

International Atomic Energy Agency Scientific Forum

# A Decade of Action on **Cancer Control** and the Way Forward

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**IAEA**

International Atomic Energy Agency  
*Atoms for Peace and Development*

**17–18 September 2019**

Vienna International Centre

Board Room D, C Building, 4th Floor

## The Experience of the Republic of Korea in Working With the IAEA to Fight Cancer in Developing Countries

Mi-Sook Kim, MD, PhD

**President, KIRAMS**

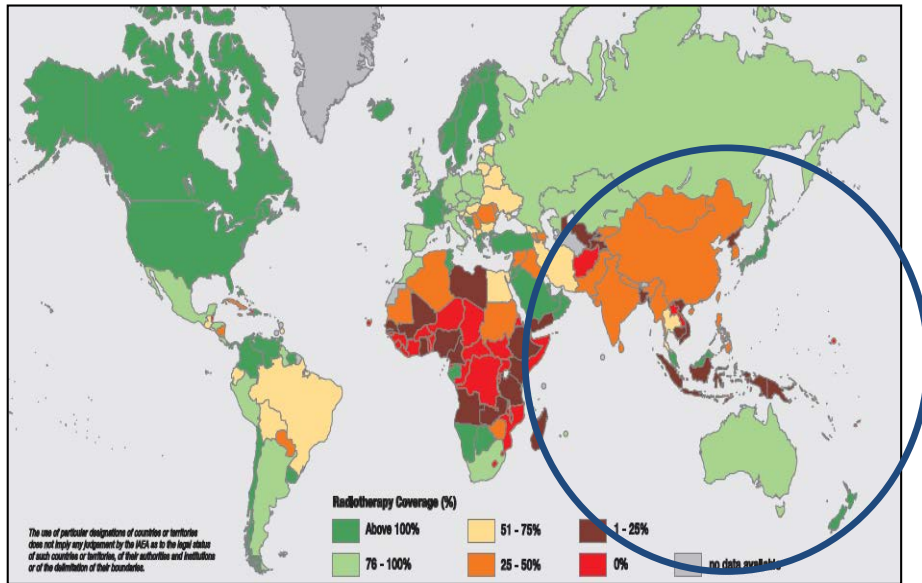


**KOREA INSTITUTE OF  
RADIOLOGICAL & MEDICAL SCIENCES**



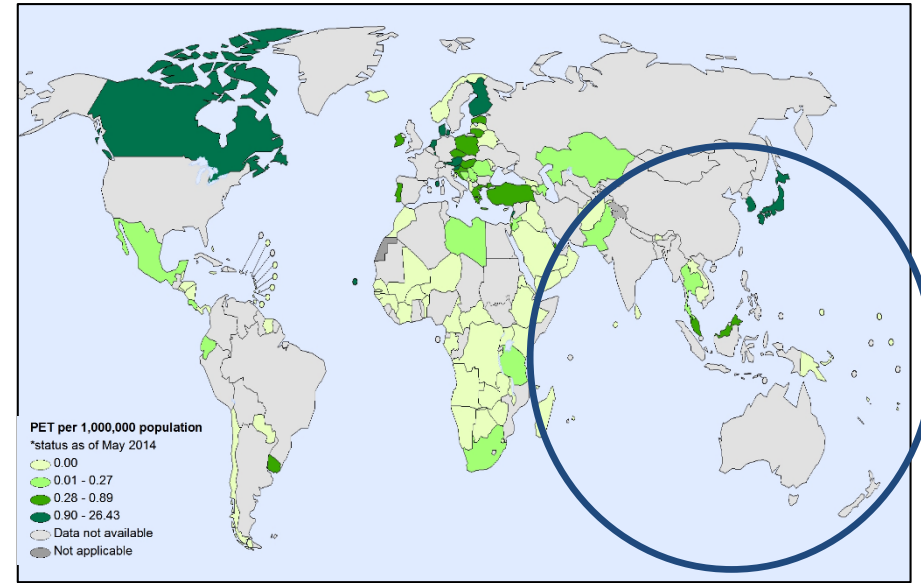
# Inequity in Access to Cancer Care

## Radiotherapy Coverage

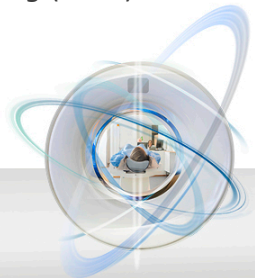


Source: IAEA PACT, *Cancer by the Numbers* (2017)

## Positron Emission Tomography (PET) Units



Source: WHO, *Global Maps for Diagnostic Imaging* (2014)



# Financing Partners in Fighting Cancer



*Ms. Lisa Stevens  
Director of PACT*

*Ms. Mi-Ok Moon  
The 1<sup>st</sup> Vice Minister,  
MSIT, ROK*

*Mr. Cornel Feruta  
Acting Director  
General of IAEA*



***Ms. Mi-Sook Kim  
President of  
KIRAMS***

*Ms. Lisa Stevens  
Director of PACT*

- Republic of Korea has donated EUR 665,000 to PACT since 2007.
  - Government : ~ USD 30,000 / year (since 2011)
  - Public donation through Korea Nuclear International Cooperation Foundation (KONICOF): ~ USD 20,000 / year (since 2007)
  - KIRAMS support IAEA and PACT's program in Asian-pacific area





