



**RAS6108**

# Strengthening Cancer Care by Training Radiation Oncology Health Professionals in Consistent and Accurate Data Collection through Oncology Information Systems

**Thematic Area:**  
Human Health

**Lead Country:**  
Australia

**Lead Country  
Coordinator:**  
Prof Mei Ling Yap

**Timeline:**  
2024- 2028

*Australian Funded*

**Natascha Spark**

RCA National Representative, Australia  
Nadi, Fiji, May 2025

Science. Ingenuity. Sustainability.

# Lead Country Coordination Team



**A/Prof Mei Ling Yap**

**Senior Staff Specialist  
Radiation Oncologist  
Conjoint Assoc Professor**

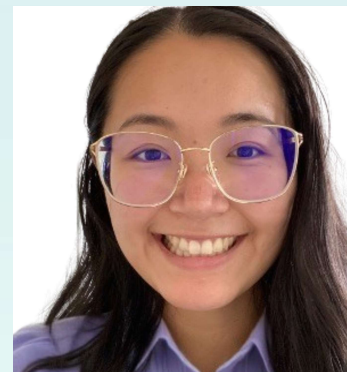
Sydney South-West Clinical School  
University of New South Wales  
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Western Sydney University



**Dr Vikneswary  
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**Senior Research Fellow  
(Cancer Program)**

The George Institute  
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University of New South Wales



**Dr Angela Liao**

**Research Assistant**

The George Institute  
Radiation Oncology SRMO  
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## Expected Impact:

# Improvement in the health and care outcomes of cancer patients through...

### Intended Outcome

By 2028, targeted hospitals and health ministries in RCA GPs apply the minimum standard of data within oncology electronic medical systems (EMS) to improve cancer care treatment.

### Indicator

Number of GPs that have incorporated a minimum dataset into Oncology Information Systems (OIS) on a national level.

**Baseline: 2**

**Budget EXB:**

**AUD 1.3m**

**EUR 769,000**

### Target

At least 6 countries have incorporated a minimum dataset into OISs on national level by Q4 2026.

### Means of verification

Final report on the status of use of EMSs  
Project Progress report of NPCs

### RCA-AP Regional Programme Framework

Priority Area 1 in Human Health Thematic Sector is strengthen cancer care management, Builds on 2 previous RCA-AP TC projects, is an Innovation.

### Flagship Initiative



Rays of Hope



**SUSTAINABLE  
DEVELOPMENT  
GOALS**



# Three phases of the project

1

## Establish Baseline

Survey to GPs to gain an understanding of the prior level of training and assess the capabilities of their current record and verify system, and current usage of their electronic medical system, in order to be able to ensure the training workshops meet the needs of GPs.

2

## Create Minimum data set

Development and then implementation of a training workshop on a minimum set for data collection.

If needed, additional training for intermediate users.

3

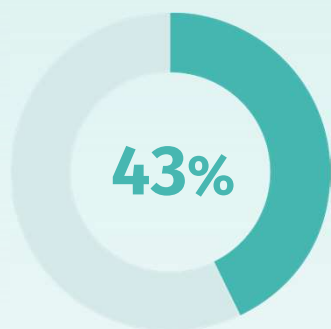
## Conduct Data analysis

Follow up training workshop regarding the extraction and analysis of data.

# First Coordination Meeting

## Virtual Meeting

22-23 May 2024



Women  
participation

Discussion on  
survey design

	Australia
	Cambodia
	India
	Indonesia
	Malaysia
	Mongolia
	New Zealand
	Pakistan
	Philippines
	Thailand
	Viet Nam

## Outcomes

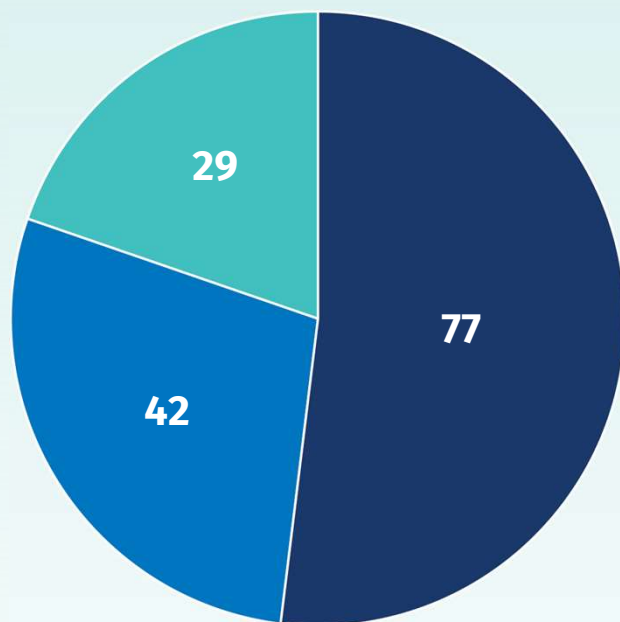
- ✓ 4-year workplan agreed
- ✓ Set up chat group for informal and regular communication
- ✓ Link to IAEA activities in radiation oncology collection explored (SUNRISE)
- ✓ New Zealand experiences on data harmonization system amongst all radiation oncology departments within NZ
- ✓ Survey design and dissemination agreed



