Master Course: Cancer Control Planning and Implementation

Webinar #5
Addressing the Cancer Continuum Through National Cancer Control Efforts: From Cancer Diagnosis to Palliative Care

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Cancer Centres
Diagnosis and Treatment
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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)
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
Prabhat Jha
Rengaswamy Sankaranarayanan
Susan Horton
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 centers, 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 centers 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

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Attachment

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<tr>
<td>CANCER Clini Cancer Services.pdf</td>
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Cancer Services

Policy, Cancer Services and Research

Chapters:

10. Global tobacco control (Lead author: Prabhat Jha)

11. Cancer services and the comprehensive cancer care center (Lead author: Mary Gospodarowicz)

12. Screening for cancer: Considerations for low- and middle-income countries (Lead author: Terrence Sullivan)

13. Surgical services for cancer care (Lead author: Anna Dare)

14. Radiation Therapy for Cancer (Lead author: David Jaffray)

15. Cancer research: the need for national commitment (Lead author: Edward Trimble)
Figure 2: Proportion of the population without access to safe, affordable surgery and anaesthesia by Institute for Health Metrics and Evaluation region (selective tree)²⁸⁻⁹

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

1. Patient
2. Doctor
3. Need for laboratory medicine
4. Pre-analytical
5. Post-analytical
6. Analytical

4 Laboratory medicine phases
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)\textsuperscript{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

Cohort Year

US$ (Billions)

- Full Income Benefits
- Human Capital Benefits
- Costs-Efficient
- Costs-Nominal
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
More than half of all patients with cancer will require radiotherapy...

RADIOThERAPY

- SAFE
- COST EFFECTIVE
- NECESSARY

http://globalrt.org
More than half of all patients with cancer will require radiotherapy...

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Radiotherapy:
- Safe
- Cost effective
- Necessary

50% < $1,500

http://globalrt.org/
More than half of all patients with cancer will require radiotherapy...

Radiotherapy

- Safe
- Cost effective
- Necessary

50%

< $1,500

40% cases cured

http://globalrt.org/
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...
A Handbook for the Education of Radiation Therapists (RTTs)

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)

Clinical Training of Medical Physicists Specializing in Radiation Oncology

A Syllabus for the Education and Training of Radiation Oncology Nurses

Radiation Biology: A Handbook for Teachers and Students
IAEA on-line resources

https://humanhealth.iaea.org/

Resources and Learning for Health Professionals

The IAEA online information resource for health professionals working in nuclear medicine, radiation oncology, medical physics, and nutrition, providing insight into the different aspects of modern clinical practice.

more »

In the Spotlight

Health in Disasters

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 Programs: 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

Shortcuts
- Latest
- Events
- Links
- General Public Information
- Databases & Statistics
- IAEA Publications
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

Setting up a Radiotherapy Department
Treating patients
Training
Radiation Biology
Improving the Quality of Service
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Collection of Recorded Radiotherapy Seminars

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