



World Health  
Organization

# International Day of Radiology and World Radiography Day

## 8th November 2013

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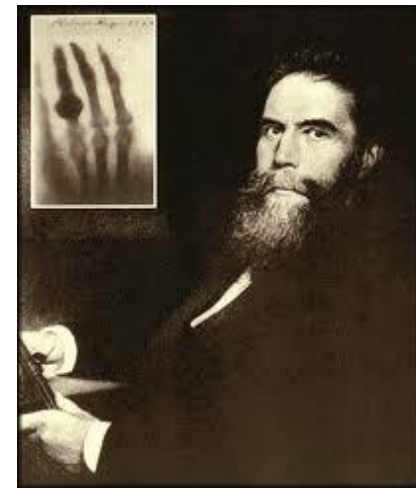
*(2) Public Health and Environment Department*

*(3) Diagnostic Radiologist*

*International Day of Radiology and World Radiography Day - 8th November 2013*

# Today is 118<sup>th</sup> Anniversary of Discovery of X-rays

- 8<sup>th</sup> November 1895 Wilhelm Conrad Röntgen passed electrical current through a vacuum.
- He observed fluorescence and dubbed the previously unknown rays "**X-rays**".
- This achievement earned him the first *Nobel Prize in Physics* in 1901



# WHO's Global Initiative



## ACTIONS ON



**Diagnostic  
radiology**



**Interventional  
radiology**



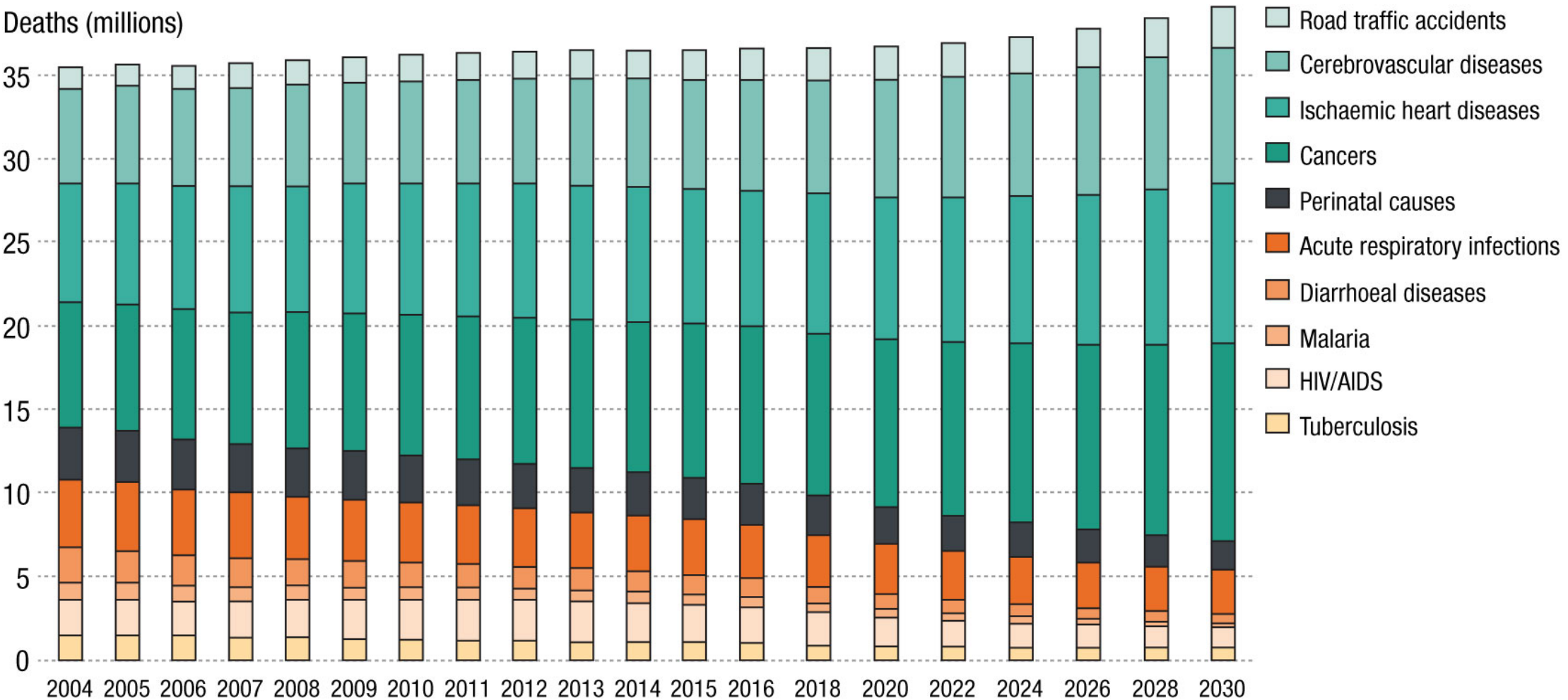
**Radiotherapy**



**Nuclear Medicine**

***Focusing on **Public Health** aspects related to the risks and benefits of the use of radiation in health care***

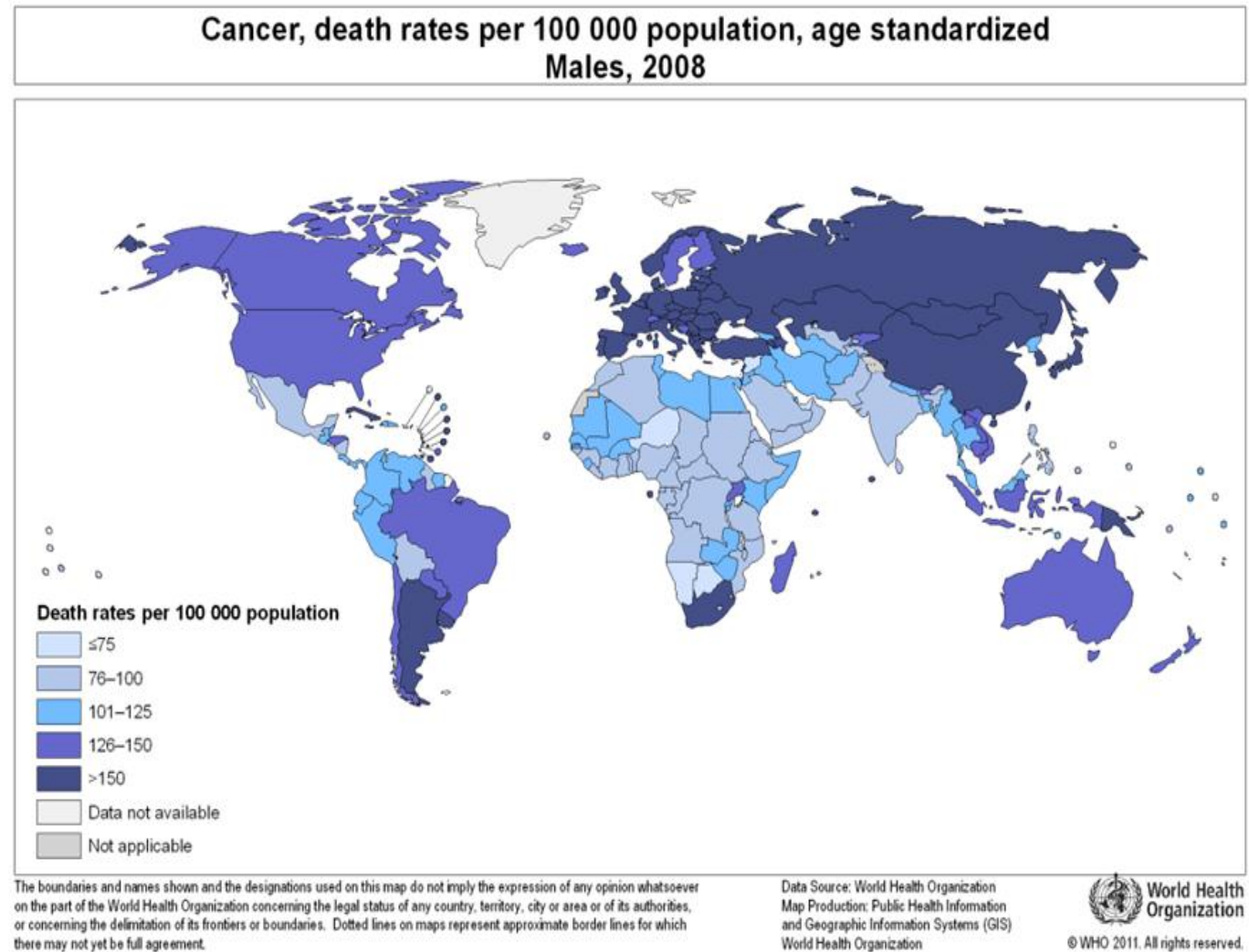
# Epidemiological Changes towards increased Non Communicable Diseases





