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24 July 2017

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Written Submission
to the
Parliamentary Portfolio Committee on Health
regarding the
National Public Health Institute of South Africa Bill

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TO:
The Chairperson
Portfolio Committee on Health
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My Qualifications include:
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Imagine a world without cancer

24 July 2017

Dear Ms Mary-Ann Dunjwa

WRITTEN SUBMISSION ON THE NATIONAL PUBLIC HEALTH INSTITUTE OF SOUTH AFRICA BILL

I wish to thank the Portfolio Committee on Health for the opportunity to submit written comments, and to indicate my interest in making an oral submission, on the National Public Health Institute of South Africa Bill [B16 – 2017].

The Cancer Association of South Africa (CANSA) became aware of the envisaged establishment of the National Public Health Institute of South Africa (NAPHISA) during the course of 2015 and is pleased to see the publication of a Bill in support of the establishment of this very important institute. It is in the interest of all South Africans that the various divisions of the NAPHISA will deal individually with the following:

- Communicable Diseases
- Non-Communicable Diseases
- Occupational Health
- Cancer Surveillance
- Injury and Violence Prevention

As a Cancer Health Specialist and Occupational Health Specialist I wish to limit my comments to Cancer Surveillance and some aspects of Occupational Health pertaining to occupational cancers.

While infectious diseases were a major concern in the world during the 20th century, cancer has become the most dangerous health problem of the 21st century. Treatment of infectious diseases and overall health has improved dramatically over the past century, leading to prolonged life spans. However, with an aging world population, the incidence rates of cancer in low- and middle-income countries especially have increased and will continue to increase in the next few decades. In general, cancer is the disease of uncontrolled generation of abnormal cells in the body. The genetically unstable nature of cancer cells allows them to become highly resistant to treatment. One of many tools to combat this problem is cancer patient surveillance. The United States of America and other developed countries of the European Union are currently collecting clinically relevant information about each and every patient.

This data can be correlated with disease progression, treatment efficiency, environmental factors, or other variables. Scientific researchers in those countries have access to and analyse clinical samples for genetic mutations and gene expression profiling to identify other molecules of interest and compare it with disease stage and survival.

The proper surveillance system of cancer patients is a powerful tool that must be used to understand the disease and improve cancer therapy and patient survival. Therefore, generating a successful surveillance system for cancer patients in South Africa will have a profound effect on cancer control and potentially identify new ways to treat cancer patients in South Africa.

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Unfortunately South Africa is not faring well. It has no current approved National Cancer Control Programme (NCCP).

In 2011, Regulation 380 of the National Health Act (Act 61 of 2003) formally established the South African National Cancer Registry (SANCR) as South Africa's main cancer surveillance agency; the legislation makes reporting all confirmed cancer diagnoses to the registry obligatory. Additionally, the Regulation mandated the SANCR to implement population-based cancer registration in South Africa – something that has still not materialised.

Cancer remains one of the leading causes of morbidity and mortality worldwide. It is predicted that by 2020, the number of new cases of cancer in the world will increase to more than 15 million, with deaths increasing to 12 million.[11]

Much of the burden of cancer incidence, morbidity, and mortality will occur in the developing world. This forms part of a larger epidemiological transition in which the burden of chronic, non-communicable disease - once limited to industrialised nations - is now increasing in less developed countries. In addition to the accumulating risks associated with diet, tobacco, alcohol, lack of exercise, and industrial exposures, the developing world is already burdened by cancers some of which are attributable to infectious diseases.

These disparities in cancer risk combined with poor access to epidemiological data, research, treatment, and cancer control and prevention combine to result in significantly poorer survival rates in developing countries for a range of specific malignancies.[11]

Cancer Surveillance
Cancer registration is the fundamental method by which information is systematically collected about the incidence and types of cancer, the anatomic location, the extent of disease at the time of diagnosis, the kinds of treatment received by cancer patients, and the outcomes of treatment and clinical management.[12]

South Africa currently does not have a functional National Cancer Control Programme (NCCP). Cancer Surveillance in South Africa, therefore, is functioning in a vacuum. A well-structured and Parliamentary approved National Cancer Control Programme is crucial to the success or failure of cancer control in South Africa.

A national cancer control programme (NCCP) is a public health programme designed to:

- reduce the number of cancer cases
- reduce the number of cancer deaths; and
- improve the quality of life of cancer patients (cancer survivors)[1;7]

This is done by implementing systematic, equitable and evidence-based strategies for prevention, early detection, diagnosis, treatment and palliation using all available resources. No matter what resource constraints a country faces, when well-conceived and well-managed, a NCCP helps reduce the cancer burden and improve services for cancer patients, their families and carers.

