

Radiotherapy The Entry Point of Cancer Control in Zambia



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**VCDNP Workshop on Ensuring
Access to Nuclear Technology for
Human Health**

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Zambia

- Member State of IAEA 1969
- Population 18.4 million
- **Below 24 years 66%**
- **Median Age 17.6 years**
- Growth Rate 2.94%
- **Urban population 45.3 % of the (8,336,381 people in 2020)**
- Rural Population 54.7%
- **Life Expectancy 64.7yrs**
- Literacy 63.4%
- **Overall Cancer Mortality 71% of new cases**
- NCCSP 2016
- MoH HQ established the **Oncology (Cancer Control) Services Unit**

Cancer Burden Top 3 Cancers Male vs Female

New patients coverage:

25%

(2018 data: CDH Cases / ZNCR)

Cancer Incidence			Total % of incidence:		
Males			Females		
Cancer site	Number of cases	% of cancers	Cancer site	Number of cases	% of cancers
Prostate	1230	25.5	Cervix	2994	41.8 66.4 / 100 000
Kaposi Sarcoma	1036	21.5	Breast	888	12.3 19.9 / 100 000
NHL	359	7.4	Kaposi Sarcoma	654	9 8.7/100 000

Active Policy Documents

- National Cancer Control Strategic Plan 2016 - 2021
- ZNCR Report, August 2018
- Globocan/WHO 2018 Factsheet Zambia
- CDH Annual Report Data 2017

What are the **building blocks** of Zambia's cancer control programme and is there any **one** specific factor that can be identified as the **key ingredient to Zambia's success?**

1. Political will – Gives Freedom to Technocrats – Bankable Documents



Late President LP Mwanawasa Opens CDH
19 July 2007 - "the culmination of a vision."

***Directed that all Zambians access
treatment for free and Government will
Provide the cost of the service***



Expansion Programmes as Part of Cancer Control

September 14, 2010 2013

THE CANCER DISEASES HOSPITAL
MAGNETIC RESONANCE IMAGING SCANNER
WAS OFFICIALLY COMMISSIONED
ON 14TH SEPTEMBER, 2010.
BY
HIS EXCELLENCY THE PRESIDENT
OF THE REPUBLIC OF ZAMBIA
MR. RUPIAH BWEZANI BANDA



Expansion Programme

June 2016 The President Dr Edgar C Lungu
Announces the Completion of CDH Phase II



2. Funding – 2% of MoH budget Allocated to Cancer Care Services

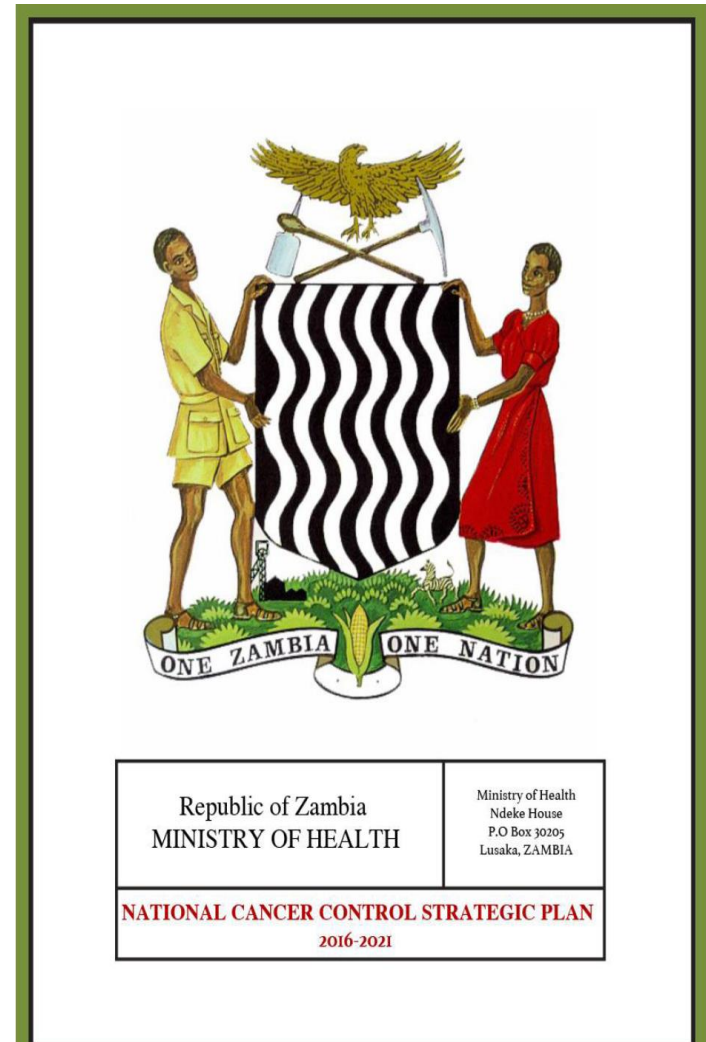
YEAR	APPROVED NATIONAL BUDGET	APPROVED MOH BUDGET	PERCENTAGE OF NATIONAL BUDGET
2011	20,537,358,046	1,758,592,077	8.6
2012	27,698,281,929	2,566,933,794	9.3
2013	32,212,160,265	3,637,244,219	11.3
2014	42,682,034,134	4,228,351,379	9.9
2015	46,666,560,736	4,444,124,368	9.5 (GDP 21 243m)
2016	53,135,825,364	4,436,592,856	8.3 (GDP 20 941m)
2017	64,500,000,000	5,732,842,152	9.1(GDP 25 868m)
2018	64,093,722,128	6, 024,809,880	9.9 (GDP 26 760)
2019	67,682,596,426	6,362,164,064	9.4%
2020	106,007,612,236	9,366,691,684	8.8%