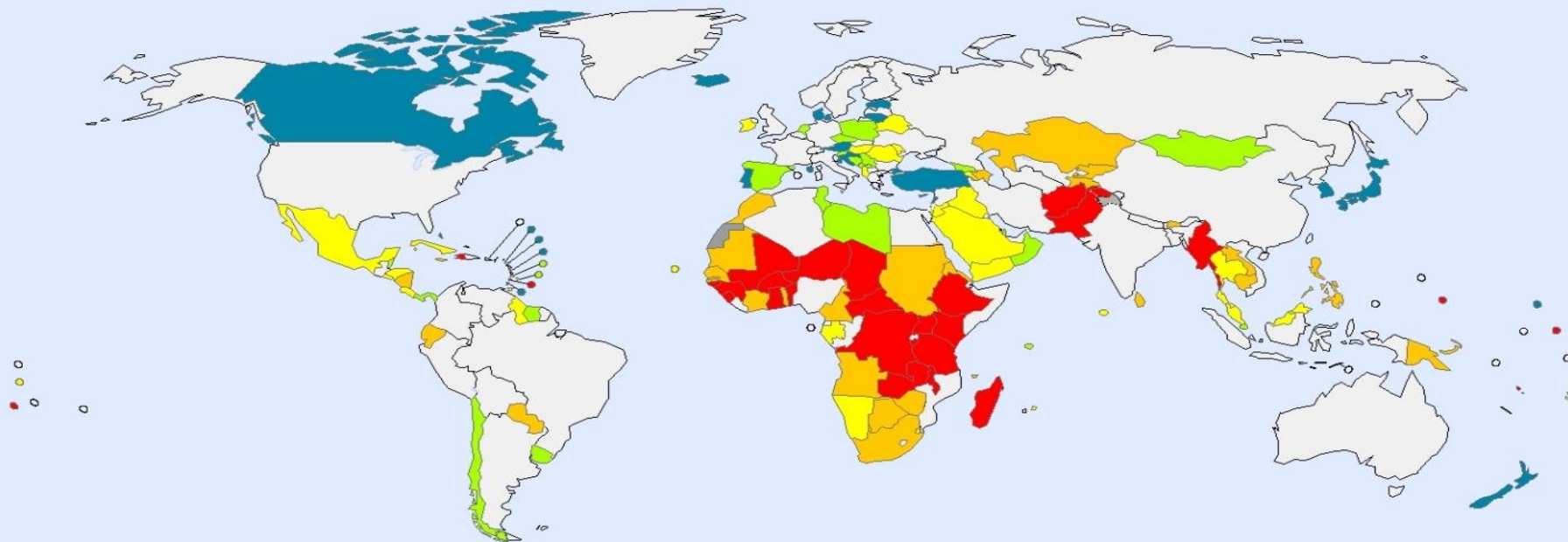
# Non communicable diseases

- Diabetes
- Cancer
- Chronic Obstructive Pulmonary Disease



# Computed Tomography

Density of Computed Tomography (CT) per million population



Computed Tomography density per million population

- 0.0 - 0.35
- 0.36 - 1.73
- 1.74 - 6.72
- 6.73 - 14.10
- 14.11 - 141.22
- Data not available
- Not applicable

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Data Source: Baseline country survey on medical devices 2010-2012  
Map Production: Medical Devices WHO team (DIM)  
World Health Organization

