National Cancer Institute

CENTER FOR GLOBAL HEALTH

Master Course: Cancer Control Planning and Implementation

Webinar #5

Addressing the Cancer Continuum Through National Cancer Control Efforts: From Cancer Diagnosis to Palliative Care

Dr. Mary Gospodarowicz, University of Toronto
Dr. Eduardo Zubizarreta, International Atomic Energy Agency (IAEA)
Dr. Eric Krakauer, Massachusetts General Hospital

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
National Institutes of Health

Cancer Centres Diagnosis and Treatment

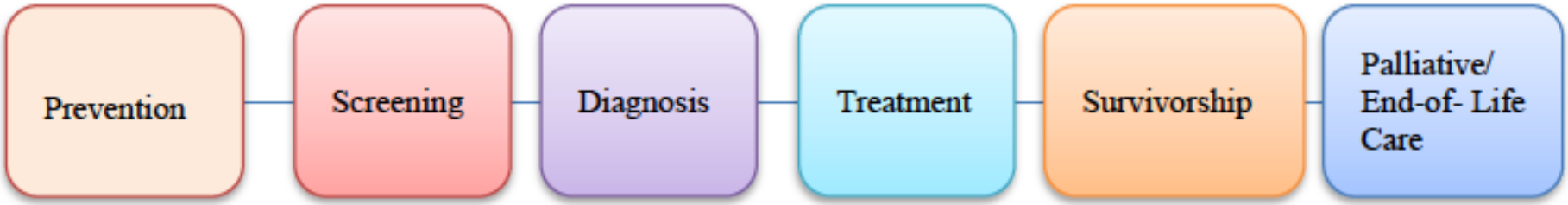
Mary Gospodarowicz MD
Princess Margaret Cancer Centre
Toronto, Canada

Union for International Cancer Control
www.uicc.org

Cancer Control

…..designed to reduce cancer incidence and mortality and improve quality of life of cancer patients, through the systematic and equitable implementation of evidence-based strategies for the prevention, early detection, diagnosis, treatment and palliation…..

(WHO 2002)



Adapted from Cancer Care Ontario, 2013b

Cancer: a heterogeneous disease needing a tailored response

- Patterns differ by region, development and country
- Patterns are evolving over time
- Risk factors also vary by region and country and encompass far more than those common to NCDs
- Prevention works, but takes time
- There is a lack of knowledge on: causes, early detection and evaluation and implementation of prevention strategies
- Cancer differs remarkably in molecular characteristics: implications for early detection and therapy

Aims of Cancer Control

- Reduce the number of new cases
  - Prevention
  - Screening
- Improve outcomes
  - Early detection
  - Effective treatment
- Support and palliate
  - Pain relief and supportive care
  - Rehabilitation

Volume 3: Cancer

Editors:

Hellen Gelband

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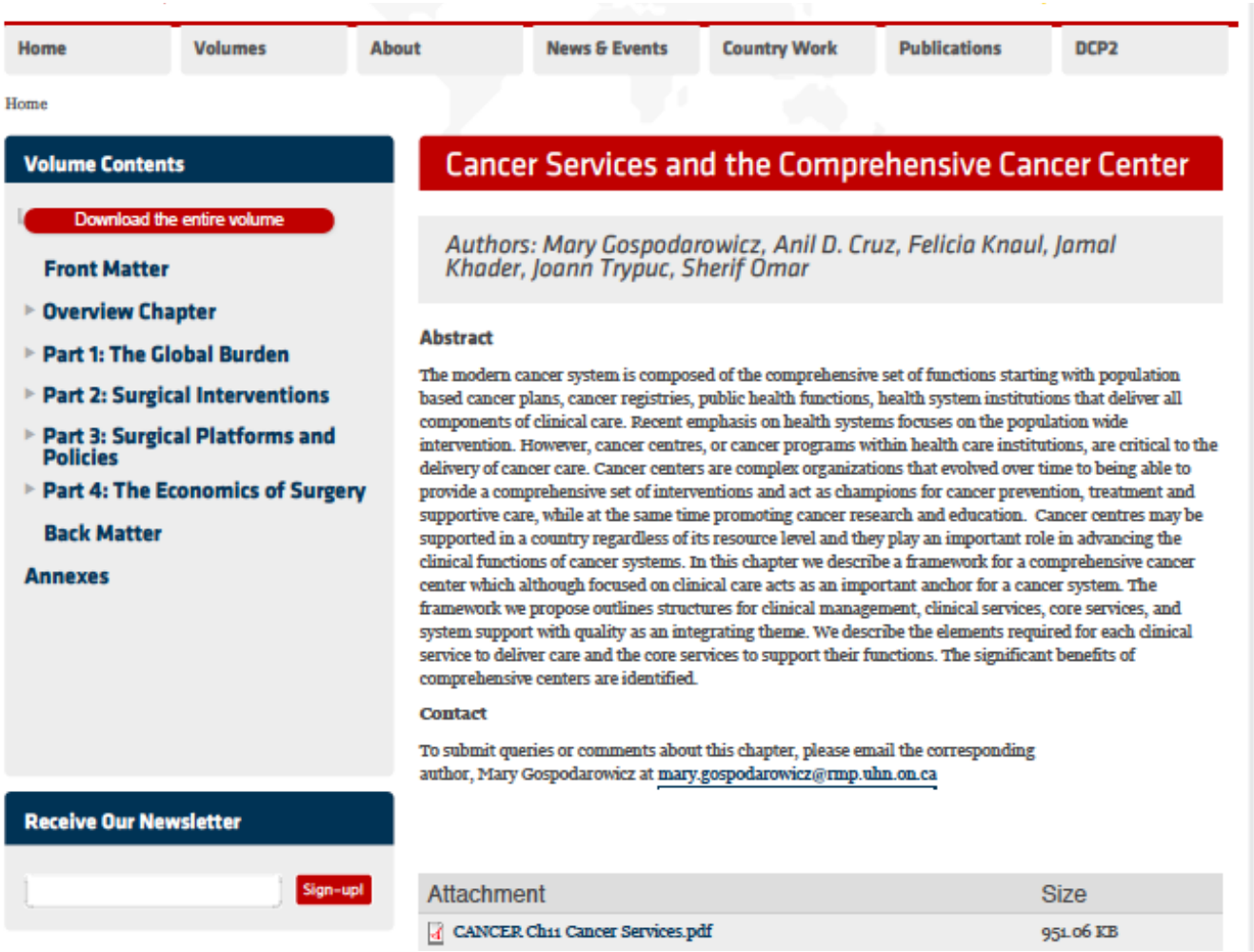
Susan Horton

Cancer Services
Comprehensive Cancer Centre



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Volume Contents

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Annexes

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Cancer Services and the Comprehensive Cancer Center

Authors: Mary Gospodarowicz, Anil D. Cruz, Felicia Knaul, Jamal Khader, Joann Trypuc, Sherif Omar

Abstract

The modern cancer system is composed of the comprehensive set of functions starting with population based cancer plans, cancer registries, public health functions, health system institutions that deliver all components of clinical care. Recent emphasis on health systems focuses on the population wide intervention. However, cancer centres, or cancer programs within health care institutions, are critical to the delivery of cancer care. Cancer centers are complex organizations that evolved over time to being able to provide a comprehensive set of interventions and act as champions for cancer prevention, treatment and supportive care, while at the same time promoting cancer research and education. Cancer centres may be supported in a country regardless of its resource level and they play an important role in advancing the clinical functions of cancer systems. In this chapter we describe a framework for a comprehensive cancer center which although focused on clinical care acts as an important anchor for a cancer system. The framework we propose outlines structures for clinical management, clinical services, core services, and system support with quality as an integrating theme. We describe the elements required for each clinical service to deliver care and the core services to support their functions. The significant benefits of comprehensive centers are identified.

Contact

To submit queries or comments about this chapter, please email the corresponding author, Mary Gospodarowicz at mary.gospodarowicz@rmp.uhn.on.ca

Attachment	Size
CANCER Ch11 Cancer Services.pdf	951.06 KB

Cancer Services

Volume Outline

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Policy, Cancer Services and Research

Chapters:

