



Radiation Medicine Program in a Comprehensive Cancer Centre

WHO – IAEA Framework

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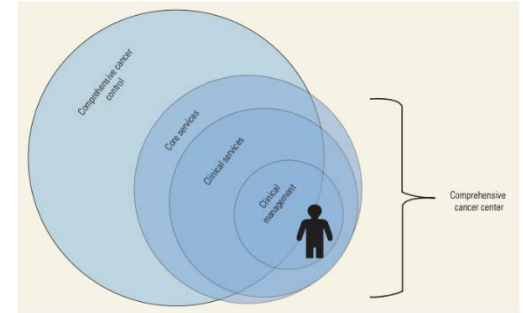
Premise

Radiotherapy programs provide benefits beyond their own modality

- Radiation therapy
 - Essential treatment modality in cancer
 - Fundamental element of a cancer centre
- Historically, cancer centres were built to provide access to safe radiotherapy
- Modern comprehensive cancer centres provide full spectrum of services
 - All diagnostic services
 - All treatment modalities
 - Supportive and palliative care

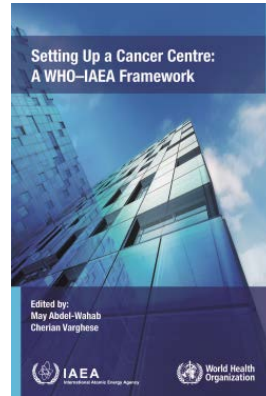
Comprehensive Cancer Centres

- Serve as nucleus for research and education
 - Develop a wide range of research programs
 - Engage in rapid translation of research into practice
 - Train future generations of cancer professionals
- Serve as catalyst for improved cancer services in their communities
- Engage with public health and primary care partners to integrate services
- Engage in advocacy and education of the public



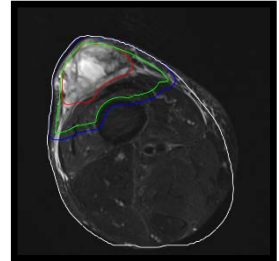
Cancer Centres WHO – IAEA Framework

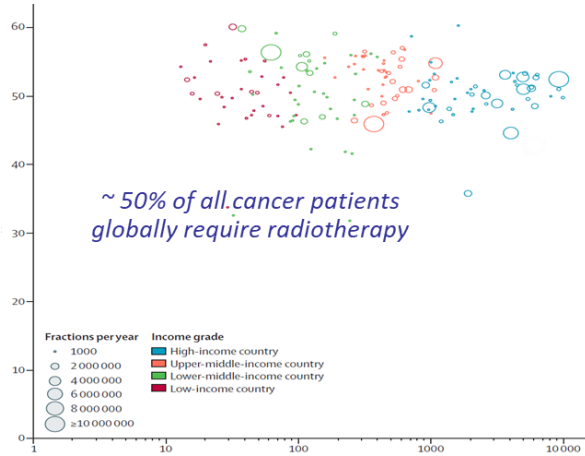
- Major resource in ensuring a comprehensive approach to cancer care
- Integrate multiple resources required to provide services
 - Imaging, pathology, laboratory medicine
 - Surgery, radiotherapy, chemotherapy
 - Palliative care, support, rehabilitation
- Support clinical services: pharmacy, emergency and critical care
- Core services – informatics, governance, facilities, supplies, etc
- Emphasis on integration, quality, responsiveness to patients' needs



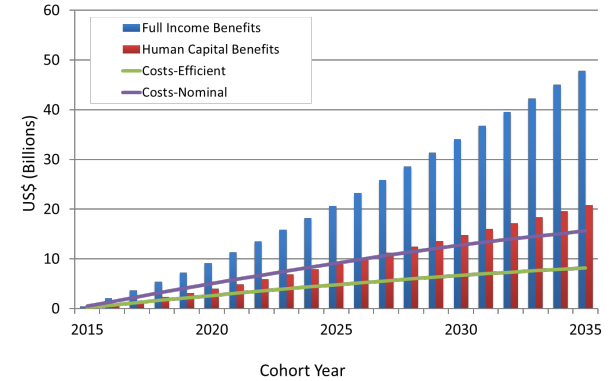
Modern Radiotherapy Program

- Treatment delivered with unprecedented precision and accuracy
 - Data driven therapeutics
- Prerequisites for successful treatment delivery
 - Equipment, skilled professionals, standardized operations
 - Accurate planning and precise daily treatment delivery
- Optimal radiotherapy treatment process requires
 - Standardized approaches – policies and procedures
 - Orchestrated performance of all personnel involved
 - Consistent monitoring; multiple checks - focus on quality assurance
- It is a vanguard for quality assurance in cancer care