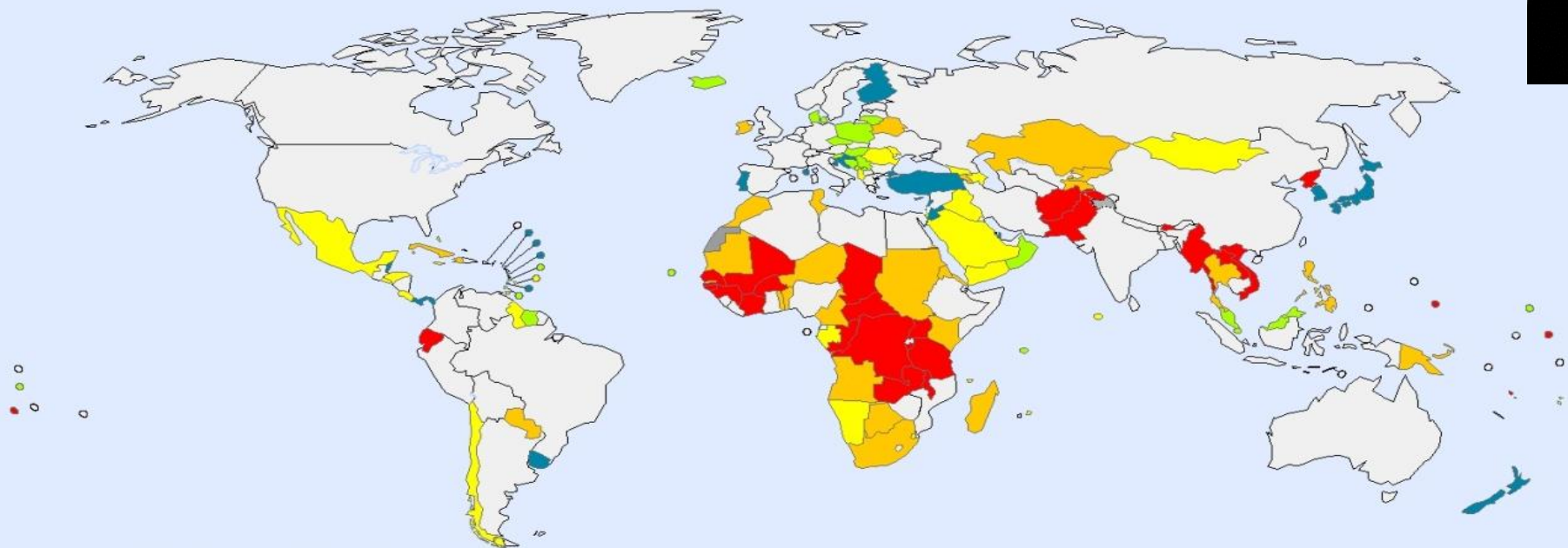
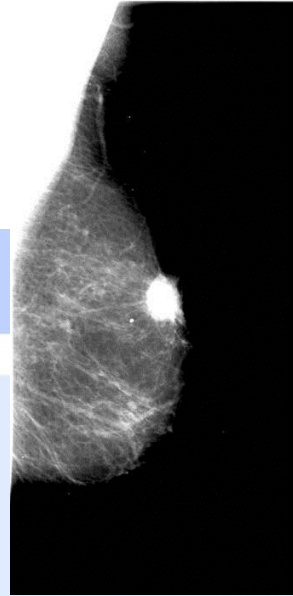


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# Mammography, still many women are not diagnosed timely

Density of Mammographs units per million females between 50 and 69 years old.



Mammographs density per million females (50 to 69 years old)

- 0.00 - 6.53
- 6.54 - 30.82
- 30.83 - 87.91
- 87.92 - 164.69
- 164.70 - 651.65
- Data not available
- Not applicable

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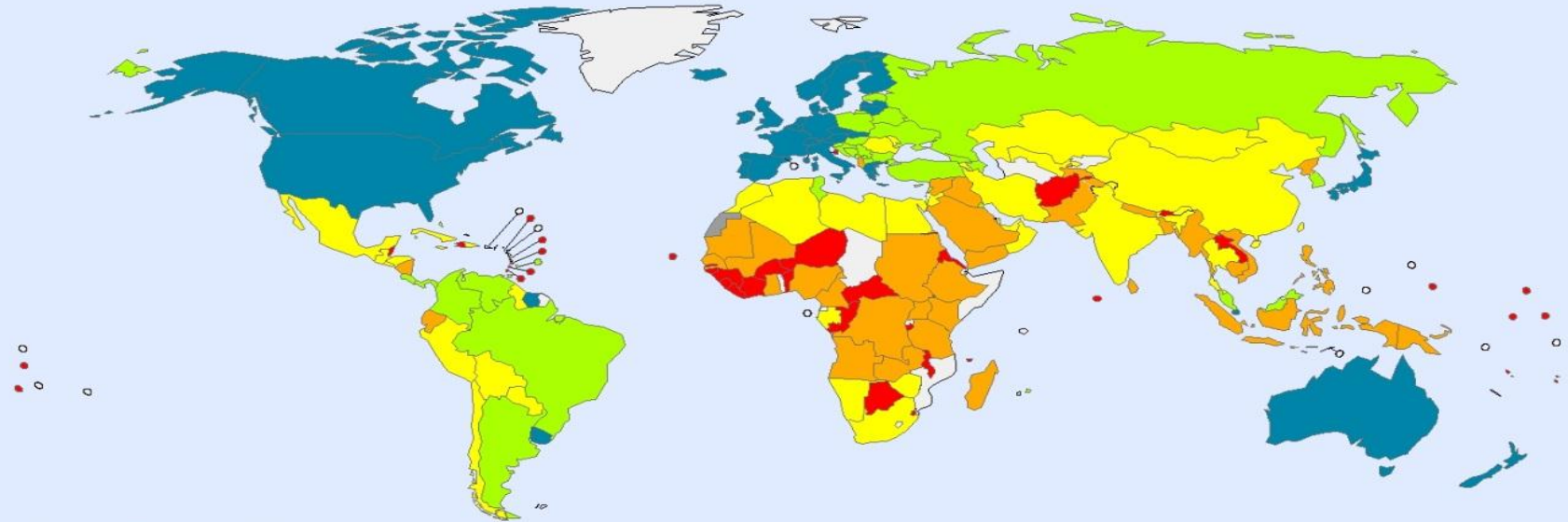