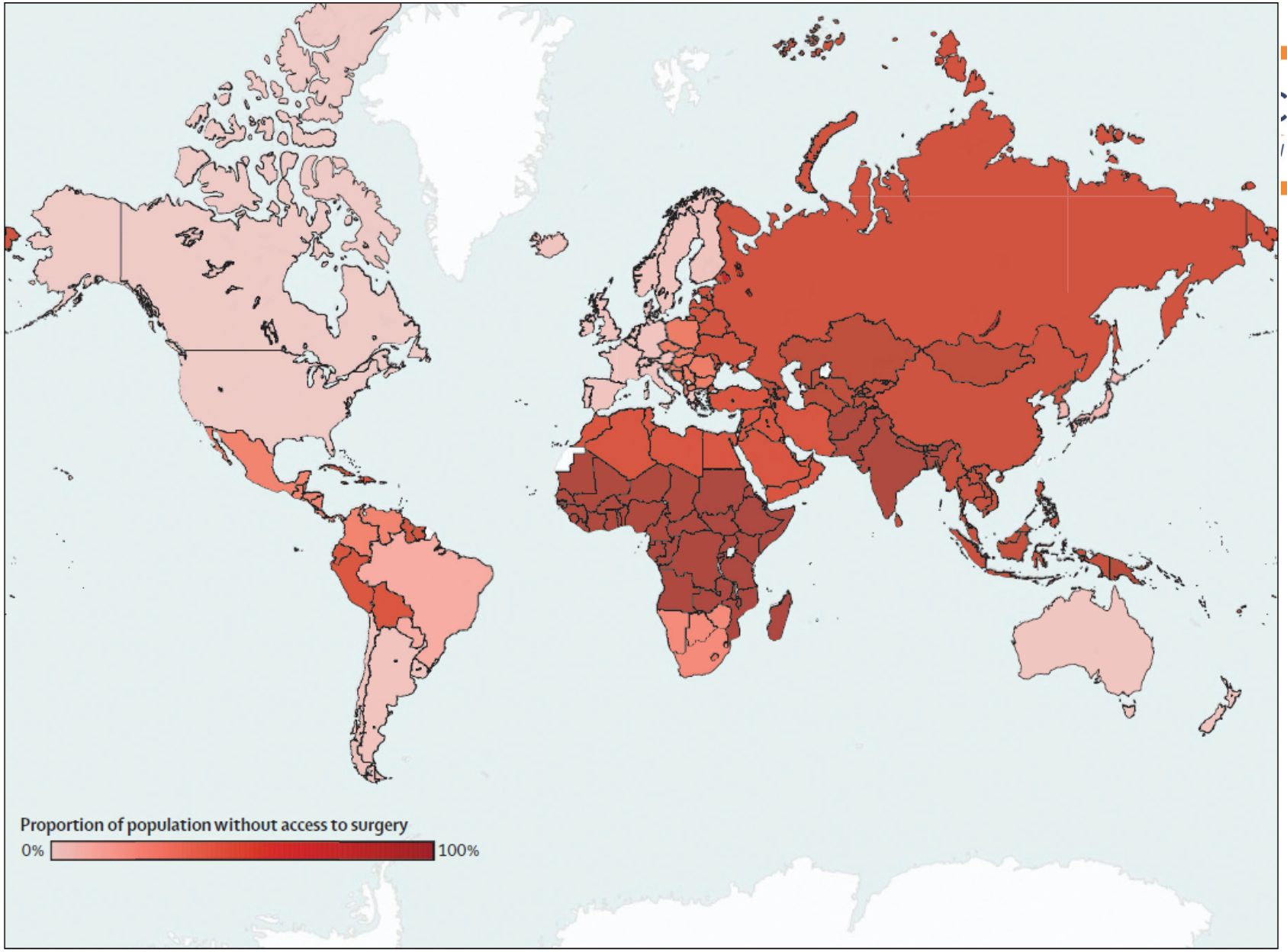
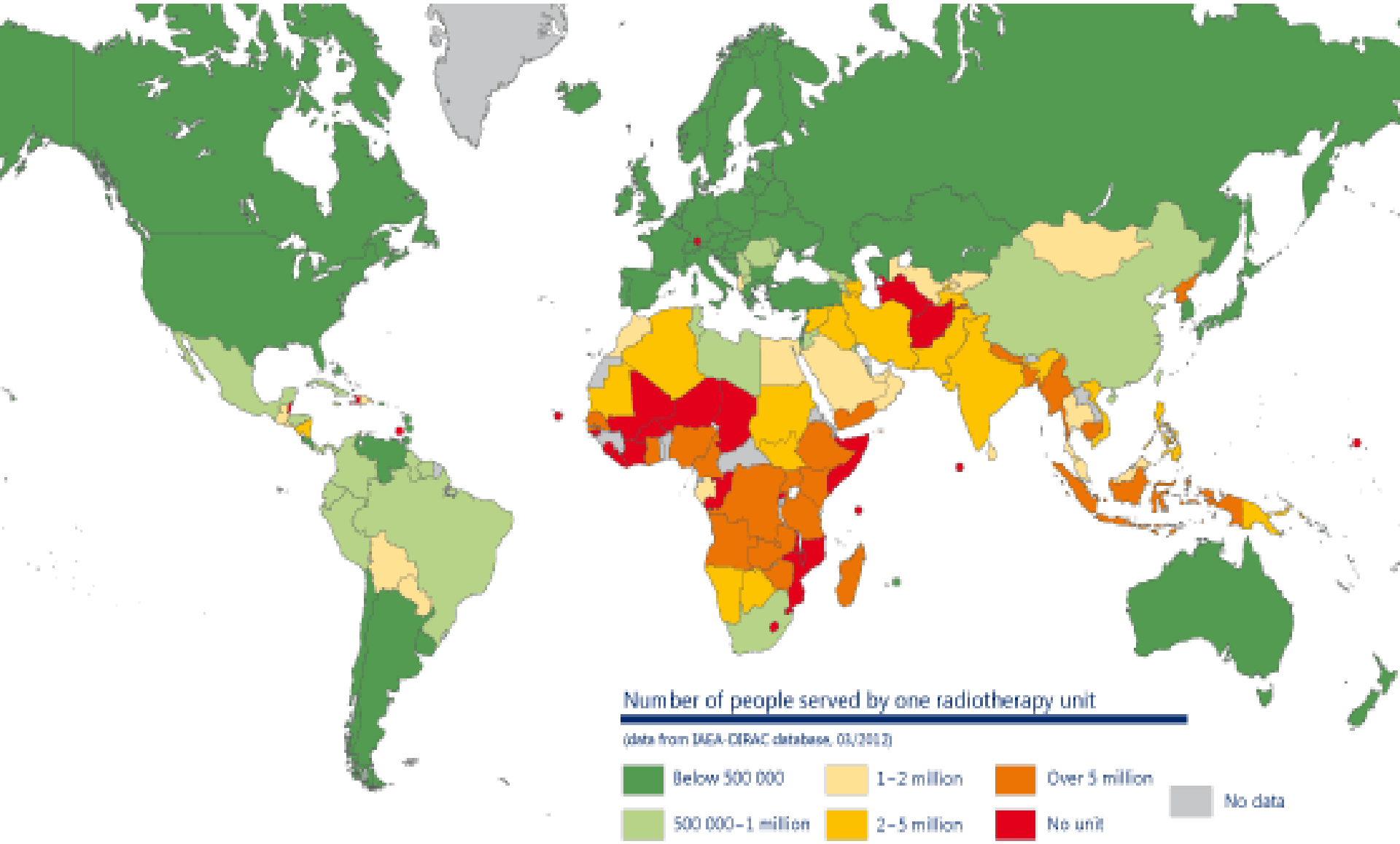


Figure 2: Proportion of the population without access to safe, affordable surgery and anaesthesia by Institute for Health Metrics and Evaluation region (selective tree)[25,29]

The Lancet April 27, 2015



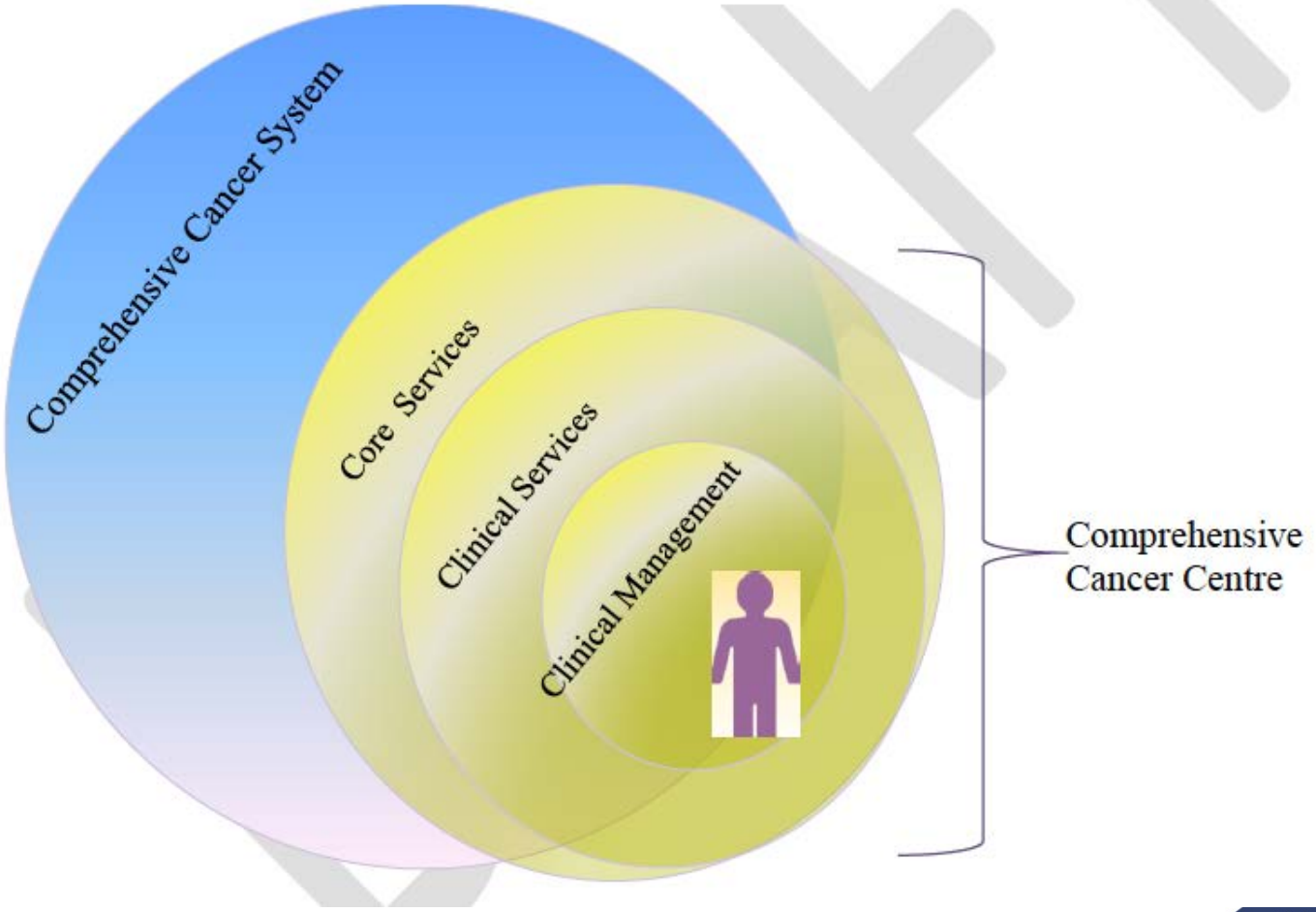
http://cancer.iaea.org/agart.asp

Comprehensive Cancer Centres

- **develop and translate scientific knowledge** from promising laboratory discoveries into new treatments for cancer patients
- centers not only **disseminate evidence-based findings into communities** that can benefit from these findings, but the centers can also, through the experience of working with patients, help inform national research and treatment priorities.
- approximately 250,000 patients receive their **cancer diagnosis** at an NCI-Designated Cancer Center
- even larger number of patients **are treated for cancer at these centers** and thousands of patients are enrolled in cancer clinical trials at NCI-Designated Cancer Centers
- centers also **provide public education and outreach programs** on **cancer prevention and screening**, with special attention to the needs of underserved populations.

