CANCER INCIDENCE IN HARARE

TRIENNAL REPORT 2010-2012

E. Chokunonga, M.Z. Borok, Z.M. Chirenje, A.M. Nyakabau and R. Makunike-Mutasa

Harare, Zimbabwe, November 2013

TABLE OF CONTENTS

Fig. 1 Geographical location of Zimbabwe

Fig. 2 Map of Harare City

VITAL STATISTICS

GENERAL INFORMATION

Height above sea level - 1 500 m

Area of Greater Harare - 890 km^2

RAINFALL	2010	2011
Actual: (January - December)	799.1 ml	1003.1 ml
Seasonal: (July 2010 - June 2011)	2766.1 ml	735ml

TEMPERATURE

Maximum Temperature	34.5^{o}C (12Oct)	36.3 ^{o}C (26th Oct)
Minimum Temperature	3.1 ^{o}C (Aug 16)	2.0 ^{o}C (26th June)

POPULATION

Total Population	-	1 583 902
Male (50.1)	-	793 535
Female (49.9)	-	790 367
Estimated population growth rate	-	2%

DEPENDENCY RATIO

Dependency Ratio = 52%

$$\text{Dependency Ratio} = \frac{\text{Population Under 15 Years + Over 65 Years}}{\text{Population 15 Years to 64 Years}} \times 100\%$$

Distribution of the urban population by age group

0-14 years = 32 % 15- 64 years = 66% 65+ years = 2%

Source: Projection of 2002 Population by Census Statistics office (CSO)

ZIMBABWE CANCER REGISTRY ADVISORY COMMITTEE: 2013

Executive Committee

Chairman:	Mr B G Mauchaza (Specialist Surgeon)
Deputy Chairperson:	Dr N Ndlovu (Consultant Radiation Oncologist)
Secretary:	Dr A M Nyakabau (Consultant Radiation Oncologist)
Treasurer:	Professor Z M Chirenje (Consultant Gynaecologist)
Medical Director:	Professor M Z Borok (Consultant Physician)
Registrar:	Mr E Chokunonga (Registrar)

Members

Professor M Chidzonga (Dean, College of Health Sciences, UZCHS
Dr R Makunike-Mutasa (Consultant Pathologist)
Professor Z A R Gomo (Consultant Chemical Pathologist)
Dr M Hove (Chief Government Pathologist)
Professor R Masanganise (Consultant Ophthalmologist)
Dr I Ticklay (Consultant Paediatrician)
Dr I Chitsike (Consultant Paediatrician)
Professor A Chideme-Munodawafa (Assistant Dean, Africa University)
Mr S Makarawo (Clinical Director, Parirenyatwa Group of Hospitals)
Professor G Muguti (Consultant Surgeon)
Dr S Vuma (Consultant Radiation Oncologist)

STAFF:

Registrar:	Mr E Chokunonga
Executive Assistant:	Ms M Zvarevashe
Data Collection Officers:	Mrs R Rukainga
	Miss R Chireshe
	Mr T Tapera (Bulawayo)
	Ms S Mguni (Bulawayo)

POSTAL ADDRESS:	Zimbabwe National Cancer Registry P. O. Box A449, Avondale, Harare, Zimbabwe
VISITING ADDRESS:	Parirenyatwa Group of Hospitals Post Basic School of Nursing Building Mazowe Street Entrance Harare, Zimbabwe
TELEPHONE:	(263-4) 794445, 731000, 707707 and 730553
FAX:	(263-4) 794445
EMAIL ADDRESSES:	cancer@ecoweb.co.zw; cancer.registry@healthnet.zw
WEBSITE:	www.afcrn.org

ACKNOWLEDGEMENTS

The Zimbabwe National Cancer Registry is grateful to local and international partners that supported the organisation during the period under review. The following organizations need special mention for their support:

1. The Ministry of Health and Child Welfare (MOHCW)
2. INCTR Challenge Fund
3. International Agency for Research on Cancer (IARC)
4. International Association of Cancer Registries (IACR)
5. The World Health Organisation (WHO)
6. Savanna Pharmaceuticals
7. Medical and administrative staff of Parirenyatwa Group of Hospitals
8. Medical and administrative staff of Harare Central Hospital
9. Medical and administrative staff of Chitungwiza Central Hospital
10. Medical and administrative staff of the UZ College of Health Sciences
11. National Public Health Laboratories (NPHL)
12. Lancet Clinical Laboratories
13. Diagnostic Pathology Centre (DPC)
14. CIMAS Medical Laboratories
15. Bulawayo Cancer Registry (BCR)
16. Southern Pathology Laboratories
17. Premier Services Medical Laboratories
18. Births and Deaths Unit in the Office of the Registrar-General
19. Harare City Health Department
20. Zimstat
21. Avenues Clinic
22. West End Hospital
23. St. Anne's Hospital

We are grateful to the staff of the ZNCR (Mrs Rosemary Rukainga, Ms MaryGorret Zvarevashe and Miss Romalda Chireshe) who were responsible for the collection and processing of the data.

This report was prepared during a fellowship awarded to EC through a grant from the African Cancer Registry Network (AFCRN). The ZNCR is extremely grateful to the AFCRN for the technical and financial support rendered to the registry during the period under review, and the invaluable assistance provided by Dr D.M. Parkin and Dr L. Ekobena-Ekobo of the AFCRN in the preparation of this publication is gratefully acknowledged. The production and distribution of this report was also supported by the AFCRN.

BACKGROUND

The Zimbabwe National Cancer Registry (ZNCR) was established in 1985 as a result of a collaborative research agreement between the Ministry of Health and Child Welfare (MOHCW) and the International Agency for Research on Cancer (IARC) of the World Health Organisation (WHO). Although the Registry is population-based for Harare, the capital city of Zimbabwe, it also registers cases from outside its target population of Harare City. Frequency data for the country have been reported in the annual reports since 1990. The additional information is used to estimate the pattern and burden of cancer in the country (ZNCR Annual Reports 1990-2010). In this publication, we report population-based results for Harare City for the period 2010-2012.

Acceptably complete coverage of the target population was achieved in 1990, and the incidence rates for this population have been reported in four successive volumes of the "Cancer Incidence in 5 Continents" (volumes 7-10).

The Registry is situated in the Parirenyatwa Group of Hospitals complex, a large referral government hospital which provides most of the specialized cancer management services for the northern part of the country and is one of two teaching hospitals of the University of Zimbabwe's College of Health Sciences (UZCHS).

The ZNCR is a voting member of the International Association of Cancer Registries (IACR) and is also one of the founding members of the East African Registry Network (EARN) which became the African Cancer Registry Network (AFCRN) in 2011.

POPULATION

i. Geography

The cancer registry receives notifications of cancer cases from the whole country. However, complete coverage (identification of all cases occurring) is achieved only for the residents of Harare Urban area.

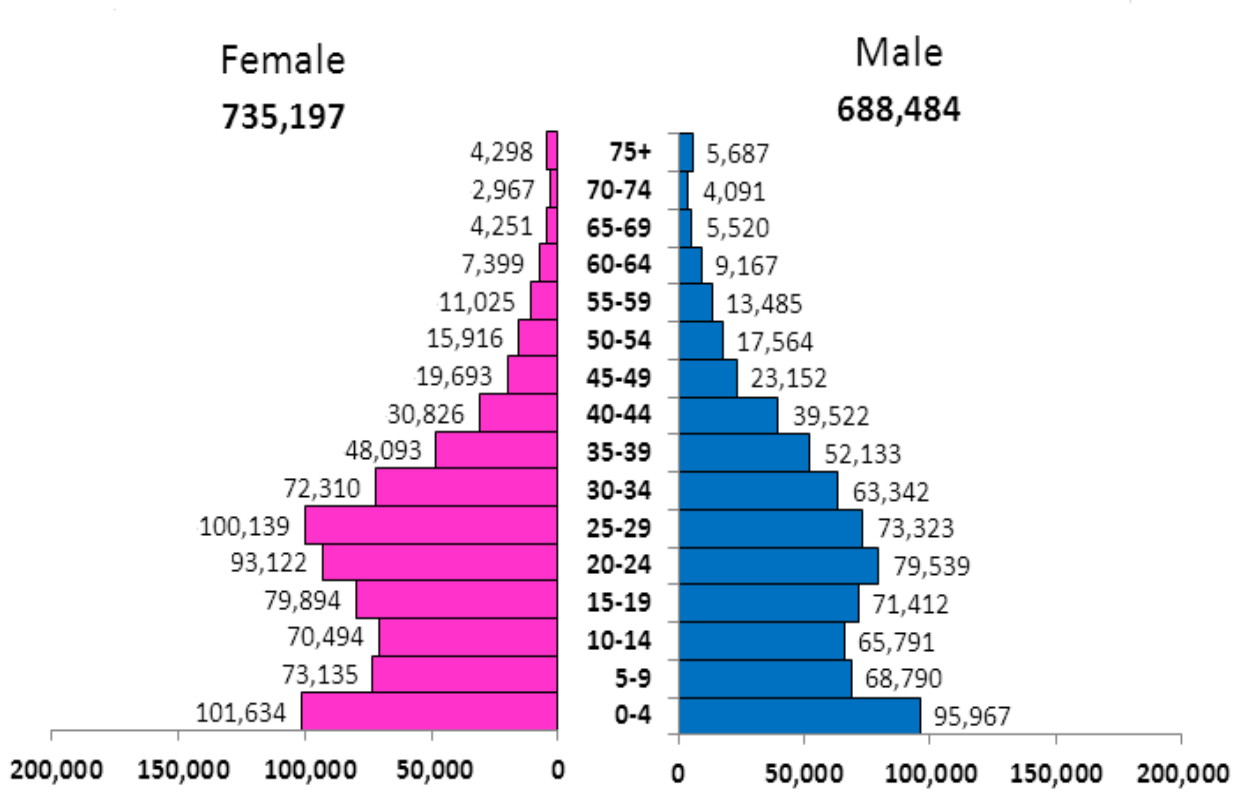
ii. Population size and composition

The most recent population census in Zimbabwe was in 2012, but at the time of preparing this report, only the size of the total population of Harare (all races), by sex, or by five year age group was available from the Census Office. It showed a total population of 1 468 766 (724,350 males and 744,416 females). Results of the 2002 census were available by race, sex, and age.

The composition of the Harare population by sex and five year age group *(i)* in 2012 was prepared, by assuming that sex ratio at age (*i*-10) in 2002 applied at age *i* in 2012. The non-white population in 2012 was estimated by ageing the 2002 population in each sex-age (*i*) group by 10 years, and applying the life table mortality rates (*qi*) applicable to South African whites in 2001 (Dorrington et al, 2004). The number of births was set to decline at the same annual rate as the decline in the numbers of children aged 0-4 relative to those aged 5-9 in 2002. The estimated black population in 2012 (by sex and five year age group) was obtained by subtraction.

Annual estimates of the black population for each year 2002 – 2012 were obtained by assuming a constant rate of increase (or decrease) within each sex-age group. The average annual population for black African residents of Harare, for the years 2010-2012 is shown in the population pyramid (Fig 3).

Fig 3 Estimated average annual population of Harare City for the period 2010-2012



METHODS

a. Sources of Information

Public Hospitals

Parirenyatwa Group of Hospitals
Harare Central Hospital
Chitungwiza Central Hospital

Municipal Hospitals

Beatrice Road Infectious Diseases Hospital (BRIDH)
Wilkins Infectious Diseases Hospital (WIDH)

Private Hospitals

St. Anne's Hospital
Avenues Clinic
West End Hospital

Laboratories

The National Public Health Laboratory (NPHL)
Lancet Clinical Laboratories
CIMAS Medical Laboratories
Premier Services Medical Laboratories
Diagnostic Pathology Laboratory (Bulawayo)
Bulawayo Public Health Laboratory
University of Zimbabwe College of Health Sciences Haematology Laboratory

Other Sources

Radiology Department, Parirenyatwa Group of Hospitals
University of Zimbabwe College of Health Sciences Oral Health Centre
Parirenyatwa Group of Hospitals Radiotherapy Centre
Registry of Births and Deaths (Harare)
Bulawayo Cancer Registry
Clinical Case Series and Cancer Studies

b. Methods of Data Collection

The Registry uses a combination of active and passive methods of case finding. In order to register cases ZNCR staff visit institutions within the health-care delivery system of Harare that are involved in the diagnosis and management of cancer patients.

Regular routine visits to the inpatient wards of the 3 government referral hospitals (Parirenyatwa Group of Hospitals, Harare Central Hospital and Chitungwiza Central Hospital) are made by ZNCR staff. Patient interviews are conducted in order to record patient demographics accurately. Oncology outpatient clinics and medical records departments are also visited regularly.

The two municipal referral hospitals (Beatrice Road Infectious Diseases Hospital and Wilkins Infectious Diseases Hospital) report their new cases of cancer voluntarily to the ZNCR.

The three major private hospitals in Harare (St. Anne's Hospital, Avenues Clinic and West End Hospital) are visited regularly to collect cancer registration forms that are filled in by hospital staff.

The National Public Health Laboratory (NPHL) is visited regularly to abstract manually histology reports of cancer patients. The ZNCR Registrar periodically visits the private Lancet Clinical Laboratories to identify and print histology reports of cancer patients from the laboratory's electronic histology database. The CIMAS Medical Laboratory submits copies of reports to the Registry on a monthly basis. The Bulawayo based Diagnostic Pathology Centre (DPC) periodically submits electronic copies of its histology database to the ZNCR.

The Haematology Department of the University of Zimbabwe College of Health Sciences (UZCHS) provides copies of reports of haematological malignancies to the ZNCR.

The Radiology Department at Parirenyatwa Hospital is visited regularly to review and register patients from ultrasound (USS) and CT scan reports.

Patients managed at the Radiotherapy Centre (RTC) located at Parirenyatwa Hospital are registered through the Centre's medical records system. ZCR staff also visit the Centre during clinic days to interview and register patients.

The Oral Health Centre (OHC) of the UZCHS is visited regularly to register cancer patients seen at the Centre.

Death certificates of people who die in the greater Harare area and the dormitory town of Chitungwiza are scrutinized weekly to record those that have died of malignant disease

The ZNCR also makes use of records of specific cancer studies as well as clinical case series amassed by clinicians.

The revived Bulawayo Cancer Registry (BCR) is an important source of information of cancer cases that occur in the southern part of the country.

Cancer notification forms are filled in for each cancer patient identified at the various sources. The abstract forms are matched manually and electronically with the records in the ZNCR database in order to prevent multiple registrations.

c. Variables

The variables collected on each patient include patient demographic data: names, date of birth/age, sex, race and usual residential address. Hospital and patient numbers, date of diagnosis, method of diagnosis, primary site, histological type, extent and stage of disease are also collected. Basic data on initial treatment and follow-up are also collected. HIV status is also recorded when it is available. The main abstract form used by the ZNCR is shown as Annex 1.

d. Classification and Coding

Site and Histology

The abstract forms are coded for topography (tumour site) and morphology (histology) according to the International Classification of Diseases for Oncology (ICD-O-3) (Fritz *et al*, 2004) and entered into the computer using the CanReg4 cancer registration software provided by the IARC.
The ICD codes entered into the CanReg system are automatically converted to the appropriate codes of the 10th revision edition of the International Classification of Diseases and related Health Problems (ICD-10) in order to facilitate international comparison of the results.

Demographic Data

Socio-demographic data are coded to a system developed by the ZNCR that takes into account practices developed by the government Statistical Agency (ZIMSTAT) for national use.

Coding by Ethnic Groups

Health-related data in Zimbabwe are typically collected using the colonial race classification of African, European and Coloured. We report data for the black population, meaning the population of indigenous African descent and the white population, which comprises the previous category, "European".

Incidence Date

Incidence date (date of diagnosis) is defined according to the 1991 original recommendations of the IARC. They refer the date in decreasing order of priority:

a) Date of first consultation at or admission to, a hospital, clinic or institution for the cancer in question;
b) Date of first diagnosis of the cancer by the physician or the date of the first pathology report – a population-based registry should seek this information only when necessary for recording the incidence date;
c) Date of death (year only), when the cancer is first ascertained from the death certificate and the follow-back attempts have been unsuccessful; or
d) Date of death preceding an autopsy, when this is the time at which cancer is first found and was unsuspected clinically (without even a vague statement, such as 'tumour suspected', 'malignancy suspected').

Multiple primaries and registration of skin cancers

The rules of the IARC/IACR on multiple primary cancers are observed: Only one primary cancer at a given site can occur in an individual, unless the second such cancer is of a completely different histological type.

The incidence of non-melanoma skin cancer (basal cell and squamous cell carcinomas) is quite high in the white and albino population of Zimbabwe. This is typical of white populations of European descent living in sunny climates at low latitudes. Many patients will develop several lesions of the same histological type during their lifetime. The ZNCR only records the first lesion if the histology is the same. Subsequent lesions of the same histological type are ignored. However, basal cell carcinoma and squamous cell carcinoma of the skin in the same patient affecting the same or different sites are registered separately and are regarded as multiple primary tumours.

Laterality (tumours in the opposite side of paired organs) and time, tumours in the same organ, years later are not considered as new primary cancers.

Basis of Diagnosis

Basis of diagnosis is coded according to the ICD-O-3 scheme. When multiple notifications are received for the same cancer, the highest code (most valid basis) is used on the tumour record.

