and apply the principles of cognitive skill development and adult learning principles in planning and delivering learning and assessment. c. Understand competence, performance and different types of assessment. d. Identify issues for learners who need support e. Understand challenges and strategies for group learning f. Understand the role and the attributes of an effective clinical educator g. Deliver effective clinical teaching and assessment aligned to learning outcomes h. Provide effective feedback and critique to encourage reflection, learning and growth

Key capabilities	Enabling components
4. **Engage in peer development and mentorship.**	a. Actively seek and engage in opportunities to mentor and support peer development b. Share knowledge, experiences and learnings with other practitioners involved in patient care to enhance health outcomes. c. Identify and support opportunities for interprofessional education d. Where relevant, participate in the teaching, learning and assessment of students, medical radiation practice assistants, and other supervised staff in the clinical setting. e. Where relevant, use appropriate development or mentoring strategies to support students, other medical radiation practitioners, medical radiation practice assistants, and other health practitioners in the clinical setting.

Domain 4: Explanatory Notes

Challenges or questions are not limited to clinical challenges or questions. Medical radiation practitioners are expected to identify and seek a solution for any challenge or question they encounter in professional practice.

Best available research evidence is credible information from valid and clinically relevant research conducted using sound methodology.

Evidence-based practice is an approach to care that integrates the best available research evidence with clinical expertise and patient values into clinical and professional-decision making practises.

Recognise opportunities to contribute to the development of new knowledge requires a practitioner to have a basic understanding of research design, methodology, analysis, review and publication steps in the research pathway.

Professional responsibilities to undertake continuing professional development include, but are not limited to, compliance with the Board's continuing professional development registration standard[19]. Professional development may be given by the professional community and the broader healthcare network/practice.

Cognitive skill development is framed around cognitive learning theories where problem-based learning is the foundational concept – i.e. attempting to solve the problem before being taught the solution. Applying cognitive learning theory to adult education typically involves active learning (hands-on simulations and problem solving), organising learning into manageable chunks, grouping related concepts, feedback and reflective self-assessment.

Peer learning and development refers to the skills and knowledge that underpin effective clinical education - teaching, learning and assessing of students, assistant practitioners or supervised practitioners. Accredited programs of study must include curriculum elements and learning outcomes that enable graduates to plan learning, support learners, deliver teaching in the clinical environment, understand and apply different models of assessment, providing assessment feedback and critique that encourages reflection and growth in the learner.

Mentoring typically involves a more experienced individual (the mentor) supporting a less experienced individual (the mentee) in their growth and development. It is a collaborative and reciprocal relationship where knowledge and experiences provide guidance and perspective.

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[19] The Medical Radiation Practice Board of Australia *Registration Standard: Continuing Professional Development* is available from www.medicalradiationpracticeboard.gov.au/Registration-Standards. Accessed 30 August 2024

Domain 5: Safety, Quality and Risk Management Practitioner

This domain covers medical radiation practitioner's responsibility to protect patients and others from harm within the healthcare environment. Medical radiation practitioners are directly responsible for managing and responding to the risks in both healthcare and medical radiation practice. This includes the radiation dose to patients. It also addresses medical radiation practitioner's responsibility for safety, quality and managing risk to deliver efficient, effective, and culturally safe, person-centred care

Key capabilities in this domain are common to all three divisions of the register of medical radiation practitioners.

Key capabilities	Enabling components
1 Perform and provide safe radiation practice.	a. Comply with relevant radiation safety legislation and practice in accordance with relevant radiation safety guidelines.
	b. Apply knowledge of radiobiology and medical radiation physics to examinations/treatments.
	c. Apply knowledge of radiobiology and radiation dose adjustment to deliver safe and effective patient outcomes.
	d. Review the referral and associated examinations/treatment prescription to ensure appropriate justification, limitation and optimisation.
	e. Identify radiation risks and implement effective and appropriate risk management systems and procedures.
2 Protect and enhance patient safety.	a. Follow patient identification procedures to confirm the correct match of the patient with the intended examination/treatment and the correct anatomical site.
	b. Review, communicate, record and manage patient information accurately, consistent with protocols, procedures, and legislative requirements for maintaining patient records.
	c. Identify and manage risks associated with patient transfer.
	d. Identify and manage risk of infection, including during aseptic procedures.
	e. Where appropriate, contribute to the improvement of policies and procedures for safe practice in the workplace and apply relevant quality frameworks to practice.
	f. Recognise and raise concerns about other health practitioners and registered students where their practice compromises patient safety and report concern where there are sufficient grounds to do so, in line with mandatory reporting requirements.
	g. Adhere to safety protocols and requirements specific to modalities within scope of practice, including the use and administration of medicines, ensuring the protection of patients and other health practitioners in line with relevant legislative requirements.
3 Implement quality assurance processes for imaging or treating patients.	a. Check and confirm that all equipment is in good order and operating within established standards and specifications.
	b. Follow protocols to record details of all routine equipment checks.
	c. Identify and take appropriate action to correct sub-optimal condition or operation of all equipment.
	d. Apply an understanding of the principles of continuous quality improvement to practice.

Key capabilities	Enabling components
	e. Apply an understanding of the principles of clinical audits, reviews and service evaluation, including quality control and quality assurance.
	f. Follow protocols to record and report non-conformance of all equipment.
4 Maintain safety of the workplace and associated environments.	a. Identify and, where appropriate, implement strategies to minimise safety hazards, ergonomic risks and other modality-specific risks in the workplace.
	b. Apply safe practice and manual handling techniques and ensure the appropriate identification, management, and maintenance of equipment to uphold a safe workplace and environment for both patients and staff.
	c. Respond to and report on all incidents, including radiation and radioactivity incidents and near misses, in a timely and appropriate manner, in accordance with protocols and procedures.
	d. Manage the environmental risks of manufactured radiation and radioactivity.
	e. Identify, confirm, and implement methods of radiation management.
	f. Use safe and appropriate methods for managing manufactured radiation sources in accordance with relevant legislation, including using appropriate personal protective clothing and equipment and complying with shielding requirements.
	g. Use safe and appropriate methods for storing and disposing of radioactive material and identify and minimise occupancy risks about proximity of radiation and radioactive storage, in accordance with relevant legislation.
	h. Provide information on radiation-related hazards and control measures to others in the workplace.

Domain 5: Explanatory Notes

Radiation safety legislation and guidelines may include state and territory or federal radiation safety legislation and guidelines, and the differences across the states and territories including, but not limited to, radiation management plans.

Radiation dose adjustments should be made based on evidence or advice received from a qualified practice expert, such as a radiation safety office.

Risk management includes an understanding of relevant quality assurance frameworks and their application to practice.

Justification involves assessing whether more good than harm results from a radiation practice.

Limitation involves setting radiation dose limits, or imposing other measures, so that the health risks to any person exposed to radiation are within an acceptable range having regard to safety, image quality and treatment effectiveness.

Optimisation involves minimising health risks to any person, with the broad objective that the degree of exposure to radiation, number of people exposed, and likelihood of exposure be kept as low as reasonably achievable, while considering economic and social factors.

Patient identification procedures must use at least three recognised patient identifiers and may include procedures for transferring patients from other health professionals. Procedures may be contained in national protocols published by the Australian Commission on Safety and Quality in Health Care (ACSQHC), relevant state and territory or federal guidance and workplace materials.

Infection control risk management includes managing transmission modes of hospital-acquired infections (host, agent and environment), preventing transmission (including effective hand hygiene) and

implementing NHMRC [Australian Guidelines for the Prevention and Control of Infection in Healthcare (2019 guidelines)](#).

Quality frameworks may include workplace specific frameworks, relevant jurisdictional publications and frameworks relevant to the context of practice, such as the *Australian Safety and Quality Framework for Health Care* published by the ACSQHC.

Equipment includes all main and accessory equipment (instruments) used to image or treat a patient.

Good order may be achieved by following cleaning and hygiene protocols, calibration/testing regimes and acceptable operating standards. Issues affecting the functioning of equipment must be fully resolved before imaging or treating patients.

Incident reporting requirements may be identified in protocols and procedures and workplace materials and may include legal requirements identified in the relevant state and territory or federal legislation and regulations, including those published by the Australian Radiation Protection and Nuclear Safety Agency.

Control measures must include time, distance and patient shielding.

Domain 6: Leader and Steward

This domain covers medical radiation practitioner's responsibility to engage in shared decision-making for the efficient, effective operation and continual improvement of the healthcare system[20]. Medical radiation practitioners engage with others to navigate and enhance complex healthcare systems and take responsibility for the delivery of high-quality patient care through their activities as clinicians, administrators, academics, and teachers.

Leadership in the context of these professional capabilities does not solely relate to individuals with formal management roles or positions within an organisation or practice setting. Rather, it applies to all medical radiation practitioners with general registration and encompasses an individual's capacity to promote effective team functioning, understand the judicious use of resources and contribute to system improvements to support a progressive, accountable and efficient healthcare system.

The capabilities within this domain have been adapted from the CanMEDS Physician Competency Framework: Leader Role[21]. Key capabilities are common to all three divisions of the register of medical radiation practitioners.