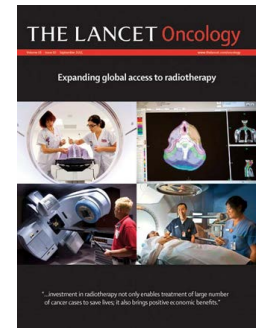


Challenges



Radiotherapy equipment - June 2022

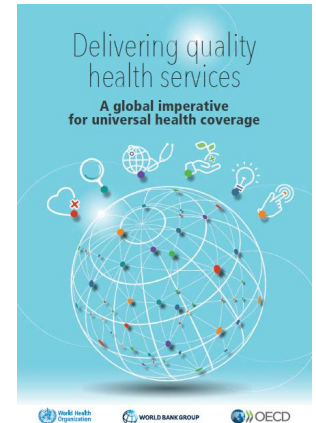
Return on investment



	Health benefits in life years saved (2015-2035; discounted)
Low income	6.3 million
Lower-middle income	9.9 million
Upper-middle income	10.7 million
Total	26.9 million

Trends in Cancer and Healthcare

- Patient centred programs
- Precision in diagnosis and treatment
- Standardization to improve quality
- Digitalization and automation – machine learning
- Data driven learning health systems
- Radiotherapy is in the forefront of
 - precision, standardization,
 - AI, data driven practice



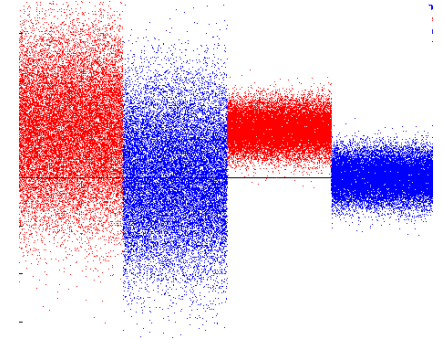
Challenges of Cancer Care

- Complexity of cancer
 - Cancer - > 3000 distinct disease entities
 - Rapid progress – adoption of new technologies and drugs
- Specialized diagnostics
 - molecular profiles and imaging
- Multimodality treatment and multidisciplinary care
- Specialized support services
 - infection control, pharmacy services, informatics
- Comprehensive core infrastructure support
 - facilities, supplies, financing, administration and governance

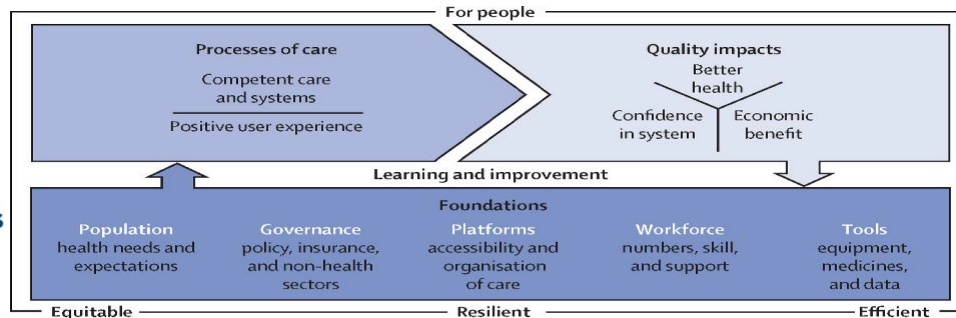


Meeting Challenges of Cancer Care

- Requirements
 - Focus on measurement and data, precision
 - Focus on quality and safety
 - Focus on integrated multiprofessional team practice
- Radiotherapy program
 - Provides positive externalities to the cancer centre
 - Serves as catalyst for driving safety and data informed practice



HQSS
The Lancet Global Health
Commission on
High Quality Health Systems
in the **SDG Era**



*Margaret Kruk et al.
Lancet Global Health
Nov 2018*

Thank you