Table 1 IARC-IACR Basis of Diagnosis Codes		
Code	**Description**	**Criteria**
0	Death Certificate Only	Information provided is from a death certificate.
Non-microscopic		
1	Clinical	Diagnosis made before death, but without any of the following (codes 2-7).
2	Clinical investigation	All diagnostic techniques, including x-ray, endoscopy, imaging, ultrasound, exploratory surgery (e.g., laparotomy), and autopsy, without a tissue diagnosis.
4	Specific tumor markers	Including biochemical and/or immunological markers that are specific for a tumor site.
Microscopic		
5	Cytology	Examination of cells from a primary or secondary site, including fluids aspirated by endoscopy or needle; also includes the microscopic examination of peripheral blood and bone marrow aspirates.
6	Histology of a metastasis	Histologic examination of tissue from a metastasis, including autopsy specimens.
7	Histology of a primary tumor	Histologic examination of tissue from primary tumor, however obtained, including all cutting techniques and bone marrow biopsies; also includes autopsy specimens of primary tumor.
9	Unknown	

Software

The CanReg4 cancer registration software developed by the International Agency for Research on Cancer is used for data processing. Data analysis was done using the analysis module of CanReg4. The ZNCR will soon migrate to version 5 of the CanReg software.

Confidentiality

The ZNCR strictly observes the IACR/IARC rules on confidentiality. Requests of data made in writing have to be sanctioned by the Medical Director and data release sub-committee of the Advisory Committee.

Statistical methods

Results are presented as numbers of cases registered in the three year period (2010-2012), the frequency of different cancers (as a percentage of the total) and average annual incidence rates.

The latter are calculated as:-

$$\frac{\text{Number of cases x 100,000}}{\text{Average annual population at risk x 3}}$$

either for the whole population of males and females (crude rates) or for 5 year age groups (age specific rates), per 100,000 population.

Age Standardisation is carried out by two methods:

a) Direct standardisation

Using age specific rates, applied to the 'World Population' (Doll & Smith, 1982) to obtain the (World) Age Standardised Rate (ASR) per 100,000 population.

b) Cumulative rates (to age 74).

This is obtained by adding age specific rates for individual years of age up to age 64 or age 74. If these rates are expressed per 100,000, the result is divided by 1000, to obtain the cumulative rate (Cum. Rate) per 100 (%). It is approximately equal to the probability (percentage chance) of developing the given cancer by age 74, given the age specific incidence rates in the tables.

Comparisons of the frequency (percentage) of cancer types between different subgroups of the population (e.g. the black and white populations of Harare) may be, in part or whole, the result of differences in the age structure of the populations, since the relative frequency of different cancer types varies considerably with age. Age standardisation is carried out by calculating Proportional Incidence Ratios (PIRs). In the PIR, the expected number of cases in the sub group due to a specific cancer is calculated, and the PIR is the ratio of the cases observed to those expected. The expected number of cases is obtained by multiplying the total cancers in each age group in the sub group, by the corresponding sex-age-cause-specific proportions in a standard (Boyle & Parkin 1991)

RESULTS

a. Incidence

A total of 6345 new cancer cases, comprising 2847 (44.9%) males and 3498 (55.1%) females were recorded among residents of Harare City of all races during the three year period (2010-2012). Appendix Table I shows the distribution of cases by sex, age group, and type of cancer.

There were a total of 5549 cases among the black population (2425 in males and 3124 in females). Appendix Table II shows the distribution of cases by sex, age group, and type of cancer.

759 cases occurred in the white population of Harare (402 in males, and 357 in females). Appendix Table III shows the distribution of cases by sex, age group, and type of cancer.

Appendix Table IV shows the incidence rates by sex, 5-year age group, and type of cancer, as well as the percentage frequency of each cancer type among the black population.

i. Number of cases in period, by age group and sex

Fig 4 shows the distribution of cases registered among the black population of Harare in the three year period, by broad age grouping and sex. Overall (both sexes) some 3 % of cancer cases occurred in childhood (ages 0-14), and 25% in the elderly (ages 70 or more).

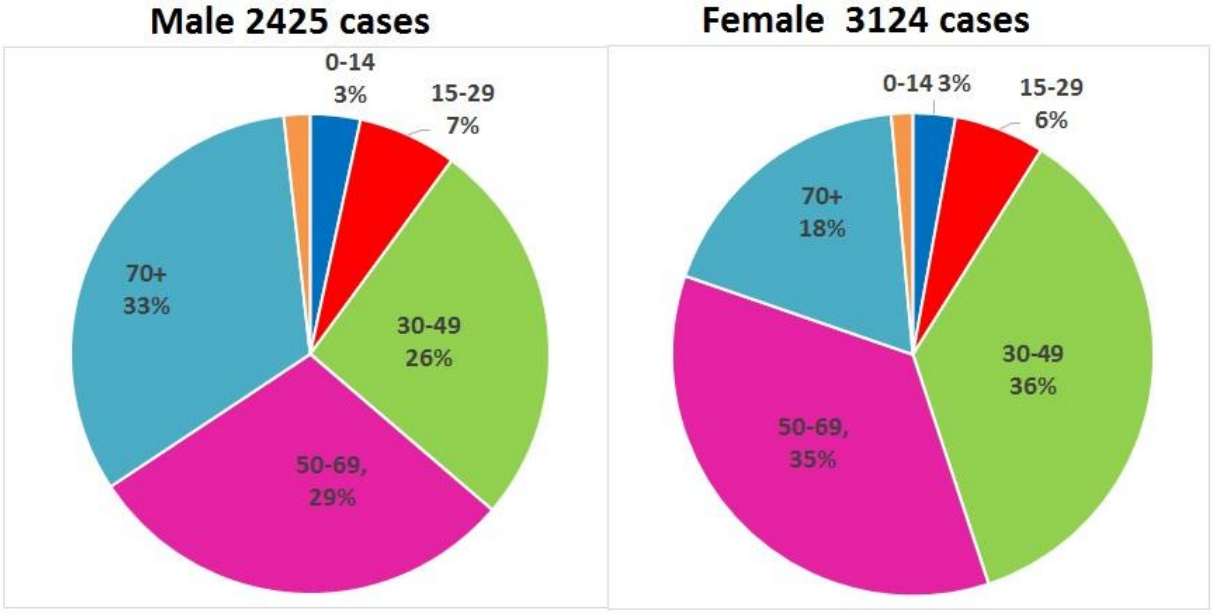


Fig. 4. Distribution of cases registered (2010-2012), by age group and sex.

ii. Most common cancers, by sex

Fig 5 and 6 show the 10 most common cancers in men and women (black population), according to the number of cases recorded in the three year period.

In men, prostate cancer was the most commonly diagnosed malignancy, with 541 cases followed by Kaposi sarcoma (343 cases).

In women, cancer of the cervix uteri was the most predominant cancer with 870 cases followed by cancer of the breast (427 cases).

Fig. 7 and 8 show the ranking of cases according to the cumulative incidence (0-74).

In men (Fig 7) the highest cumulative incidence is for prostate cancer (8.8%) followed by stomach cancer (2.2%) and Kaposi sarcoma (2.1%).

In women (Fig 8) the sequence is: cancer of the cervix (11.4%), breast (5.9%) and stomach (2.8%).

Fig 5: Top 10 Cancers (numbers): Males

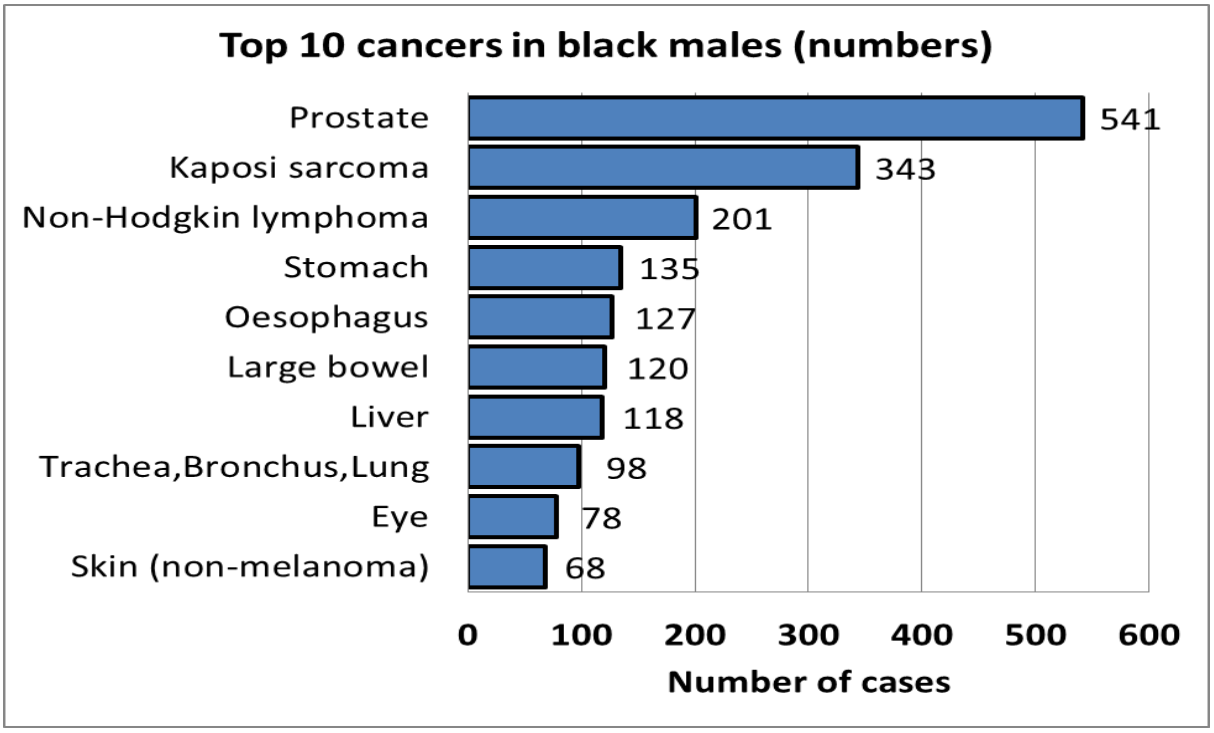


Fig 6: Top 10 cancers (numbers): Females

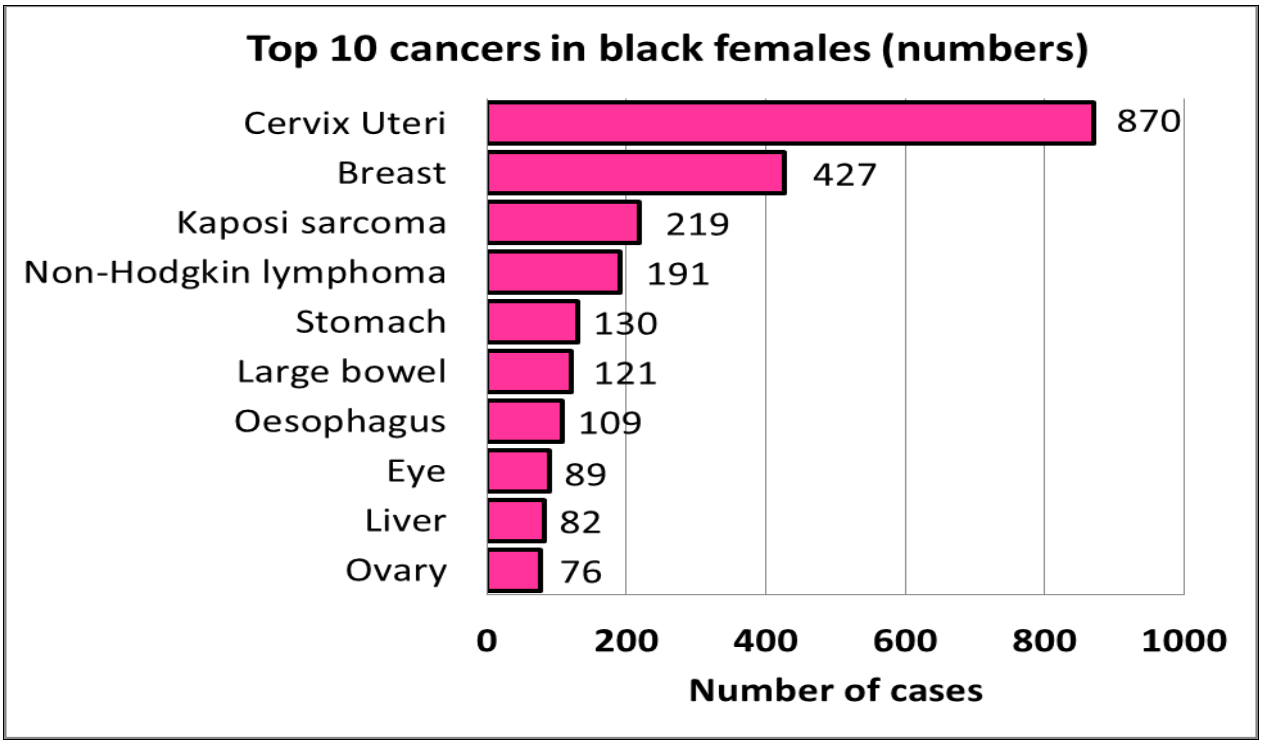


Fig 7: Top 10 cancers (incidence) Males

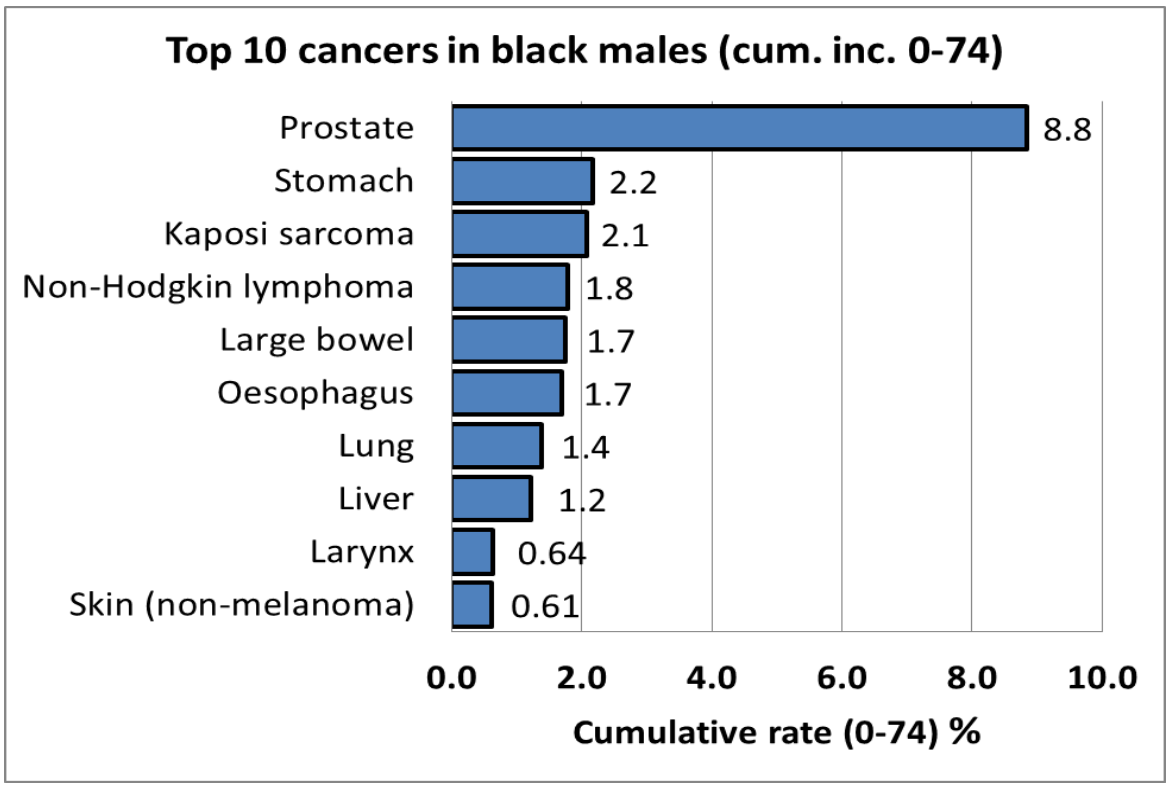
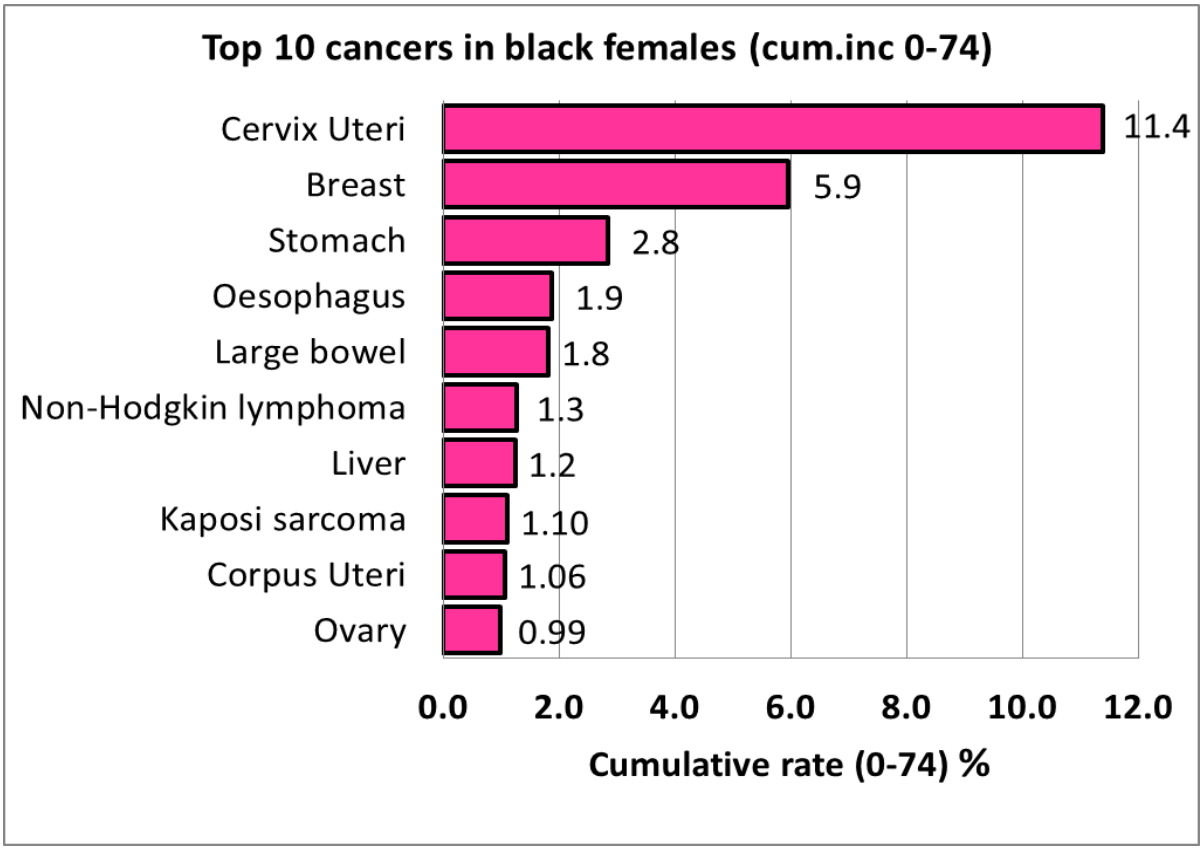


