

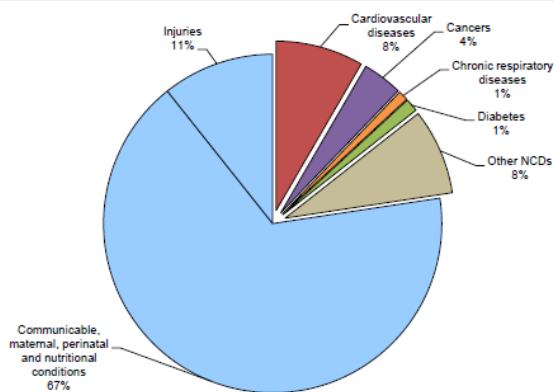


# MAKE IT HAPPEN

## CANCER DISEASES HOSPITAL PROFILE 2019

Zambia is a lower-middle income country situated in Central Africa. It has a population of 17 million. Zambia has a double burden of disease: it has been experiencing a growing number of non-communicable diseases that have become a major public health concern and cause about 23% of deaths in the country, and there is still a high burden of communicable diseases.

**Proportional mortality (% of total deaths, all ages, both sexes)\***



**Total deaths: 147,000**  
NCDs are estimated to account for 23% of total deaths.

Source of data: [World Health Organization – Zambia Noncommunicable Diseases \(NCD\) Country Profile, 2014.:   
http://www.who.int/nmh/countries/zmb\\_en.pdf](http://www.who.int/nmh/countries/zmb_en.pdf)

Cancer is now one of the major contributor to morbidity and mortality in Zambia. The overall age-standardised cancer-incidence rate for both sexes in Zambia in 2012 was 136.2 per 100,000 (10,593 cases), while the age-standardised mortality rate was 104.9 per 100,000 (7,521 deaths). This means that the majority (71%) of people newly diagnosed with cancer in Zambia die from the disease.

Zambia has set up the National Cancer Control Unit, and has set goals for cancer control to include the SDG 3, the goal to reduce premature mortality from cancers by 30% by 2030. This is enshrined in the National Cancer Control Strategic Plan 2016-2021, which is part of the Seventh National Development Plan 2017-2021 and the National Health Strategic Plan 2017-2021. The objectives of the National Cancer Control Strategy include:

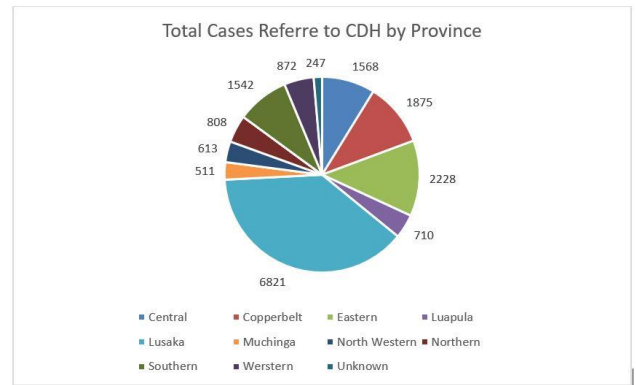
to reduce cancer-associated mortality in Zambia by one-third by 2030, according to the SDG goal, or by 25% by 2025, which is the goal of the Global Action Plan, 2013-2020. This is the main goal of the strategy; and to attain the other nine targets listed in the global plan for the prevention and control of NCDs by 2020.

The specific objectives are:

- to determine the incidence, prevalence and surveillance of cancer in Zambia through the Zambia National Cancer Registry (ZNCR);
- to prevent cancer through increased cancer awareness, health promotion, vaccination, and screening (primary and secondary prevention);
- to promote early detection of cancer and appropriate referrals;
- to provide quality cancer treatment and follow-up through the Cancer Diseases Hospital (CDH);
- to develop an effective palliative care service; and
- to start implementing an efficient and effective decentralised system of governance of cancer programmes to ensure high standards of efficiency, transparency and accountability at all levels of the health sector by 2021.