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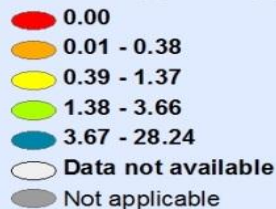


# Radiation therapy for cancer: linear accelerators and cobalt units

Radiotherapy units per million population



Radiotherapy density per million population



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# Medical imaging are medical devices that

- have a huge potential to improve health status of people
- have a huge potential to support people with disabilities
- Are medical devices
  - Safe? Quality?
  - Available?
  - Accessible?
  - Appropriate?
  - Affordable?



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# Challenges after 118 years:

- Advances in medical technology since then, have been unforeseen!
- But even if the technology is available in the high income countries:
  - Is not responding to the needs of all population
  - Is not affordable by all those who need it
  - Is not used safely by all health workers
  - It is not maintained due to lack of budget
  - Still many persons are not early diagnosed!



# WHO is working with ISR and ISRRT

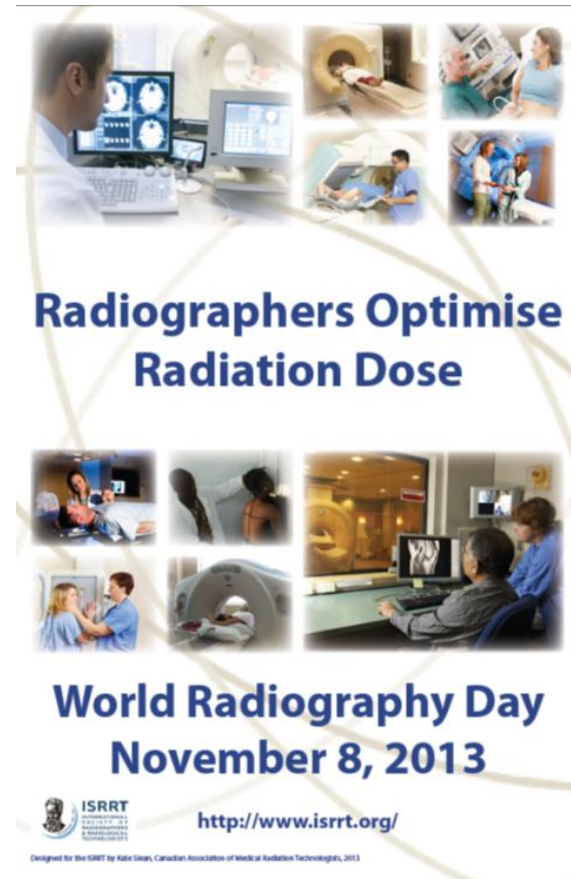
The International Society of Radiology (ISR)  
and  
The International Society of Radiographers  
and Radiation Technologists (ISRRT)  
are NGOs in official relations to WHO.



