



**RAS6109**

# Improving the Quality and Safety of Diagnostic and Interventional Radiology Services to Benefit Health Care by Enhancing the Status, Knowledge and Skills of Medical Physicists

**Thematic Area:**  
Human Health

**Lead Country:**  
Australia

**Lead Country  
Coordinator:**  
Dr Ioannis Delakis

**Timeline:**  
2024- 2027

*TCF Funded*

**Natascha Spark**

RCA National Representative, Australia  
Nadi, Fiji, May 2025

Science. Ingenuity. Sustainability.

# Lead Country Coordination Team

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Chair of the Radiology Specialty Group, Australasian College of Physical Scientists and Engineers

Radiation Safety Officer, Breastscreen Queensland



**Dr Zoe Brady**

Chief Physicist (Diagnostic Imaging) and Radiation Safety Officer, Alfred Hospital

Chair of the Australasian College of Physical Scientists and Engineers in Medicine Diagnostic Imaging Certification Panel

# Expected Impact: Improvement in the quality and safety of radiation medicine through...

## Intended Outcome

Enhanced status, knowledge and skills of medical physicists in diagnostic and interventional radiology in RCA-AP GPs

## Budget

EUR 804,825

## Indicator

Number of countries taking action to recognize the role of the MPs in diagnostic and interventional radiology and to improve their knowledge and skills

**Baseline: 0**

## Target

At least 60% of the participating GPs within 2 years after project completion

## Means of verification

Project achievement report

## RCA-AP Regional Programme Framework

Priority Area 2 in Human Health Thematic Sector is medical physics

Builds on three previous RCA-AP TC projects in medical physics

## Flagship Initiative



Rays of Hope



# Recent Activity: First Regional Training Course

## Regional Workshop on the Status, Roles and Responsibilities of Medical Physicists in Diagnostic and Interventional Radiology

15-18 October 2024, Malaysia, Dr Norzaini Rose Mohd Zain, National Head of Radiology Services, Ministry of Health

Australia, Cambodia, China, India, Indonesia, Malaysia, Myanmar, Nepal, Philippines, Singapore, Sri Lanka, Thailand, Viet Nam and Papua New Guinea as observer