Cancer Services
Comprehensive Cancer Centre

Figure 11.2: Framework for a Comprehensive Cancer Centre



Clinical Management

Framework for decision making in cancer screening, diagnosis, treatment, support, and on-going care

- Objectives of care, appropriate interventions and timelines
- Care plans aligned to the local context
- Clinical practice guidelines to standardize care
- A comprehensive cancer centre should have
  - practice guidelines for various clinical scenarios
  - process for multidisciplinary decision making and review
  - process for review of the quality of clinical care
- Engagement in research / training programs

Clinical Management

- The Patient Care Plan/ Clinical Practice Guidelines
  - Introduction
  - Overview of the Clinical Management Process
  - Clinical Management Best Practices
    - Making Evidence and Consensus-based Decisions
      - » Guidelines for Cancer Care
      - » Clinical Decision Support Tools
      - » Interprofessional Teams
  - Engaging in Shared Decision Making with Patients
  - Reviewing Clinical Decisions
    - Multidisciplinary Reviews of Clinical Decisions
  - Monitoring Outcomes and the Quality of Clinical Decisions
    - Audits
- Quality of Care Conferences

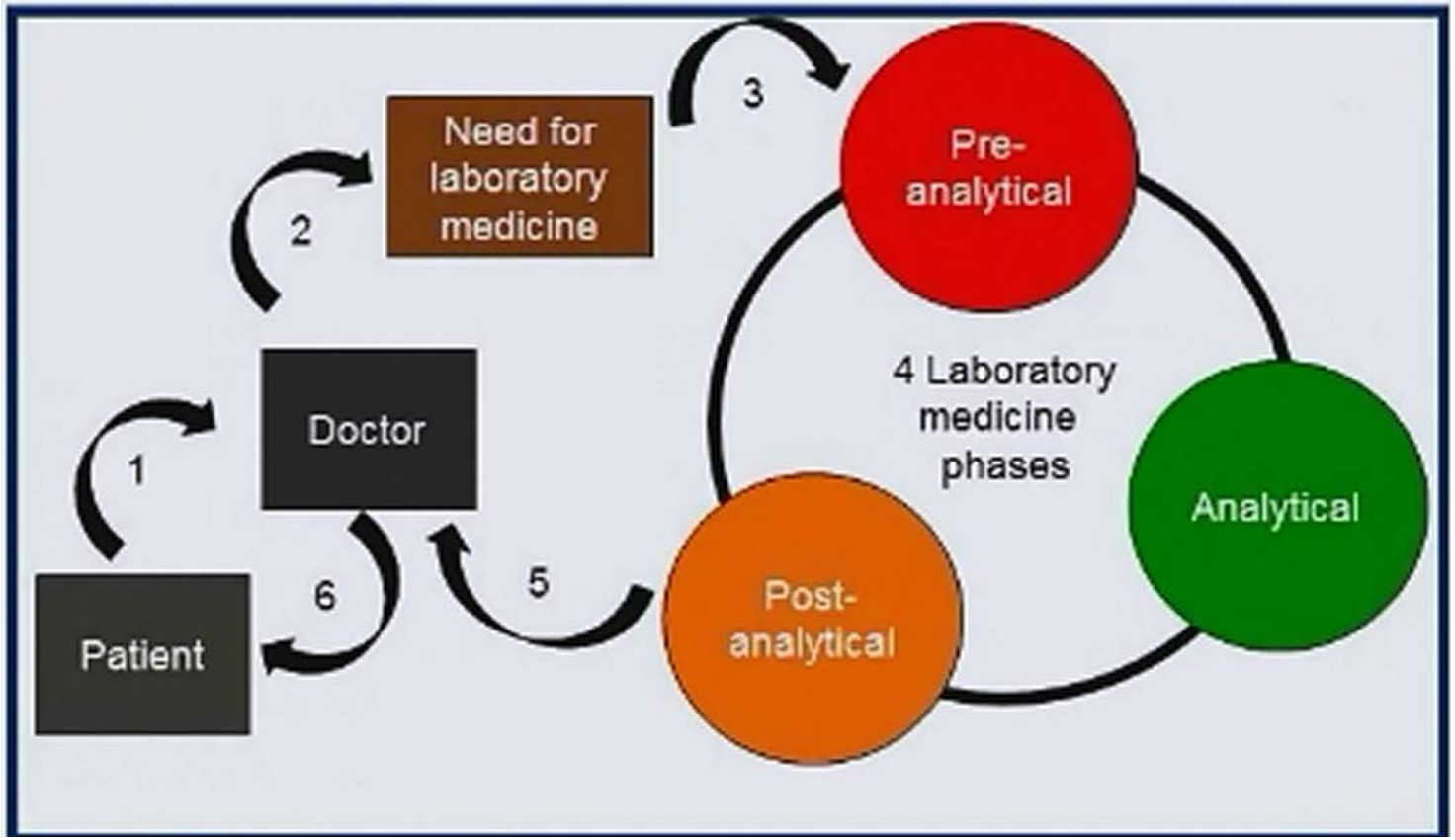
Clinical Services

- Management plans identify required interventions
- Specialised clinical services are needed to provide these interventions
- Clinical services usually required for cancer include:
  - Office/Clinic Ambulatory Care
  - Diagnostic Imaging
  - Pathology and Laboratory Medicine
  - Surgery
  - Systemic Therapy
  - Radiation Therapy Services
  - Palliative Care, Pain Control
  - Supportive Care and Survivorship

Clinical Services

- Each clinical service should consider:
  - Scope of services offered
  - Patient/specimen/report flow pathway
    - Pre-service – referral, booking, preparation
    - Service – execution
    - Post-service – follow-up, reporting
  - Resources
    - Space, equipment, supplies
    - Human resources with relevant expertise
      - Medical expertise, technical expertise
    - Information management
  - Leadership and management
    - Defined organizational structure
      - Specified accountabilities
    - Defined policies, procedures
    - Compliance with accreditation requirements
  - Quality management
    - Performance management
    - Quality improvement
  - Innovation

Laboratory medicine and the patient



Core Services

Services extend across a health care facility and support many clinical services:

- Administration / Management
- Human resources – professional development / competence
- Information technology
- Health records
- Quality and safety programs management
- Admission and discharge planning, patient transport
- Infection prevention and control
- Pharmacy and drug supply
- Equipment and technology support services
- Supplies and materials management – supply chain management
- Telecommunications
- Facilities
- Fire safety and radiation protection
- Occupational health and safety

Population-based Cancer System

- Support by a population-based system:
  - National/Regional Cancer Plans
  - Public Education and Awareness
  - Prevention and Screening Programs
  - Cancer Registries
  - Education system
  - Research
  - Non-government organisations and support groups

Planning

- Lower income countries may support only a subset of activities at the beginning
- The framework provides a base from which future needs can be organized
- This combined with identifying the cancers with the greatest burden that are also most preventable and treatable, as well as a palliative care plan, should form the basis for a country's efforts at planning cancer care and control

Quality in Health Care

- Patients get the care they need
- Patients need the care they get
- Care is delivered safely
- Care is delivered on time
- Care is patient centred
- Care is equitable