Key capabilities	Enabling components
1. **Contribute to the improvement of healthcare delivery in teams, organisations and systems.**	a. Embed the principles of patient centred care to practice and systems. b. Apply the principles of quality improvement to contribute to improving systems of patient care. c. Use and apply health informatics to improve the quality of patient care and to optimise patient safety. d. Apply the principles of interprofessional practice to support patient centred care. e. Contribute to a collective decision-making culture that promotes patient safety.
2. **Lead and support stewardship of healthcare systems.**	a. Understand and maintain awareness of the strategic goals, plans and needs of the local, state and national health systems. b. Understand, support and lead improvements in models of care, performance and culture. c. Understand and lead efforts to address the health impacts of climate change. d. Understand and lead the responsible use of health system resources to support optimal patient care. e. Collaborate with other health practitioners to facilitate change and enhance health systems and health outcomes. Enhancements should be grounded in principles of co-design with patients and communities.
3. **Display leadership in professional practice.**	a. Communicate with clarity and compassion, addressing difficult topics while maintaining relationships and self-regulation. b. Accountable for decisions, navigates conflict, sets direction, allocates resources, and delegates effectively. c. Adapt to change and navigate uncertainty with confidence.

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[20] Silva JAM, Mininel VA, Fernandes Agreli H, Peduzzi M, Harrison R, Xyrichis A. Collective leadership to improve professional practice, healthcare outcomes and staff well-being. Cochrane Database Syst Rev. 2022 Oct 10;10(10):CD013850. doi: 10.1002/14651858.CD013850.pub2. PMID: 36214207; PMCID: PMC9549469.

[21] Royal College of Physicians and Surgeons of Canada. (2015). CanMEDS 2015 Physician Competency Framework. CanMEDS Framework (royalcollege.ca)

Key capabilities	Enabling components
	d. Balance competing priorities, assesses and mitigates risks while making principled, ethical decisions under pressure.
	e. Align micro and macro perspectives, translates high-level strategy into actionable impact for teams and stakeholders.
	f. Expand influence beyond local team to drive broader organisational and system-wide impact.

Domain 6: Explanatory Notes

Stewardship of healthcare system refers to the accountability of governments for leadership of the healthcare system and their role for providing a strategic policy framework combined with effective oversight, coalition building, regulation, and attention to system-design.

At the professional practice level stewardship refers to the efforts that registered medical radiation practitioners, within their sphere of influence, can contribute to the care for the healthcare system. Stewardship at the practice level takes into consideration fairness, equity, cultural safety, sustainability and must not add further to health inequalities.

Health informatics involves the acquisition, storage, retrieval, and use of healthcare information to improve health outcomes and provide accurate and accessible data at the right time. Health informatics relies on health data and may include the use of digital health systems. (see Domain 1 Key capability 4 and 5)

Addressing the health impacts of climate change Clinical care contributes more than half of the greenhouse gas emissions produced by health systems. Medical radiation practitioners should understand and apply frameworks that are designed to embed low-emissions models of care, including actions to improve care, minimise wasteful health care and involve patients in decisions about appropriate care

See the Joint Statement: Working together to achieve sustainable high-quality health care in a changing climate

The safe, sustainable and responsible use of use heath resources. Minimising wasteful health care will not only reduce greenhouse gas emissions, but it will also contribute to improving patient care, decreasing harms from overdiagnosis and overtreatment, minimises the physical and mental health impacts of climate change, and prioritises care for people who need it the most.

Medical radiation practitioners are required to use health resources responsibly and sustainably. This includes minimising waste, optimising resource allocation, using evidence-based practices, and considering environmental, cultural safety and health equity impacts of health resource use and allocation.

Medical radiation practitioners must prioritise patient safety while reducing unnecessary examinations or treatments and promoting preventive care where possible.

See the *Statement on Low Value Care* published by the Medical Radiation Practice Board of Australia

See also the Medical Radiation Practice Board of Australia's Code of Conduct.- 6.1 Use healthcare resources wisely.

Glossary of key terms

Term	Definition
Accreditation committee	Appointed by the Medical Radiation Practice Board of Australia, the Medical Radiation Practice Accreditation Committee is responsible for implementing and administering accreditation.
Accreditation standards	Used to assess whether a program of study, and the education provider that provides the program, provides people who complete the program with the knowledge, skills and professional attributes to safely and competently practise as a medical radiation practitioner in Australia.
Cultural safety for Aboriginal and Torres Strait Islander Peoples	Cultural safety for Aboriginal and Torres Strait Islander Peoples is defined in the National Scheme's Aboriginal and Torres Strait Islander Health and Cultural Strategy as the individual and institutional knowledge, skills, attitudes, and competencies needed to deliver optimal healthcare for Aboriginal and Torres Strait Islander Peoples[22].
Apply knowledge	Indicates a practitioner is expected to apply detailed knowledge in the practice setting.
Clinically acceptable treatment plans	The International Commission on Radiation Units and Measurements sets out the requirements to develop a clinically acceptable treatment plan.
Education provider	The term used by National Law to describe universities, tertiary education institutions or other institutions or organisations that provide vocational training, or specialist medical colleges or health professional colleges.
Enabling components	Describe the essential and measurable characteristics of the corresponding key capabilities and facilitate assessment of performance in the practice setting. Medical radiation practitioners are expected to demonstrate all enabling components for all key capabilities for safe and competent practice. This includes applying, adapting and synthesising new knowledge and skills gained from experience to continually improve performance.
Examination/treatment	The terms examination/treatment are common terms used in the context of particular divisions of practice.
Impairment	The term 'impairment' has a specific meaning under the National Law in Australia. It means the person has a physical or mental impairment, disability, condition or disorder (including substance abuse or dependence) that detrimentally affects, or is likely to detrimentally affect: a) A registered health practitioner or an applicant for registration in a health profession, the person's capacity to practise the profession, or b) A student, the student's capacity to undertake clinical training— i. as part of the approved program of study in which the student is enrolled; or arranged by an education provider[23].

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[22] Ahpra & National Boards (2020). National Scheme's Aboriginal and Torres Strait Islander Health and Cultural Strategy. Australian Health Practitioner Regulation Agency - National Scheme's Aboriginal and Torres Strait Islander Health and Cultural Safety Strategy (Ahpra.gov.au)

[23] Section 5 of the of the Health Practitioner Regulation National Law Act as in force in each state and territory in Australia (the National Law).

Term	Definition
Key capabilities	Describe the key features of safe and competent practice in a range of contexts and situations of varied complexity and uncertainty. During any one examination/treatment, practitioners are expected to demonstrate key capabilities from various domains. This recognises that competent professional practice is more than a sum of each discrete part and needs an ability to draw on and integrate the breadth of capabilities to support overall performance.
Learning outcomes	The expression of the set of knowledge, skills and the application of the knowledge and skills a person has, and is able to demonstrate, as a result of learning (note: adapted from: *Australian Qualifications Framework*, January 2013).
Localisation	Techniques used to conform the radiation dose distribution to the target(s) of interest while sparing surrounding normal tissues.
Medicines	A medication in this context refers to anything administered to a patient to create or enhance a diagnostic quality image; and/or where imaging is used as part of an interventional procedure (note: taken from DIAS Practice Accreditation Standards**).** A medicine may also include**,** but is not limited to**,** contrast media.
Physical stabilisation	Techniques and methods used by medical radiation practitioners to ensure the positioning of patients is precise and reproducible.
Procedures	May refer to procedures and protocols (i.e. NSQHS Standards) or may refer to medical procedures. Procedures can also be used interchangeably with examination/treatment.
Program of study	A program of study provided by an education provider. Note the term 'course' is used by many education providers.
Radiation therapy localisation/Radiation therapy treatment planning	Radiation therapy localisation or radiation therapy treatment planning is the preparation of the patient for radiation therapy treatment and includes positioning the patient (with masks and casts where relevant), performing a clinical mark-up/skin markings and CT planning. CT planning describes the process where a patient needs to complete a CT scan for the purposes of planning a proposed radiation therapy treatment, including correct patient placement and ascertaining appropriate doses of radiation therapy to be administered[24]. MRI and PET are also used in radiation therapy localisation. Radiation therapy localisation is separate to localisation used in education which refers to the artificial representation of a real-world process to achieve educational goals via experimental learning[25].
Understand	Indicates a practitioner is expected to apply broad knowledge and understanding of information for safe practice.

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[24] Cancer Council NSW, 2017, Planning the treatment, viewed 14 November 2018 [www.cancercouncil.com.au/cancer-information/cancer-treatment/radiation-therapy/external-beam-radiation-therapy/planning-treatment].

[25] Flangan B, Nestel D, Joseph M. Making patient safety the focus: Crisis resource management in the undergraduate curriculum. Medical education. 2004;38:56–66.

Abbreviations

Abbreviation	Definition
Ai	Artificial intelligence
ACSQHC	Australian Commission on Safety and Quality in Healthcare
ARPANSA	Australian Radiation Protection and Nuclear Safety Agency
CRT	Conformal radiation therapy
CT	Computed Tomography
EMR	Electronic medical records
IMRT	Intensity-modulated radiation therapy
LGBTIQA+	Lesbian, gay, bisexual, transgender, intersex, queer/questioning, asexual
MHR	My Health Record
MRI	Magnetic resonance imaging
NHMRC	National Health and Medical Research Council
NSQHS	National Safety and Quality Health Service
PACS	Picture and Archiving Communication System
PET	Positron emission tomography
RIS	Radiology information system
ROIS	Radiation oncology information systems
SPECT	Single-photon emission computed tomography
VMAT	Volumetric-modulated arc therapy

Appendix B: Table of changes

Table of changes: Overall structure and introductory information.

This section provides a summary of, and rationale for, the key proposed changes to Section 1 of the *Professional capabilities*, as outlined in the table below.

