

**International Conference on Radiation Protection in
Medicine – Setting the Scene for the Next Decade
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ROUNDTABLE 3
**Meeting radiation protection needs in
healthcare settings with limited infrastructure**

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Health Systems based on Primary Health Care

INTRODUCTION

- **Developing countries are facing**
 - **The prevalence of communicable diseases**
 - **A swift rise of non-communicable diseases**
- **The services of radiation medicine encompass a wide spectrum of clinical applications:**
 - **Continuous growth in the number and in the applications of radiation medicine technologies.**
 - **Low income countries have difficulties in obtaining the benefits of such technological developments.**
- **Lack of regulatory infrastructure, maintained equipment, trained staff: threatens the safety of patients and workers.**

Maternal and Infant mortality

- ✓ LIC experience more than 500,000 maternal deaths/year, leading cause for women of childbearing age 15–44 years.
- ✓ Acute lower respiratory infection is the leading cause of childhood mortality in LIC with about 4 million deaths/ year.
- ✓ Timely ultrasound and X-ray imaging could increase survival rates, only if health professionals knew how to interpret the images, and these meet the standards of quality.



Tuberculosis and HIV

- ✓ In 2010, there were an estimated 8.8 million incident cases of TB in the world and 1.4 million deaths.
- ✓ TB is a leading killer of people living with HIV causing one quarter of all these deaths.

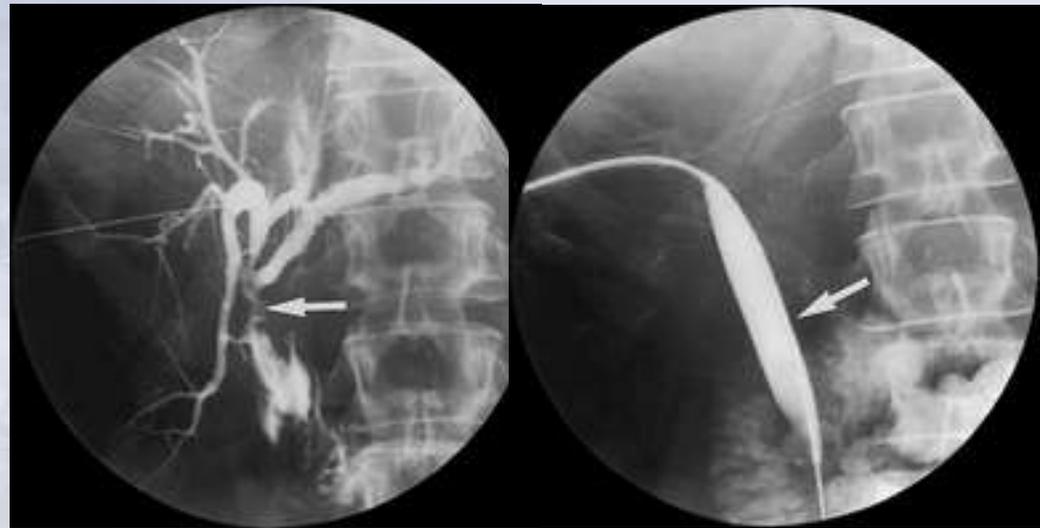


- ✓ Chest X-ray is a highly sensitive technique for diagnosing pulmonary TB and plays a significant role in shortening delays in diagnosis.
- ✓ CT is the modality for the evaluation pulmonary TB.

Cardiovascular diseases

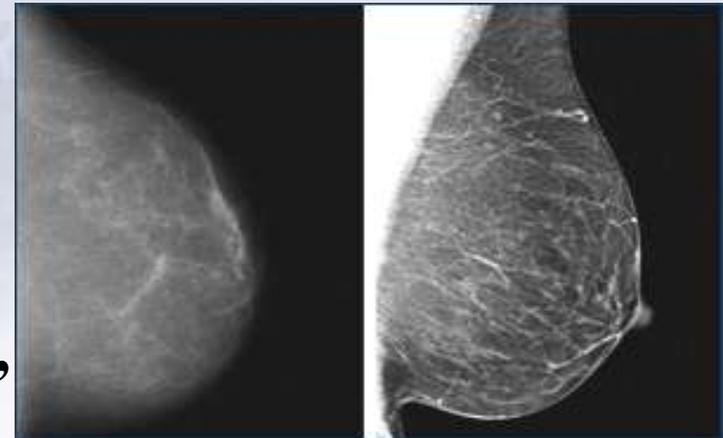
- ✓ In 2008, about 17.3 million people died from cardiovascular diseases (CVDs), over 80% of CVD deaths take place in low- and middle-income countries.
- ✓ By 2030 almost 23.6 million people will die from CVDs.
- ✓ Cardiac ultrasound has diagnostic applications suited to the developing world because of its non-invasive nature.

Some of the treatments of CVDs are based on image-guided radiology procedures which permits patients to be treated as outpatients .



Cancer control

- ✓ In 2008 about 12.7 million new cancer cases occurred in the world, of which 7.1 million in low- and middle-income countries with 4.8 million deaths.
 - ✓ It will increase by 2030 to 21.4 million new cancer cases and 13.2 million cancer deaths.
 - ✓ Radiotherapy is used for the treatment of many tumors.
- Breast cancer is the most common malignant tumor in women
 - Early diagnosis improves outcome.
 - In LIC there is no access to early detection methods: clinical exploration, ultrasound and mammography.



Injury and Trauma

- ✓ Injury is the 9th most common cause of premature death worldwide, 90% occurs in LIC, and the 3rd most common cause of years lived with disability.
- ✓ Road traffic deaths will increase by more than 80% in developing countries by 2030, which are also particularly vulnerable to injuries due to natural disasters and war.
- ✓ Emergency care including imaging techniques are necessary for addressing urgent health issues and preventing long-term disability.
- ✓ Standard radiology remains the major diagnostic tool for trauma and some types of injuries.



CHALLENGES FOR QUALITY & SAFETY

- **Inefficient organization of services :**
 - fragmentation of providers-lack of continuous health care
 - lack of appropriate referral criteria
- **QA Programs implemented almost inexistent**
 - Radiation doses not optimized- jeopardizing patients' life
- **Shortage of qualified human resources:**
 - Lack of training, formal education/certification programs on a national level or poor curricula.
- **Technology issues: HTA and management**
 - Not appropriate for the local circumstances in many cases
 - Either obsolete or out of service due to poor maintenance, or clearly underused

MANY THANKS



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