IOM Report – Crossing the Quality Chasm

High-Quality Cancer Care Delivery System

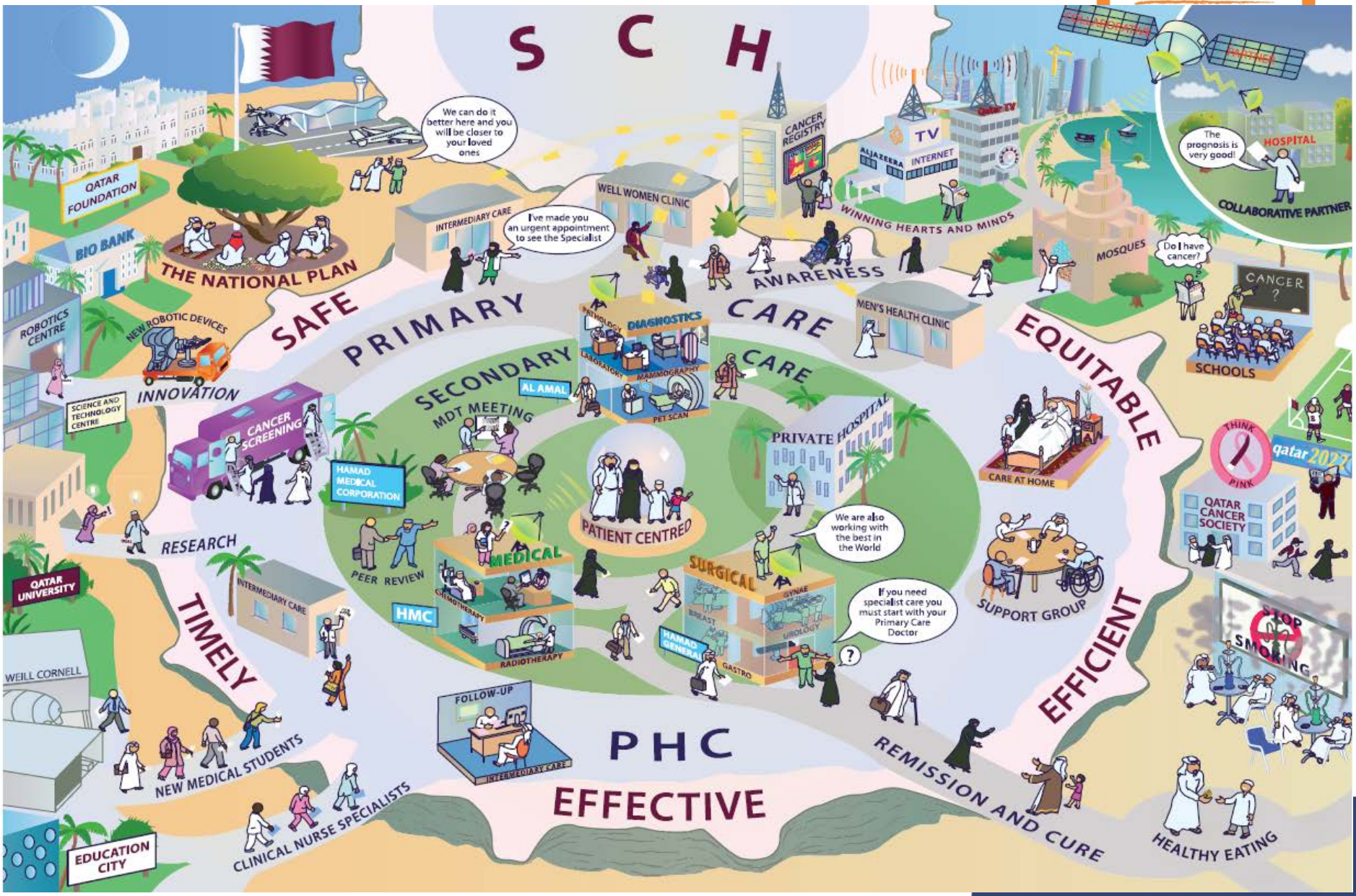
a conceptual framework

Safe, Effective, Patient-centered, Timely, Efficient, Equitable

- Engaged patients are at the center of framework
- Adequately-staffed, trained and coordinated workforce
- Evidence-based cancer care
- A learning health care IT system for cancer
- Translation of evidence into clinical practice, quality measurement, and performance improvement
- Accessible, affordable cancer care

IOM Report - Delivering High-Quality Cancer Care, 2013

Qatar Cancer Plan



Innovative Leadership and Stewardship

A major reason for their slow progress is the "know-do gap" - the gap between what is known and what gets implemented in countries

Pablos-Mendez et al. 2006

The Equity Gap

- Availability of care
  - Prevention, early detection, diagnostic services
  - Facilities, health professionals, equipment
  - Health systems
- Affordability
  - Poverty, catastrophic expense, UHC
- Awareness - Education, stigma

"Know – Do Gap" and Achieve the achievable

Investing in Cancer Control

- Health as an investment, not as expense
- WEF - chronic disease leading global economic risk
- Tobacco - huge economic risk
- Economic cost of cancer in 2010
  - 2-4% of global GDP
- Prevention and treatment
  - potential savings @ $US 131-850 B mostly due to productivity gains

1/3-1/2 of cancer deaths are “avoidable”
2.7-4.1 millions deaths

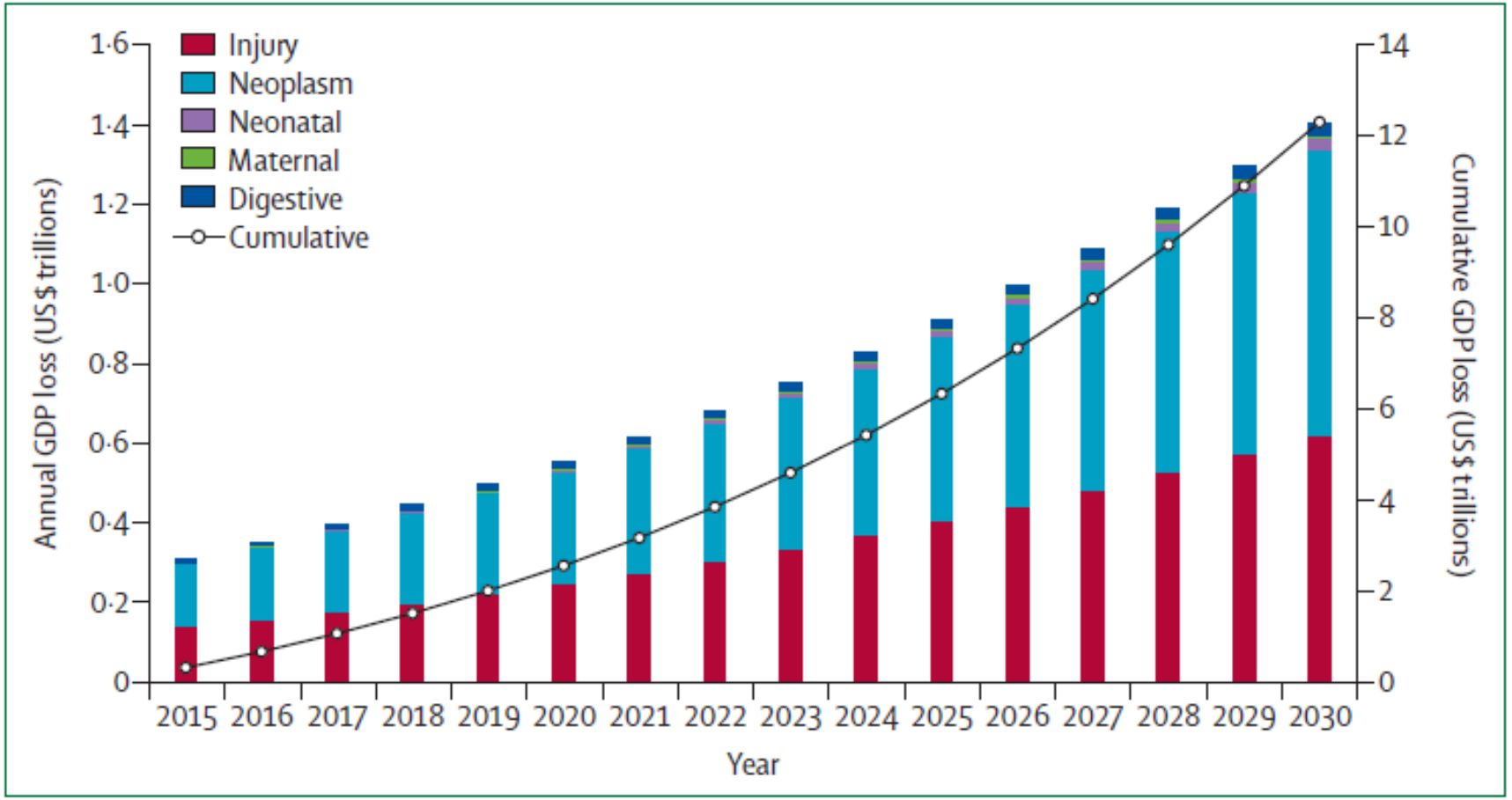
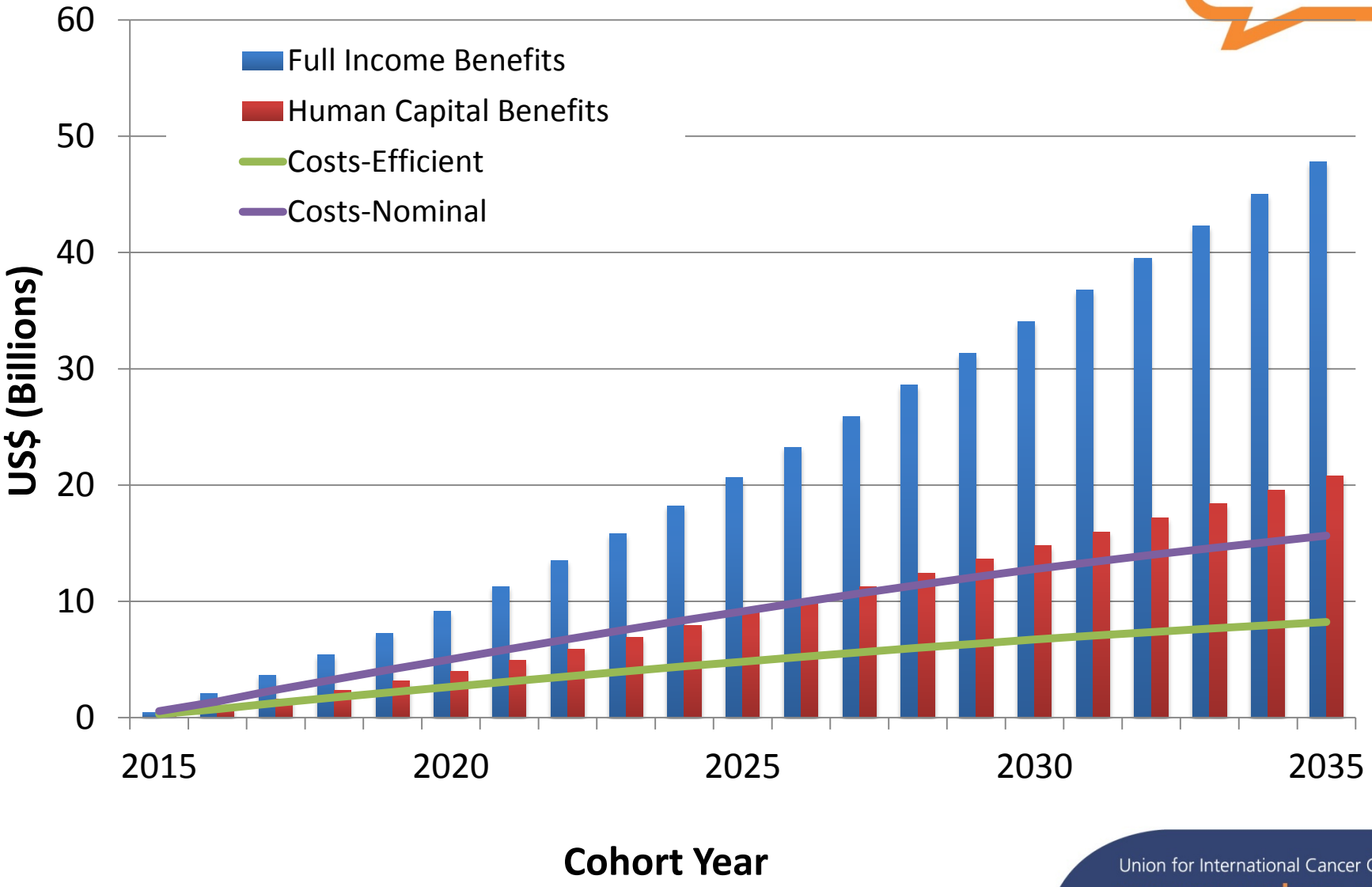