Content	Proposed amendments	Rationale
Section entirety	Restructure of the order of information and associated sub-sections throughout Section 1	The order of information in the introduction section of the document has been restructured to enhance clarity and logical flow to ensure that the key messages can be easily understood.
Format of the medical radiation practice professional capabilities	Inclusion of Figure 1: Structure of medical radiation practice professional capabilities	In line with the existing Professional capabilities documents, this figure has been included to provide a visual representation of the structure of medical radiation practice professional capabilities, allowing the information to be more accessible and easier to digest.
	Inclusion of information relating to the CanMEDS competency framework, developed by the Royal College of Physicians and Surgeons of Canada	In line with the existing Professional capabilities documents, this information has been included to reference the structure on which the professional capabilities for medical radiation practitioners are based.
	Content update to the definition of "Understand" within the enabling components sub-section	This definition has been updated in line with feedback from the MRPBA to provide greater clarity regarding expectations for medical radiation practitioners in this context.
Professional capabilities to recognise socio-cultural factors in delivering care	Inclusion of additional sub-section: Professional capabilities to recognise socio-cultural factors in delivering care	This section has been included to highlight the broader ethical and community-oriented commitments of medical radiation practitioners in Australia and builds on the "cultural competence and culturally safe care" section included within the 2019 version of the professional capabilities.
	Content update to information regarding "cultural competence"	In line with the existing Professional capabilities documents, this information has been updated to reflect the evolving commitment of medical radiation practitioners to address the needs and diversity of the patient population.
	Content update to information regarding "cultural safety"	As above.
	Inclusion of information regarding "Intersectional approaches to care in medical radiation practice"	This information has been included to highlight the commitment of medical radiation practitioners in recognising and addressing the complex ways in which various social identities interact and impact patient outcomes.
	Inclusion of information regarding "Family, sexual and domestic violence"	This information has been included to highlight the commitment of medical radiation practitioners in supporting the recognition of, and response to, instances of family, sexual, and domestic violence in the clinical setting.
Medical radiation practice professional capabilities and accreditation of medical radiation practice education programs in Australia	Inclusion of Figure 2: Relationship between professional capabilities and accreditation standards	In line with the existing Professional capabilities documents, this figure has been included to provide visual representation of how professional capabilities and accreditation standards serve individual, yet aligned, purposes.

Content	Proposed amendments	Rationale
Concept of threshold professional capability and competence	Update to conceptual layout and associated supporting information of Figure 3: Threshold professional capability for registration	This figure has been updated based on feedback, to ensure that it accurately reflects the landscape for registration as a medical radiation practitioner in Australia, including limited registration.
Medical radiation practice professional capabilities and practice in computed tomography (CT) imaging	Inclusion of additional sub-section: Medical radiation practice professional capabilities and practice in CT.	This sub-section has been included to enhance clarity regarding the practice of CT, outlining its inclusion as a capability common to all three divisions of practice. See proposed changes to Section 2 for further detail regarding CT.
Professional capabilities for magnetic resonance imaging (MRI), ultrasound, mammographic imaging, and angiography	Inclusion of additional sub-section: Professional capabilities for MRI, ultrasound, mammographic imaging, and angiography	This sub-section has been included to enhance clarity and provide a clear delineation in the specific capabilities that may be required of some medical radiation practitioners. Ultrasound an MRI represent areas of practice that often require additional training. Mammography and angiography are important and recognised areas of practice but are not always practised in different health service (public / private) and are not always provided in different regions of Australia (metropolitan / rural and remote) Education providers can choose to include these areas in their programs of study.
	Update to information regarding use of MRI	This information has been updated in alignment with contemporary practice requirements for these modalities, reflecting the latest revisions to the professional capabilities in this context.
	Inclusion of information regarding use of mammographic imaging and angiography	As above, this information has been included based on feedback, and in alignment with contemporary practice requirements for mammography and angiography.
Identifying urgent or unexpected findings	Inclusion of information regarding identifying urgent or unexpected findings	This information has been included to reflect the commitment of medical radiation practitioners to communicate unexpected or urgent findings.
Emerging technologies, including Artificial Intelligence	Inclusion of information regarding emerging technologies, including Artificial Intelligence	This information has been included to reflect the commitment of medical radiation practitioners to both safely and responsibly implement emerging technologies to practice.

Table of Changes: Descriptions of key capabilities and enabling components

This section provides a summary of, and rationale for, the proposed changes to the key capabilities and enabling components outlined within Section 2 of the professional capabilities. This section is structured by Domain.

All Domains

The table below provides a summary of the proposed revisions that have been applied to all domains.

Content	Proposed amendments	Rationale
All domains	Supporting information for each enabling component restructured as "Explanatory Notes" to sit under each Domain as a whole.	The supporting information for all domains has been restructured to enable a more accessible and easy-to-navigate format. Under this format, additional information and specificity can be provided in the Explanatory Notes section without adding additional complexity and length to the key capability tables. This approach has been used in other contemporary National Board documents (e.g., Podiatry capabilities document).
All domains	"Patient/client" replaced with "patient"	Throughout the document, the term "patient/client" has been replaced with "patient".

Domain 1: Medical radiation practitioner

The table below (continued over the page) provides a summary of the proposed revisions to the key capabilities and enabling components in Domain 1.

Content	Proposed amendments	Rationale
Capability 1: Deliver efficient, effective, and culturally safe person-centred care	Capability moved to be the first capability under Domain 1 and updated from "Deliver patient/client care" to: "Deliver efficient, effective, and culturally safe, person-centred care"	This capability has been moved to be the first capability based on feedback regarding a need for an increased focus on the delivery of person-centred care within the document. This is also consistent with other National Board capabilities documents where the first key capability is of a similar nature. The capability title has also been updated to reflect the holistic and contemporary approach to healthcare and an increased focus on the delivery of person-centred care. This wording is also consistent with other National Boards contemporary capabilities documents.
	Additional enabling components relating to the delivery of safe and effective patient-centred care have been included. Some of these additional enabling components were previously included under Capability 5 (assess the patient's capacity to receive care)	The additional enabling components have been included to provide a greater emphasis on person-centred care as part of this capability.
	Enabling component (a) updated to reference consideration for patient "preferences" instead of patient "choices" in the context of performing examinations and treatments	This enabling component has been updated based on feedback, that "preferences" more appropriately describes the patient's capacity for shared decision-making in the context of a potentially limited range of established and available clinically indicated options for treatment or examination.
	Enabling component (e) (previously (d)) updated from "pregnant women" and breastfeeding women" to: "Pregnant patients" and "breastfeeding patients"	This language has been updated to enhance inclusivity, and to respect the diverse identities of patients.

Content	Proposed amendments	Rationale
	Enabling component (h) (previously (a)) updated to include reference to anaphylaxis and the documentation of actions taken	This enabling component has been updated based on feedback to specifically reference cases of anaphylaxis and the need to document actions taken when emergency help is required.
Capability 2: Apply knowledge of anatomy, physiology and pathology to deliver safe, high-quality examinations, treatment and screenings. (previously Capability 1)	Capability updated from "Apply knowledge of anatomy, physiology and pathology to practice" to: "Apply knowledge of anatomy, physiology, and pathology to deliver safe, high-quality examinations, treatment and screenings"	The capability title has been updated to reflect a greater connection between foundational knowledge and practical application in delivering safe and high-quality patient care. This update also reflects the language used in enabling component (b).
	Enabling component (b) updated to include reference to "screenings" alongside examinations and treatments	This enabling component has been updated based on feedback from the Medical Radiation Practice Board, that screening processes are playing a larger role in the scope of practice for medical radiation practices.
	Enabling component (c) updated to capture "frequently occurring injuries and diseases"	This enabling component has been refined based on feedback that the scope of this component should be reduced to common injuries and diseases only. This refinement is intended to support medical radiation practitioners and others to better understand their role and scope of practice within this context.
Capability 3: Appropriately and accurately record, manage, and store clinical information (previously Capability 2)	Capability updated from "Use clinical information management systems appropriately" to: "Appropriately and accurately record, manage, and store clinical information"	The capability title has been updated to more clearly articulate the capabilities and responsibilities in recording and handling clinical data, beyond the use of clinical information management systems. An additional key capability (Capability 4) relating to digital health has been proposed, which relates to the use of clinical information management systems.
	Enabling Component a) has been re-drafted to 'Understand and comply with legal and ethical responsibilities for health data privacy, use, ownership, storage, retention and destruction in healthcare'	In response to feedback at Preliminary consultation updates were made to this Key Capability and enabling components to make requirements clearer and integrate more effectively with new Key capabilities in Domain 1 for Using health data (revised Key Capability 4) and new Digital health systems.
	Enabling component (b) updated to remove reference to clinical information management systems, and to clarify reference to storing the correct "information" instead of "correct examination/treatment" b) has been further revised to improve readability and clarity	As above, this enabling component has been updated to de-emphasise the focus on the use of systems as this is now covered in a separate capability (Capability 4). In response to feedback from Preliminary consultation changes were made to make requirements simpler, clearer and to integrate with Key Capability 4 Use health data (new) and Key capability 5 (revised KC 4) Digital health systems.
	Previous enabling components (c) "ensure that stored clinical information is associated with the correct patient and examination/ treatment" and (f) "Respond appropriately to data errors and/or system failures" removed and	These enabling components have been consolidated to remove potential duplication and support a more streamlined list of enabling components.