# Partnerships Supported by Korean Government

## KIRAMS

Research Institute  
of Radiological &  
Medical Sciences

National Radiolotope  
Center

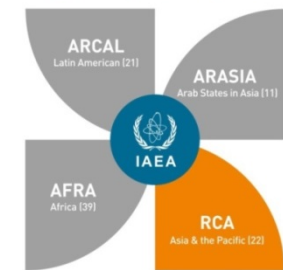
Korea Cancer  
Center Hospital

National Radiation  
Emergency Medical Center

1963 Launched as Radiation Medicine Research Institute  
1986 First Cyclotron in Korea  
2002 First CyberKnife in Korea  
2003 First PET/CT in Korea  
2007 Reorganized as Korea Institute of Radiological &  
Medical Sciences

## RCA Regional Office

4 Regional Cooperative Agreements



## ODA



Economic Development  
Cooperation Fund



KOFIH  
Korea Foundation for International Health  
한국국제보건의료재단

KOICA  
Korea International  
Cooperation Agency

Korea Eximbank

# Regional Projects Led by KIRAMS

- Member States of Asia & the Pacific



- IAEA/RCA Regional Projects

|                         |   |
|-------------------------|---|
| RAS 6065<br>(2012-2015) | Application of Stereotactic<br>Body Radiation Therapy<br>(SBRT) |
| RAS 6076<br>(2014-2016) | CT cancer staging process                                       |
| RAS 6085<br>(2016-2019) | SBRT for frequent cancers                                       |
| RAS 6093<br>(2019-2022) | Imaging modalities in<br>radiology & nuclear medicine           |

|                           |              |
|---------------------------|--------------|
| Regional Training Courses | 309 Trainees |
|---------------------------|--------------|

|                 |             |
|-----------------|-------------|
| Expert Missions | 14 Missions |
|-----------------|-------------|



# Capacity Building Through Training

- Regional Training Courses & Fellowship Training



- 7 Regional Training Hubs



- SBRT Interest Group





# Feedback from Trainees and Trainers for Sustainable Future

## Background technical level differences

- Small group training
- Personalized on-the-job training system

## Multinational group of trainees

- Developed into a regional network

## Need-oriented training topics

- Enhance motivations of individuals and project outcome



# Major Achievements of the Projects

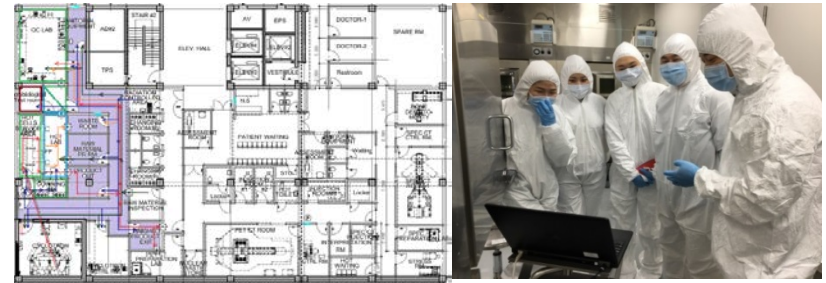
## Sri Lanka – National Cancer Institute of Maharagama

- First Implementation of Stereotactic Body Radiotherapy



## Mongolia – National Diagnosis & Treatment Center

- First establishment of the Nuclear Medicine Department



| Depart.                       | SOP Works          |                  |                                    |
|-------------------------------|--------------------|------------------|------------------------------------|
|                               | Instruments        | Model            | Use                                |
| Production team               | Medical cyclotron  | Minutracer       | RI production                      |
|                               | FDG synthesizer    | FASTlab 2        | FDG synthesis                      |
|                               | Hot-cell           | BBS2             | Radiation shield for FDG module    |
|                               | Hot-cell           | BBS1             | Radiation shield for FDG dispenser |
|                               | Dispenser          | Timotheo L1      | Dispensing and package of FDG      |
| Nuclear medicine imaging team | PET scanner        | Discovery IQ-3   | PET imaging                        |
| Quality control team          | Visual test        | not inst         | Main quality control               |
|                               | RadioTLC           | not confirm      | Analysis of radiochemical purity   |
|                               | Gas chromatography | SCION 400 series | Analysis of organic solvents       |
|                               | Sterility test     | not inst         | Sterility evaluation of sample     |
|                               | Dose calibrator    | CRC-25 PET       | Calibration                        |



# Thank you!



과학기술정보통신부

Ministry of Science and ICT



**IAEA**

International Atomic Energy Agency



**KOREA NUCLEAR INTERNATIONAL  
COOPERATION FOUNDATION**



**R C A**

**FNCA**

Forum for Nuclear Cooperation in Asia



외교부

Ministry of Foreign Affairs



**ASSOCIATION  
OF SOUTHEAST  
ASIAN NATIONS**

**KOICA**

Korea International  
Cooperation Agency



**KOFIH**

Korea Foundation for International Healthcare  
한국국제보건의료재단



**Economic Development  
Cooperation Fund**

**K** Korea Eximbank