Figure 4: **Annual and cumulative GDP lost in low-income and middle-income countries from five categories of surgical conditions (2010 US$, purchasing power parity)[57]**

Data are based on WHO's Projecting the Economic Cost of Ill-Health (EPIC) model (2010 US$, purchasing power parity). GDP=gross domestic product.

A Linear Investment in RT Coverage: Cost and Benefits



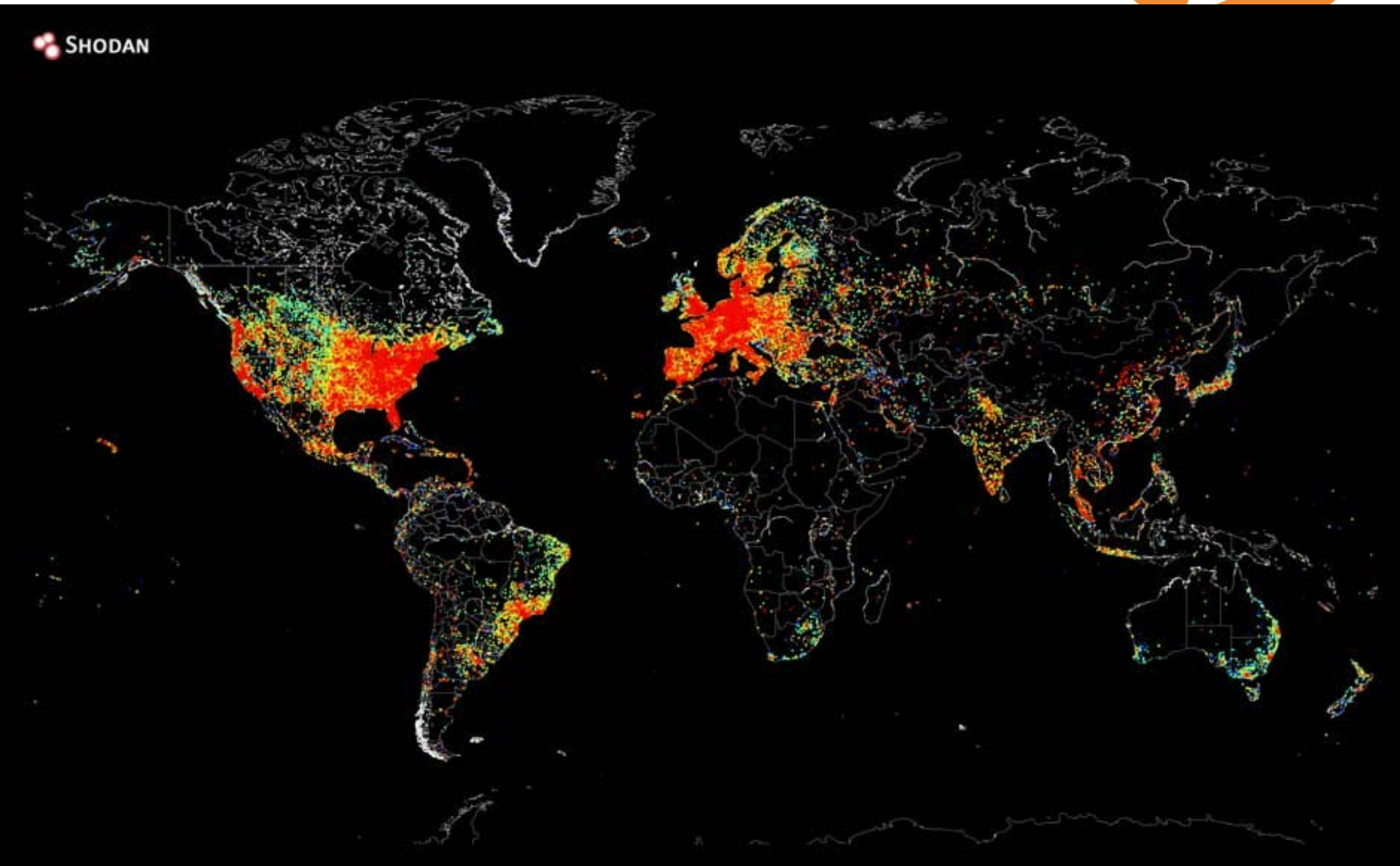
Atun et al., Lancet Oncology 2015

Seizing the opportunities of ICT

- Increase workforce / workplace efficiency
- Quality and safety: avoid medical mistakes, reduce costs and improve care
- Networks and tools for learning and practice, research and development, innovation
- Information, products, advice and tools for promotion, prevention and management

The map of everything on the internet

http://indy100.independent.co.uk/image/18477-1ke9kn9.jpg



Conclusions

- Cancer is rapidly becoming the major health problem in the world
- While developed countries enjoy ever better outcomes great inequities remain in access to quality care in many parts of the world
- Comprehensive approach to cancer control is required for optimal outcomes
- We need
  - more research to generate evidence
  - more evidence to inform advocacy
  - more advocacy to change policy

RADIOTHERAPY

zubi

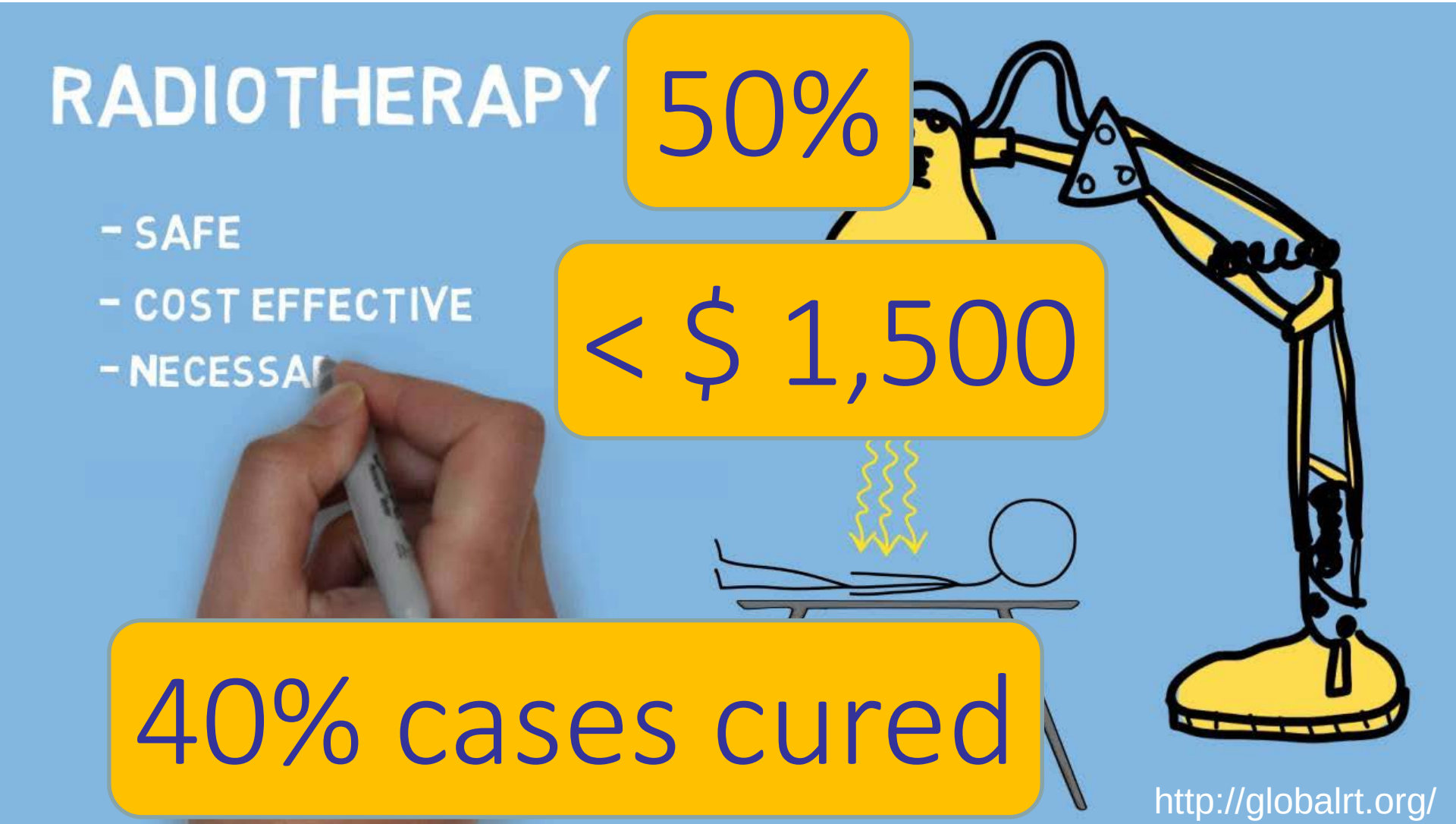
International Atomic Energy Agency - IAEA