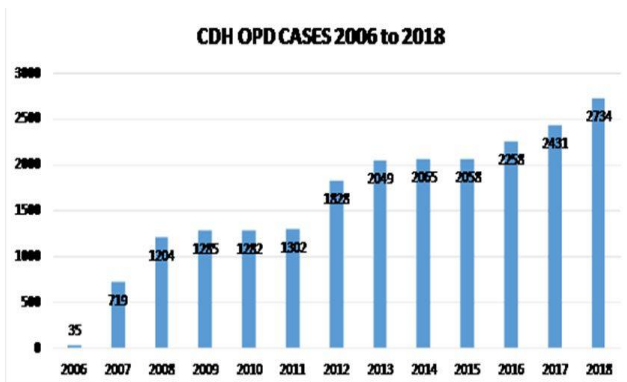
Zambia has only one comprehensive cancer treatment centre, the Cancer Diseases Hospital (CDH) located in the capital city Lusaka. Before the hospital was built, the government of Zambia sent cancer patients abroad at a cost of US\$10 000 per patient. Due to limited budget allocations for treatment abroad, only 350 cases out of 5,000 were sent between 1995 and 2004. The CDH concept started in 1982. In the 1990s the International Atomic Energy Agency (IAEA) became involved, and in April 2001, a proposal was submitted to the Organisation of Petroleum Exporting Countries' Fund for International Development (OFID) for funding. By August 2001, OFID had approved the funding and contracts for construction and equipment were signed in 2003. Construction started in 2003 and completed in 2006, and the hospital was officially opened in July 2007. The statistics for cancer incidence in Zambia as of 2018 are shown in the table below.

Cancer Type	0-4	5-9	10-14	Total
Liver	0	0	3	3
Bone	1	4	5	10
Kaposi sarcoma	7	8	6	21
Kidney	15	11	1	27
Retinoblastoma	25	6	0	31
Brain/Nervous system	3	4	1	8
Hodgkin Lymphoma	3	3	3	9
Burkitt lymphoma	1	3	0	4
Non hodgkin lymphoma	1	1	0	2
Leukeamia	1	6	5	12
Skin	1	0	1	2
Eye	1	3	4	8
Other	3	3	4	10
<b>Total</b>	<b>62</b>	<b>52</b>	<b>33</b>	<b>147</b>



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	<b>Cervix</b>	<b>2994</b>	<b>41.8</b> <b>66.4 / 100 000</b>
Kaposi Sarcoma	1036	21.5	Breast	888	12.3 <b>19.9 / 100 000</b>
NHL	359	7.4	Kaposi Sarcoma	654	9 <b>8.7/100 000</b>

This report is from the ZNCR consolidated report for the period 2008-2014. It shows that the total number of cases over that period was 17,795, of which 11,451 were females and 6,344 were males. Over the same period the CDH recorded the total number of cases as 11,015 (females 6,609, males 4,406). Since inception in 2006, the CDH has reported a steady increase in the number of new cases. In 2019 we expect to see more than 3,000 new cancer cases at CDH. The provincial distribution is shown below. Lusaka province refers the largest number of cases to CDH. The figures are smaller from the other nine provinces because patients cannot travel the distance to Lusaka or because of other in-country disparities that need to be addressed.



### Childhood Cancer Registration in Zambia, 2013:

Zambia has achieved a lot in terms of cancer control. Under the National Cancer Control Strategic Plan 2016-2021, Zambia launched a well-regarded national population-based cervical cancer prevention programme, to which DNA testing for HPV as a screening test has been added. HPV vaccination commenced in July 2019.