## Outcomes

In-depth exploration and learning of IAEA's workforce model

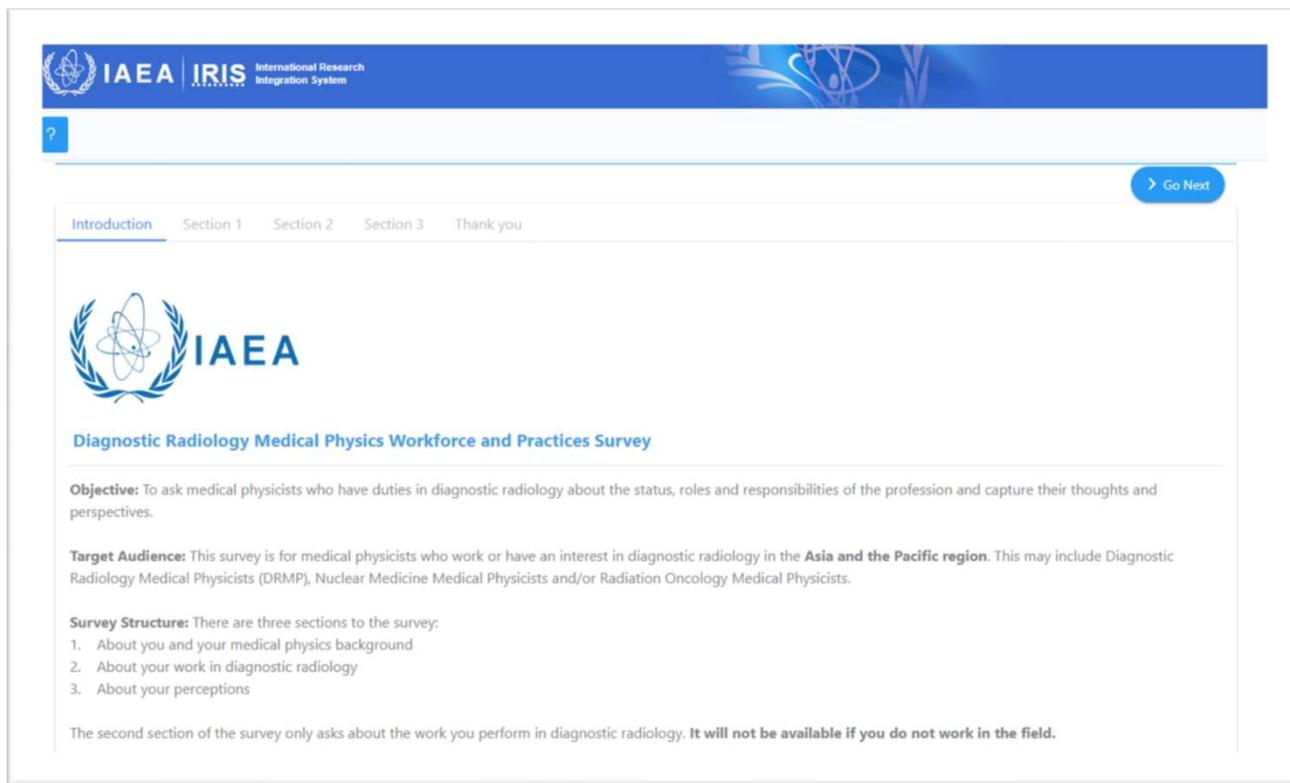
Examined workforce challenges

Regional survey designed

Regional network of health professionals

# Status of survey

- Currently reviewed by stakeholders, expecting ethics approval before end of June.



The screenshot shows the introduction page of a survey titled "Diagnostic Radiology Medical Physics Workforce and Practices Survey" conducted by the IAEA. The page features the IAEA logo and a navigation menu with links for "Introduction", "Section 1", "Section 2", "Section 3", and "Thank you". A "Go Next" button is visible in the top right corner. The main content area includes the following text:

**Objective:** To ask medical physicists who have duties in diagnostic radiology about the status, roles and responsibilities of the profession and capture their thoughts and perspectives.

**Target Audience:** This survey is for medical physicists who work or have an interest in diagnostic radiology in the **Asia and the Pacific region**. This may include Diagnostic Radiology Medical Physicists (DRMP), Nuclear Medicine Medical Physicists and/or Radiation Oncology Medical Physicists.

**Survey Structure:** There are three sections to the survey:

1. About you and your medical physics background
2. About your work in diagnostic radiology
3. About your perceptions

The second section of the survey only asks about the work you perform in diagnostic radiology. **It will not be available if you do not work in the field.**

# Expert Mission: Physicist Exams

**Assessment of knowledge, skills and competences of medical physics residents following clinical training in diagnostic radiology medical physics**

**18-19 January 2025, Thailand**

**6 diagnostic radiology medical physics residents – individual oral and practical assessments undertaken by two examiners**

**100% women candidates**

## Outcomes

**External examiner expertise provides independence to the examination process**

**Up-skilling of local participants to develop examiner capacity in the region**

**Confirmation of quality of clinical training program for diagnostic radiology physicists**



# Second Regional Training Course

## Regional Workshop on the Role of the Medical Physicist in Quality Management of Radiology Departments

27-31 January 2025, Thailand

Australia, Bangladesh, Cambodia, China, Indonesia, Malaysia, Mongolia, Nepal, Singapore, Sri Lanka, Thailand, Viet Nam and Papua New Guinea as observer

48% women participation



## Outcomes

Capacity building framework delivered for teaching medical physicists to strengthen quality management in diagnostic and interventional radiology services.