More than half of all patients with cancer will require radiotherapy…

More than half of all patients with cancer will require radiotherapy…

More than half of all patients with cancer will require radiotherapy…

More than half of all patients with cancer will require radiotherapy…

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competition
compete operations
strategy hub germany
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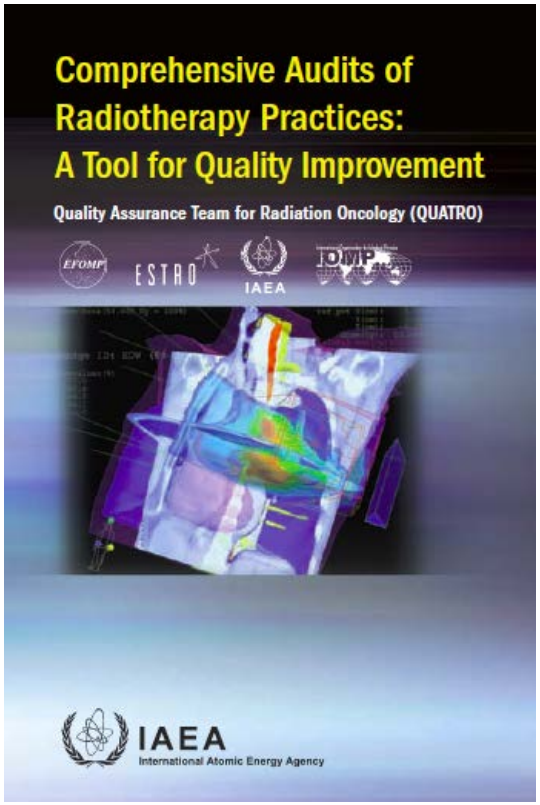
Quality Assurance - QA

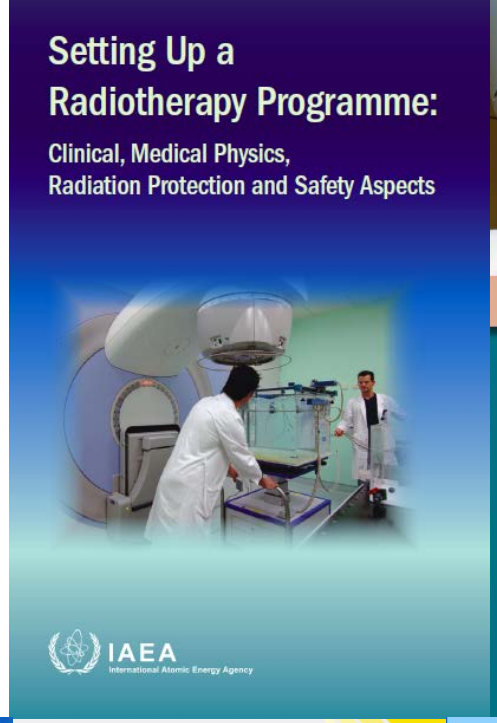
Quality Assurance - QA

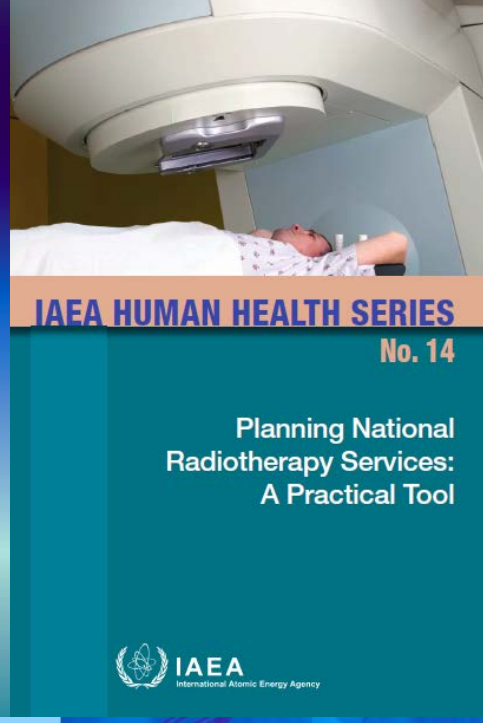


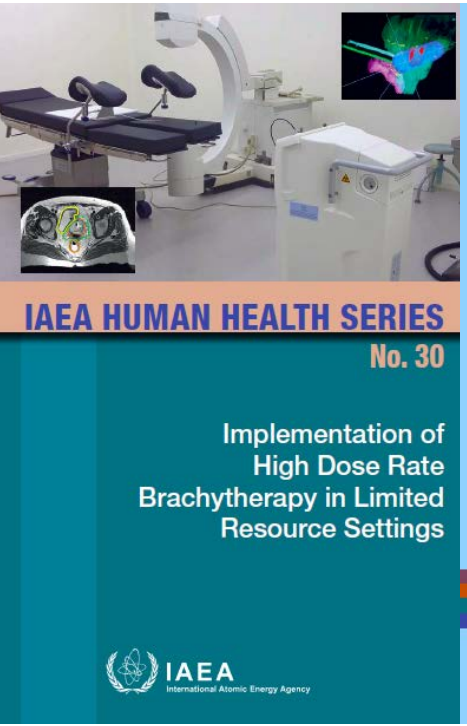
- RT is a complex system including
  - modern equipment
  - different disciplines with specific roles
  - high precision calibration and QA
  - complex procedures
- IAEA resources
  - guidelines to transition from basic to modern techniques
  - international codes of practice for dosimetry
  - SSDL – postal beam audit network
  - methodology for comprehensive audits in
    - radiotherapy – QUATRO
    - radiology – QUADRIL
    - nuclear medicine – QUANUM

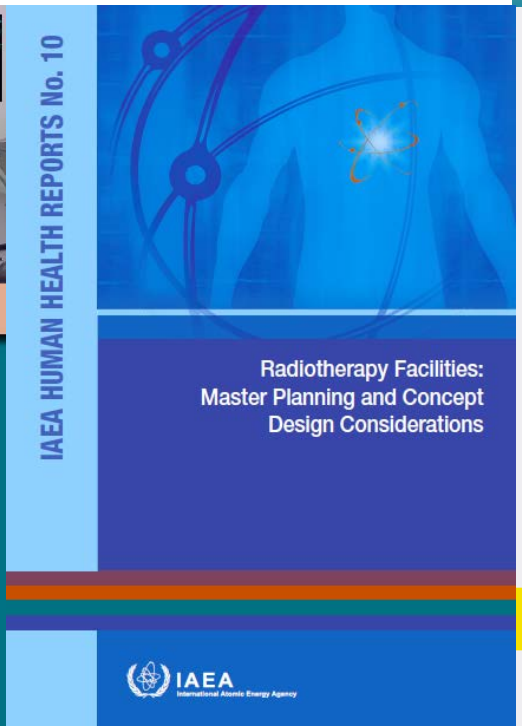
IAEA - our role

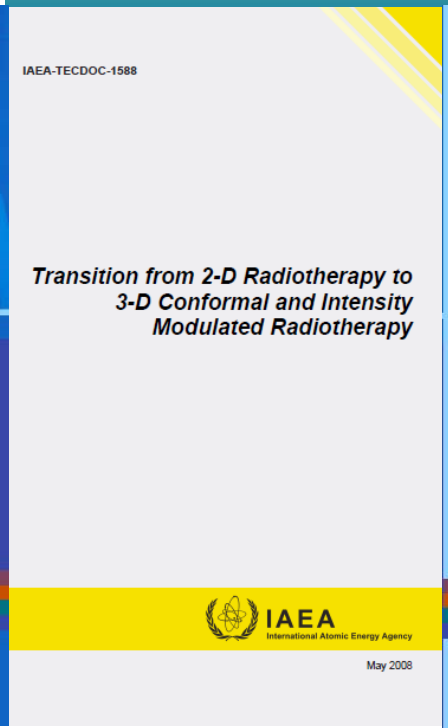
- To promote…
- To support the implementation…