Content	Proposed amendments	Rationale
	incorporated into enabling components (b) and (e) Enabling component c) has been further updated improve readability and clarity while maintaining intent of previous description.	In response to feedback from Preliminary consultation changes were made to make requirements simpler, clearer and to integrate with Key Capability 4 Use health data (new) and Key capability 5 (revised KC 4) Digital health systems
	Enabling component (d) updated to include reference to "apparent" data errors and/or system failures Component d) has been further updated to improve readability and clarity	This enabling component has been updated based on feedback, to reflect that errors may not have already been established prior to a medical radiation practitioner's identification. In response to feedback from Preliminary consultation changes were made to make requirements simpler, clearer and to integrate with Key Capability 4 Use health data (new) and Key capability 5 (revised KC 4) Digital health systems
	Language in enabling component (g) updated to reference "clinical information and images" and sharing information in a "timely manner" Component e) has been further updated improve readability and clarity while maintaining intent of previous description.	This enabling component has been updated based on feedback to ensure images are specifically referenced and to emphasise the importance of making information and images available to others in a timely manner. In response to feedback from Preliminary consultation changes were made to make requirements simpler, clearer and to integrate with Key Capability 4 Use health data (new) and Key capability 5 (revised KC 4) Digital health systems
Capability 4: Use health data to improve clinical decision making and support safe patient care. (new capability)	This Key capability recognises the importance of understanding and safely using health data is a foundational element of digital health systems and artificial intelligence. It also connects to requirements in Key Capability 3 The enabling components are designed around requirements described in the Australian Digital health capability framework published by the Australian Institute of Digital Health	This new capability was introduced following feedback from Preliminary consultation. Changes were made to make requirements simpler, clearer and to integrate with Key Capability Use health data (new) and Key capability 5 (revised KC 4) Digital health systems and Domain 6 Key capability 1, enabling component c. Use and apply health informatics to improve the quality of patient care and to optimise patient safety.
Capability 5: Appropriately and accurately use digital health systems, tools, and services (new capability)	Additional capability and enabling components added to specifically address skills and capabilities related to the use of digital health systems, tools and services Several additional components have been added after Preliminary consultation to reflect the risks, benefits and challenges presented by Artificial intelligence including cultural safety, health equity and health literacy	This additional capability and associated enabling component have been included to reflect contemporary practice and consistent feedback regarding the need for additional capabilities related to digital health literacy and the use of emerging technology, such as Artificial intelligence. In response to feedback from Preliminary consultation changes were made to make requirements simpler, clearer and to integrate with Key Capability 4 Use health data (new) and Key capability 5 (revised KC 4) Digital health systems
Capability 6: Understand and apply the different	Enabling component (d) "understand use of CT, MRI and PET in the localisation of a range of cancer sites, patient	This enabling component has been removed based on feedback that this information has been sufficiently captured in other capabilities within this document.

Content	Proposed amendments	Rationale
methods of imaging and treatment (previous Capability 3)	presentations and related planning procedures" removed	
	Enabling component (c) updated to include knowledge of physics, and removed reference to applying knowledge to practice "when necessary"	This enabling component has been updated based on feedback that applying an understanding of physics is integral to medical radiation practice. The term "when necessary" has been removed as the application of knowledge of physics and laboratory procedures should always be applied to practice.
Capability 7: Confirm the procedure according to clinical indicators (previous Capability 4)	Enabling components (a) and (c) updated to commence with "Where relevant..." and "Where appropriate" … respectively	This enabling component has been updated to imply that these enabling components should be complied with in circumstances where it is relevant for a person's practice.
	Enabling component (c) updated to include reference to considering "patient preferences" when adapting examinations/ treatments	This enabling component has been updated based on feedback that examinations and treatments should be tailored based on the preferences of patients in addition to clinical information.
Previous Capability 5 (Assess the patient/client's capacity to receive care)	Removed as a standalone key capability. The previous enabling components under this capability have been included under Capability 1.	This capability has been removed as a standalone capability, in alignment with the changes applied to Capability 1. The enabling components under the previous Capability 5 have been incorporated within Capability 1.
Capability 8: Enable reproducibility of procedures and outcomes. (revised from) **Implement techniques for physical stabilisation of patients and reproducibility of procedures and outcomes** (previous capability 6)	Revised to a single enabling component	Following feedback from Preliminary consultation references to 'stabilisation' were removed as they predominantly apply to radiation therapy. The use of stabilisation in diagnostic radiography and nuclear medicine practice does not require a specific capability.
	Language for enabling component (a) updated to refer to reviewing the patient's previous images, condition and presentation in considering the limitations and restrictions in the use of techniques and devices	This enabling component has been updated to ensure that the patient's previous images, condition and presentation are also considered with respect to reproducibility of procedures.
Capability 9: Apply knowledge of safe and effective use of medicines	Component a) added understanding the regulatory and legislative basis for using scheduled medicines in Australia including authorisation pathways.	A new enabling component has been added based on feedback from Preliminary consultation.
	Enabling component (e) updated to include reference to relevant national and state legislation to support delivery of medicine to patients	This enabling component has been updated based on feedback to emphasise the need for adherence with broader legislative requirements as well as relevant local procedures.
Capability 10: Perform computed	CT included under this section of Domain 1 rather than in Domains 1A, 1B and 1C.	The enabling components included under this capability were previously consistent across each sub domain/ division of practice. As such, this capability has been moved to be a "common", required capability for medical radiation practitioners

Content	Proposed amendments	Rationale
tomography imaging	Additional enabling component (g) included referring to effective patient triage	This enabling component has been included based on feedback to ensure patients are effectively triaged for CT, based on clinical presentation, national standards and other factors.
Explanatory notes	Information relating to CT for nuclear medicine technologists updated to reference "diagnostic" CT	This information has been included based on feedback that diagnostic CT imaging is performed by nuclear medicine technologists.
	Information about CT for diagnostic radiographers and assessing entry level competence	This information has been included based on feedback and clarifies the minimum requirements for meeting and assessing CT capability.
	Descriptions for 'Using health data' 'Health data' and Digital health systems' and 'Artificial intelligence'.	Based on feedback from Preliminary consultation definitions and additional information to support new key capabilities.
	Descriptions for Basic Life Support and Anaphylaxis management	Based on feedback from Preliminary consultation more detailed information and definitions have been provided.

Capabilities if MRI, ultrasound, mammographic imaging, and/or angiography are part of your practice

The table below provides a summary of the proposed revisions to the key capabilities and enabling components in Domain 1 if MRI, ultrasound, mammography and/or angiography are part of your practice.

Content	Proposed amendments	Rationale
Perform ultrasound imaging	Minor language update to enabling components (a) and (f)	The wording of this enabling component has been refined for clarity of expression.
Explain the principles of mammographic imaging within the clinical context	Re-inclusion of this capability, as per the 2013 version of the capabilities	This capability has been included in line with feedback for re-introducing mammography capabilities, as per the 2013 version of the capabilities.
	Capability title updated from "Explain the principles of mammographic imaging within the clinical context" to: "Perform mammographic imaging"	This capability title has been updated based on feedback to promote consistency with how the other modality-specific capabilities are described.
Perform angiography examinations in a range of settings	Angiography included under this section of Domain 1 rather than in Domain 1A.	Due to the challenges around access to angiography training and placements for students, angiography has been moved to this section of Domain 1 rather than as a key capability under Domain 1A.

Domain 1A: Diagnostic radiographer

The table below provides a summary of the proposed revisions to the key capabilities and enabling components in Domain 1A.

Content	Proposed amendments	Rationale
Capability 1: Perform projection radiography examinations in a range of settings	Enabling component (f) updated from anatomical "rotation" to "positioning"	This enabling component has been updated based on feedback that anatomical "positioning" is a more accurate term than "rotation" in this context.
Capability 2: Perform fluoroscopy examinations in a range of settings	Angiography removed from Domain 1A and added to Domain 1 in the same section as MRI, ultrasound, and mammography	Due to the challenges around access to angiography training and placements for students, angiography has been moved to this section of Domain 1 rather than as a key capability under Domain 1A.
	Enabling component (a) updated to include specific reference to the operating theatre setting	This enabling component has been updated based on feedback that the operating theatre should be referenced as a setting in which safe and effective fluoroscopy systems must be operated, due to the specific requirements of working safely in this setting.
Explanatory notes	Additional information included within Explanatory Notes - "Working safely and effectively in the operating theatre includes ensuring that appropriate aseptic techniques are used to maintain a sterile field"	This information has been included based on feedback that sterile fields must be maintained as part of safe and effective practice in the operating theatre setting.
	Information about "Range of settings for radiography examinations" updated to include reference to both diagnostic and screening mammography facilities	This information has been updated based on feedback that mammographic imaging in this context should refer to not only screening, but also diagnostic mammography.

Domain 1B: Nuclear medicine technologist

The table below provides a summary of the proposed revisions to the key capabilities and enabling components in Domain 1B.

Content	Proposed amendments	Rationale
Capability 1: Prepare and assess the purity of radiopharmaceuticals	Additional enabling component (b) included: "Perform the production of PET radiopharmaceuticals with appropriate manufacturing and quality control procedures"	This enabling component has been included to reflect the need to knowledge of theoretical concepts for radiopharmaceuticals and to ensure that practitioners are able to perform this process safely and effectively.
Capability 2: Perform nuclear medicine examinations and therapies	Enabling component (e) updated to include reference to "other emerging PET studies"	This enabling component has been updated based on feedback that PET studies are not limited to only planar, Single-photon emission computed tomography (SPECT/CT) and PET/CT and that new PET studies are continuing to emerge, such as PET/MRI.
Capability 4: Support the provision of theranostics as part of a multidisciplinary	A new capability for theranostics included	This capability has been included to reflect the evolving scope of nuclear medicine practice and to ensure that nuclear medicine technologists are well

Content	Proposed amendments	Rationale
team (new capability)		prepared to support delivery of theranostics as part of their practice.
Explanatory notes	Information included regarding other emerging PET studies, including reference to PET/MRI	This information has been included based on feedback that PET studies are not limited to only planar, SPECT/CT and PET/CT, and can also include emerging studies such as PET/MRI.
	Reference to use of survey meters and Geiger counters included as part of laboratory procedures	This information has been included based on feedback to provide a more comprehensive description of laboratory procedures and associated tools used in this context.
	Explanatory information regarding radiopharmaceuticals and theranostics included	This information has been included to support the provision of a more comprehensive understanding of the application of radiopharmaceuticals and theranostics by medical radiation practitioners.