Fig 8: Top 10 cancers (incidence) Females



iii. Age specific incidence rates (most common sites) by sex

Fig 9 shows the age specific incidence rates for the five most common cancers of black males. Cancer of the prostate, stomach and oesophagus show steadily increasing incidence by age, and the increase begins at relatively old ages for all three cancers. Kaposi sarcoma and NHL both show a different pattern: a small peak in childhood (age 5-9), a second peak in adolescence (15-19), then a third peak in young adults (40-44) and a final peak in old age (65-69).

Fig 9 Age specific incidence rates (Blacks) Males

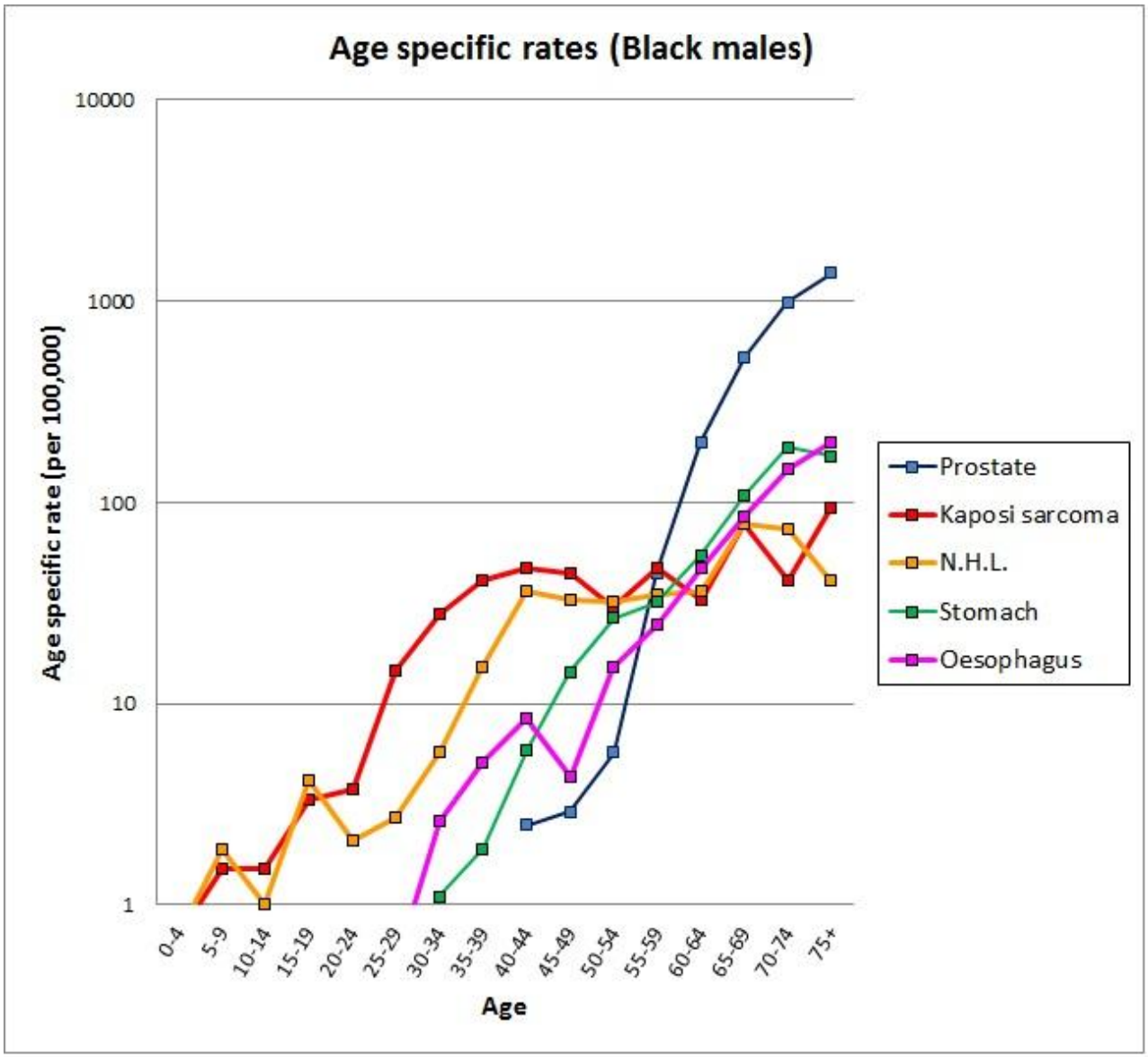
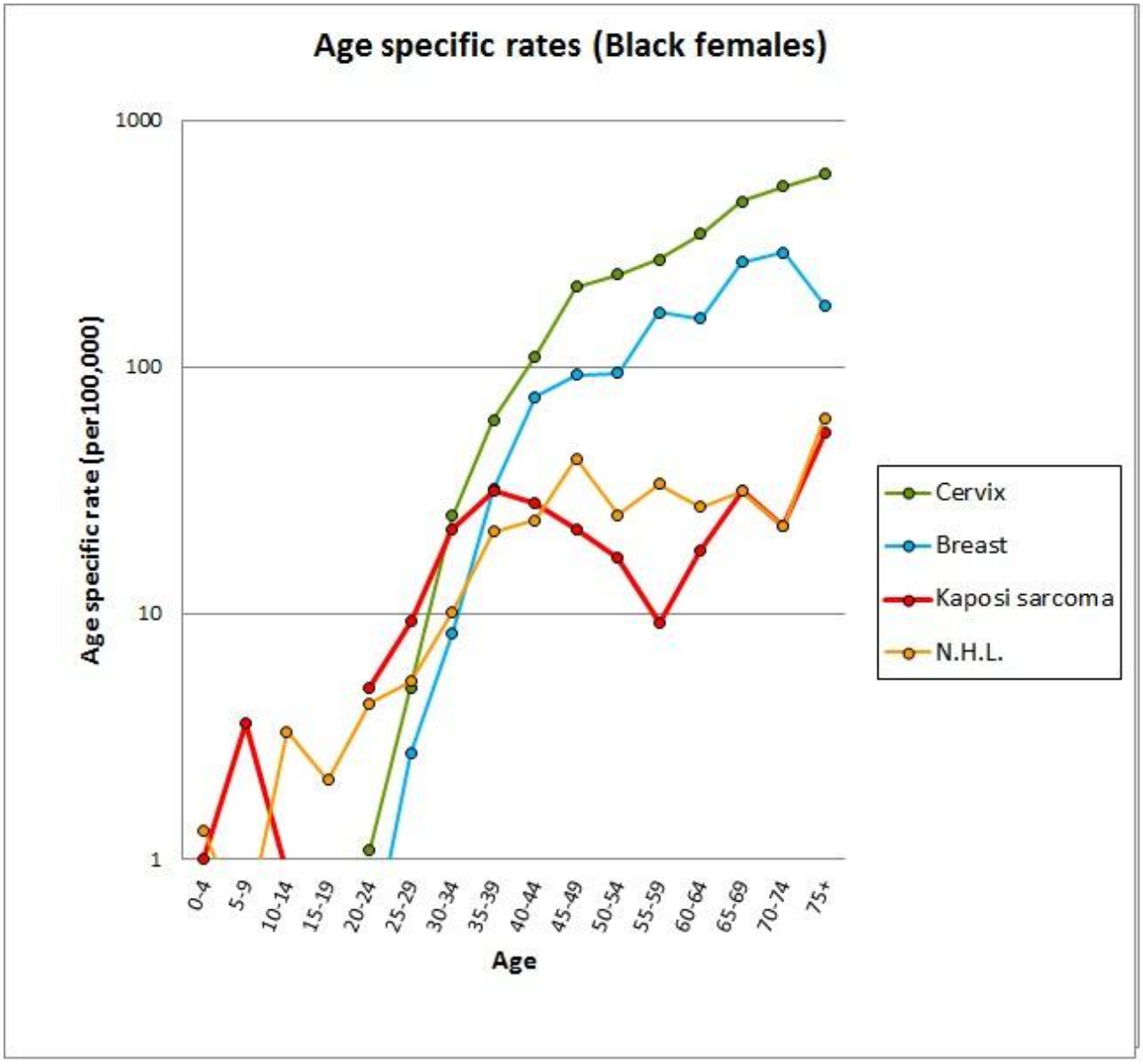


Fig 10 shows age specific incidence rates for the four most common cancers of women. Cancer of the cervix uteri and breast show steadily increasing incidence by age, while the incidence rates of Kaposi sarcoma and NHL tend to be irregular. The pattern of incidence of Kaposi sarcoma is

similar to that in males with a peak in childhood (5-9) and in adults (35-39). The incidence of NHL increases after age (70-74) unlike in men where the incidence rates decreases after age (70-74).

Fig 10 Age specific incidence rates (Blacks) Females



iv. Childhood cancer

Table 2 shows the childhood cancer cases (ages 0-14) registered during the period 2010-2012. The numbers of cases recorded and incidence rates (per million) by five year age group are shown, for the most important cancers of childhood, defined according to the International Classification of Childhood Cancer (Steliarova-Foucher et al, 2005). The ratio of the number of cases in boys and girls is shown (M/F) as well as the crude rate, and age standardised rate, for each type of cancer.

A total of 172 cases were recorded in the 3 year period (2010-2012). Soft tissue sarcomas were the most common form of cancer (20.9%) which include Kaposi sarcoma (12.2% of all cancers). Burkitt lymphoma is relatively uncommon in the Harare population with only three cases recorded in the three year period. Leukaemias, normally the most frequent cancer in white populations of European origin comprise 16.9% of cases with about half of the cases specified as acute lymphoblastic leukaemia.

Table 2: Childhood cancers (age 0-14) in Harare black population

	NUMBER OF CASES					REL FREQ	RATE PER MILLION				
	0-4	5-9	10-14	All	M/F	(%)	0-4	5-9	10-14	Crude	ASR
LEUKAEMIA	14	7	8	29	1.2	16.9%	23.6	16.4	19.6	20.3	20.1
Lymphoid leukaemia	4	5	5	14	0.8	8.1%	6.7	11.7	12.2	9.8	10.0
LYMPHOMA	6	9	10	25	1.1	14.5%	10.1	21.1	24.5	17.5	17.8
Non-Hodgkin lymphomas (except Burkitt lymphoma)	3	4	6	13	0.9	7.6%	5.1	9.4	14.7	9.1	9.3
Burkitt lymphoma	1	1	1	3	2.0	1.7%	1.7	2.3	2.4	2.1	2.1
CNS NEOPLASMS	7	7	5	19	0.5	11.0%	11.8	16.4	12.2	13.3	13.4
NEUROBLASTOMA	2	1	0	3	-	1.7%	3.4	2.3	0.0	2.1	2.1
RETINOBLASTOMA	11	0	0	11	1.2	6.4%	18.6	0.0	0.0	7.7	7.2
NEPHROBLASTOMA	15	7	0	22	0.6	12.8%	25.3	16.4	0.0	15.4	15.1
HEPATIC TUMORS	0	0	1	1	-	0.6%	0.0	0.0	2.4	0.7	0.7
BONE TUMOURS	2	1	6	9	0.8	5.2%	3.4	2.3	14.7	6.3	6.3
SOFT TISSUE SARCOMAS	13	15	8	36	0.8	20.9%	21.9	35.2	19.6	25.2	25.5
Kaposi sarcoma	5	11	5	21	0.6	12.2%	8.4	25.8	12.2	14.7	15.1
OTHER: Carcinomas	3	4	7	14	0.8	8.1%	5.1	9.4	17.1	9.8	10.0
ALL	**75**	**51**	**46**	**172**	**0.91**	**100%**	**126.5**	**119.8**	**112.5**	**120.5**	**120.3**

v. Frequency of different cancer by race

The registry records the race (ethnic group) of all cancer patients. Of the 6345 cases registered in 2010-2012, 5550 (87.5%) were among blacks and 759 (12%) among whites. 18 and 7 cases were recorded among the Asian and albino population respectively.

Table 3 summarises the number and percentage of cases registered, by cancer type, in the black and white residents of Harare respectively (Appendix Tables II and III).

Table 3 Number and frequency (%) of cancers in black and white populations of Harare 2010-2012

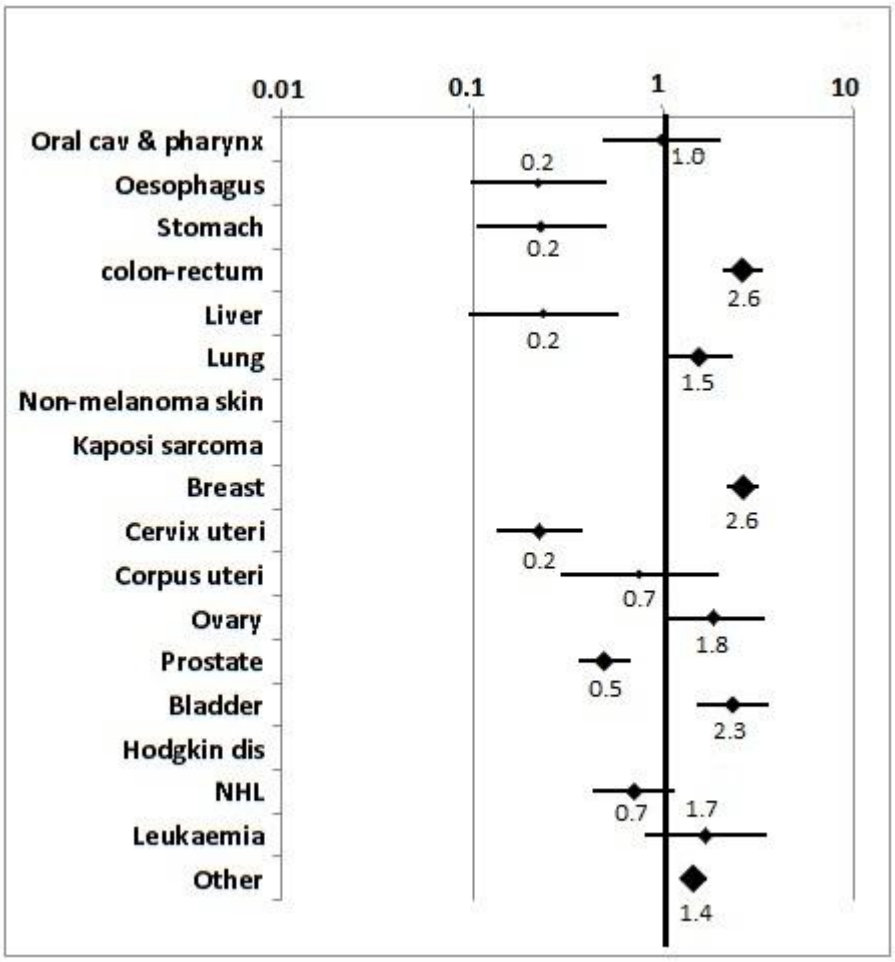
		MALES				FEMALES			
		BLACK		WHITE		BLACK		WHITE	
Site	ICD (10th)	No. of cases	% of total	No. of cases	% of total	No. of cases	% of total	No. of cases	% of total
Oral cavity and pharynx	C00-C14	63	2.6%	7	1.6%	39	1.3%	1	0.3%
Oesophagus	C15	127	5.2%	4	1.0%	109	3.5%	1	0.3%
Stomach	C16	135	5.6%	3	0.7%	130	4.2%	3	0.8%
Large bowel	C18-C21	120	4.9%	35	8.6%	121	3.8%	20	5.6%
Liver	C22	118	4.9%	4	1.0%	82	2.6%	0	0.0%
Pancreas	C25	32	1.3%	6	1.5%	40	1.3%	2	0.6%
Larynx	C32	39	1.6%	1	0.2%	2	0.1%	1	0.3%
Lung	C33-C34	98	4.0%	8	2.0%	37	1.2%	14	3.9%
Melanoma of Skin	C43	18	0.7%	17	4.2%	39	1.2%	16	4.5%
Other Skin	C44	68	2.8%	224	55.7%	72	2.3%	164	45.9%
Kaposi sarcoma	C46	343	14.1%	3	0.7%	219	7.0%	2	0.6%
Breast	C50					427	13.7%	64	17.9%
Cervix Uteri	C53					870	27.8%	12	3.4%
Corpus Uteri	C54					52	1.7%	4	1.1%
Ovary	C56					76	2.4%	9	2.5%
Prostate	C61	541	22.3%	29	7.2%				
Bladder	C67	40	1.6%	14	3.5%	44	1.4%	5	1.4%
Eye	C69	78	3.2%	0	0.0%	89	2.8%	0	0.0%
Brain, Nervous system	C70-C72	40	1.6%	3	0.7%	45	1.4%	4	1.1%
Hodgkin disease	C81	15	0.6%	0	0.0%	9	0.3%	0	0.0%
Non-Hodgkin lymphoma	C82-C85	201	8.3%	10	2.5%	191	6.1%	3	0.8%
Multiple Myeloma	C90	28	1.2%	2	0.5%	31	1.0%	2	0.6%
Leukaemia	C91-C95	49	2.0%	4	0.9%	40	1.3%	2	0.6%
		----	----	----	----	----	----	----	----
All sites Total	All	2425	100.0%	402	100.0%	3124	100.0%	357	100.0%

Certain cancers appear to be much more common among the black population (oesophagus, stomach, liver, Kaposi sarcoma, cervix uteri, prostate and NHL) while cancers of the skin (melanoma and non-melanoma), large bowel, and breast are more frequent in the white population.