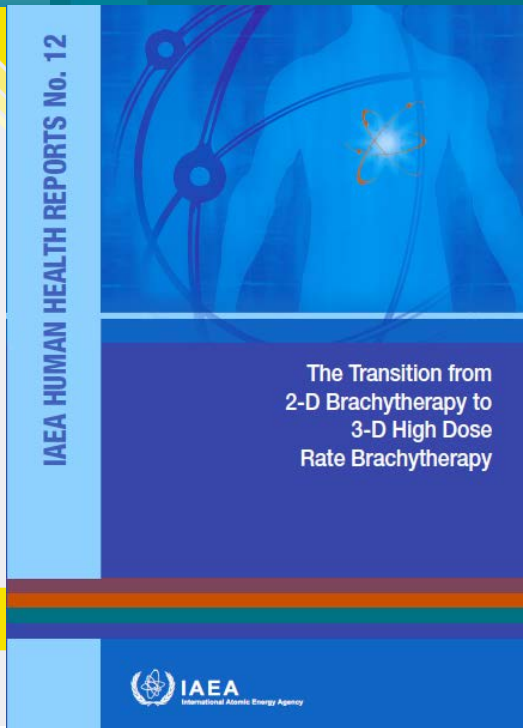






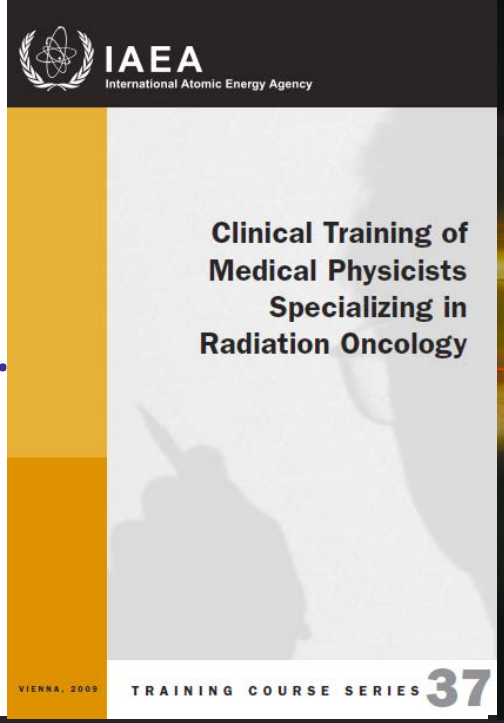


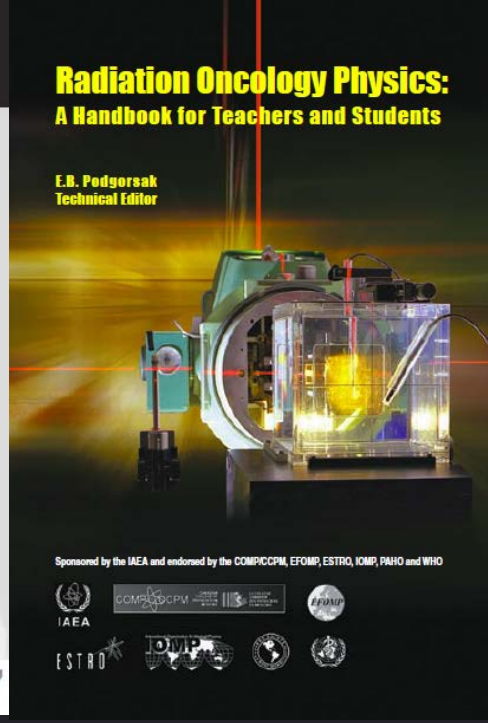


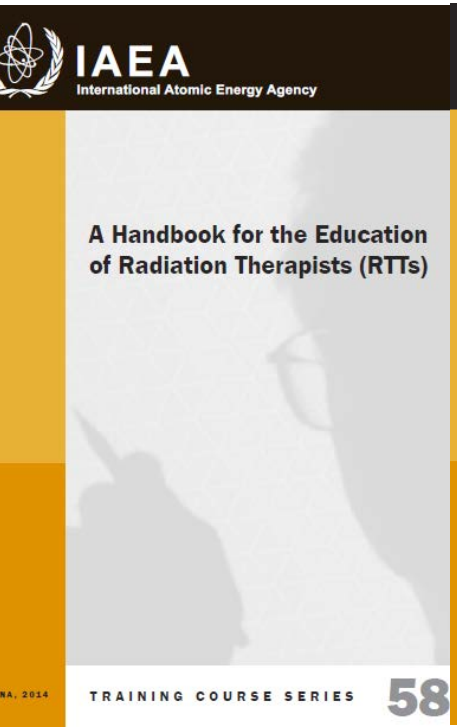


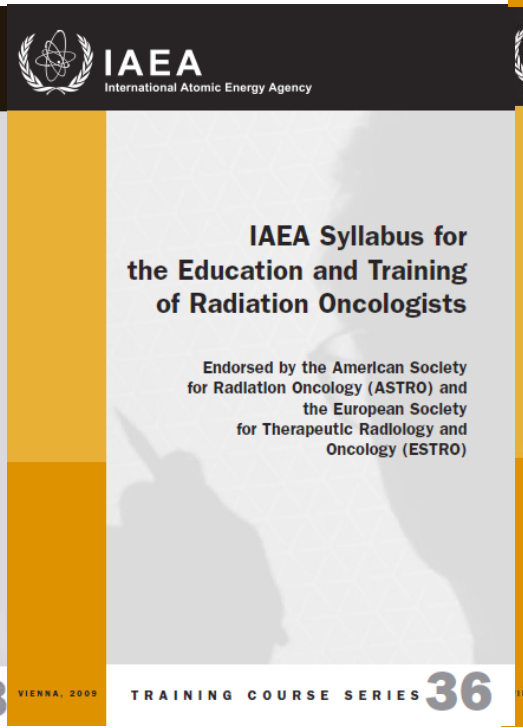
IAEA - our role

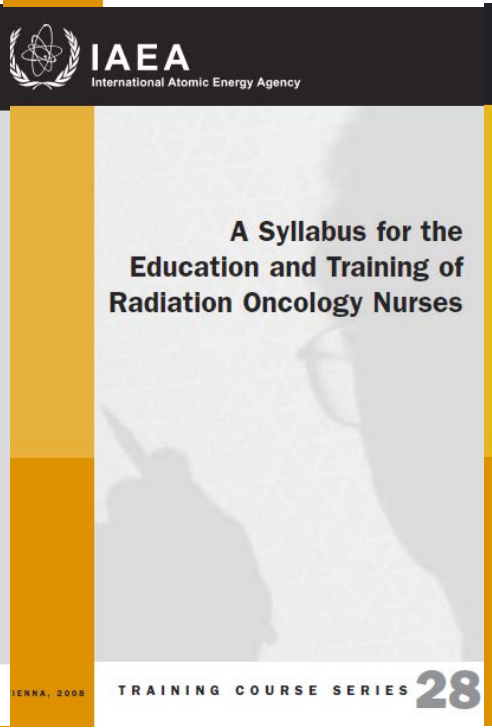
- To educate and train…

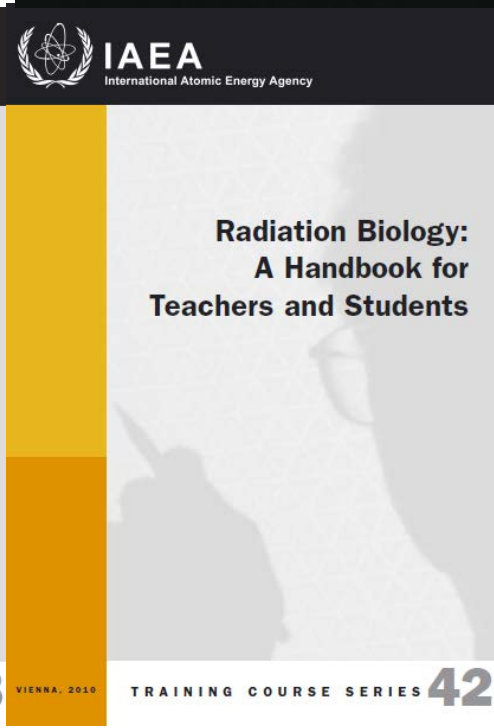












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Organismo Internacional de Energía Atómica

Programa de estudios y capacitación del OIEA para la formación de radiooncólogos

Aprobado por la Sociedad Americana de Radioterapia y Oncología (ASTRO) y la Sociedad Europea de Radioterapia y Oncología (ESTRO)

COLECCIÓN CURSOS DE CAPACITACIÓN N° 36

IAEA
International Atomic Energy Agency

Clinical Training of Medical Physicists Specializing in Radiation Oncology

VIENNA, 2009

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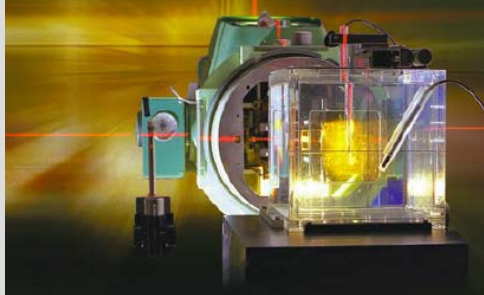
Radiation Oncology Physics:
A Handbook for Teachers and Students

E.B. Podgorsak
Technical Editor



Sponsored by the IAEA and endorsed by the COMP/CCPM, EFOMP, ESTRO, IOMP, PAHO and WHO

IAEA

ESTRO

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International Atomic Energy Agency