Domain 1C: Radiation therapist

The table below provides a summary of the proposed revisions to the key capabilities and enabling components in Domain 1C.

Content	Proposed amendments	Rationale
Explanatory notes	Reference to theranostics and proton beam therapy included as part of treatment planning	This information has been included based on feedback to more comprehensively capture the range of imaging and treatment modalities used in this context.

Domain 2: Professional and ethical practitioner

The table below provides a summary of the proposed revisions to the key capabilities and enabling components in Domain 2.

Content	Proposed amendments	Rationale
Capability 1: Practise in an ethical and professional manner, consistent with relevant legislation and regulatory requirements	Enabling components (a) to (f) updated in line with other National Board capabilities documents	To provide greater alignment and consistency in language relating to professional and ethical practices for all registered health practitioners in the National Scheme, the enabling components under Capability 1 have been updated to be in line with other National Board capabilities documents.
Capability 2: Treat each patient with respect, dignity and care	Capability updated from "Provide each patient/client with dignity and care" to: "Treat each patient with respect, dignity, and care"	This capability title has been updated to better reflect contemporary practice and the notion that patients should be treated with dignity, rather than provided with dignity. This language is now consistent with other National Board capabilities documents.
	Additional enabling components included: "(c) Recognise and respect Aboriginal and Torres Strait Islander Peoples' ways of knowing, being and doing in the context of history, culture and diversity and affirm and protect these factors through ongoing learning in health practice" "(f) Involve patients and their families or carers in all aspects of their care and associated decision-making"	These enabling components have been included to reflect contemporary practice and to provide greater alignment and consistency with other National Board capabilities documents.
	Previous enabling component (d) removed: "Display appropriate professional behaviour in patient interactions"	This enabling component has been removed based on feedback that this information is captured as part of other capabilities and enabling components within this document.
Capability 3: Assume responsibility and take accountability for professional decisions	Capability title updated from "Take responsibility and accountability for professional decisions" to: "Assume responsibility and take accountability for professional decisions"	This capability title has been updated to be consistent with other National Board capabilities documents.
	Enabling component (b) updated to: "Make appropriate professional decisions about the care of patients and demonstrate commitment to the health and wellbeing of individual patients through professional standards of behaviour"	This enabling component has been updated based on feedback from the Medical Radiation Practice Board, that professional standards should be addressed within the capabilities themselves for this domain.

Content	Proposed amendments	Rationale
	Enabling components updated in line with other National Board capabilities documents	Enabling components within this capability have been updated to provide greater alignment and consistency in language relating to professional and ethical practices for all registered health practitioners in the National Scheme and to be in line with other National Board capabilities documents.
Capability 4: Advocate on behalf of the patient when appropriate	Additional enabling components included: "(b) Reflect on socio-cultural factors and respond to the rights and cultural needs of the patient and relevant other" "(e) Where relevant, advocate for adequate resources to achieve positive outcomes of treatment for patients"	These enabling components have been included to reflect contemporary practice and to provide greater alignment and consistency with other National Board capabilities documents.
Previous Capability 5: Seek opportunities to progress the profession	Previous Capability 5 - "Seek opportunities to progress the profession" removed. The enabling components under this capability have now been incorporated under Domain 4	This capability has been removed and the enabling components have been incorporated under Domain 4. This change was in response to feedback that these capabilities are more closely aligned with continuous learning and development and would therefore fit better under Domain 4.
Explanatory notes	Information about "appropriate behaviour" has been updated to "professional standards of behaviour"	This information has been updated based on feedback from the Medical Radiation Practice Board that high professional standards should be addressed within this domain and associated explanatory notes.

Domain 3: Communicator and collaborator

The table below provides a summary of the proposed revisions to the key capabilities and enabling components in Domain 3.

Content	Proposed amendments	Rationale
Capability 1: Communicate clearly, effectively, empathetically and appropriately with the patient and their family or carers	Capability updated from "Communicate clearly, sensitively and effectively with the patient/client and their family or carers" to: "Communicate clearly, effectively, empathetically and appropriately with the patient and their family or carers"	This capability has been updated based on feedback to ensure that medical radiation practitioners provide effective and clear communication and also engage empathetically with patients and their families or carers. This update is also in line with other National Board professional capabilities documents.
	Enabling component (a) updated from "Establish rapport with the patient/client to understand their issues and perspectives" to: "Engage in culturally appropriate, safe, empathetic, and sensitive communication that facilitates trust and the building of respectful relationships, including with Aboriginal and Torres Strait Islander Peoples and those from culturally and linguistically diverse backgrounds"	This enabling component has been updated to reflect a commitment to providing culturally safe and sensitive care and is in alignment with other National Board professional capabilities documents.

Content	Proposed amendments	Rationale
	Additional enabling component (b) included: "Listen effectively to the patient and their family or carers and respond appropriately to verbal and non-verbal communication"	This enabling component has been included based on feedback provided about the importance of listening in communication and in alignment with National Board professional capabilities documents.
	Enabling components (c) and (f) consolidated. Reference to identifying communication barriers now included within enabling component (c).	These enabling components to have been consolidated based on feedback and to improve readability.
	Enabling component (g) (previously (f)) updated from "Make appropriate adjustments to communication style to suit the particular needs of the patient/ client including Aboriginal and Torres Strait Islander Peoples and those from culturally and linguistically diverse backgrounds" to: "Recognise patients for whom English may not be a first language, including Aboriginal and Torres Strait Islander Peoples and people from culturally and linguistically diverse backgrounds, and make provisions to use qualified language interpreters, cultural interpreters, or cultural care coordinators to facilitate effective communication where needed."	This enabling component has been included based on feedback provided and in alignment with National Board professional capabilities documents.
	Enabling component (d) updated to include reference to communicating in ways that engender trust and confidence	This enabling component has been updated to emphasise best practices in patient-centred care, and to support establishment of greater trust and rapport with each patient.
	Enabling component (h) updated to include reference to continual communication to ensure ongoing consent, and ensuring informed consent is obtained after explaining the purpose, risks and benefits of the procedure	This enabling component has been updated based on feedback to acknowledge that informed consent is an ongoing process that involves continuous communication between the patient and medical radiation practitioner and the order in which a practitioner would gain informed consent.
Capability 2: Communicate and collaborate with members of the patient's healthcare team and relevant others	Capability updated from "Collaborate with other health practitioners" to: "Communicate and collaborate with members of the patient's healthcare team and relevant others"	This capability title has been updated in alignment with National Board professional capabilities documents. This update also emphasises the importance of communication and collaboration with all stakeholders involved in the patient's care, which is often not limited to other health practitioners.
	Additional enabling component (c) included: "Use verbal and written communication to share information with others in the patient's healthcare team, following accepted protocols and procedures to clarify	This enabling component has been included based on feedback and in alignment with the existing Professional capabilities. This enabling component emphasises the importance of clear and timely, verbal and written communication to enable teamwork and coordination of care between members of the patient's healthcare team.

Content	Proposed amendments	Rationale
	responsibilities and transfer information in a timely manner"	
	Enabling component (e) updated to include reference to describing any limitations when making recommendations about proposed examination/treatment	This enabling component has been updated based on feedback to ensure that limitations of examination/treatment are discussed with the patient's healthcare team as part of a comprehensive approach to clinical decision-making.
	Additional enabling component (f) added: "Effectively and appropriately use digital tools to communicate and collaborate with the patient, members of the patient's healthcare team and relevant others"	This enabling component has been included to address the growing role of technology in medical radiation practice, highlighting a need for proficiency in using digital tools to support effective communication.
Capability 3: Effectively communicate and collaborate with assistants, students, and other supervised workers (new capability)	New capability included: "Effectively communicate and collaborate with assistants, students, and other supervised workers"	This capability has been included based on feedback to specifically reference the communication and collaboration capabilities required when working with and overseeing assistants, students, and other supervised workers.
Capability 4: Examine and reflect on how one's own culture influences perceptions and interactions with others from different cultures (new capability)	New capability included: "Examine and reflect on how one's own culture influences perceptions and interactions with others from different cultures"	This capability has been included to reflect alignment with National Board professional capabilities and based on feedback to recognise how cultural biases may impact communication and collaboration with others.
Explanatory notes	Explanation of "healthcare team members" updated to "the patient's healthcare team"	This explanation has been updated to provide alignment with other National Board professional capabilities documents.
	Additional information included about "communicating and collaborating with other health practitioners"	This information has been included to provide alignment with other National Board professional capabilities documents and to provide greater detail regarding communication and collaboration in practice.
	Additional information included regarding assistant and supervised workforces	This information has been included to support the addition of Capability 3 and provide greater clarification regarding these positions.

Domain 4: Lifelong Learner

The table below provides a summary of the proposed revisions to the key capabilities and enabling components in Domain 4.