Part of the difference in relative frequency of cancer types is the consequence of the very different age structure of the white and black populations in 2012: only 3% of the (estimated) black population was aged 60 or more, compared with 22% of the non-black (predominantly white) population. We therefore calculated proportional incidence ratios (PIRs), comparing the frequency of different cancers in the white population, relative to blacks, while standardising for age (and sex). This confirms the great excess of skin cancers in the white population (19.4 times higher than in blacks), and the much lower frequency (0.1 times) of Kaposi sarcoma.

Fig 11 shows the PIRs (and their 95% confidence intervals), calculated when these two cancers are excluded.

Fig 11 Proportional incidence ratios (and 95% confidence limits) for common cancers in the white population, relative to blacks



The frequency of oesophagus, stomach, liver, cervix and prostate cancers is significantly lower in whites than in blacks, while cancers of the large bowel (colon, rectum and anus), lung, breast and bladder are significantly more frequent.

b. <u>Survival</u>

Survival data for cases of cancer among black and white Zimbabwean patients diagnosed with cancer in Harare between the years 1993 and 1997 were published some years ago (Gondos *et al.* 2004) A new study investigating survival from the most common cancers diagnosed in the period 2004-2008 (and childhood cancers diagnosed in 1998-2009) is currently underway and results will be published later in 2014.

c. Quality

Quality control methods (descriptive)

The CANREG system carries out automatic checks for internal validity (site vs. age, histology vs. site, etc). Registration is considered relatively complete, and the registry results have been published in four successive volumes (VII –X) of the "Cancer Incidence in Five Continents" series published by the IARC.

Basis of Diagnosis (DCO/Clinical/MV) by site

Table 4 shows the percentage of cases (black population) of the major sites that were registered on the basis of information from a death certificate alone (DCO) and with morphological verification (MV%), that is, based on cytology or histology (of the primary tumour, or a metastasis). 72.7% of the cases were morphologically verified, with a very big variation according to cancer type. For example, almost all skin cancers and lymphomas had histological diagnosis, but only 50% of oesophageal cancers, 42.2% of Kaposi sarcoma and 18% of liver cancers.

PSU

The percentage of cases registered for which the primary site was ill defined, or uncertain, was 4.0% in men and 3.0% in women respectively. (Appendix Table III)

Age unknown

There were 43 cases registered for which the age of the patient was not known in men (1.8%) and 45 (1.4%) cases in women (Appendix Table III).

Table 4 Basis of Diagnosis by ICD-10

Cancer site	ICD-10	Basis of diagnosis				
		No. Cases	(%total)	DCO	Clinical	M.V.
Oral Cavity	C00-C06	36	0.6%	0.0%	2.8%	97.2%
Salivary glands	C07-C08	15	0.3%	6.7%	6.7%	86.7%
Nasopharynx	C11	25	0.5%	8.0%	4.0%	88.0%
Other pharynx	C09-10 & C12-14	26	0.5%	7.7%	3.8%	88.5%
Oesophagus	C15	236	4.3%	20.8%	29.2%	50.0%
Stomach	C16	265	4.8%	17.7%	13.2%	69.1%
Large bowel	C18-C21	241	4.3%	13.3%	12.0%	74.7%
Liver	C22	200	3.6%	28.5%	53.5%	18.0%
Pancreas	C25	72	1.3%	47.2%	27.8%	25.0%
Larynx	C32	41	0.7%	7.3%	4.9%	87.8%
,Lung	C33-C34	135	2.4%	31.1%	27.4%	41.5%
Bone	C40-C41	53	1.0%	5.7%	1.9%	92.5%
Melanoma of Skin	C43	57	1.0%	1.8%	0.0%	98.2%
Other Skin	C44	140	2.5%	0.7%	0.0%	99.3%
Kaposi sarcoma	C46	562	10.1%	5.5%	52.3%	42.2%
Breast	C50	441	7.9%	7.7%	5.4%	86.8%
Cervix Uteri	C53	870	15.7%	6.4%	7.5%	86.1%
Corpus Uteri	C54	52	0.9%	9.6%	17.3%	73.1%
Ovary	C56	76	1.4%	15.8%	23.7%	60.5%
Prostate	C61	541	9.7%	20.7%	11.6%	67.7%
Kidney	C64	54	1.0%	5.6%	3.7%	90.7%
Bladder	C67	84	1.5%	25.0%	25.0%	50.0%
Eye	C69	167	3.0%	0.0%	1.8%	98.2%
Brain, Nervous system	C70-C72	85	1.5%	32.9%	28.2%	38.8%
Thyroid	C73	48	0.9%	18.8%	8.3%	72.9%
Hodgkin disease	C81	24	0.4%	0.0%	0.0%	100%
Non-Hodgkin lymphoma	C82-85;C96	392	7.1%	1.5%	1.3%	97.2%
Multiple Myeloma	C90	59	1.1%	1.7%	1.7%	96.6%
Leukaemia	C91-C95	89	1.6%	5.6%	0.0%	94.4%
All sites Total	All	5549	100.0%	11.7%	15.6%	72.7%

DISCUSSION

Infection-related cancers (mainly HIV and HPV) continue to be the most predominant cancers in Harare. Two of the top 5 cancers in both sexes are related to infection with the HIV virus. Kaposi sarcoma and non-Hodgkin lymphomas both show the highest incidence rates in young and middle-age adults (ages 30-49 – see Figs 9 and 10). The relatively high frequency of eye cancers is also to be noted; 74% of the cases in males and 72% of those in females are squamous cell cancers of the conjunctiva, which is also an AIDS-related cancer in African populations (Waddell et al, 1996). Cervical cancer which is HPV-related is by far the most common cancer in females.
The relatively high incidence of prostate cancer and Kaposi sarcoma in men and cervical cancer and breast cancer in women respectively is of note

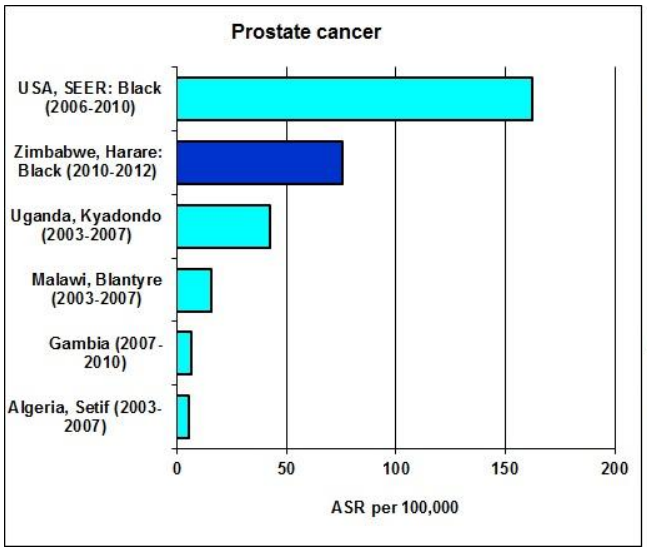
Comparison of summary rates with other registries

Figures 12-19 shows a comparison of the age standardised incidence rates in Harare (2010-2012) with those observed in 2003-2007 in Blantyre, Malawi (CI5 vol. X, in press), in 2003-2007 in Setif, Algeria (CI5 vol. X, in press), in Kampala, Uganda 2003-2007 (CI5 vol. X, in press), in the Gambia 2007-2010 (Ferlay et al, 2013) and in the black population of the SEER Registry areas of the USA (Howlader et al, 2013)..

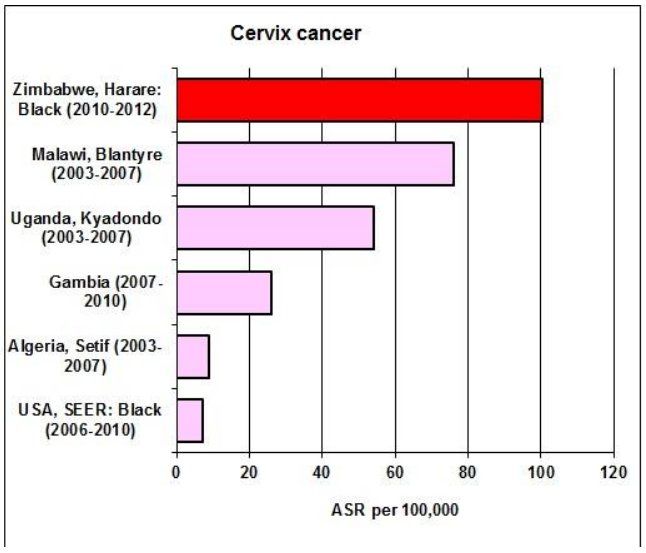
The relatively high incidence of prostate cancer and Kaposi sarcoma in men and cervical cancer and breast cancer in women respectively is of note.

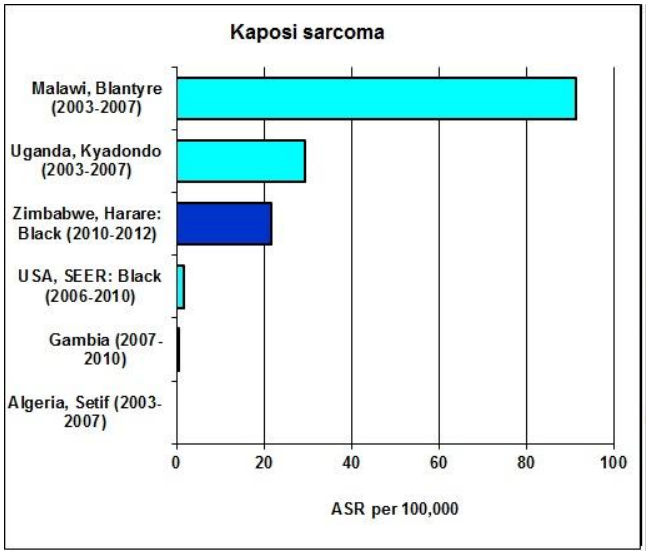
Figs 12-21 Comparison of rates with other registries

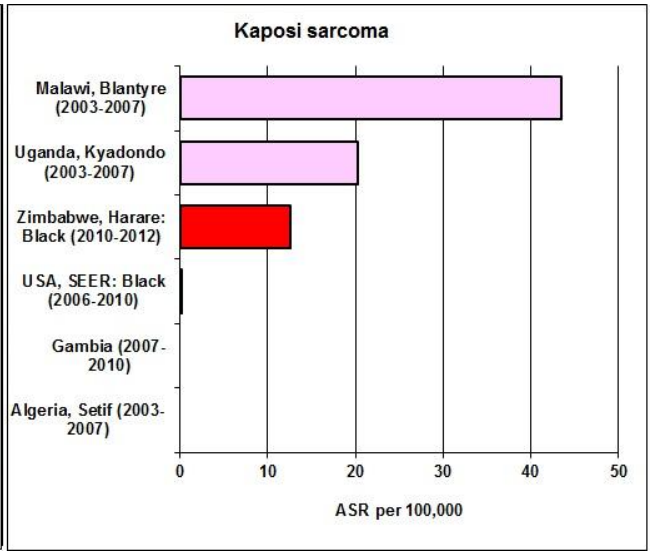
Male

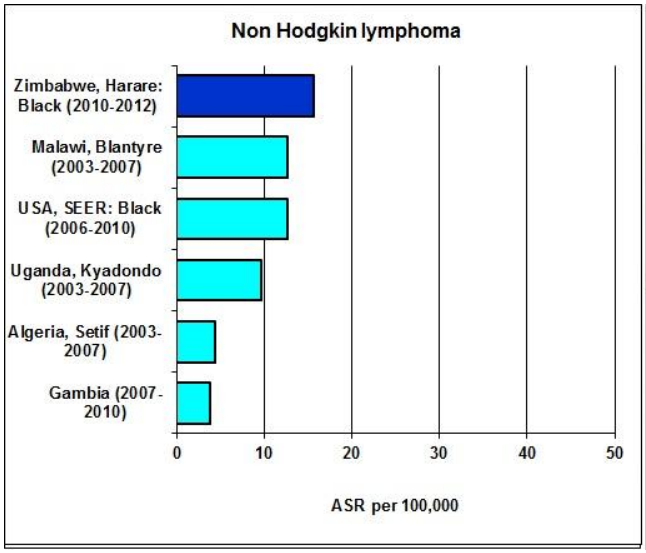


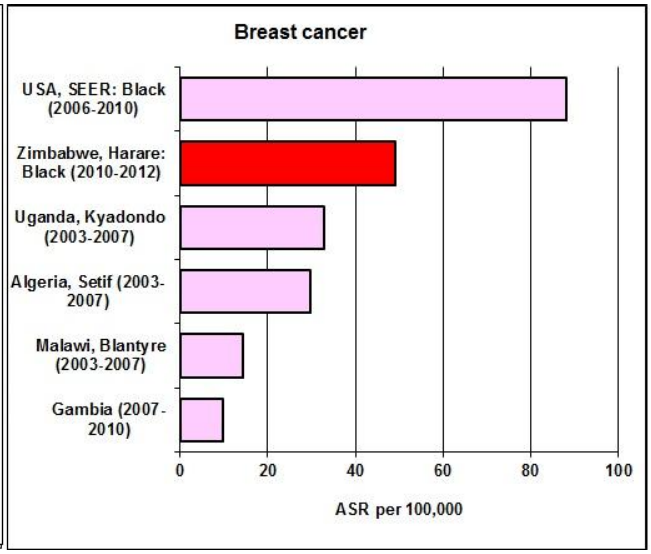
Female

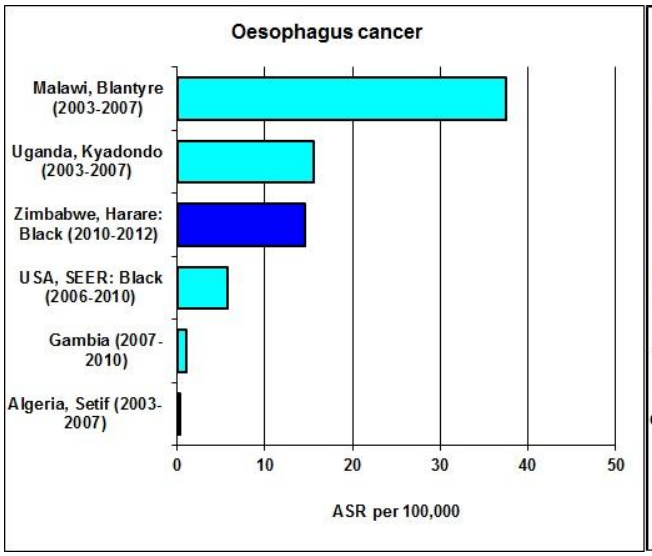


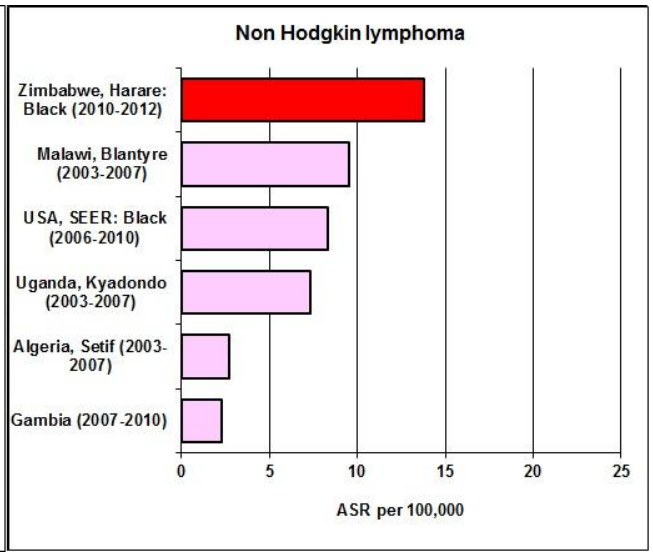

Kaposi sarcoma
Malawi, Blantyre (2003-2007)
Uganda, Kyadondo (2003-2007)
Zimbabwe, Harare: Black (2010-2012)
USA, SEER: Black (2006-2010)
Gambia (2007-2010)
Algeria, Setif (2003-2007)
0
20
40
60
80
100
ASR per 100,000