Train the trainer – participants expected to take new knowledge home and train national hospital colleagues

QUAADRIL experience from radiology and medical physics from Thailand

Feedback from experts on national approaches

# Project activities for remainder of 2025

- Webinars on the use of Artificial Intelligence in imaging
- Funding for regional physicists to attend the ICTP-IAEA advanced course in mammography
- Training course in QUAADRIL (IAEA radiology auditing tool) on 17-21 November 2025

# Scientific Outputs



## 2024

Presentation and Abstract at Asia-Oceania Congress of Medical Physics (AOCMP) and South-East Asia Congress of Medical Physics (SEACOMP), Malaysia, 10-13 October 2024

**acknowledgements** The authors would like to acknowledge the support of the International Atomic Energy Agency (IAEA) and the Australian Nuclear Science and Technology Organisation (ANSTO). 318  
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**author contributions** All authors contributed to the study conception and design, data collection and analysis. The first draft of the manuscript was written by Ioannis Delakis and all authors commented on previous versions of the manuscript. All authors read and approved the final manuscript. 321  
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SCIENTIFIC PAPER

2 Status of the medical physics profession in diagnostic radiology and image-guided interventional procedures in the Asia-Pacific region: initial findings from an IAEA project

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 7 Indah Lestariningsih<sup>13</sup>, Hideyuki Mizuno<sup>14</sup>, Kosuke Matsubara<sup>15</sup>, Keiichi Akahane<sup>16</sup>, Siti Normasitah Masduki<sup>16</sup>,  
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 9 Sanja Ipu<sup>21</sup>, Melanie Dela Fuente Marquez<sup>22</sup>, Ramon Carlo L. Cruzpero<sup>23,24,25</sup>, Soma Somanesan<sup>26,27</sup>,  
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<sup>11</sup> Received: 1 December 2024 / Accepted: 22 April 2025

<sup>12</sup> © Author(s) 2025. Published by Springer Nature on behalf of the International Atomic Energy Agency (IAEA).

## 2025

Two abstracts accepted for World Congress on Medical Physics and Biomedical Engineering, Adelaide, Australia, 29 Sep-4 Oct 2025



Currently in Publication:

*Status of the medical physics profession in diagnostic radiology and image-guided interventional procedures in the Asia-Pacific region: initial findings from an IAEA project*

# Project Effectiveness



Outputs	Performance indicator and baseline	Targets	Status
<ul style="list-style-type: none"> <li>Project Management Structure</li> </ul>	<ul style="list-style-type: none"> <li>Number of GPs that have established a project management structure</li> </ul>	<ul style="list-style-type: none"> <li>Participating GPs appoint NPCs</li> <li>NPCs prepare national work plans within three months of project commencement</li> <li>Annual progress meetings</li> <li>NPC/LCC annual reports</li> </ul>	<ul style="list-style-type: none"> <li>ON TRACK</li> <li>22 NPCs appointed</li> <li>Country reports delivered at regional workshops.</li> </ul>
<ul style="list-style-type: none"> <li>Database containing information on the current workforce and workforce requirements for diagnostic and interventional radiology medical physicists in each participating GP</li> </ul>	<ul style="list-style-type: none"> <li>Database with current and required workforce established.</li> <li>Baseline: 0, as no database at present.</li> </ul>	<ul style="list-style-type: none"> <li>Database with current workforce and workforce requirements of all participating GPs, prepared within first two years of project implementation.</li> </ul>	<ul style="list-style-type: none"> <li>ON TRACK</li> <li>Data shared at workshops in Oct 2024 and Jan 2025</li> <li>Workshops agreed on methodology for undertaking the workforce survey.</li> </ul>



# Project Effectiveness

Outputs	Performance indicator and baseline	Targets	Status
<ul style="list-style-type: none"><li>Developed action plans for meeting the identified workforce requirements</li></ul>	<ul style="list-style-type: none"><li>Action plans</li><li>Baseline: 0</li></ul>	<ul style="list-style-type: none"><li>60% of participating GPs prepare/endorse actions plans by project completion</li></ul>	<ul style="list-style-type: none"><li>ON TRACK</li><li>Commenced in regional workshops in Jan 2025, and present plans in Q1 2026</li><li>NPC annual progress reports will track performance</li></ul>
<ul style="list-style-type: none"><li>Trained medical physicists on quality management of radiological equipment and dose assessment/optimisation methodologies</li></ul>	<ul style="list-style-type: none"><li>Number of trained personnel</li><li>Baseline: 0</li></ul>	<ul style="list-style-type: none"><li>At least one person from each GP trained</li></ul>	<ul style="list-style-type: none"><li>ON TRACK</li><li>Commenced with QUAADRIL in Jan 2025 workshop</li><li>Regional training course reports and NPC reports tracking performance</li></ul>
<ul style="list-style-type: none"><li>Improved quality management practices in diagnostic and interventional radiology</li></ul>	<ul style="list-style-type: none"><li>Database with current status of implementation of agency guidance related to Quality Assurance of diagnostic and interventional radiology</li><li>Baseline: 0</li><li>Number of trained personnel</li><li>Baseline: 0</li></ul>	<ul style="list-style-type: none"><li>Database with current status of implementation of agency guidance related to Quality Assurance in diagnostic and interventional radiology of all participating GPs prepared within first three years of project implementation.</li><li>At least one person from each GP trained</li></ul>	<ul style="list-style-type: none"><li>ON TRACK</li><li>Commenced in Oct 2024 workshop</li><li>Database accessible to all stakeholders – in progress</li><li>Regional training course reports and NPC reports track performance</li></ul>