Content	Proposed amendments	Rationale
Domain title	Domain title changed from "Evidence-informed practitioner" to: "Lifelong learner"	This domain title has been updated based on feedback that the key capabilities under this domain have a stronger focus on continuous learning rather than on evidence-informed practice. This domain title is now also in alignment with other National Board professional capabilities documents.
Capability 1: Manage issues and challenges by applying critical thinking, reflective practice and evidence-based practice	Capability updated from "Resolve challenges through application of critical thinking and reflective practice" to: "Manage issues and challenges by applying critical thinking, reflective practice and evidence-based practice"	This capability title has been updated based on feedback and in alignment with National Board professional capabilities documents.
	Additional enabling component (c) included: "Integrate best available research evidence with other evidence sources including clinical expertise, clinical context and patient values in the provision of care."	This capability has been included based on feedback to highlight the importance of integrating a variety of evidence sources into practice as part of evidence-based practice.
	Minor language adjustments to enabling components (a) and (b)	These language adjustments have been made in alignment with National Board professional capabilities
	Enabling component (d) (previously (c)) refined to: "Regularly review existing practice – reflecting on professional experiences or challenges – and integrate knowledge and findings into practice"	This enabling component has been refined to emphasise the reflective practice focus of the capability and to align with other National Board professional capabilities.
	Enabling component (e) (previously (d)) refined from "recognise opportunities to contribute to the development of new knowledge through research and enquiry" to: "Identify and engage in opportunities to contribute to the development of new knowledge through research and enquiry"	This enabling component has been refined based on feedback that medical radiation practitioners should be seeking to engage in research and enquiry opportunities.
Capability 2: Identify ongoing professional learning needs and engage in professional learning and development opportunities	Capability updated from "Identify ongoing professional learning needs and opportunities" to: "Identify ongoing professional learning needs and engage in professional learning development opportunities"	This capability title has been updated based on feedback to include action-oriented language and recognise that medical radiation practitioners should be engaging in opportunities for professional learning and development.
	Minor language adjustments to enabling components (a), (b), (c) and (d)	These language adjustments have been made based on feedback and in alignment with National Board professional capabilities documents, and in line with feedback from the Medical Radiation Practice Board.

Content	Proposed amendments	Rationale
Capability 3 Peer learning and development (new capability)	New capability included: "Peer learning and development"	This capability has been included based on feedback from the Medical Radiation Practice Board and is designed to support the capability "Engage in peer learning and mentorship". It is common for registered practitioners with differing experience levels to be called upon to provide clinical education and supervision to students, assistants or supervised practitioners. This capability prepares graduates and ensures registered practitioners understanding and can apply pedagogical theories and approaches in clinical education. Expanding the capability of the workforce to support quality education and training of the medical radiation practice profession enhances the sustainability of the workforce pipeline.
	Modified component f) to refer to the role of 'clinical educator' from clinical supervisor	Based on feedback from Preliminary consultation the description of clinical educator is used to frame the role as one of education rather than supervision
	Provide information on Cognitive skill development	Based on feedback from Preliminary consultation
	Included component c) to emphasise the role that medical radiation practitioners must engage and support interprofessional education	Based on feedback from Preliminary consultation
Capability 4: Engage in peer learning and mentorship (new capability)	New capability included: "Engage in peer learning and mentorship"	This capability has been included based on feedback regarding the importance of peer learning and engaging in mentorship (both as a mentor and mentee). This replaces the capability "seek opportunities to promote the profession", which was previously included under Domain 2 and incorporates the enabling components previously included under this capability.
Explanatory notes	Additional information relating to evidence-based practice included	This information has been included in alignment with other National Board professional capabilities documents and to clarify the definition of evidence-based practice.
Explanatory notes	Professional requirements for continuing professional development included	This information has been included in alignment with other National Board professional capabilities documents and to acknowledge the Board's registration standard for continuing professional development.

Domain 5: Radiation safety, quality and risk manager

The table below provides a summary of the proposed revisions to the key capabilities and enabling components in Domain 5.

Content	Proposed amendments	Rationale
Domain introduction	Domain introduction updated to refer to ensuring safety within the healthcare environment more broadly	This information has been updated based on feedback from the Medical Radiation Practice Board, that it is important to consider safety within the broader healthcare environment in addition to radiation safety.
Domain title	Domain title changed from "Radiation safety and risk manager" to: "Safety, quality and risk management practitioner"	"Radiation" has been removed from the domain title based on feedback that safety and risk management capabilities include, but are not limited to, radiation safety. "Quality" has also been included within this domain title based on feedback from the Medical Radiation Practice

Content	Proposed amendments	Rationale
		Board that quality improvement plays a large role in supporting patient and workplace safety.
Capability 1: Perform and provide safe radiation practice	Previous enabling components (a) and (b) consolidated into one enabling component: "Comply with relevant radiation safety legislation and practice in accordance with relevant radiation safety guidelines"	These two enabling components have been consolidated to improve readability.
	Enabling component (g) removed	This enabling component has been removed and included as part of Capability 4, based on feedback to reduce duplication throughout the document.
Capability 2: Protect and enhance patient safety	Enabling component (e) updated from "apply relevant quality frameworks to practice" to: "Contribute to the improvement of policies and procedures for safe practice in the workplace and apply relevant quality frameworks to practice"	This update has been made based on feedback to emphasise the importance of medical radiation practitioners being active contributors to the development and refinement of relevant safety and quality policies and procedures.
	Additional enabling component (f) included: "Recognise and raise concerns about other health practitioners and registered students where their practice compromises patient safety and report concern where there are sufficient grounds to do so, in line with mandatory reporting requirements"	This enabling component has been included in alignment with National Board capabilities documents and reflects medical radiation practitioners' responsibilities under mandatory reporting requirements.
	Additional enabling component (g) included: "Adhere to safety protocols specific to modalities within scope of practice, including the use and administration of medicines, ensuring the protection of patients and other health practitioners in line with relevant legislative requirements"	This enabling component has been included based on feedback to emphasise consideration for safety requirements of all (in scope) modalities, including the use and administration of medicines.
Capability 3: Implement quality assurance processes for imaging or treating patients	Enabling component (c) updated to refer to "sub-optimal" condition of equipment rather than "unacceptable" condition of equipment	This enabling component has been updated based on feedback to ensure use of contemporary language throughout this document.
	Additional enabling component (d) included: "Apply an understanding of the principles of continuous improvement to practice"	This enabling component has been included based on feedback that greater emphasis should be placed on the concept of continuous improvement as part of practice.
	Additional enabling component (e) included: "Apply understanding of the principles of clinical audits, reviews and service evaluations,	This enabling component has been included in alignment with other National Board professional capabilities documents.

Content	Proposed amendments	Rationale
	including quality control and quality assurance"	
Capability 4: Maintain safety of the workplace and associated environments	Enabling component (a) updated to: "Identify and, where appropriate, implement strategies to minimise safety hazards, ergonomic risks and other modality-specific risks in the workplace"	This enabling component has been updated to ensure a more comprehensive approach to risk management by recognising the importance of ergonomic and modality-specific considerations and risks within the workplace.
	Additional enabling component (b) included: "Apply safe practice and manual handling techniques and ensure the appropriate identification, management, and maintenance of equipment to uphold a safe workplace and environment for both patients and staff"	This enabling component has been included based on feedback to emphasise the importance of using appropriate manual handling practices to prevent workplace injuries and ensure patient safety.
	Enabling component (c) updated to incorporate the previous enabling component (g) under Capability 1	This enabling component has been updated based on feedback to consolidate duplicative enabling components and to emphasise the importance of responding to and reporting near misses as part of safe workplace environments.
	Enabling components (f) and (g) have been updated to reference "appropriate methods, in line with relevant legislation", instead of "legal" methods	These enabling components have been updated based on feedback, to ensure contemporary use of language which is less prescriptive for medical radiation practitioners.
Explanatory notes	Inclusion of additional information regarding radiation dose adjustments, based on evidence or advice from a qualified expert	This information has been included based on feedback from the Medical Radiation Practice Board, that emphasis should be placed on seeking advice from qualified experts to support radiation dose adjustment.

Domain 6: Leader and steward

The table below provides a summary of the proposed inclusion of Domain 6.

Content	Proposed amendments	Rationale
Domain entirety	Inclusion of Domain 6: Medical radiation practice leader, and associated capabilities: 1. Contribute to the improvement of healthcare delivery in teams, organisations and systems 2. Lead and support stewardship of healthcare systems 3. Display leadership in professional practice	This domain has been included based on feedback from the Medical Radiation Practice Board to highlight a medical radiation practitioner's role and responsibility extends to the healthcare system, local, state and national. This includes working collaboratively to improve healthcare delivery using data-led, data informed approaches. It involves support stewardship of the healthcare systems through understanding strategic goals, supporting improvements in culture, using resources and applying principles of patient co-design to enhance health outcomes. It also describes the These key capabilities and enabling components assist medical radiation practitioners to 'see' their role and how they contribute to the betterment of the broader system of health.
	Modified and updated enabling components to improve readability and clarity	Based on feedback from Preliminary consultation.

Other proposed changes

This section provides a summary of, and rationale for, all other proposed changes not outlined in the previous sections of this document.