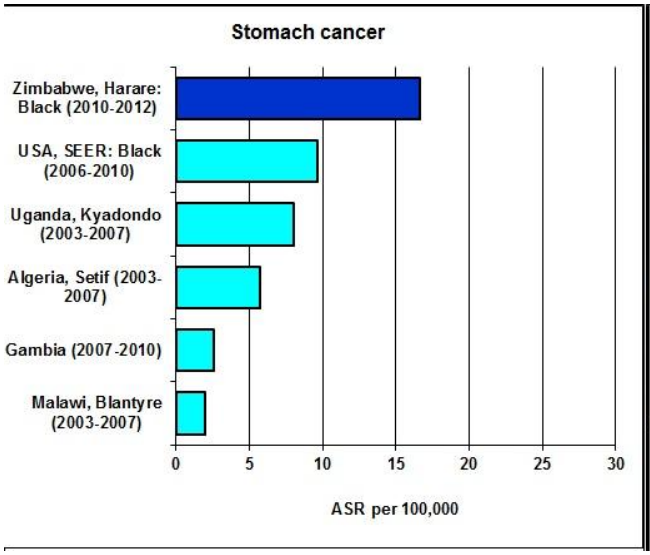

Kaposi sarcoma
Malawi, Blantyre (2003-2007)
Uganda, Kyadondo (2003-2007)
Zimbabwe, Harare: Black (2010-2012)
USA, SEER: Black (2006-2010)
Gambia (2007-2010)
Algeria, Setif (2003-2007)
0
10
20
30
40
50
ASR per 100,000

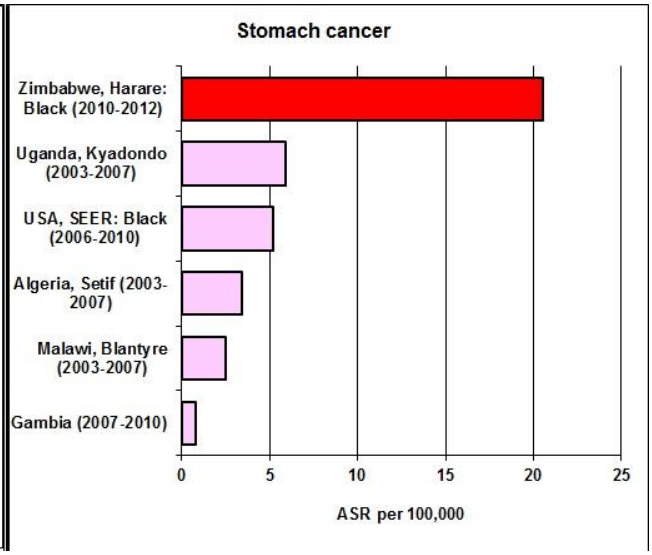

Non Hodgkin lymphoma
Zimbabwe, Harare: Black (2010-2012)
Malawi, Blantyre (2003-2007)
USA, SEER: Black (2006-2010)
Uganda, Kyadondo (2003-2007)
Algeria, Setif (2003-2007)
Gambia (2007-2010)
0
10
20
30
40
50
ASR per 100,000


Breast cancer
USA, SEER: Black (2006-2010)
Zimbabwe, Harare: Black (2010-2012)
Uganda, Kyadondo (2003-2007)
Algeria, Setif (2003-2007)
Malawi, Blantyre (2003-2007)
Gambia (2007-2010)
0
20
40
60
80
100
ASR per 100,000


Oesophagus cancer
Malawi, Blantyre (2003-2007)
Uganda, Kyadondo (2003-2007)
Zimbabwe, Harare: Black (2010-2012)
USA, SEER: Black (2006-2010)
Gambia (2007-2010)
Algeria, Setif (2003-2007)
0
10
20
30
40
50
ASR per 100,000


Non Hodgkin lymphoma
Zimbabwe, Harare: Black (2010-2012)
Malawi, Blantyre (2003-2007)
USA, SEER: Black (2006-2010)
Uganda, Kyadondo (2003-2007)
Algeria, Setif (2003-2007)
Gambia (2007-2010)
0
5
10
15
20
25
ASR per 100,000


Stomach cancer
Zimbabwe, Harare: Black (2010-2012)
USA, SEER: Black (2006-2010)
Uganda, Kyadondo (2003-2007)
Algeria, Setif (2003-2007)
Gambia (2007-2010)
Malawi, Blantyre (2003-2007)
0
5
10
15
20
25
30
ASR per 100,000


Stomach cancer
Zimbabwe, Harare: Black (2010-2012)
Uganda, Kyadondo (2003-2007)
USA, SEER: Black (2006-2010)
Algeria, Setif (2003-2007)
Malawi, Blantyre (2003-2007)
Gambia (2007-2010)
0
5
10
15
20
25
ASR per 100,000

REFERENCES

Boyle P & Parkin DM. Statistical methods for registries. In O.M. Jensen, D.M. Parkin, R. MacLennan, C.S. Muir and R.G. Skeet (Eds.) Cancer Registration: Principles and Methods. IARC Scientific Publications No. 95. International Agency for Research on Cancer, Lyon, 1991.

CanReg4 Manual. Contributors: M.P. Curado, Morten Ervik, H.R. Shin, J. Ferlay, Seon Hee Yim, Hyun Joo Kong, Max Parkin, Paola Pisani, Krittika Pitaksaringkam and Sophie Dhal.

Chokunonga E, Borok MZ, Mauchaza BG, Chirenje ZM and Nyakabau AM. In: Curado. M.P., Edwards, B., Shin. H.R., Storm. H., Ferlay. J., Heanue. M and Boyle. P., Eds. (2007) Cancer Incidence in Five Continents, Vol. IX, IARC Scientific Publications No. 160, Lyon, IARC.

Chokunonga, E., Zimbabwe National Cancer Registry Code Book. 2nd edition (2004).

Doll R, Smith PG. Comparison between registries: age-standardized rates. In Waterhouse JAH, Muir CS, Shanmugaratnam K, Powell J, Peacham D, Whelan S (eds) *Cancer Incidence in Five Continents.* Vol. IV, pp 671-675, IARC Scientific Publication No 42 Lyon: IARC, 1982.

Dorrington R, Moultrie TA & Timaeus IM. Estimation of mortality using the South Africa Census 2001 data. CARe Monograph No 11. Centre for Actuarial Research, University of Cape Town, 2004
(http://www.commerce.uct.ac.za/Research_Units/CARE/Monographs/Monographs/Mono11.pdf)

Ferlay J., Soerjomataram I, Dikshit R, Elser S, Mathers C, Rebelo M, Parkin DM, Forman D. and Bray F, GLOBOCAN 2012 v 1.0, Cancer Incidence and Mortality Worldwide: IARC CancerBase No. 10 [Internet]. Lyon, France: International Agency for Research on Cancer , 2013. Available from: http://globocan.iarc.fr

Fritz, A., Percy, C. Jack, A., Shanmugaratnam, K., Parkin, D.M. and Whelan, S. (Eds). International Classification of Diseases for Oncology, 3rd edition. World Health Organisation, Geneva, (2000).

Gondos A, Chokunonga E, Brenner H, Parkin DM, Sankila R, Borok MZ, Chirenje ZM, Nyakabau AM, Bassett MT. Cancer survival in a southern African urban population. Int. J Cancer. 2004. (112:860-4).

Harare City Health Department. 2010-2012 Annual Reports

Howlader N, Noone AM, Krapcho M, Garshell J, Neyman N, Altekruse SF, Kosary CL, Yu M, Ruhl J, Tatalovich Z, Cho H, Mariotto A, Lewis DR, Chen HS, Feuer EJ, Cronin KA (eds). SEER Cancer Statistics Review, 1975-2010. National Cancer Institute. Bethesda, MD. http://seer.cancer.gov/csr/1975:2010)

IACR/IARC. Guidelines on Confidentiality for Population-based Cancer Registration. IARC Internal Report No. 2004/03 (2004).

Steliarova-Foucher E, Stiller C, Lacour B, Kaatsch P. International Classification of Childhood Cancer, third edition. Cancer. 2005;103:1457-67

International Rules for Multiple Primary Cancers (ICD-O Third Edition), Lyon, 2004.

Jensen OM, Parkin DM, Maclennan R, Muir CS and Skeet RG. .Cancer Registration Principles and Methods. Editors: IARC Scientific Publication No. 95, Lyon, (1991).

National Cancer Control Programme for Zimbabwe: Ten Year Plan 1994-2004. Prevention and Control of Cancer Committee for Zimbabwe (PCCZ). (1998)

National Cancer Prevention and Control Strategy for Zimbabwe : 2013-2017. Ministry of Health and Child Welfare. 2013

National Health Information Strategy (2009-2014). Ministry of Health and Child Welfare, Zimbabwe.

The National Health Strategy for Zimbabwe (2009-2013). Equity and Quality in Health: A people's right.

Waddell KM, Lewallen S, Lucas SB, Atenyi-Agaba C, Herrington CS, Liomba G. Carcinoma of the conjunctiva and HIV infection in Uganda and Malawi. *Br J Ophthalmol*. 1996; 80:503-8.

World Health Organisation, International Statistical Classification of Diseases and Related Health Problems. 10th edition, WHO, Geneva, 1992.

Zimbabwe Demographic and Health Survey 2010-2011. (March 2013).

ACRONYMS

AFCRN	African Cancer Registry Network
BCR	Bulawayo Cancer Registry
CanReg	Cancer Registration Computer Software
CIN	Cervical Intraepithelial Neoplasms
DCN	Death Certificate Notification
DCO	Death Certificate Only
EARN	East African Registries Network
HD	Hodgkin disease
HIV	Human Immunodeficiency Virus
HPV	Human Papilloma Virus
IACR	International Association of Cancer Registries
IARC	International Agency for Research on Cancer
ICD-10	International Classification of Diseases – 10th revision edition
ICD-O-3	International Classification of Diseases for Oncology, 3rd Edition
INCTR	International Network for Cancer Treatment and Research
KS	Kaposi sarcoma
MoHCW	Ministry of Health and Child Welfare
NHL	Non-Hodgkin lymphoma
PCCZ	Prevention and Control of Cancer Committee for Zimbabwe
UZCHS	University of Zimbabwe College of Health Sciences
WHO	World Health Organization
ZNCR	Zimbabwe National Cancer Registry
ZIMSTAT	Zimbabwe National Statistical Agency

ZNCR PUBLICATIONS

1. Bassett, M.T., Levy L.M., Chetsanga, C.J. and Chokunonga, E., Zimbabwe National Cancer Registry Summary Data 1986-1989. Centr. Afr. J. Medicine. 38, 91-94 (1992).

2. Bassett, M.T., Chokunonga, E., Levy, L., Mauchaza, B.G., Ferlay, J. and Parkin, D.M., Cancer in the African Population of Harare, Zimbabwe, 1990-1992. Int. J. Cancer, 63, 29-36 (1995).

3. Bassett, M.T., Levy, L., Chokunonga, E., Mauchaza, B., Ferlay, J. and Parkin, D.M., Cancer in the European Population of Harare, Zimbabwe, 1990-1992. Int. J. Cancer, 63, 24-28 (1995).

4. Bassett, M.T., Chokunonga, E., Levy, L. and Mauchaza, B., in Cancer Incidence in Five Continents Vol. VII, eds. D.M. Parkin, S.L. Whelan, J. Ferlay, L. Raymond and J. Young. IARC Scientific Publication No. 143, Lyon, 1997.

5. Watts, T., Siziya, S. and Chokunonga, E., Cancer of the Skin in Zimbabwe: an analysis based on the Cancer Registry 1986 to 1992. Centr. Afr. J. Medicine. 43, (7): 181-4 (1997).

6. Chokunonga, E., Bassett, M.T., Levy, L.M., Mauchaza, B.G., Abayomi, A. and Chitsike, I., in International Incidence of Childhood Cancer Vol. II, eds. Parkin, D.M., Kramarova, E., Draper, G.J. IARC Scientific Publication No. 144, Lyon, 1998.

7. Chokunonga, E., Levy, L.M., Bassett, M.T., Borok, M.Z., Mauchaza, B.G., Chirenje, Z.M. and Parkin, D.M., Aids and Cancer in Africa: The Evolving Epidemic in Zimbabwe. AIDS, 13, 2583-2588 (1999).

8. Chokunonga, E., Levy, L.M., Bassett, M.T., Mauchaza, B.G., Thomas, D.B., and Parkin, D.M. Cancer Incidence in the African Population of Harare, Zimbabwe: Second Results from the Cancer Registry 1993-1995. Int. J. Cancer. 85, 54-59 (2000).

9. Chokunonga, E., Levy, L.M., Bassett, M.T. and Mauchaza, B.G., in Cancer Incidence in Five continents Vol. VIII, eds. D.M. Parkin, S.L. Whelan, J. Ferlay, L. Teppo and D.B. Thomas. IARC Scientific Publication No. 155, Lyon, 2002.

10. Bassett, M.T. and Chokunonga, E. in Cancer in Africa, Epidemiology and Prevention. Eds. D.M. Parkin, J. Ferlay, M. Hamdi-Cherif, F. Sitas, J. Thomas, H. Wabinga and S. Whelan. IARC Scientific Publication No. 153, Lyon.

11. Chokunonga, E., Ramanakumar, A.V., Nyakabau, A.M., Borok, M.Z., Chirenje, Z.M., Sankila, R. and Parkin, D.M. Survival of cervix cancer patients in Harare, Zimbabwe, 1995-1997. Int. J. Cancer, 109, 274-277 (2004).

12. Adam Gondos, Eric Chokunonga, Hermann Brenner, Donald Maxwell Parkin, Risto Sankila, Margaret Borok, Z. Michael Chirenje, Anna M. Nyakabau and Mary Travis Bassett, Cancer Survival in a Southern African Urban Population. Int. J. Cancer, 112, 860-864 (2004).

13. A. Gondos, D.M. Parkin, E. Chokunonga and H. Brenner. Calculating age-adjusted cancer survival estimates when age-specific data are sparse: an empirical evaluation of various methods. Br. J. Cancer 94, 450-454 (2006).

14. E. Chokunonga, M.Z. Borok, B.G. Mauchaza, Z.M. Chirenje and A.M. Nyakabau. In: Curado. M.P., Edwards, B., Shin. H.R., Storm. H., Ferlay. J., Heanue. M and Boyle. P., Eds. (2007) Cancer Incidence in Five Continents, Vol. IX, IARC Scientific Publications No. 160, Lyon, IARC.

15. R. Masanganise, S. Rusakaniko, R. Makunike, M. Hove, E. Chokunonga, M.Z. Borok, B.G. Mauchaza, M.Z. Chirenje, V.N. Masanganise and T. Magure. A historical perspective of registered cases of malignant ocular tumours in Zimbabwe (1990-1999). Is HIV infection a factor? Cent. Afr. J. Med. Vol. 54, (5/8) (2008).

16. Chokunonga E, Borok M.Z., Chirenje AM, Nyakabau AM and Parkin DM, Cancer Survival In Harare, Zimbabwe, 1993-1997. In: R. Sankaranarayanan and R. Swaminathan. Eds. (2011) Cancer Survival in Africa, Asia, the Caribbean and Central America. IARC Scientific Publications No. 162, Lyon, IARC

17. Chokunonga, E. et al, Pattern of Cancer in Zimbabwe: Zimbabwe National Cancer Registry Annual Reports. (1990-2010).

18. Chokunonga Eric, Borok Margaret, Chirenje Mike, Nyakabau A.M. and Parkin Donald Maxwell. Trends in the incidence of cancer in the black population of Harare, Zimbabwe 1991-2010. (In press).

19. Chaabna Mokrane Karima, Bray Freddie, Forman David, Wabinga Henry, Chokunonga Eric, Borok Margaret, Vanhems Philippe, Soerjomataram Isabelle. Kaposi sarcoma trends in Uganda and Zimbabwe: a sustained decline in incidence? (In press).