INTERNATIONAL  
DAY OF  
RADIOLOGY

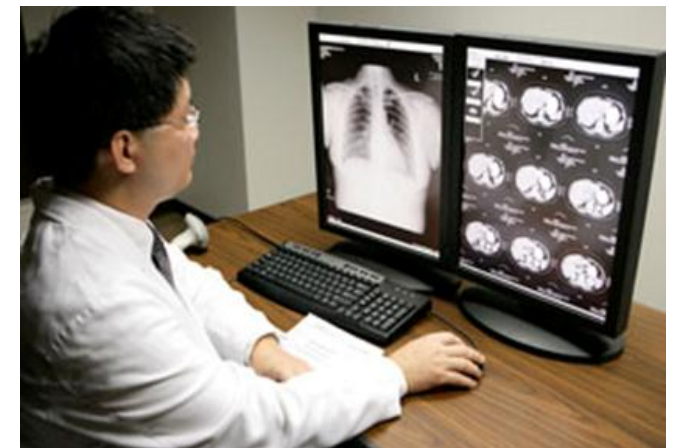
AN INITIATIVE OF THE ESR, ACR AND RSNA

Supported by the ISR



# International Day of Radiology

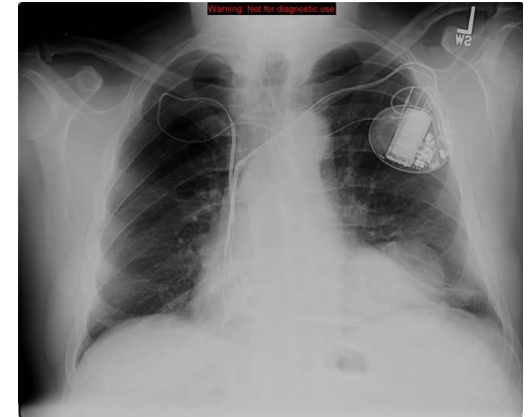
- *Lung imaging* is the main theme of the International Day of Radiology 2013.





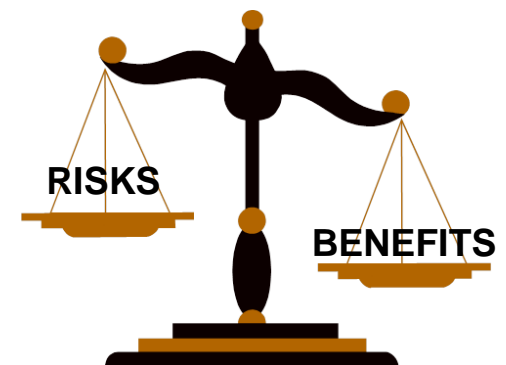
# Efficient use of resources

## Need to allocate resources in rational way



# WHO and Safety of Imaging Technology

- Radiation for diagnosis and treatment for human diseases has expanded worldwide.
- Modern health technology makes new applications safer.
- However, inappropriate use can lead to unnecessary or unintended radiation exposures and associated health risks for patients and staff.



# The use of radiation in health care is by far the largest contributor to the exposure of the general population from artificial sources

*Annually worldwide*



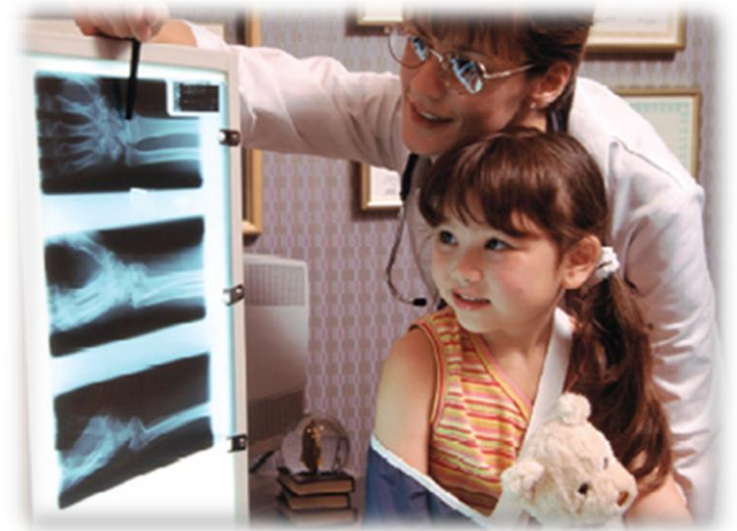
*3,600 million X-ray exams  
(> 300 million in children)*

*37 million nuclear  
medicine procedures*

*7.5 million radiation  
oncology treatments*

# World Radiography Day

- Optimization of *protection* is the main theme of the 2013 World Radiography Day.