# Project Efficiency

**Two regional workshops**  
appropriate use of resources



**Very high level of engagement by LCC team for this project**

**Budget allocation**  
appropriate for project design



**LCCs leading regional workshops therefore can maintain oversight of project progress**

**NPCs have the appropriate technical background**



**Two communication stories published on this project**

**Annual report will require further training to track project performance**

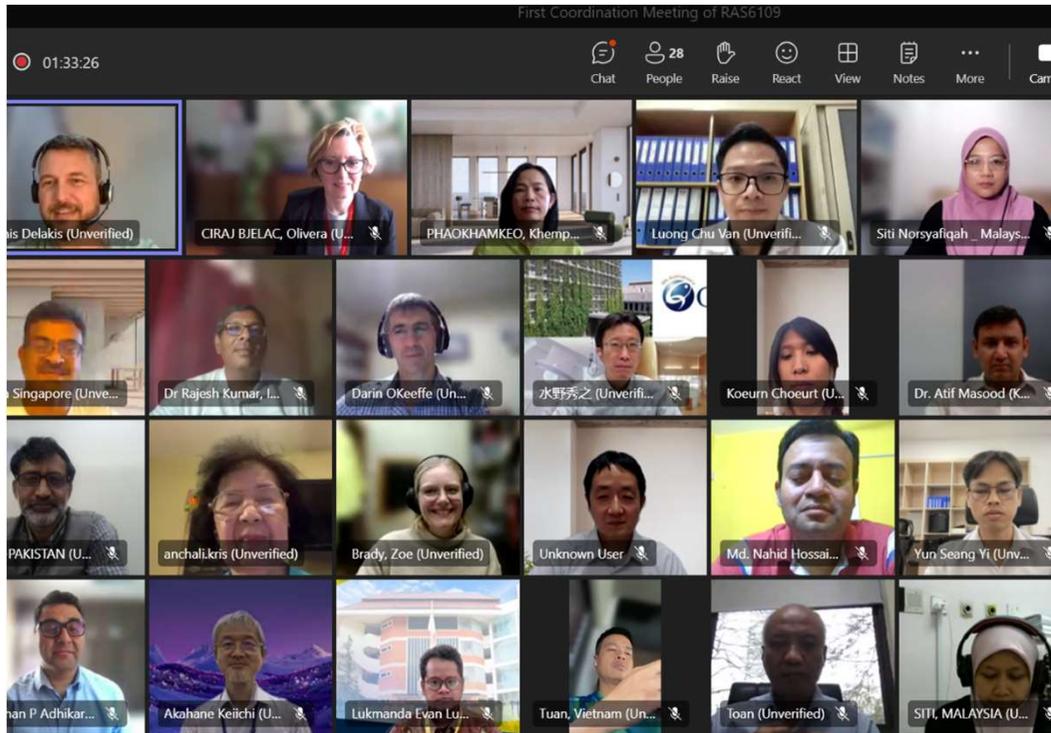


**Gender equality goals being reached**

**Regional training courses and expert missions right model for medical physics in the region**



# Recommendations



- This project is going very well and we have great support from the IAEA and ANSTO.
- Thank LLCs, NPCs, IAEA TOs, RCA FP and NRs.

# Thank you