20. Cancer Incidence in 5 Continents Vol. X (in press).

ANNEX 1

ZIMBABWE CANCER REGISTRY

PARIRENYATWA HOSPITAL, MAZOWE STREET, P.O.BOX A449, AVONDALE, HARARE, ZIMBABWE, TEL: 731000, 707707, 730553, 794445

CONFIDENTIAL

CANCER NOTIFICATION FORM

NCR 1 (2009 REVISION) REGISTRY NUMBER ☐☐☐☐ ☐☐☐☐

1. PATIENT

SURNAME:_____ OTHER NAMES:_____

I.D. CARD NUMBER ☐☐-☐☐☐☐☐☐☐☐-☐☐ PLACE OF BIRTH :_____

DATE OF BIRTH ☐☐/☐☐/☐☐☐☐ (DD/MM/YYYY) AGE ☐☐ (NK=99) SEX (1=MALE, 2=FEM,9=NK) ☐

MARITAL STATUS (1=SING, 2=MAR, 3=DIV, 4=SEP, 5=WID, 6= COHAB, 9=NK) ☐ RACE (1=AFR, 2=EUR, 3=COL, 4=ASI, 5=AFR ALB 6=OTHER ALB, 8=OTHER, 9=NK) ☐

CITIZENSHIP (1=ZIM, 8=OTHER, 9=NK) ☐ OCCUPATION _____ ☐☐☐

USUAL RESIDENTIAL ADDRESS:_____

_____

_____

_____ ☐☐☐

OTHER ADDRESS:_____

_____

TELEPHONE/MOBILE NUMBER: _____

2. HOSPITAL

HOSPITAL: _____ ☐☐☐ PATIENT NO. _____ WARD ___

REF. HOSPITAL: _____ ☐☐☐ PATIENT NO. _____ WARD ___

SOURCE OF INFORMATION: _____ ☐☐

_____

3. TUMOUR

DATE OF DIAGNOSIS: ☐☐/☐☐/☐☐☐☐ (DD/MM/YYYY) DURATION OF SYMPTOMS _____

BASIS OF DIAGNOSIS: (0=DCO, 1=CLIN ONLY,2=CLIN INC, X RAY, USS 3 =SURGERY 4=BIOCHEM/IMMUNO TEST 5=CYTOLOGY/HAEMATOLOGY, 6= HISTO OF METS 7=HISTO PRIM 8=HISTO METS, 9=NK) ☐

PRIMARY SITE/TOPOGRAPHY: _____ C☐☐.☐

DIAGNOSIS/MORPHOLOGY: _____

_____

_____ ☐☐☐☐/☐

EXTENT OF DISEASE (0=IN, SITU 1=LOC 2=LOCAL EXT ONLY 3 LOCAL EXT + REG NODES 4= REG NODES 5=DISTANT METASTASIS 8=NOT APPLICABLE e.g KS & HAEMOTOLOGICAL MALIGNANCIES 9 = NOT KNOWN) ☐

STAGE (0=IN SITU 1=1A 2=1B 3=2A 4=2B 5=3A 6=3B 7=4A 8=4B 9=NOT KNOWN) _____ ☐

HISTOLOGY LAB: _____ ☐☐ HISTOLOGY NUMBER ☐☐/☐☐☐☐☐

---

4. PREVIOUS CANCER

WAS CANCER OTHER THAN CURRENT ONE PREVIOUSLY DIAGNOSED? (1=YES, 2=NO, 9=NK) ☐

IF YES, DATE OF DIAGNOSIS: ☐☐/☐☐/☐☐☐☐

SITE/TOPOGRAPHY: C☐☐.☐ HISTOLOGY/ MORPHOLOGY: ☐☐☐☐/☐

---

5. INITIAL TREATMENT (1=YES, 2=NO, 9=NK)

SURGERY	☐	RADIOTHERAPY	☐	CHEMOTHERAPY	☐
HORMONE THERAPY	☐	PALLIATIVE ONLY	☐	ANTI-RETROVIRAL	☐
OTHER TREATMENT	☐	NOT KNOWN	☐		

---

6. FOLLOW-UP AND OTHER DISEASES

VITAL STATUS (1=ALIVE, 2=DEAD, 9=NK) ☐ DATE OF DEATH/LAST CONTACT ☐☐/☐☐/☐☐☐☐

IF DEAD, CAUSE OF DEATH: _____

OTHER DISEASES: _____ ☐ PLACE OF DEATH: _____

HIV STATUS: _____ ☐ HIV NUMBER: _____

REMARKS IF ANY: _____

_____

NOTIFIED BY: _____ DATE: _____

ANNEX 2: Appendix Tables

Appendix Table I: Harare all races: 2010-2012. Numbers and percentages

Males

MALE	All	Age Unk.	0 -14	15 -24	25 -34	35 -44	45 -54	55 -64	65 -74	75+	% of Total	ICD (10th)
Lip	0	0	0	0	0	0	0	0	0	0	0.0%	C00
Tongue	10	0	0	0	0	1	3	3	1	2	0.4%	C01-C02
Mouth	14	1	0	1	1	1	3	3	2	2	0.5%	C03-C06
Salivary glands	16	0	1	1	3	2	2	1	3	3	0.6%	C07-C08
Oropharynx	9	1	0	1	0	2	1	2	1	1	0.3%	C09-C10
Nasopharynx	17	1	1	5	2	0	2	4	2	0	0.6%	C11
Hypopharynx	2	0	0	0	0	0	0	0	2	0	0.1%	C12-C13
Pharynx unspec.	2	1	0	0	0	0	0	0	1	0	0.1%	C14
Oesophagus	132	2	0	1	6	18	15	24	32	34	4.6%	C15
Stomach	139	0	0	1	2	10	24	28	43	31	4.9%	C16
Small intestine	4	0	0	0	1	1	1	1	0	0	0.1%	C17
Colon	90	2	0	2	6	7	8	17	26	22	3.2%	C18
Rectum	53	0	0	0	2	5	8	11	16	11	1.9%	C19-C20
Anus	14	1	0	1	1	2	4	0	4	1	0.5%	C21
Liver	122	0	1	5	14	22	14	19	20	27	4.3%	C22
Gallbladder etc.	15	0	0	0	0	1	1	2	2	9	0.5%	C23-C24
Pancreas	38	0	1	0	0	0	5	7	13	12	1.3%	C25
Nose, sinuses etc.	12	0	0	0	0	4	2	3	2	1	0.4%	C30-C31
Larynx	40	2	0	0	0	2	6	13	11	6	1.4%	C32
Lung	110	0	0	0	2	3	17	26	29	33	3.9%	C33-C34
Other Thoracic org	4	0	0	0	0	0	1	0	2	1	0.1%	C37-C38
Bone	29	0	7	4	9	3	2	2	1	1	1.0%	C40-C41
Melanoma of Skin	35	0	0	0	1	6	4	7	5	12	1.2%	C43
Other Skin	297	3	2	4	12	24	47	59	71	75	10.4%	C44
Mesothelioma	3	0	0	0	0	0	0	0	1	2	0.1%	C45
Kaposi sarcoma	346	5	8	16	86	120	47	29	18	17	12.2%	C46
Connective tissue	34	1	5	4	4	3	6	6	2	3	1.2%	C47;C49
Breast	17	0	0	0	0	1	4	4	4	4	0.6%	C50
Penis	24	2	0	0	2	8	6	4	0	2	0.8%	C60
Prostate	573	15	0	0	2	3	6	76	221	250	20.1%	C61
Testis	5	0	0	1	1	1	0	0	2	0	0.2%	C62
Other male genital	1	0	0	0	0	0	1	0	0	0	0.0%	C63
Kidney	32	1	8	1	0	3	4	6	6	3	1.1%	C64
Renal Pelvis	0	0	0	0	0	0	0	0	0	0	0.0%	C65
Bladder	54	0	0	0	0	3	3	12	13	23	1.9%	C67
Other Urinary org.	1	0	0	0	0	0	0	0	0	1	0.0%	C68
Eye	78	2	8	1	18	23	17	7	2	0	2.7%	C69
Brain, Nervous syst.	43	0	8	6	4	10	5	3	4	3	1.5%	C70-C72
Thyroid	6	0	0	0	2	0	1	0	0	3	0.2%	C73
Adrenal gland	4	0	2	0	0	1	0	1	0	0	0.1%	C74
Other Endocrine	0	0	0	0	0	0	0	0	0	0	0.0%	C75
Hodgkin disease	15	0	5	5	3	2	0	0	0	0	0.5%	C81
Non-Hodgkin lymphoma	213	2	8	14	18	67	42	29	24	9	7.5%	C82-C85
Immunoprolif. dis.	1	0	0	0	0	0	0	0	1	0	0.0%	C88
Multiple Myeloma	30	0	0	0	0	7	2	6	6	9	1.1%	C90
Lymphoid Leukaemia	11	1	6	1	0	0	1	1	0	1	0.4%	C91
Myeloid Leukaemia	19	0	2	3	1	3	3	3	2	2	0.7%	C92-C94
Leukaemia unspec.	23	0	8	3	2	4	2	2	0	2	0.8%	C95
Other & unspecified	110	2	1	4	6	17	15	25	21	19	3.9%	Other
All sites Total	2847	45	82	85	211	390	335	446	616	637	100%	All
All sites but C44	2550	42	80	81	199	366	288	387	545	562	89.6%	Not C44

Females

FEMALE	All	Age Unk.	0 -14	15 -24	25 -34	35 -44	45 -54	55 -64	65 -74	75+	% of Total	ICD (10th)
Lip	2	0	0	0	1	0	0	0	0	1	0.1%	C00
Tongue	7	0	0	0	0	3	2	2	0	0	0.2%	C01-C02
Mouth	7	0	0	0	0	0	0	2	3	2	0.2%	C03-C06
Salivary glands	11	0	1	0	3	0	2	4	1	0	0.3%	C07-C08
Oropharynx	5	0	0	1	1	0	0	1	1	1	0.1%	C09-C10
Nasopharynx	9	0	1	0	1	1	3	1	1	1	0.3%	C11
Hypopharynx	0	0	0	0	0	0	0	0	0	0	0.0%	C12-C13
Pharynx unspec.	1	0	0	0	0	0	1	0	0	0	0.0%	C14
Oesophagus	110	0	0	0	3	6	23	26	24	28	3.1%	C15
Stomach	134	0	0	1	3	14	18	27	43	28	3.8%	C16
Small intestine	3	0	0	0	0	0	0	0	0	3	0.1%	C17
Colon	75	1	1	0	2	2	17	21	14	17	2.1%	C18
Rectum	55	0	0	0	6	11	1	11	10	16	1.6%	C19-C20
Anus	14	0	0	0	3	0	6	2	1	2	0.4%	C21
Liver	82	0	1	1	3	11	9	19	15	23	2.3%	C22
Gallbladder etc.	14	0	0	0	0	0	2	3	2	7	0.4%	C23-C24
Pancreas	42	0	0	0	0	2	5	10	14	11	1.2%	C25
Nose, sinuses etc.	6	0	0	1	1	0	0	2	0	2	0.2%	C30-C31
Larynx	3	0	0	0	0	0	1	1	0	1	0.1%	C32
Lung	51	0	1	1	2	1	6	11	18	11	1.5%	C33-C34
Other Thoracic org	4	0	0	0	0	0	0	2	2	0	0.1%	C37-C38
Bone	26	0	5	2	4	1	6	1	3	4	0.7%	C40-C41
Melanoma of Skin	55	0	1	0	2	6	5	10	12	19	1.6%	C43
Other Skin	239	3	3	2	18	25	30	31	69	58	6.8%	C44
Mesothelioma	0	0	0	0	0	0	0	0	0	0	0.0%	C45
Kaposi sarcoma	221	5	13	14	76	72	21	7	6	7	6.3%	C46
Connective tissue	50	1	4	4	7	4	12	12	4	2	1.4%	C47;C49
Breast	495	10	0	2	26	117	114	108	78	40	14.2%	C50
Vulva	43	1	1	0	4	13	11	4	4	5	1.2%	C51
Vagina	12	1	0	0	1	2	2	3	1	2	0.3%	C52
Cervix Uteri	883	17	0	3	70	192	240	169	111	81	25.2%	C53
Corpus Uteri	56	1	0	0	2	3	2	16	16	16	1.6%	C54
Uterus unspec.	30	0	0	1	1	2	4	9	8	5	0.9%	C55
Ovary	85	3	0	5	9	15	14	17	13	9	2.4%	C56
Other Fem. Genital	2	0	0	0	0	0	1	1	0	0	0.1%	C57
Placenta	22	1	0	6	8	5	1	0	1	0	0.6%	C58
Kidney	25	0	14	0	0	4	1	4	0	2	0.7%	C64
Renal Pelvis	1	0	0	0	0	0	0	0	0	1	0.0%	C65
Bladder	49	0	0	1	1	4	13	9	8	13	1.4%	C67
Other Urinary org.	1	0	0	0	0	1	0	0	0	0	0.0%	C68
Eye	89	0	6	1	25	25	24	4	2	2	2.5%	C69
Brain, Nervous syst.	49	0	12	1	7	6	7	10	1	5	1.4%	C70-C72
Thyroid	44	0	0	0	3	3	10	11	12	5	1.3%	C73
Adrenal gland	1	0	0	0	1	0	0	0	0	0	0.0%	C74
Other Endocrine	1	0	0	0	0	0	0	0	1	0	0.0%	C75
Hodgkin disease	9	1	0	2	0	3	0	1	1	1	0.3%	C81
Non-Hodgkin lymphoma	194	3	12	18	38	53	37	17	7	9	5.5%	C82-C85
Immunoprolif. dis.	1	0	0	0	0	0	0	1	0	0	0.0%	C88
Multiple Myeloma	33	0	0	0	1	2	6	10	13	1	0.9%	C90
Lymphoid Leukaemia	17	0	8	2	0	1	0	2	2	2	0.5%	C91
Myeloid Leukaemia	17	0	4	1	1	2	5	2	1	1	0.5%	C92-C94
Leukaemia unspec.	8	0	1	2	1	2	1	0	1	0	0.2%	C95
Other & unspecified	105	0	1	6	7	12	15	17	22	25	3.0%	Other
All sites Total	3498	48	90	78	342	626	678	621	546	469	100%	All
All sites but C44	3259	45	87	76	324	601	648	590	477	411	93.2%	Not C44

Appendix Table II: Harare Blacks: 2010-2012. Numbers and percentages

Males

MALE	All	Age Unk.	0 -14	15 -24	25 -34	35 -44	45 -54	55 -64	65 -74	75+	% of Total	ICD (10th)
Lip	0	0	0	0	0	0	0	0	0	0	0.0%	C00
Tongue	10	0	0	0	0	1	3	3	1	2	0.4%	C01-C02
Mouth	12	1	0	1	1	1	2	2	2	2	0.5%	C03-C06
Salivary glands	14	0	1	1	3	2	2	1	2	2	0.6%	C07-C08
Oropharynx	7	1	0	1	0	2	0	2	1	0	0.3%	C09-C10
Nasopharynx	17	1	1	5	2	0	2	4	2	0	0.7%	C11
Hypopharynx	2	0	0	0	0	0	0	0	2	0	0.1%	C12-C13
Pharynx unspec.	1	0	0	0	0	0	0	0	1	0	0.0%	C14
Oesophagus	127	2	0	1	6	18	11	23	32	34	5.2%	C15
Stomach	135	0	0	1	2	10	24	28	41	29	5.6%	C16
Small intestine	4	0	0	0	1	1	1	1	0	0	0.2%	C17
Colon	61	2	0	2	6	5	6	11	17	12	2.5%	C18
Rectum	46	0	0	0	2	5	7	10	14	8	1.9%	C19-C20
Anus	13	1	0	0	1	2	4	0	4	1	0.5%	C21
Liver	118	0	1	5	14	21	14	17	20	26	4.9%	C22
Gallbladder etc.	14	0	0	0	0	1	1	2	2	8	0.6%	C23-C24
Pancreas	32	0	1	0	0	0	4	6	11	10	1.3%	C25
Nose, sinuses etc.	12	0	0	0	0	4	2	3	2	1	0.5%	C30-C31
Larynx	39	2	0	0	0	2	6	12	11	6	1.6%	C32
Lung	98	0	0	0	2	3	14	23	25	31	4.0%	C33-C34
Other Thoracic orgs	4	0	0	0	0	0	1	0	2	1	0.2%	C37-C38
Bone	28	0	7	4	9	3	2	1	1	1	1.2%	C40-C41
Melanoma of Skin	18	0	0	0	0	5	4	3	3	3	0.7%	C43
Other Skin	68	2	2	3	8	10	11	8	9	15	2.8%	C44
Mesothelioma	3	0	0	0	0	0	0	0	1	2	0.1%	C45
Kaposi sarcoma	343	5	8	16	85	120	47	28	18	16	14.1%	C46
Connective tissue	28	1	5	4	4	3	5	3	0	3	1.2%	C47;C49
Breast	14	0	0	0	0	1	4	3	3	3	0.6%	C50
Penis	23	2	0	0	2	8	6	4	0	1	0.9%	C60
Prostate	541	15	0	0	2	3	5	73	208	235	22.3%	C61
Testis	3	0	0	1	0	0	0	0	2	0	0.1%	C62
Other male genital	1	0	0	0	0	0	1	0	0	0	0.0%	C63
Kidney	30	1	8	1	0	3	4	5	5	3	1.2%	C64
Renal Pelvis	0	0	0	0	0	0	0	0	0	0	0.0%	C65
Ureter	0	0	0	0	0	0	0	0	0	0	0.0%	C66
Bladder	40	0	0	0	0	3	2	8	10	17	1.6%	C67
Other Urinary org.	1	0	0	0	0	0	0	0	0	1	0.0%	C68
Eye	78	2	8	1	18	23	17	7	2	0	3.2%	C69
Brain, Nervous syst.	40	0	8	6	4	10	5	3	3	1	1.6%	C70-C72
Thyroid	5	0	0	0	2	0	1	0	0	2	0.2%	C73
Adrenal gland	3	0	2	0	0	1	0	0	0	0	0.1%	C74
Other Endocrine	0	0	0	0	0	0	0	0	0	0	0.0%	C75
Hodgkin disease	15	0	5	5	3	2	0	0	0	0	0.6%	C81
Non-Hodgkin lymphoma	201	2	8	14	17	67	40	24	22	7	8.3%	C82-C85
Immunoprolif. Dis	1	0	0	0	0	0	0	0	1	0	0.0%	C88
Multiple Myeloma	28	0	0	0	0	7	2	6	5	8	1.2%	C90
Lymphoid Leukaemia	10	1	6	1	0	0	0	1	0	1	0.4%	C91
Myeloid Leukaemia	18	0	2	3	1	3	3	3	2	1	0.7%	C92-C94
Leukaemia unspec.	21	0	8	3	2	4	2	2	0	0	0.9%	C95
Other & unspecified	98	2	1	4	5	17	13	22	17	17	4.0%	Other
All sites Total	2425	43	82	83	202	371	278	352	504	510	100%	All
All sites but C44	2357	41	80	80	194	361	267	344	495	495	97.2%	Not C44