3. Well Costed The Cancer Control Plan

- **2007** Gov allocate budgets to cover treatment and Salaries, RDC,
- **2008** Cost of Treating one patient at CDH nearly USD 3000.00
- **2009** Cancer medicines and supplies allocated: increased from 400,000USD to now 3M USD
- **2009** 1ST QUATRO MISSION (IAEA)
- **2010** IMPACT MISSION (IAEA/WHO/PACT)
- **2013** Revised Cancer medicines part of NEML for MoH
- **2015** IAEA Calculator to cost cancer treatment
- **2016** Costed National Cancer Control Strategy 2017 – 2021 signed

National Cancer Control Strategic Plan 2016 - 2021

- Developed, signed by Minister of Health August 2016 and Launched February 4th 2017
- Director Cancer Control Unit Appointed with the Coordination Unit
- Cost plan for five years



4. Strong Partnerships and TA based on a Solid Plan (Country Policy & Direction)

- **ZAM 6010** – Establishing the First RT Centre in Zambia – **2001 basic RT/CT OPD services and recommended create CDH as a separate entity and Training**
- **ZAM 6012** – Improving the Quality of Cancer Treatment – **2007 Protocol development improved care to 3D Training**
- **ZAM 6016** – Strengthening the Delivery of Radiotherapy Services – **2009 – Train more medical physicists**
- **1ST QUATRO MISSION 2009**
- **IMPACT MISSION 2010**
- **ZAM 6019** – Expanding the Capacity for Radiation Oncology through Sustainable Local Human Resource Development to Benefit National Cancer Control – **2012 – Established RTT TEVETA accredited Diploma Training at CDH & 2016 RO training, Curriculum MPs & ON training**
- **ZAM 6020** – Consolidating the Delivery of Cancer Treatment Services – **Transition from 2D to 3D BT and EBRT**
- **ZAM 6022** - Supporting the Expansion of the Delivery of Radiotherapy – **2017 – supporting the training programmes and expansion programme**
- **NCI, Universities and others**

True Partnerships



5. Human Resource Development Through Local Training



Key Ingredients in Building Cancer Control Programme

- **Existence of HCW Trained in Cancer Management**
- **Political Will & Government Support**
- ***Use of a***
 - ***Primary Health Care Approach***
 - Universal Health Coverage Agenda
 - Partnerships with IAEA/WHO/NCI/NGOs
 - Education – Universities/Colleges/Professional Training Bodies

From The Technology Side

- What are the benefits of using both Cobalt-60 and Linacs for cancer diagnosis and care in Zambia?
- What are the challenges and benefits related to both these technologies? (e.g. security, safety, maintenance, training)

Cobalt 60 Teletherapy Machine in Zambia

Advantages

- Cheaper to procure
- Cheaper to maintain
- Less Down time
- Can treat superficial and deep seated lesions
- Consumes less electricity
- Easy QA/QC procedures

Disadvantages

- Increased side effects of radiotherapy
- Security Issues
- Need for complex treatments make it an apparent disadvantage
- Decaying source

Linear Accelerator Teletherapy Machine in Zambia

Advantages

- Can treat superficial and deep seated lesions
- Easy QA/QC procedures
- Decreased side effects of radiotherapy
- No radioactive source
- Can do complex treatments
- Deliver IMRT/Arc therapy & SBRT

Disadvantages

- Expensive to procure
- High maintenance costs
- Spare parts are not easily available in-country
- Dependant on electricity
- Needs certain operating temperatures
- High replacement costs
- Complex QA/QC procedures

Republic of Zambia



Steps Taken to Improve Access to Cancer Care Services in Zambia



Challenges of Accessing Quality Radiotherapy Care in Zambia

- Inadequate primary and secondary prevention national programmes (Late Presentations)
- Limited resources to finance cancer care activities (from Community to TC)
- Inadequate trained Human Resource
- No or Poor or Inadequate Infrastructure
- Lack of appropriate equipment and its maintenance