# Survey results



## Survey Responses



Low and Middle-Income Countries (LMIC)

51.7%

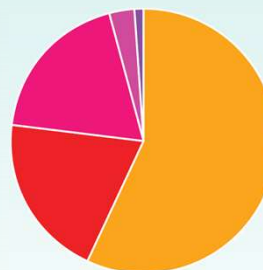
High Middle-Income Countries (HMIC)

28.2%

High-Income Countries (HIC)

19.5%

## Professions completed survey



Radiation Oncologist/Clinical Oncologist

57%

Radiation Therapy Technologist/Radiation Therapist

20%

Medical Physicist

19%

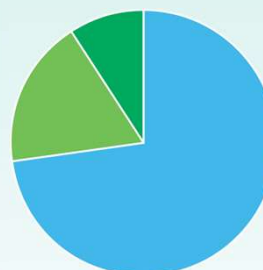
Oncology Information System Administrator

3%

Information Technology

1%

## Employment institution types



Part of a hospital

73%

Standalone cancer centres

18%

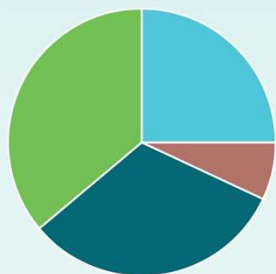
Network of centres

9%

# Overview of administrative data recording methods

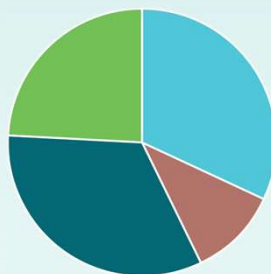


## Low and Middle-Income Countries (LMIC)



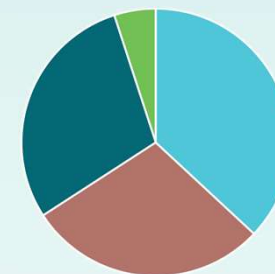
OIS structured field	25%
OIS free text	7%
Other medical electronic record system	32%
Paper record	36%

## High Middle-Income Countries (HMIC)



OIS structured field	32%
OIS free text	11%
Other medical electronic record system	33%
Paper record	24%

## High Income Countries (HIC)



OIS structured field	37%
OIS free text	29%
Other medical electronic record system	29%
Paper record	5%

# Project Effectiveness



Outputs	Performance indicator and baseline	Targets	Status
<b>1. Project Management Structure</b>	<ul style="list-style-type: none"><li>List of GP project teams and expert pool with gender balance in the project.</li></ul>	<ul style="list-style-type: none"><li>GPs establish NPCs</li><li>Software</li><li>Export pool operational by Q1 2024</li><li>NPCs participate in first coordination meeting</li><li>NPCs establish National Project Teams</li><li>50% women participation</li></ul>	<ul style="list-style-type: none"><li><b>ON TRACK</b></li><li>18 NPCs appointed, JPN and ROK not appointed an NPC</li><li>Training to be provided on monitoring and evaluation to inform annual reporting</li><li>First coordination meeting complete</li></ul>
<b>2. Minimum standard for radiation oncology dataset for participating RCA GPs established (based on the assessment on the status of the current use of EMSs).</b>	<ul style="list-style-type: none"><li>Document outlining a minimum dataset for radiotherapy, formulated by expert consultation.</li><li>Baseline: 0, as no documented standard dataset.</li></ul>	<ul style="list-style-type: none"><li>A minimum dataset document, developed by Q1 2025</li></ul>	<ul style="list-style-type: none"><li><b>IN PROGRESS</b></li><li>First survey to establish current use of EMS complete.</li><li>Second survey to establish minimum data set to be undertaken in May/June 2025, and then refine at workshop in August 2024.</li></ul>