Females

FEMALE	All	Age Unk.	0 -14	15 -24	25 -34	35 -44	45 -54	55 -64	65 -74	75+	% of Total	ICD (10th)
Lip	1	0	0	0	0	0	0	0	0	1	0.0%	C00
Tongue	6	0	0	0	0	3	1	2	0	0	0.2%	C01-C02
Mouth	7	0	0	0	0	0	0	2	3	2	0.2%	C03-C06
Salivary glands	11	0	1	0	3	0	2	4	1	0	0.4%	C07-C08
Oropharynx	5	0	0	1	1	0	0	1	1	1	0.2%	C09-C10
Nasopharynx	8	0	1	0	1	1	3	1	1	0	0.3%	C11
Hypopharynx	0	0	0	0	0	0	0	0	0	0	0.0%	C12-C13
Pharynx unspec.	1	0	0	0	0	0	1	0	0	0	0.0%	C14
Oesophagus	109	0	0	0	3	6	22	26	24	28	3.5%	C15
Stomach	130	0	0	1	3	14	17	24	43	28	4.2%	C16
Small intestine	2	0	0	0	0	0	0	0	0	2	0.1%	C17
Colon	59	1	0	0	2	2	15	18	11	10	1.9%	C18
Rectum	48	0	0	0	6	10	1	11	9	11	1.5%	C19-C20
Anus	14	0	0	0	3	0	6	2	1	2	0.4%	C21
Liver	82	0	1	1	3	11	9	19	15	23	2.6%	C22
Gallbladder etc.	13	0	0	0	0	0	2	2	2	7	0.4%	C23-C24
Pancreas	40	0	0	0	0	2	5	10	13	10	1.3%	C25
Nose, sinuses etc.	6	0	0	1	1	0	0	2	0	2	0.2%	C30-C31
Larynx	2	0	0	0	0	0	1	0	0	1	0.1%	C32
Lung	37	0	1	1	2	1	5	7	12	8	1.2%	C33-C34
Other Thoracic org.	4	0	0	0	0	0	0	2	2	0	0.1%	C37-C38
Bone	25	0	5	2	4	1	6	1	3	3	0.8%	C40-C41
Melanoma of Skin	39	0	1	0	2	4	2	7	10	13	1.2%	C43
Other Skin	72	1	3	2	16	10	6	6	13	15	2.3%	C44
Mesothelioma	0	0	0	0	0	0	0	0	0	0	0.0%	C45
Kaposi sarcoma	219	5	13	14	75	71	21	7	6	7	7.0%	C46
Connective tissue	46	1	4	4	6	4	10	12	3	2	1.5%	C47;C49
Breast	427	10	0	2	26	116	100	90	60	23	13.7%	C50
Vulva	40	1	1	0	4	13	11	3	3	4	1.3%	C51
Vagina	7	0	0	0	1	2	2	2	0	0	0.2%	C52
Cervix Uteri	870	17	0	3	69	190	238	167	108	78	27.8%	C53
Corpus Uteri	52	1	0	0	2	3	2	15	15	14	1.7%	C54
Uterus unspec.	28	0	0	1	1	2	2	9	8	5	0.9%	C55
Ovary	76	3	0	5	9	15	11	15	10	8	2.4%	C56
Other Fem. Genital	2	0	0	0	0	0	1	1	0	0	0.1%	C57
Placenta	21	1	0	6	7	5	1	0	1	0	0.7%	C58
Kidney	24	0	14	0	0	4	1	3	0	2	0.8%	C64
Renal Pelvis	1	0	0	0	0	0	0	0	0	1	0.0%	C65
Ureter	0	0	0	0	0	0	0	0	0	0	0.0%	C66
Bladder	44	0	0	1	1	4	12	9	7	10	1.4%	C67
Other Urinary org.	1	0	0	0	0	1	0	0	0	0	0.0%	C68
Eye	89	0	6	1	25	25	24	4	2	2	2.8%	C69
Brain, Nervous syst	45	0	12	1	7	6	6	9	0	4	1.4%	C70-C72
Thyroid	43	0	0	0	3	3	9	11	12	5	1.4%	C73
Adrenal gland	1	0	0	0	1	0	0	0	0	0	0.0%	C74
Other Endocrine	1	0	0	0	0	0	0	0	1	0	0.0%	C75
Hodgkin disease	9	1	0	2	0	3	0	1	1	1	0.3%	C81
Non-Hodgkin lymphoma	191	3	12	17	38	53	37	17	6	8	6.1%	C82-C85
Immunoprolif. Dis	1	0	0	0	0	0	0	1	0	0	0.0%	C88
Multiple Myeloma	31	0	0	0	1	2	6	10	11	1	1.0%	C90
Lymphoid Leukaemia	16	0	8	1	0	1	0	2	2	2	0.5%	C91
Myeloid Leukaemia	16	0	4	1	1	2	5	2	1	0	0.5%	C92-C94
Leukaemia unspec.	8	0	1	2	1	2	1	0	1	0	0.3%	C95
Other & unspecified	94	0	1	6	6	12	15	16	18	20	3.0%	Other
All sites Total	3124	45	89	76	334	604	619	553	440	364	100%	All
All sites but C44	3052	44	86	74	318	594	613	547	427	349	97.7%	Not C44

Appendix Table III: Harare Whites: 2010-2012. Numbers and percentages

Males

MALE	All	Age Unk.	0 -14	15 -24	25 -34	35 -44	45 -54	55 -64	65 -74	75+	% of Total	ICD (10th)
Lip	0	0	0	0	0	0	0	0	0	0	0.0%	C00
Tongue	0	0	0	0	0	0	0	0	0	0	0.0%	C01-C02
Mouth	2	0	0	0	0	0	1	1	0	0	0.5%	C03-C06
Salivary glands	2	0	0	0	0	0	0	0	1	1	0.5%	C07-C08
Oropharynx	2	0	0	0	0	0	1	0	0	1	0.2%	C09-C10
Nasopharynx	0	0	0	0	0	0	0	0	0	0	0.0%	C11
Hypopharynx	0	0	0	0	0	0	0	0	0	0	0.0%	C12-C13
Pharynx unspec.	1	1	0	0	0	0	0	0	0	0	0.2%	C14
Oesophagus	4	0	0	0	0	0	3	1	0	0	1.0%	C15
Stomach	3	0	0	0	0	0	0	0	1	2	0.7%	C16
Small intestine	0	0	0	0	0	0	0	0	0	0	0.0%	C17
Colon	27	0	0	0	0	2	1	6	8	10	6.7%	C18
Rectum	7	0	0	0	0	0	1	1	2	3	1.7%	C19-C20
Anus	1	0	0	1	0	0	0	0	0	0	0.2%	C21
Liver	4	0	0	0	0	1	0	2	0	1	1.0%	C22
Gallbladder etc.	1	0	0	0	0	0	0	0	0	1	0.2%	C23-C24
Pancreas	6	0	0	0	0	0	1	1	2	2	1.5%	C25
Nose, sinuses etc.	0	0	0	0	0	0	0	0	0	0	0.0%	C30-C31
Larynx	1	0	0	0	0	0	0	1	0	0	0.2%	C32
Trachea,Bronchus,Lung	8	0	0	0	0	0	3	1	3	1	2.0%	C33-C34
Bone	1	0	0	0	0	0	0	1	0	0	0.2%	C40-C41
Melanoma of Skin	17	0	0	0	1	1	0	4	2	9	4.2%	C43
Other Skin	224	1	0	1	1	14	36	50	61	60	55.7%	C44
Mesothelioma	0	0	0	0	0	0	0	0	0	0	0.0%	C45
Kaposi sarcoma	3	0	0	0	1	0	0	1	0	1	0.7%	C46
Connective,Soft tissue	6	0	0	0	0	0	1	3	2	0	1.5%	C47;C49
Breast	3	0	0	0	0	0	0	1	1	1	0.7%	C50
Penis	1	0	0	0	0	0	0	0	0	1	0.2%	C60
Prostate	29	0	0	0	0	0	1	3	11	14	7.2%	C61
Testis	2	0	0	0	1	1	0	0	0	0	0.5%	C62
Kidney	1	0	0	0	0	0	0	0	1	0	0.2%	C64
Renal Pelvis	0	0	0	0	0	0	0	0	0	0	0.0%	C65
Ureter	0	0	0	0	0	0	0	0	0	0	0.0%	C66
Bladder	14	0	0	0	0	0	1	4	3	6	3.5%	C67
Eye	0	0	0	0	0	0	0	0	0	0	0.0%	C69
Brain, Nervous system	3	0	0	0	0	0	0	0	1	2	0.7%	C70-C72
Thyroid	1	0	0	0	0	0	0	0	0	1	0.2%	C73
Adrenal gland	1	0	0	0	0	0	0	1	0	0	0.2%	C74
Hodgkin disease	0	0	0	0	0	0	0	0	0	0	0.0%	C81
Non-Hodgkin lymphoma	10	0	0	0	1	0	2	4	2	1	2.5%	C82-C85
Multiple Myeloma	2	0	0	0	0	0	0	0	1	1	0.5%	C90
Lymphoid Leukaemia	1	0	0	0	0	0	1	0	0	0	0.2%	C91
Myeloid Leukaemia	1	0	0	0	0	0	0	0	0	1	0.2%	C92-C94
Leukaemia unspec.	2	0	0	0	0	0	0	0	0	2	0.5%	C95
Other & unspecified	11	0	0	0	1	0	1	3	4	2	2.7%	Other
All sites Total	402	2	0	2	6	19	54	89	106	124	100%	All
All sites but C44	178	1	0	1	5	5	18	39	45	64	44.3%	Not C44

Females

FEMALE	All	Age Unk.	0 -14	15 -24	25 -34	35 -44	45 -54	55 -64	65 -74	75+	% of Total	ICD (10th)
Lip	0	0	0	0	0	0	0	0	0	0	0.0%	C00
Tongue	1	0	0	0	0	0	1	0	0	0	0.3%	C01-C02
Mouth	0	0	0	0	0	0	0	0	0	0	0.0%	C03-C06
Salivary glands	0	0	0	0	0	0	0	0	0	0	0.0%	C07-C08
Oropharynx	0	0	0	0	0	0	0	0	0	0	0.0%	C09-C10
Nasopharynx	0	0	0	0	0	0	0	0	0	0	0.0%	C11
Hypopharynx	0	0	0	0	0	0	0	0	0	0	0.0%	C12-C13
Pharynx unspec.	0	0	0	0	0	0	0	0	0	0	0.0%	C14
Oesophagus	1	0	0	0	0	0	1	0	0	0	0.3%	C15
Stomach	3	0	0	0	0	0	1	2	0	0	0.8%	C16
Small intestine	0	0	0	0	0	0	0	0	0	0	0.0%	C17
Colon	14	0	1	0	0	0	2	2	3	6	3.9%	C18
Rectum	6	0	0	0	0	0	0	0	1	5	1.7%	C19-C20
Anus	0	0	0	0	0	0	0	0	0	0	0.0%	C21
Liver	0	0	0	0	0	0	0	0	0	0	0.0%	C22
Gallbladder etc.	1	0	0	0	0	0	0	1	0	0	0.3%	C23-C24
Pancreas	2	0	0	0	0	0	0	0	1	1	0.6%	C25
Nose, sinuses etc.	0	0	0	0	0	0	0	0	0	0	0.0%	C30-C31
Larynx	1	0	0	0	0	0	0	1	0	0	0.3%	C32
Trachea,Bronchus,Lung	14	0	0	0	0	0	1	4	6	3	3.9%	C33-C34
Bone	1	0	0	0	0	0	0	0	0	1	0.3%	C40-C41
Melanoma of Skin	16	0	0	0	0	2	3	3	2	6	4.5%	C43
Other Skin	164	2	0	0	2	15	23	25	54	43	45.9%	C44
Mesothelioma	0	0	0	0	0	0	0	0	0	0	0.0%	C45
Kaposi sarcoma	2	0	0	0	1	1	0	0	0	0	0.6%	C46
Connective,Soft tissue	3	0	0	0	1	0	1	0	1	0	0.8%	C47;C49
Breast	64	0	0	0	0	1	13	17	16	17	17.9%	C50
Vulva	3	0	0	0	0	0	0	1	1	1	0.8%	C51
Vagina	4	0	0	0	0	0	0	1	1	2	1.1%	C52
Cervix Uteri	12	0	0	0	1	2	2	1	3	3	3.4%	C53
Corpus Uteri	4	0	0	0	0	0	0	1	1	2	1.1%	C54
Uterus unspec.	2	0	0	0	0	0	2	0	0	0	0.6%	C55
Ovary	9	0	0	0	0	0	3	2	3	1	2.5%	C56
Other Female Genital	0	0	0	0	0	0	0	0	0	0	0.0%	C57
Placenta	1	0	0	0	1	0	0	0	0	0	0.3%	C58
Kidney	1	0	0	0	0	0	0	1	0	0	0.3%	C64
Renal Pelvis	0	0	0	0	0	0	0	0	0	0	0.0%	C65
Ureter	0	0	0	0	0	0	0	0	0	0	0.0%	C66
Bladder	5	0	0	0	0	0	1	0	1	3	1.4%	C67
Eye	0	0	0	0	0	0	0	0	0	0	0.0%	C69
Brain, Nervous system	4	0	0	0	0	0	1	1	1	1	1.1%	C70-C72
Thyroid	1	0	0	0	0	0	1	0	0	0	0.3%	C73
Adrenal gland	0	0	0	0	0	0	0	0	0	0	0.0%	C74
Hodgkin disease	0	0	0	0	0	0	0	0	0	0	0.0%	C81
Non-Hodgkin lymphoma	3	0	0	1	0	0	0	0	1	1	0.8%	C82-C85
Multiple Myeloma	2	0	0	0	0	0	0	0	2	0	0.6%	C90
Lymphoid Leukaemia	1	0	0	1	0	0	0	0	0	0	0.3%	C91
Myeloid Leukaemia	1	0	0	0	0	0	0	0	0	1	0.3%	C92-C94
Leukaemia unspec.	0	0	0	0	0	0	0	0	0	0	0.0%	C95
Other & unspecified	11	0	0	0	1	0	0	1	4	5	3.1%	Other
All sites Total	357	2	1	2	7	21	56	64	102	102	100%	All
All sites but C44	193	0	1	2	5	6	33	39	48	59	54.1%	Not C44