# Medical equipment and trained health professionals

Regulations

Good needs assessment

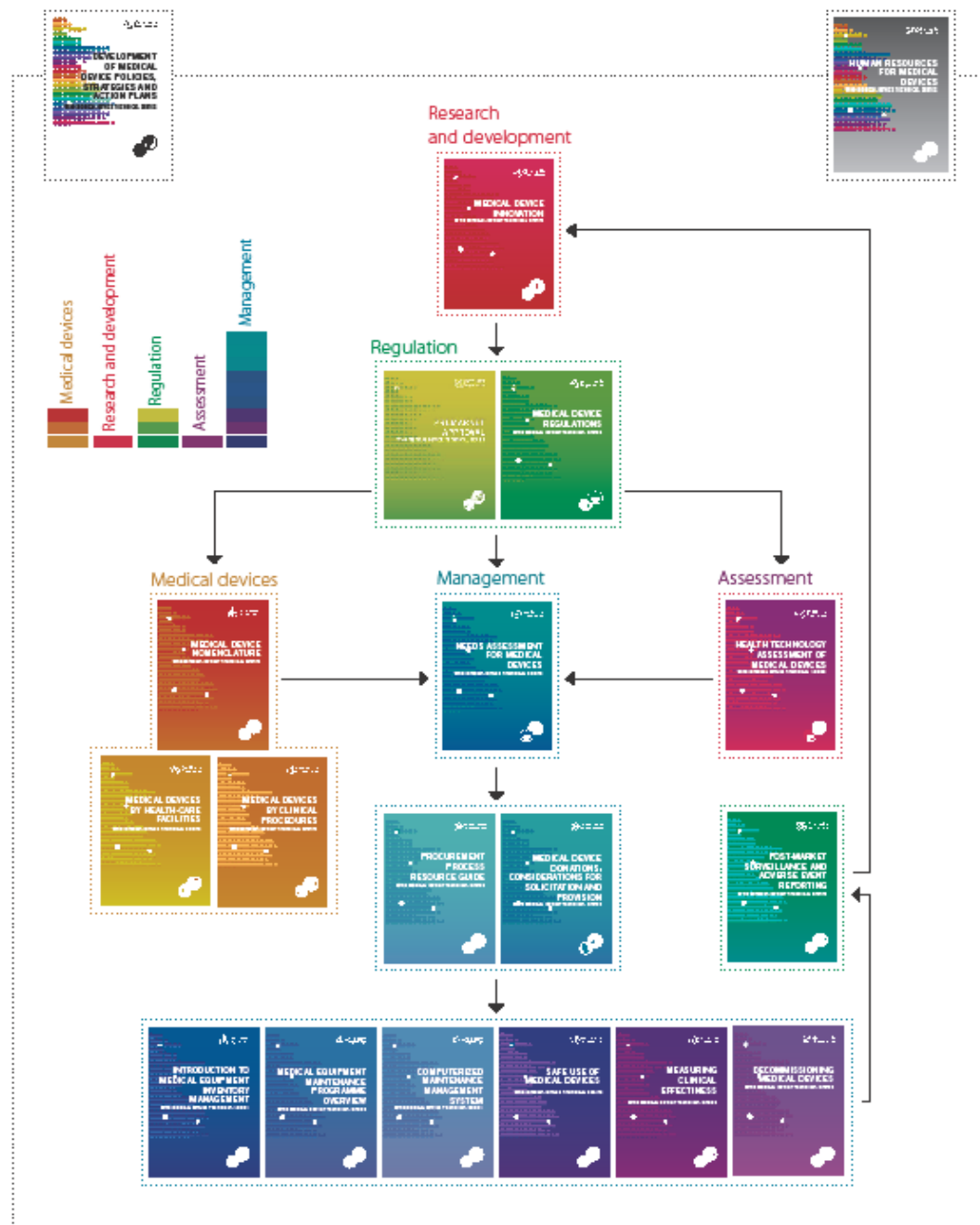
Technical specifications

Procurement practices

Installation

Maintenance

Training and Safe use



# WHO Publications



# Second WHO Global Forum on Medical Devices

22-24 November 2013

Geneva, Switzerland

## ‘Priority Medical Devices for Universal Health Coverage’



[http://www.who.int/medical\\_devices/2nd\\_gfmd/en/](http://www.who.int/medical_devices/2nd_gfmd/en/)



# Happy Anniversary 8<sup>th</sup> November 2013

- On behalf of WHO we congratulate radiologists and radiographers from all over the world!
- WHO welcomes and partakes in your initiative to foster excellence.