A Handbook for the Education of Radiation Therapists (RTTs)

NA, 2014

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IAEA Syllabus for the Education and Training of Radiation Oncologists

Endorsed by the American Society for Radiation Oncology (ASTRO) and the European Society for Therapeutic Radiology and Oncology (ESTRO)

VIENNA, 2009

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A Syllabus for the Education and Training of Radiation Oncology Nurses

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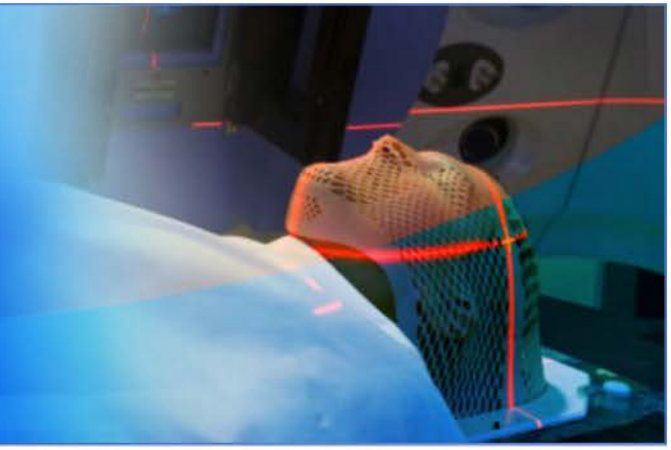

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A Science and Technology Studies Practicum for Medical Students and Healthcare Professionals

What's New

International Conference on Integrated Medical Imaging in Cardiovascular Diseases (IMIC 2016), 10 - 14 October 2016

Assessing Vitamin A Safety in Large-Scale Nutrition Intervention Programmes:Setting the Research Agenda

Radiation Oncology

- Making the Case for Radiotherapy in Your Country
- Setting up a Radiotherapy Department
- Treating patients
- Training
- Radiation Biology
- Improving the Quality of Service
- Radiation Oncology Research
- Radiation Oncology Library
- Collection of Recorded Radiotherapy Seminars

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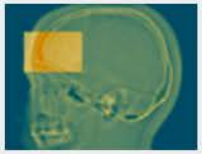
Radiation Oncology

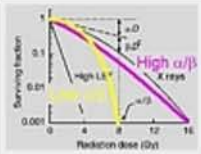


Making the Case for Radiotherapy in Your Country

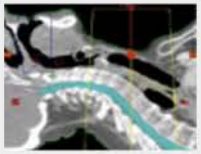
Setting up a Radiotherapy Department

Treating patients

Training

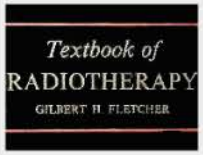


Radiation Biology



Improving the Quality of Service

Radiation Oncology Research



Radiation Oncology Library

Collection of Recorded Radiotherapy Seminars

Radiation Oncology

- Making the Case for Radiotherapy in Your Country
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Shortcuts

- Latest

Making the Case for Radiotherapy in Your Country

Number of New Cancer Cases

National Cancer Control Plans

Role of Radiotherapy in Cancer Care

Needs Analysis

IAEA Resources

Requesting Assistance from IAEA

IAEA projects

- More than 270 million invested in cancer-related projects over the last 30 years
- Project design-education-training-experts-equipment
- 123 active projects in cancer management in 56 countries
- 96 active projects in nuclear medicine and diagnostic imaging
- 53 active projects related to dosimetry and medical physics

Challenges in Cancer Control - 2035

M Gospodarowicz - GTFRCC

"We unite the cancer community to reduce the global cancer burden, to promote greater equity, and to integrate cancer control into the world health and development agenda."

UN joint programme on cervical cancer prevention and control

- WHO-IAEA-IARC-UNAIDS-UNFPA-UNICEF-UNWomen. Each has a unique and crucial role to play

- 6 pilot countries, will later expand to 10

- Focus on
  - Human papilloma virus immunisation for girls
  - Screening and treatment for cervical pre-cancer
  - Diagnosis and treatment of invasive cervical cancer, including palliative care

imPACT review missions

imPACT review missions

"Through the imPACT process, we mark the first time that three UN agencies (WHO, IAEA and IARC) dealing with cancer control come together to a country to make a comprehensive assessment and recommendations."

Dr. Ibtihal Fahdil, Regional Adviser Non communicable diseases, World Health Organization, Regional Office for the Eastern Mediterranean

81 countries have received an imPACT review mission since 2005

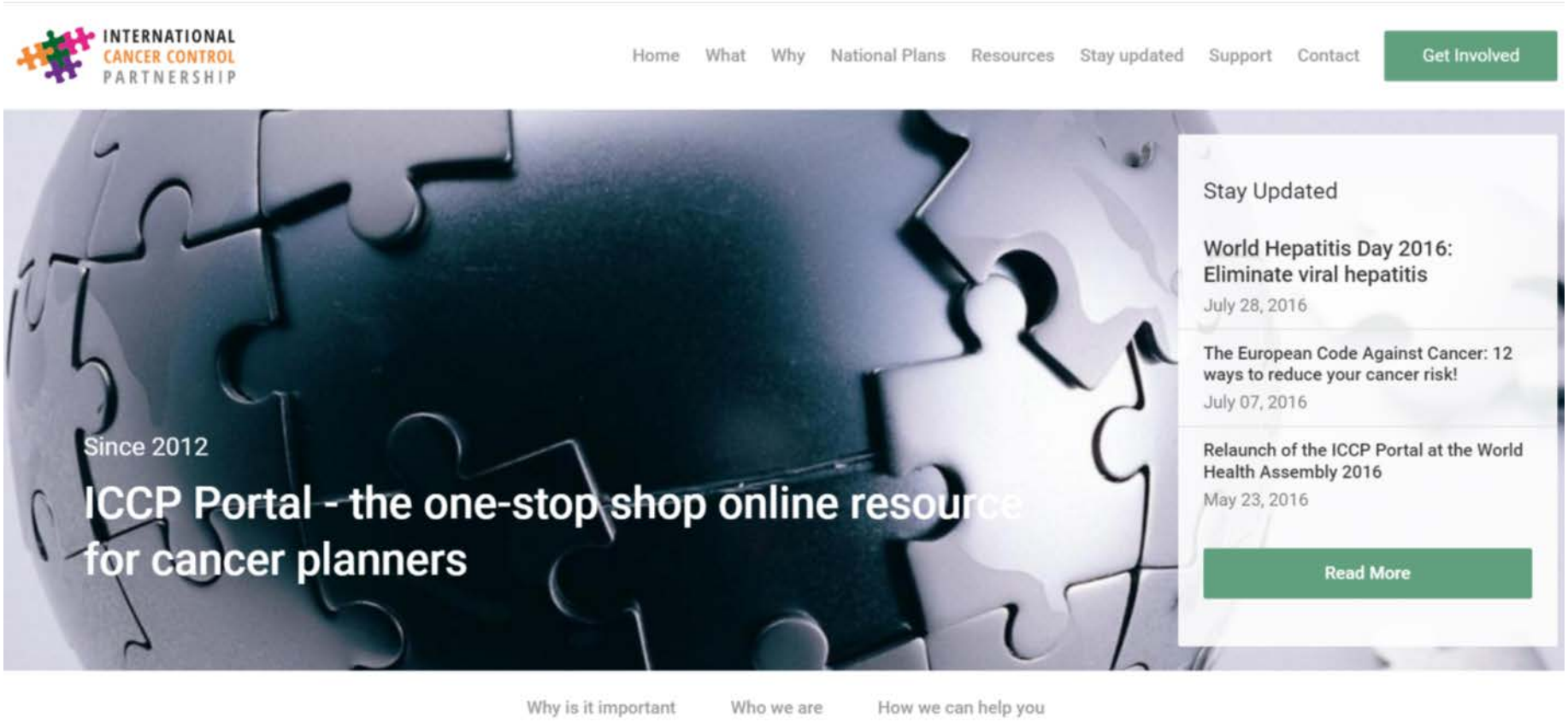
imPACT review – areas of assessment

- Cancer control planning status, according to WHO guidelines.
- Cancer Information/Registration: Cancer data and information availability and use in planning and decision making.
- Prevention: Major modifiable cancer risk factors and actions in the country to reduce them through advocacy and public education (relevant legislation and public information).
- Early detection: Programmes, interventions and activities related to screening and early diagnosis of cancer.
- Diagnosis and treatment: National health care model, availability of diagnostic and treatment facilities, resources, services and referral systems for cancer patients.
- National radiation medicine capacity and future plans.
- Palliative care and patient support: Infrastructure, available options (including radiotherapy and opiates) and patient quality of life.
- Education and training in cancer, including planning for human resources development at the national level.
- Civil society activities: Role and activities of non-governmental organizations in cancer control.
- Indicators to monitor and evaluate cancer control interventions.

imPACT review – outcome and follow up

- Establishment of a National Cancer Control Steering Committee involving all stakeholders. The Committee will be responsible for developing the NCCP.
- Development of an NCCP following WHO guidelines and national characteristics.
- Development of a 10-year Action Plan with ranked priority activities, realistic goals, timeframes, milestones and estimated budget. The country's radiation medicine plan should be an integral part of this Action Plan.
- Development of specific funding proposals, for short-, medium- and long-term assistance packages/projects to meet the country's specific needs covering each component of cancer control. In addition, this process should enable the Member State to prepare better defined projects related to the IAEA's mandate in radiation medicine for support through the IAEA's TC programme.

International Cancer Control Partnership - ICCP



http://www.iccp-portal.org/