Steps Taken To Improve Access to Cancer Care in Zambia

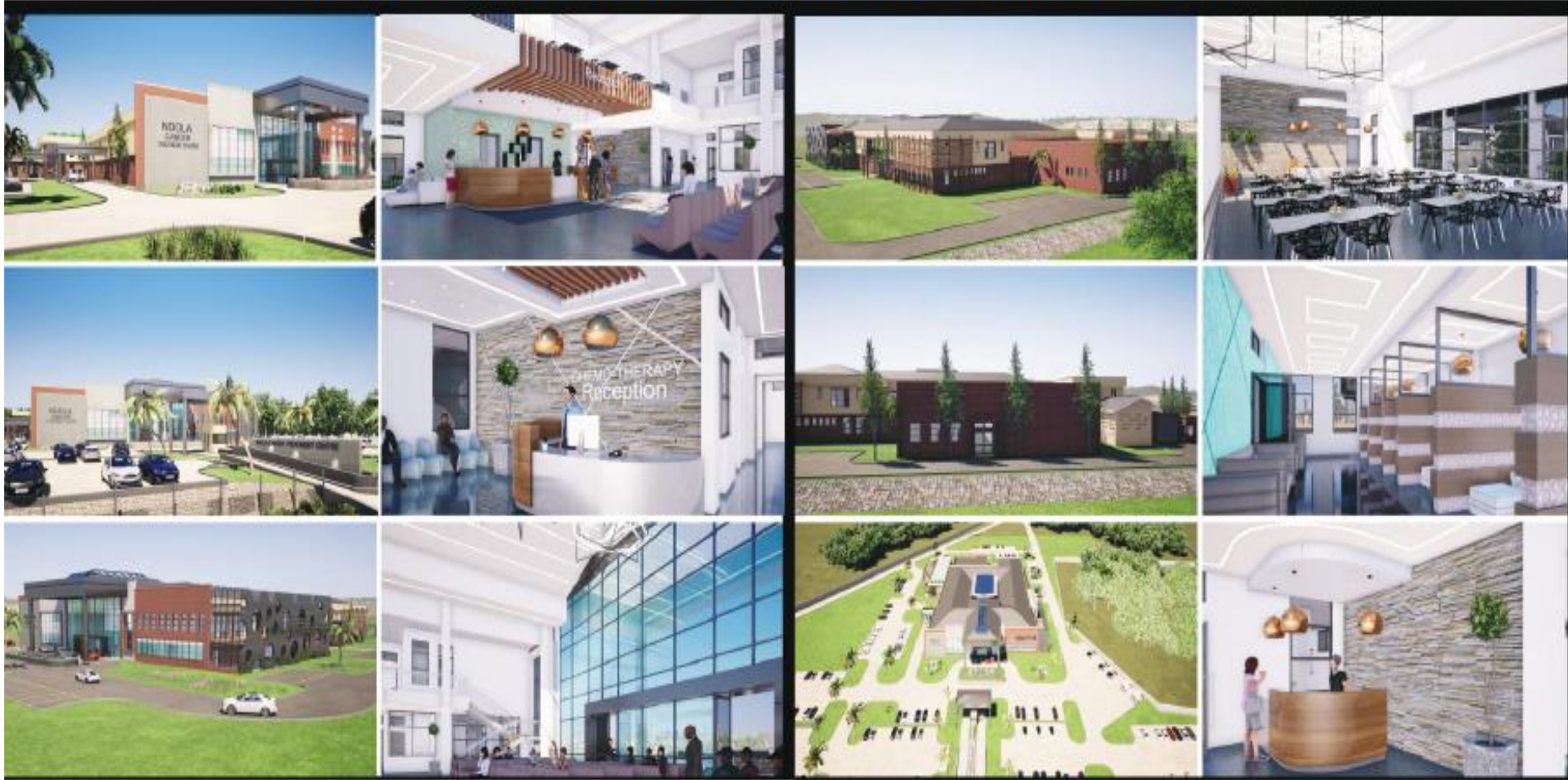
Service Type	2006 Baseline	Current Situation	Desired Service Level
Health Promotion and Primary Prevention	Advocacy, IEC, only HBV vaccine only	Full Programme, Guidelines & IECs HBV & HPV vaccine Programmes	All Community and Health post HCW equipped to promote good health for communities
Secondary Prevention	One Clinic in UTH	95% of Zambia's district have cancer screening	All health centers to be able to do cancer screening in Zambia
Early Diagnosis	No services available	EBCD Guidelines done, 5 Clinics set up 4/118 districts	All districts should have capability for early diagnosis
Treatment & Palliative Care	One CRT Center No other Oncological services	3 centers will operate, with RO, Surg & Gynae Onc, Paeds Onc, Haeme Onc	All Provinces must have one comprehensive cancer treatment center



Ministry of Health

PROPOSED CANCER TREATMENT CENTRES IN (NDOLA AND LIVINGSTONE)

AND EXTENSION TO CANCER DISEASES HOSPITAL IN LUSAKA



Ndola Cancer Treatment Center



NDOLA CANCER TREATMENT CENTRE
LOT 3



WITH

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NDOLA CANCER TREATMENT CENTRE
LOT 3



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Livingstone Cancer Treatment Center



LIVINGSTONE CANCER TREATMENT CENTRE



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LIVINGSTONE CANCER TREATMENT CENTRE



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Thank You