Content	Proposed amendments	Rationale
Glossary of key terms	Combining both the 'glossary' and 'key terms' sub-headings to form the combined 'glossary of key terms' section	The glossary and key terms sections have been combined to form a more accessible and concise section outlining definitions of key terms and words highlighted throughout the document.
Glossary of key terms	Inclusion of definition for "cultural safety for Aboriginal and Torres Strait Islander Peoples"	This definition has been included to clarify the meaning of cultural safety for Aboriginal and Torres Strait Islander Peoples in alignment with revisions made to the professional capabilities.
Abbreviations	Inclusion of abbreviations for: Artificial Intelligence (AI), My Health Record (MHR) and Lesbian, gay, bisexual, transgender, intersex, queer/questioning, asexual (LGBTIQA+)	The abbreviations for Artificial Intelligence (AI), My Health Record (MHR) and Lesbian, gay, bisexual, transgender, intersex, queer/questioning, asexual (LGBTIQA+) have been included in alignment with their inclusion within the document as part of the revision for professional capabilities.

Appendix C: National Boards Patient and Consumer Health and Safety Impact Statement

March 2025

Statement purpose

The National Boards Patient and Consumer Health and Safety Impact Statement (Statement)[26] explains the potential impacts of a proposed registration standard, code or guideline on the health and safety of the public, members of the community at risk of experiencing poorer health outcomes and Aboriginal and Torres Strait Islander Peoples.

The four key components considered in the Statement are:

1. The potential impact of the proposed revisions to the registration standard, code or guideline on the health and safety of patients and consumers particularly members of the community at risk of experiencing poorer health outcomes including approaches to mitigate any potential negative or unintended effects

2. The potential impact of the proposed revisions to the registration standard, code or guideline on the health and safety of Aboriginal and Torres Strait Islander Peoples including approaches to mitigate any potential negative or unintended effects

3. Engagement with patients and consumers particularly members of the community at risk of experiencing poorer health outcomes about the proposal

4. Engagement with Aboriginal and Torres Strait Islander Peoples about the proposal.

The National Boards Patient and Consumer Health and Safety Impact Statement aligns with the *National Scheme's Aboriginal and Torres Strait Islander Health and Cultural Safety Strategy 2020-2025* , *National Scheme engagement strategy 2020-2025* , the National Scheme Strategy 2020-25 and reflects key aspects of the Ahpra *Procedures for the development of registration standards, codes, guidelines and accreditation standards*.

Below is our initial assessment of the potential impact of a revision to the Professional capabilities for medical radiation practice (Professional capabilities) on the health and safety of patients and consumers, particularly members of the community at risk of experiencing poorer health outcomes, and Aboriginal and Torres Strait Islander Peoples. This statement will be updated after consultation feedback.

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[26] This statement has been developed by Ahpra and the National Boards in accordance with section 25(c) and 35(c) of the *Health Practitioner Regulation National Law* as in force in each state and territory (the National Law). Section 25(c) requires AHPRA to establish procedures for ensuring that the National Registration and Accreditation Scheme (the National Scheme) operates in accordance with good regulatory practice. Section 35(c) assigns the National Boards functions to develop or approve standards, codes and guidelines for the health profession including the development of registration standards for approval by the COAG Health Council and that provide guidance to health practitioners registered in the profession. Section 40 of the National Law requires National Boards to ensure that there is wide-ranging consultation during the development of a registration standard, code, or guideline.

1   How will this proposal impact on patient and consumer health and safety, particularly members of the community at risk of experiencing poorer health outcomes? Will the impact be different for members of the community at risk of experiencing poorer health outcomes compared to the general public?

The Medical Radiation Practice Board of Australia (MRPBA) has carefully considered the impact that proposed changes in the Professional capabilities could have on patient and consumer health and safety, particularly members of the community at risk of experiencing poorer health outcomes. We have balanced these considerations and put forward what we think is the best option for consideration. Members of the community at risk of experiencing poorer health outcomes include Aboriginal and Torres Strait Islander Peoples, people living in rural and remote areas, people of low socioeconomic groups and older people.

The current version of the Professional capabilities for medical radiation practice, published in 2019, was one of the first to include the National Scheme definition of cultural safety and included a requirement for registered practitioners to be culturally competent, and to provide culturally safe healthcare services. The draft updated Professional capabilities make minor changes to the current content to bring it into alignment with the definition of cultural safety and describe what health practitioners must do. The Project Working Group supporting the review and revision of Professional capabilities included Aboriginal and Torres Strait Islander members.

The MRPBA believes the proposed changes to the Professional capabilities will maintain the focus on closing the gap in healthcare outcomes for Aboriginal and Torres Straits Islander people and improve the health, safety and quality of healthcare services for all patients regardless of their cultural background. These include emphasising patient centred care, managing risks and hazards, and responding to domestic and family violence, abuse and neglect, and sexual violence in line with trauma-informed models of care.

The updates reflect the continued importance of culturally safe practice across clinical care, education, supervision and research, and the importance of integrating family and culture to provide holistic care to Aboriginal and Torres Strait Islander Peoples and communities.

Feedback from preliminary consultation has been positive and importantly has not revealed a negative impact. Specific feedback from the Aboriginal and Torres Strait Islander Health Strategy Unit suggested minor changes which have been included in the public consultation draft of Professional capabilities.

We expect that through public consultation we will gain better understanding on the possible impacts and outcomes and meet our responsibilities to protect patient safety and health care quality. It will help us to understand if the impact will be different for members of the community at risk of experiencing poorer health outcomes, when compared to the general public.

2   How will consultation engage with patients and consumers, particularly members of the community at risk of experiencing poorer health outcomes?

In line with our consultation processes the MRPBA is conducting a wide-ranging consultation. We will engage with patients and consumer representatives, peak bodies, communities, Aboriginal and Torres Strait Islander Peoples, multi-cultural organisations, intersectional communities and organisations, healthcare organisations and other relevant organisations to receive input and views from members of the community, particularly members of the community at risk of experiencing poorer health outcomes.

3   What might be the unintended impacts for patients and consumers particularly members of the community at risk of experiencing poorer health outcomes? How will these be addressed?

The MRPBA has carefully considered what the unintended impacts of the updated Professional capabilities might be. Consulting with relevant organisations and those vulnerable to harm in the community will help us to identify any other potential impacts. We will fully consider and take actions to address any potential negative effects for clients and consumers that may be raised during consultation particularly for vulnerable members of the community.

4 How will this proposal impact on Aboriginal and Torres Strait Islander Peoples? How will the impact be different for Aboriginal and Torres Strait Islander Peoples compared to non-Aboriginal and Torres Strait Islander Peoples?

The MRPBA has carefully considered any potential impact of the proposal on Aboriginal and Torres Strait Islander Peoples and how the impact compared to non-Aboriginal and Torres Strait Islander Peoples might be different in order to put forward the proposed option for feedback as outlined in the consultation paper.

The updates to the Professional capabilities have maintained and built upon practitioner obligations for culturally safe practice and reflect the importance of culturally safe practice across clinical care, education, supervision and research, and integrating family and culture to provide holistic care to Aboriginal and Torres Strait Islander Peoples and communities. The MRPBA believes these updates will continue to support the delivery of patient centred, holistic and culturally safe care by registered practitioners to Aboriginal and Torres Strait Islander Peoples and communities.

Our engagement through consultation will help us to identify any other potential impacts and meet our responsibilities to protect safety and health care quality for Aboriginal and Torres Strait Islander Peoples.

5 How will consultation about this proposal engage with Aboriginal and Torres Strait Islander Peoples?

The Board is committed to the National Scheme's [Aboriginal and Torres Strait Islander Cultural Health and Safety Strategy 2020-2025](#) which focuses on achieving patient safety for Aboriginal and Torres Islander Peoples as the norm, and the inextricably linked elements of clinical and cultural safety.

The MRPBA has developed a communication and engagement plan that will ensure direct engagement with Aboriginal and Torres Straits Islander community organisations and practitioner organisations

We are continuing to engage with Aboriginal and Torres Strait Islander organisations and stakeholders throughout this consultation process, including the National Scheme's Aboriginal and Torres Strait Islander Health Strategy Group, professional association groups connected with medical radiation practice and allied health associations more broadly that represent interests of Aboriginal and Torres Strait Islander peoples and communities.

6 What might be the unintended impacts for Aboriginal and Torres Strait Islander Peoples? How will these be addressed?

The MRPBA has carefully considered what the unintended impacts of revising the Professional capabilities might be. We will continue to engage with relevant organisations and Aboriginal and Torres Strait Islander Peoples will help us to identify any other potential impacts. We will consider and take actions to address any other potential negative impacts for Aboriginal and Torres Strait Islander Peoples that may be raised during consultation, and will address these by seeking to fully understand the concerns, checking whether other relevant community groups share these concerns, liaising with the Consumer Advisory Council and Aboriginal and Torres Strait Islander Health Strategy Unit, understanding how other professions in the National Scheme have managed similar concerns and working through options to remedy concerns in a collaborative manner.

7 How will the impact of this proposal be actively monitored and evaluated?

Part of the Board's work in keeping the public safe is ensuring that all Board standards, codes and guidelines are regularly reviewed. In developing the proposal, and in keeping with this, the Board will regularly review the capabilities and check they are working as intended. The capabilities will be reviewed periodically. This will generally occur at least very five years.

Appendix D: Statement of assessment against Ahpra's Procedures for the development of registration standards, codes and guidelines

March 2025

Proposal to update Professional capabilities for medical radiation practice.

Introduction

Section 25 of the Health Practitioner Regulation National Law as in force in each state and territory (the National Law) requires Australian Health Practitioner Regulation Agency (Ahpra) to establish procedures for the purpose of ensuring that the National Registration and Accreditation Scheme (the National Scheme) operates in accordance with good regulatory practice.

The Ahpra *Procedures for the development of registration standards, codes and guidelines* (2023) is available at on the [Ahpra Resources webpage](#)

While Professional capabilities are not a registration standard, code or guideline, the Medical Radiation Practice Board of Australia (MRPBA) has prepared this statement against the procedures as it is good regulatory practice to do so.