Phase I of construction of the CDH was complete and operational in 2006, and established radiotherapy (with one linear particle accelerator (Linac), one cobalt 60 machine, one high-dose-rate brachytherapy machine with iridium, one simulator, one mammography machine and a treatment planning unit), chemotherapy, imaging and laboratory services for cancer treatment. Phase II of the CDH created the second brachytherapy unit, with CT and MRI procured and installed by 2010. An in-patient facility, nuclear medicine, theatre, and chemotherapy outpatient suite were complete and operational by June 2016. The second CT simulator scanner was procured and delivered this year. Now the radiotherapy service is being decentralised to all provincial capitals through CDH Phase III, starting with the addition of two more centres in Ndola and Livingstone. CDH is also earmarked for an upgrade and replacement of old machines, which will bring a new Linac, and the replacement of the old Linac cobalt 60, 2D simulator and brachytherapy units purchased during phase I.

CDH has established training programmes with the following courses:

- 1) A Radiation Therapy Technology course at diploma level, which commenced in 2012;
- 2) specialist training programmes at fellowship level or Master of Medicine in clinical and radiation oncology, which commenced in 2018; And
- 3) the curriculum to teach Clinically Qualified Medical Physics (CQMP) ready for implementation under the Zambia College of Medicine and Surgery (ZACOMS).

The human resource strength of CDH is summarised below:

2009	PROGRESS 2018	COMMENT
Total Staff 131 (86 Clinical)	410/752 (281 Clinical Staff)	NEWLY APPROVED ESTABLISHMENT
Clinical & Radiation Oncologists 5 (4 Zambians and 1 Egyptian) + 6 medical officers	3 more Zambians trained abroad returned; Fellowship in Clinical & Radiation Oncology	10 Fellows in Clinical Radiation Oncology under ZACOMS started training in 2018. They qualify 2021
Surgical Oncologist, Gynaecologic Oncologist, Paediatric Oncologist Zero (0)	1 Surgical oncologist 1 Gynaecologic oncologist 1 Paediatric oncologist	10 planned to go to T Memorial Hospital in India Mumbai
Nuclear Medicine Physician 0	2	1 has returned, 1 still training
Medical Physicists 3	5 fully trained + 1 intern joined	3 Complete of which are doing clinical tra
Radiation Therapy Technologists 13	35	Diploma in Radiation Therapy Technology started in 2012
Laboratory Technologists 4	11	
Pharmacy 6	24	
Nurses 31	162	20 ARE TRAINED oncology NURSES

One challenge is retention of staff in Zambia once they are qualified. Another is to maintain machines frequently and keep the hospital technology up to date to support staff development and constant training.

Through the CDH, Zambia has collaborated with the IAEA through the implementation of national projects that are designed by both the country and IAEA to ensure that the desired output is achieved.

The projects implemented include the following:

- **ZAM 6010** – Establishment of the first radiotherapy centre in Zambia - **2001**
- **ZAM 6012** – Improvement of the quality of cancer treatment - **2007**
- **ZAM 6016** – Strengthening the delivery of radiotherapy services - **2009**
- **ZAM 6019** – Expansion of the capacity for radiation oncology through sustainable local human

resource development to benefit national cancer control – **2012**

- **ZAM 6020** – Consolidation of the delivery of cancer treatment services – **2014**
- **ZAM 6022** – Supporting the expansion of the delivery of radiotherapy – **2017**.

The latter project commenced in January 2018 and has three major targets: to support local training; to help to establish advanced radiotherapy techniques; and to aid in the decentralisation of radiotherapy services.

Today CDH has become a comprehensive cancer treatment centre with services in clinical and radiation oncology (radiotherapy & chemotherapy), surgery, gynaecology and paediatric oncology. CDH has a 252-bed in-patient facility with a space for an intensive-care unit and eight high-dependency wards. It has an outpatient department with eight consulting rooms.

It has an 80-bed outpatient chemotherapy administration suite. The equipment in these areas is basic and requires upgrading so that CDH can transform into a regional centre of excellence for training, diagnosis and treatment for cancer.

In terms of finance, all Zambian patients are treated free of charge to the patient. The Ministry of Health covers this cost. Currently Zambia includes cancer as part of its national health insurance.





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