Appendix Table IV: Harare Blacks 2010-2012. Incidence rates

MALES	All Ages	Age Unk.	0 -4	5 -9	10 -14	15 -19	20 -24	25 -29	30 -34	35 -39	40 -44	45 -49	50 -54	55 -59	60 -64	65 -69	70 -74	75+	Crude Rate	Cum 0-74	ASR World	ICD (10th)
Lip	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0	0	C00
Tongue	10	0	-	-	-	-	-	-	-	-	0.8	1.4	3.8	7.4	-	-	8.1	11.7	0.5	0.11	1	C01-C02
Mouth	12	1	-	-	-	-	0.4	0.5	-	0.6	-	1.4	1.9	2.5	3.6	-	16.3	11.7	0.6	0.14	1.2	C03-C06
Salivary glands	14	0	-	-	0.5	0.5	-	0.9	0.5	0.6	0.8	-	3.8	-	3.6	6	8.1	11.7	0.7	0.13	1.2	C07-C08
Oropharynx	7	1	-	-	-	-	0.4	-	-	-	1.7	-	-	2.5	3.6	-	8.1	-	0.3	0.08	0.6	C09-C10
Nasopharynx	17	1	-	-	0.5	0.5	1.7	0.9	-	-	-	1.4	1.9	7.4	3.6	6	8.1	-	0.8	0.16	1.3	C11
Hypopharynx	2	0	-	-	-	-	-	-	-	-	-	-	-	-	-	6	8.1	-	0.1	0.07	0.3	C12-C13
Pharynx unspec.	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	6	-	-	0	0.03	0.2	C14
Oesophagus	127	2	-	-	-	0.5	-	0.5	2.6	5.1	8.4	4.3	15.2	24.7	47.3	84.5	146.6	199.2	6.1	1.70	14.6	C15
Stomach	135	0	-	-	-	-	0.4	-	1.1	1.9	5.9	14.4	26.6	32.1	54.5	108.7	187.4	169.9	6.5	2.17	16.6	C16
Small intestine	4	0	-	-	-	-	-	0.5	-	-	0.8	-	1.9	-	3.6	-	-	-	0.2	0.03	0.3	C17
Colon	61	2	-	-	-	-	0.8	1.4	1.6	1.9	1.7	2.9	7.6	12.4	21.8	72.4	40.7	70.3	3	0.83	7	C18
Rectum	46	0	-	-	-	-	-	-	1.1	1.9	1.7	5.8	5.7	19.8	7.3	36.2	65.2	46.9	2.2	0.72	5.3	C19-C20
Anus	13	1	-	-	-	-	-	-	0.5	1.3	-	1.4	5.7	-	-	6	24.4	5.9	0.6	0.20	1.4	C21
Large bowel	120	3	0	0	0	0	0.8	1.4	3.2	5.1	3.4	10.1	19	32.2	29.1	114.6	130.3	123.1	5.8	1.75	13.7	C18-C23
Liver	118	0	-	-	0.5	1.4	0.8	0.9	6.3	6.4	9.3	10.1	13.3	32.1	14.5	36.2	114	152.4	5.7	1.23	11.2	C22
Gallbladder etc.	14	0	-	-	-	-	-	-	-	-	0.8	1.4	-	4.9	-	-	16.3	46.9	0.7	0.12	1.6	C23-C24
Pancreas	32	0	-	-	0.5	-	-	-	-	-	-	2.9	3.8	4.9	14.5	30.2	48.9	58.6	1.5	0.53	4.2	C25
Nose, sinuses etc.	12	0	-	-	-	-	-	-	-	-	3.4	1.4	1.9	2.5	7.3	6	8.1	5.9	0.6	0.15	1.2	C30-C31
Larynx	39	2	-	-	-	-	-	-	-	-	1.7	1.4	9.5	9.9	29.1	36.2	40.7	35.2	1.9	0.64	5.1	C32
Lung	98	0	-	-	-	-	-	0.5	0.5	-	2.5	10.1	13.3	27.2	43.6	66.4	114	181.7	4.7	1.39	12.2	C33-C34
Other Thoracic orgs	4	0	-	-	-	-	-	-	-	-	-	1.4	-	-	-	12.1	-	5.9	0.2	0.07	0.6	C37-C38
Bone	28	0	0.7	1	1.5	1.4	0.4	1.4	3.2	1.9	-	1.4	1.9	-	3.6	6	-	5.9	1.4	0.12	1.5	C40-C41
Melanoma of Skin	18	0	-	-	-	-	-	-	-	3.2	-	4.3	1.9	4.9	3.6	6	16.3	17.6	0.9	0.20	1.7	C43
Other Skin	68	2	-	1	-	0.5	0.8	2.3	1.6	2.6	5.1	8.6	9.5	7.4	18.2	24.1	40.7	87.9	3.3	0.61	6.4	C44
Mesothelioma	3	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8.1	11.7	0.1	0.04	0.4	C45
Kaposi sarcoma	343	5	0.7	1.5	1.5	3.3	3.8	14.5	27.9	40.9	47.2	44.6	30.4	47	32.7	78.5	40.7	93.8	16.6	2.08	21.8	C46
Connective tissue	28	1	1.4	0.5	-	0.9	0.8	0.9	1.1	1.3	0.8	4.3	3.8	4.9	3.6	-	-	17.6	1.4	0.12	1.8	C47;C49
Breast	14	0	-	-	-	-	-	-	-	0.6	-	2.9	3.8	7.4	-	12.1	8.1	17.6	0.7	0.17	1.6	C50
Penis	23	2	-	-	-	-	-	0.5	0.5	-	6.7	5.8	3.8	4.9	7.3	-	-	5.9	1.1	0.15	1.8	C60
Prostate	541	15	-	-	-	-	-	-	1.1	-	2.5	2.9	5.7	44.5	199.9	525.2	985.7	1377	26.2	8.84	75.6	C61
Testis	3	0	-	-	-	-	0.4	-	-	-	-	-	-	-	-	12.1	-	-	0.1	0.06	0.4	C62
Other male genital	1	0	-	-	-	-	-	-	-	-	-	-	1.9	-	-	-	-	-	0	0.01	0.1	C63
Kidney	30	1	1.7	1.5	-	0.5	-	-	-	1.3	0.8	2.9	3.8	4.9	10.9	6	32.6	17.6	1.5	0.33	2.8	C64
Bladder	40	0	-	-	-	-	-	-	-	0.6	1.7	1.4	1.9	12.4	10.9	18.1	57	99.6	1.9	0.52	4.9	C67
Other Urinary organs	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.9	0	0.00	0.1	C68
Eye	78	2	2.4	0.5	-	-	0.4	3.6	5.3	7	10.1	13	15.2	14.8	3.6	6	8.1	-	3.8	0.45	4.7	C69
Brain, Nervous syst.	40	0	1.4	1.5	0.5	2.3	0.4	0.5	1.6	5.1	1.7	2.9	5.7	2.5	7.3	6	16.3	5.9	1.9	0.28	2.6	C70-C72
Thyroid	5	0	-	-	-	-	-	-	1.1	-	-	-	1.9	-	-	-	-	11.7	0.2	0.02	0.4	C73
Adrenal gland	3	0	0.3	0.5	-	-	-	-	-	0.6	-	-	-	-	-	-	-	-	0.1	0.01	0.1	C74
Other Endocrine	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0.00	0	C75
Hodgkin disease	15	0	-	1.9	0.5	0.9	1.3	0.9	0.5	-	1.7	-	-	-	-	-	-	-	0.7	0.04	0.6	C81
Non-Hodgkin lymphoma	201	2	0.7	1.9	1	4.2	2.1	2.7	5.8	15.3	36.3	33.1	32.3	34.6	36.4	78.5	73.3	41	9.7	1.79	15.8	C82-C85
Immunoprolif. Dis	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8.1	-	0	0.04	0.2	C88
Multiple Myeloma	28	0	-	-	-	-	-	-	-	2.6	2.5	1.4	1.9	7.4	10.9	18.1	16.3	46.9	1.4	0.31	3	C90
Lymphoid Leukaemia	10	1	1	1	0.5	0.5	-	-	-	-	-	-	-	-	3.6	-	-	5.9	0.5	0.03	0.6	C91
Myeloid Leukaemia	18	0	0.7	-	-	0.9	0.4	0.5	-	1.3	0.8	2.9	1.9	2.5	7.3	6	8.1	5.9	0.9	0.17	1.5	C92-C94
Leukaemia unspec.	21	0	1.7	0.5	1	1.4	-	0.5	0.5	0.6	2.5	1.4	1.9	-	7.3	-	-	-	1	0.10	1.2	C95
Leukaemia	49	1	3.4	1.5	1.5	2.8	0.4	1	0.5	1.9	3.3	4.3	3.8	2.5	18.2	6	8.1	11.8	2.4	0.30	3.3	C91-C97
Other & unspecified	98	2	-	-	0.5	0.9	0.8	1.8	0.5	3.2	10.1	7.2	15.2	24.7	43.6	36.2	89.6	99.6	4.7	1.17	10.2	Other
All sites Total	2425	43	13	13	9	21	16	36	65	108	170	203	260	415	669	1358	2273	2989	117.4	28.1	249.2	All
All sites but C44	2357	41	13	12	9	20	16	34	63	105	165	194	250	408	651	1334	2232	2901	114.1	27.5	242.8	Not C44

FEMALES	All	Age	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75+	Crude	Cum	ASR	ICD
	Ages	Unk.	-4	-9	-14	-19	-24	-29	-34	-39	-44	-49	-54	-59	-64	-69	-74		Rate	0-74	World	(10th)
Lip	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7.8	0	0.00	0.2	C00
Tongue	6	0	-	-	-	-	-	-	-	0.7	2.2	1.7	-	3	4.5	-	-	-	0.3	0.06	0.6	C01-C02
Mouth	7	0	-	-	-	-	-	-	-	-	-	-	-	3	4.5	23.5	-	15.5	0.3	0.16	1.3	C03-C06
Salivary glands	11	0	-	-	0.5	-	-	0.3	0.9	-	-	1.7	2.1	9.1	4.5	-	11.2	-	0.5	0.15	1.1	C07-C08
Oropharynx	5	0	-	-	-	-	0.4	0.3	-	-	-	-	-	3	-	-	11.2	7.8	0.2	0.07	0.6	C09-C10
Nasopharynx	8	0	-	-	0.5	-	-	-	0.5	0.7	-	3.4	2.1	3	-	7.8	-	-	0.4	0.09	0.8	C11
Hypopharynx	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0.00	0	C12-C13
Pharynx unspec.	1	0	-	-	-	-	-	-	-	-	-	-	2.1	-	-	-	-	-	0	0.01	0.1	C14
Oesophagus	109	0	-	-	-	-	-	0.3	0.9	2.1	3.2	8.5	35.6	51.4	40.5	86.2	146	217.1	4.9	1.87	16.2	C15
Stomach	130	0	-	-	-	-	0.4	0.3	0.9	3.5	9.7	8.5	25.1	33.3	58.6	125.4	303.3	217.1	5.9	2.85	20.5	C16
Small intestine	2	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15.5	0.1	0.00	0.3	C17
Colon	59	1	-	-	-	-	-	-	0.9	0.7	1.1	6.8	23	30.2	36	70.6	22.5	77.5	2.7	0.96	8.6	C18
Rectum	48	0	-	-	-	-	-	0.7	1.8	5.5	2.2	-	2.1	21.2	18	31.4	56.2	85.3	2.2	0.70	6.1	C19-C20
Anus	14	0	-	-	-	-	-	-	1.4	-	-	1.7	10.5	-	9	7.8	-	15.5	0.6	0.15	1.6	C21
Large bowel	121	1	0	0	0	0	0	0.7	4.1	6.2	3.3	8.5	35.6	51.4	63	109.8	78.7	178.3	5.5	1.81	16.3	C18-C23
Liver	82	0	-	0.5	-	0.4	-	-	1.4	3.5	6.5	10.2	6.3	15.1	63.1	62.7	78.6	178.3	3.7	1.24	11.8	C22
Gallbladder etc.	13	0	-	-	-	-	-	-	-	-	-	1.7	2.1	3	4.5	-	22.5	54.3	0.6	0.17	2	C23-C24
Pancreas	40	0	-	-	-	-	-	-	-	0.7	1.1	5.1	4.2	9.1	31.5	70.6	44.9	77.5	1.8	0.84	6.8	C25
Nose, sinuses etc.	6	0	-	-	-	0.4	-	0.3	-	-	-	-	-	3	4.5	-	-	15.5	0.3	0.04	0.7	C30-C31
Larynx	2	0	-	-	-	-	-	-	-	-	-	1.7	-	-	-	-	-	7.8	0.1	0.01	0.3	C32
Lung	37	0	0.3	-	-	0.4	-	0.3	0.5	0.7	-	3.4	6.3	12.1	13.5	31.4	89.9	62	1.7	0.79	5.7	C33-C34
Other Thoracic orgs	4	0	-	-	-	-	-	-	-	-	-	-	-	6	-	7.8	11.2	-	0.2	0.13	0.7	C37-C38
Bone	25	0	0.7	-	1.4	0.4	0.4	1	0.5	-	1.1	3.4	8.4	-	4.5	7.8	22.5	23.3	1.1	0.26	2.4	C40-C41
Melanoma of Skin	39	0	0.3	-	-	-	-	-	0.9	2.1	1.1	1.7	2.1	9.1	18	39.2	56.2	100.8	1.8	0.65	5.9	C43
Other Skin	72	1	0.3	-	0.9	-	0.7	1.7	5.1	2.1	7.6	3.4	8.4	12.1	9	31.4	101.1	116.3	3.3	0.92	8.1	C44
Mesothelioma	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0.00	0	C45
Kaposi sarcoma	219	5	1	3.6	0.9	-	5	9.3	21.7	31.2	28.1	22	16.8	9.1	18	31.4	22.5	54.3	9.9	1.10	12.6	C46
Connective tissue	46	1	0.7	0.5	0.5	1.3	0.4	0.3	2.3	2.1	1.1	6.8	12.6	15.1	31.5	23.5	-	15.5	2.1	0.49	4.7	C47;C49
Breast	427	10	-	-	-	0.4	0.4	2.7	8.3	31.9	75.7	93.1	94.2	166.3	157.6	266.5	292	178.3	19.4	5.95	49	C50
Vulva	40	1	-	-	0.5	-	-	0.3	1.4	4.9	6.5	8.5	12.6	9.1	-	15.7	11.2	31	1.8	0.35	3.7	C51
Vagina	7	0	-	-	-	-	-	-	0.5	-	2.2	-	4.2	3	4.5	-	-	-	0.3	0.07	0.7	C52
Cervix Uteri	870	17	-	-	-	-	1.1	5	24.9	61	110.3	211.5	236.6	272	346.8	470.4	539.1	604.8	39.4	11.39	100.5	C53
Corpus Uteri	52	1	-	-	-	-	-	0.7	-	-	3.2	-	4.2	9.1	54	62.7	78.6	108.6	2.4	1.06	8.8	C54
Uterus unspec.	28	0	-	-	-	0.4	-	0.3	-	-	2.2	3.4	-	15.1	18	54.9	11.2	38.8	1.3	0.53	4.4	C55
Ovary	76	3	-	-	-	0.8	1.1	2	1.4	7.6	4.3	6.8	14.7	21.2	36	23.5	78.6	62	3.4	0.99	8.4	C56
Other Female Genital	2	0	-	-	-	-	-	-	-	-	-	-	2.1	3	-	-	-	-	0.1	0.03	0.2	C57
Placenta	21	1	-	-	-	-	2.1	1.3	1.4	2.8	1.1	-	2.1	-	-	-	11.2	-	1	0.11	1	C58
Kidney	24	0	3.3	1.8	-	-	-	-	-	2.8	-	-	2.1	9.1	-	-	-	15.5	1.1	0.10	1.5	C64
Renal Pelvis	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7.8	0	0.00	0.2	C65
Bladder	44	0	-	-	-	-	0.4	-	0.5	2.1	1.1	5.1	18.8	15.1	18	31.4	33.7	77.5	2	0.63	6	C67
Other Urinary organs	1	0	-	-	-	-	-	-	-	-	1.1	-	-	-	-	-	-	-	0	0.01	0.1	C68
Eye	89	0	2	-	-	-	0.4	2.7	7.8	6.2	17.3	16.9	29.3	6	9	15.7	-	15.5	4	0.57	6.2	C69
Brain, Nervous syst	45	0	1.3	1.8	1.9	0.4	-	1	1.8	2.1	3.2	1.7	10.5	21.2	9	-	-	31	2	0.28	3.5	C70-C72
Thyroid	43	0	-	-	-	-	-	-	1.4	1.4	1.1	5.1	12.6	21.2	18	31.4	89.9	38.8	1.9	0.91	6.2	C73
Adrenal gland	1	0	-	-	-	-	-	0.3	-	-	-	-	-	-	-	-	-	-	0	0.00	0	C74
Other Endocrine	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11.2	-	0	0.06	0.2	C75
Hodgkin disease	9	1	-	-	-	0.4	0.4	-	-	0.7	2.2	-	-	3	-	7.8	-	7.8	0.4	0.07	0.8	C81
Non-Hodgkin lymphoma	191	3	1.3	0.5	3.3	2.1	4.3	5.3	10.1	21.5	23.8	42.3	25.1	33.3	27	31.4	22.5	62	8.7	1.27	13.8	C82-C85
Immunoprolif. Dis	1	0	-	-	-	-	-	-	-	-	-	-	-	-	4.5	-	-	-	0	0.02	0.2	C88
Multiple Myeloma	31	0	-	-	-	-	-	-	0.5	0.7	1.1	5.1	6.3	21.2	13.5	39.2	67.4	7.8	1.4	0.78	4.8	C90
Lymphoid Leukaemia	16	0	0.3	1.4	1.9	-	0.4	-	-	-	1.1	-	-	6	-	-	22.5	15.5	0.7	0.17	1.4	C91
Myeloid Leukaemia	16	0	0.7	0.5	0.5	-	0.4	0.3	-	-	2.2	3.4	6.3	6	-	7.8	-	-	0.7	0.14	1.3	C92-C94
Leukaemia unspec.	8	0	0.3	-	-	0.8	-	-	0.5	0.7	1.1	1.7	-	-	-	7.8	-	-	0.4	0.06	0.6	C95
Leukaemia	40	0	1.3	1.9	2.4	0.8	0.8	0.3	0.5	0.7	4.4	5.1	6.3	12	0	15.6	22.5	15.5	1.8	0.37	3.3	C91-C97
Other & unspecified	94	0	-	0.5	-	0.4	1.8	1	1.4	5.5	4.3	11.8	16.8	24.2	36	101.9	56.2	155.1	4.3	1.31	12.2	Other
All sites Total	3124	45	12	11	13	9	20	38	101	207	330	508	668	916	1126	1827	2325	2822	141.6	40.6	355.8	All
All sites but C44	3052	44	12	11	12	9	19	36	96	205	322	504	660	904	1117	1795	2224	2706	138.3	39.6	347.8	Not C44