Context – issue or problem statement

The Medical Radiation Practice Board of Australia (MRPBA) is proposing to update the Professional capabilities for medical radiation practice (the Professional capabilities). The Professional capabilities identify the minimum knowledge, skills and professional attributes needed for safe and competent practice as a medical radiation practitioner in Australia.

The National Law established the MRPBA to begin national regulation of the profession from 1 July 2012. The Board has powers under the National Law to develop standards, codes and guidelines about the eligibility of individuals for registration in the medical radiation practice profession. The Board first published professional capabilities in November 2013. These standards were reviewed again in 2019 with the second iteration taking effect on 1 March 2020.

It is good regulatory practice to review approved professional capabilities on a planned, regular basis to test their workability, clarity, and continued relevance. The current capabilities are due for review.

Assessment

Below is the MRPBA's assessment of the proposed revisions to the Professional capabilities taking account of the Ahpra procedures.

1. Describe how the proposal
1.1 takes into account the paramount principle, objectives and guiding principles in the National Law[27]
1.2 draws on available evidence, including regulatory approaches by health practitioner regulators in countries with comparable health systems

The MRPBA's proposal takes into account the National Scheme's paramount principle of protecting the public and maintaining public confidence in the safety of services provided by health practitioners. The proposed updates to the capabilities aim to ensure that the Board will meet objectives:

- 2(c) – in facilitating the provision of high-quality education and training of health practitioners. Education providers are required to map course content to the updated capabilities. Proposed

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[27] See section 3 and section 3A of the National Law

updates to the capabilities are to ensure students are being taught contemporary material and are prepared for practice in the current healthcare system.

- 2(ca) – in building the capacity of the Australian health workforce to provide culturally safe health services to Aboriginal and Torres Strait Islander Peoples. Cultural safety has been strengthened throughout the proposed updated capabilities to improve knowledge and support the provision of culturally safe care for Aboriginal and Torres Strait Islander Peoples.

- 2(d) – in facilitating the rigorous and responsive assessment of overseas-trained health practitioners by ensuring that descriptions are clear and relevant for assessment purposes are aligned to the extent possible to international contemporary practice

- 2(e) to facilitate access to services provided by health practitioners in accordance with the public interest by ensuring that Professional capabilities reflect the contemporary health service needs of Australian communities and does not place unnecessary limitations or restrictions on practice.

- 2(f) to enable the continuous development of a flexible, responsive and sustainable Australian health workforce and to enable innovation in the education of, and service delivery by, health practitioners by ensuring the Professional capabilities reflect contemporary practice and technology arrangements of a modern Australian health system, supports a flexible workforce by increasing common capabilities for medical radiation practitioners and reducing limitations created by divisional capabilities. The updated Professional capabilities also support education providers with clear achievable statements that translate to learning outcomes.

- The proposal has considered guiding principles in the National Law. The updated Professional capabilities emphasise cultural safety and anti-racism which aligns with guiding principles 2(aa) to ensure the development of a culturally safe and respectful health workforce that is responsive to Aboriginal and Torres Strait Peoples and their health; and contribute to the elimination of racism in the provision of health services.

The MRPBA engaged KPMG to conduct a literature review of current and contemporary approaches to regulation and practice in the medical radiation practice profession both domestically, regionally and more broadly, internationally. The desktop review has drawn on available evidence to inform the proposed updates to the capabilities. This includes recently published national and international literature, comparable regulatory documents from United Kingdom (HCPC), Ireland (CORU) Canada, New Zealand (MRTB) and South Africa (HPCA) and the comparable capability models within the National Scheme and experiential evidence collected through engagement sessions with key stakeholders and the community.

> **2. Outline steps that been taken to:**
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> - achieve greater consistency within the National Scheme (for example, by adopting any available template, guidance or good practice approaches used by National Scheme bodies)
> - meet the wide-ranging consultation requirements of the National Law

The updated Professional capabilities has been informed by changes in the National Law to recognise cultural safety as an objective and guiding principle when proposing to include updated descriptions and prominence of cultural competencies. The MRPBA's work has also been informed by the recommendations of the Kruk Review and the Scope of Practice Review.

The revision of the Professional capabilities has considered capability models and comparable documents in the National Scheme with the aim of facilitating consistency, where possible, across domains, key capabilities, enabling components and explanatory notes. This is particularly relevant for capabilities that are consistent across all professions, such as professional and ethical behaviour. Greater alignment is identified in the Change Tables at Appendix B. However we note that more could be done and will progressively work towards common capability descriptions with other National Scheme stakeholders.

The National Law requires wide-ranging consultation on the proposed standards, codes, and guidelines. The MRPBA conducted preliminary consultation for 9 weeks between 4 December 2024 and 14 February 2025. Feedback from preliminary consultation has been incorporated into the proposal that is released for public consultation.

The MRPBA will now ensure that there is the opportunity for broader public comment via an nine-week public consultation. This includes publishing a consultation paper on the Board's website and informing

health practitioners and the community of the review via the Board's electronic newsletter and meetings with key stakeholders.

The MRPBA will consider the feedback received when finalising the updated Professional capabilities.

3. Address the following principles:

a. whether the proposal is the best option for achieving the proposal's stated purpose and protection of the public

As part of the scheduled review of the current Professional capabilities, the MRPBA has considered two options as outlined in the consultation paper. Option 1 is maintaining the status quo; and Option 2 is to propose revisions to be tested with stakeholders.

The MRPBA considers that option 2 – updating the Professional capabilities is the best option for ensuring the capabilities are fit for purpose, specify the minimum requirements for safe and competent medical radiation practice and reflect contemporary practice across a variety of settings. This option also provides an opportunity to incorporate research and feedback from key stakeholders, consumers and community members, including Aboriginal and Torres Strait Islander Peoples.

The alternative, maintaining the status quo and retaining the current capabilities, is not considered to be a viable option as it presents a missed opportunity to contemporise and ensure continued suitability of this regulatory document. It also increases the risk of the Board regulating with outdated capabilities which may increase the risk of unrealised capacity, capability and service delivery, reduce confidence of the public in the profession and may increase in the potential risk of harm to the public and patients.

b. whether the proposal results in an unnecessary restriction of competition among health practitioners

This proposal is not expected to unnecessarily restrict competition among health practitioners as the updated Professional capabilities (if approved) would apply to all medical radiation practitioners in the same way as the current capabilities. Additionally, the minor changes proposed to the Professional capabilities would not limit provision of health services or create restrictions for current medical radiation practitioners.

c. whether the proposal results in an unnecessary restriction of consumer choice

This proposal is not expected to result in an unnecessary restriction of consumer choice as the updated Professional capabilities will apply to all registered practitioners in the same way as the current capabilities. Additionally, the minor changes proposed to the capabilities will not limit the roles, settings or locations of practice for.

d. whether the overall costs of the proposal to members of the public and/or registrants and/or governments are reasonable in relation to the benefits to be achieved

The MRPBA has considered the potential costs associated with the proposal during the development of this consultation paper. The Board considers this proposal will have a minor impact on practitioners, employers, consumes and community members, including Aboriginal and Torres Strait Islander Peoples The proposed updates to the Professional capabilities are in keeping with professional and industry expectations and aim to ensure the capabilities are fit for purpose, specify the minimum requirements for safe and competent medical radiation practice and reflect contemporary practice across a variety of settings.

Some practitioners may some limited costs to upgrade knowledge and skills particularly as it relates to basic life support and managing anaphylaxis, however the benefit of this is expected to significantly outweigh the relatively low cost. Education providers may incur some cost in ensuring education and learning outcomes map to the updated Professional capabilities. However, this is expected to be minor given the changes to the content are minimal and build upon the current Professional capabilities in line with contemporary directions in practice. The impact of the changes is expected to be further mitigated by advance publication of the changes (if approved) before they take effect, and the MRPBA would work with

stakeholders to support a seamless transition. The MRPBA considers that benefits of updating the Professional capabilities outweigh the minimal costs and ensure education and assessments reflect contemporary practice across a variety of settings.

Feedback from preliminary consultation was consistent wit the MRPBA's assessment above however this will be further tested with stakeholders during public consultation. Feedback is being sought on whether there are any other costs or impacts arising from the updated Professional capabilities that the MRPBA needs to be aware of.

e. whether the proposal's requirements are clearly stated using 'plain language' to reduce uncertainty, enable the public to understand the requirements, and enable understanding and compliance by registrants, and

The MRPBA is committed to a plain English approach that will help practitioners, and the public understand and apply the capabilities. The MRPBA has aligned the wording of the proposed updated Professional capabilities with other professions in the National Scheme where possible and considered the language used throughout the capabilities to make them easier to understand and comply with.

f. whether the Board has procedures in place to ensure that the proposed standard remains relevant and effective over time.

The MRPBA has procedures in place to support a review of Professional capabilities at least every five years. This ensures that the profession, education providers, employers and the community have both consistency in the standards while they are in effect and confidence that the Professional capabilities will be continuously reviewed.

In addition, the MRPBA may choose to review the capabilities earlier, in response to any issues which arise, or new evidence which emerges to ensure their continued relevance and workability.

4. Closing statement

Feedback on any regulatory impacts identified during the consultation process and/or in developing the proposed revisions to the Professional capabilities will be provided to the MRPBA to inform decision-making.

The Board has completed a **patient health and safety impact statement** for consultation and will provide a patient and safety impact assessment (if the proposal is approved).