# Project Effectiveness



Outputs	Performance indicator and baseline	Targets	Status
<b>3. Radiotherapy professionals in RCA GPs trained in the collection of data in the OIS for quality treatment.</b>	<ul style="list-style-type: none"><li>Number of trained radiotherapy professionals participating in the project who are able to use the OIS to collect and apply data.</li><li>Baseline: 0</li></ul>	<ul style="list-style-type: none"><li>A minimum of 18 trained professionals across the region by Q4 2028.</li></ul>	<ul style="list-style-type: none"><li>Due to commence in August 2025 workshop in Sydney Australia.</li></ul>
<b>4. Health professionals within RCA GPs incorporated the use of OIS for data collection into their clinical practice in managing cancer patients.</b>	<ul style="list-style-type: none"><li>% of participating RCA GPs with operational OIS for data collection.</li><li>Baseline: 5-10%</li></ul>	<ul style="list-style-type: none"><li>At least 30% of RCA participating GPs have departments using their OIS for minimum dataset data collection and use in management of patients by Q4 2028.</li></ul>	<ul style="list-style-type: none"><li>NPC annual reports will track against this output in gradual way.</li></ul>

# Project Effectiveness



**Virtual first coordination meeting**  
appropriate use of resources

**Budget allocation increased from the Australian Government**

**NPCs have the appropriate technical background**  
and create multi-disciplinary teams

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

**Regional training courses and expert missions**  
right model

**Contractual arrangements with IAEA Secretariat,**  
delayed project commencement

**Requires dedicated project manager**

**Dedicated GPs needed to form small working group**  
to refine minimum dataset

**General expectation that LCC team does excessive amount of 'in-kind' work**

**Inflexibility of what budget can be spent on,**  
requiring additional resources

# Project Risk Factors

## Risk

**1. Funding: lack of funding and technical support from IAEA.**

## Mitigating Action

TO/ GPs to decide on which activities to run and associated deliverables to be removed, and additional extrabudgetary funds secured to reach level of funding required.

**2. Delay in project team creation and completion of survey.**

Early meeting between project representatives, frequent communication between LCC, NPC, NPTs and any institutional issues preventing survey completion to be resolved.

**3. Inadequate internet bandwidth available at LMIC radiotherapy centres to support the integration of data collection.**

Development of methods for data collection requiring low bandwidth.

**4. Language barriers impairing communication during meetings.**

Powerpoint slides to summarise clinical information during teaching presentations, use of chat text functionality, and showing the faces of speakers during discussions.

**5. Lack of basic resources (knowledge or technology) on the part of clinicians to implement data collection initiatives.**

LLC team acknowledge resource restrictions and attempt to implement resource appropriate strategies.

# Project Risk Factors

Risk	Mitigating Action
<b>6. Lack of participation from GPs in project plan, including GPs not completing surveys (and therefore not able to establish baseline OIS date for GPs not completing survey).</b>	Appropriate education of GPs on value and rewards for the initiative. NRs follow up with NPCs to encourage completion of surveys.
<b>7. IAEA and regional host institutions will not continue supporting it beyond the completion of the project.</b>	Locating project lead in offices of an established regional host institution for which marginal costs will not be burdensome; minimising operational costs so that financial barriers will not prevent the institution's ability to administer data collection in the long term; and exploring cheaper alternatives.
<b>8. NPC team adopts the learnings but fails to get traction nationally with centres.</b>	Support from national societies to integrate as part of training curricula (and this ties in with another previous RCA project on national societies).
<b>9. Learnings not adopted because there is no perceived reward for doing so.</b>	Teach the higher-level benefits of data collection, which can include improvement of efficiencies in quality and potentially patient throughput and increased investment in radiation therapy.

# Recommendations

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- Note that it will be important to get input from all GPs on what to be included in minimum data set.
  - Small working group of interested NPCs is created to focus on drafting the minimum data set.
  - ‘Champion’ of project within GPs would be beneficial to showcase success.
- Project plan to be updated to reflect the additional extra-budgetary contributions from Australia of AUD700,000.
  - NRs to encourage NPCs to implement the minimum data set (when established) across radiotherapy centres in their countries.
  - Thank the LCC, NPCs, NPTs, NRs, RCA-FP, IAEA TO and ANSTO for their tremendous contributions.

# Thank you