National cancer control plans should be goal-oriented, realistic, carefully prepared and appropriately funded through a participatory process in order to be effectively implemented. Cancer control planning requires accurate data, including reliable cancer registries and monitoring and evaluation programmes to ensure programmes are appropriately prioritised and to assure quality.[5;7]

For a NCCP to be successful, the following questions need to be asked and answered during the planning phase:

Where are we now?
Where do we want to be?
How are we going to get there?

This is to be followed by a policy implementation phase.[1;5]

Another crucial part of a successful NCCP is the availability of a reliable National Cancer Registry.[6]

As stated above, cancer control aims to reduce the incidence, morbidity, and mortality of cancer and to improve the quality of life of cancer patients through the systematic implementation of evidence-based interventions in prevention, early diagnosis, treatment, and palliative care. In the context of a national cancer control program (NCCP), a cancer surveillance programme (CSP), built around a population-based cancer registry, is an essential element.[2;3]

A Population-based Cancer Registry - systematically collects information on all new cancer cases in a particular geographic area and is determined by multiple sources. The main sources of information for these registries are (a) public and private hospitals and medical centres; (b) public and private outpatient surgery centres; (c) public and private anatomical pathology laboratories; (d) civil registry offices that issue death certificates, particularly lists of certificates of residents whose cause of death was cancer or probable tumour or those in which cancer is referenced in some manner; (e) public and private specialty cancer diagnostic centres; (f) public and private hospice centres; and (g) public and private nursing homes. These registries provide a more reliable cancer profile for estimating population indicators of incidence, mortality, survival rates, and prevalence.[3]

It pains to acknowledge that South Africa fails as far as this is concerned as well. South Africa does not currently have a population-based cancer registry – it has a poorly functional histology-based National Cancer Registry. This boils down to a registry only reflecting cancer diagnoses that have been confirmed by tissue biopsy in a pathology laboratory.

A Histology-based Cancer Registry - collects information from one or more pathology laboratories and is useful for laboratory needs. It provides an incomplete and skewed cancer profile, essentially determined by the types of tissues that the laboratory can process.[3]

Valid instruments to diagnose cancer - the following are all valid instruments used to diagnose cancer, but if the diagnosis is not based on a pathology report, it is not taken up in the current South African National Cancer Registry:

- Physical examination
- Laboratory tests (blood, urine, tissue biopsy etc.)
- Imaging tests (X-ray, PET/CT, MRI, ultrasound, etc.)
- Nuclear medicine scans (bone scans, etc.)
- Endoscopy
- Genetic tests.[4]

Criteria to confirm a valid and reliable national cancer registry - according to the International Agency for Research on Cancer (IARC)[10] cancer registries should be able to provide some objective indication of the quality of the data that they have collected. The methods available have been described and updated, and cover four dimensions of quality: comparability, validity, timeliness, and completeness. The SANCR provides no information as to sources or quality of data. The latest cancer statistics available from the SANCR are those for 2012.

The International Statistical Classification of Diseases and Related Health Problems, 10th Revision – or ICD-10 for short – is an internationally used document which translates the written description of all medical diagnoses into a coded format. The World Health Organization (WHO) owns and maintains these codes and they are the standard way of indicating the reason for a visit to a healthcare provider. The purpose of ICD-10 coding is to translate diagnoses of diseases and other health related problems from descriptions into an alphanumerical code, which permits easy storage, retrieval and analysis of the data. It also allows for the establishment of the systematic recording, analysis, interpretation and comparison of morbidity and mortality data collected within the country but also with other countries. ICD-10 coding communicates health data in a predictable, consistent and reproducible manner.[8]

Even though the ICD-10 has been adopted by the National Department of Health as the diagnostic coding standard for South Africa, the South African National Cancer Registry (SANCR) seems to be oblivious to its existence. In the ICD-10 Coding System, tumours (cancers) are classified under codes C-00 to C-96 and under codes D-00 to D-49, yet the current SANCR records all cancers under the following number of headings (not ICD-10 related)[8]

Cancers (neoplasms) related to females	45 headings
Cancers (neoplasms) related to males	42 headings

A further example is that according to the ICD-10 coding system, leukaemias (blood cancers) are classified under thirty-four (34) codes, whereas in the SANCR all leukaemias are grouped together under one single heading of 'leukaemia', whereas the ICD-10 Coding System has 34 codes.

Similarly Lymphomas, even though they are categorised under several headings in the ICD-10 coding system, are categorised under only three (3) headings in the SANCR, namely: Hodgkin's lymphoma, non-Hodgkin's lymphoma and Burkitt's Lymphoma.

Neoplasms of the liver and bile ducts, for example, are all grouped together in the National Cancer Registry under one heading – although there are ten (10) codes in the ICD-10 Coding System.[9]

Without a proper ICD-10 aligned National Cancer Registry, proper and adequate cancer surveillance is not possible.

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<u>Examples of Errors Occurring in the National Cancer Registry</u> – I would like to take this opportunity of pointing out critical errors that occurred in the National Cancer Registries of 2011 and 2012.

National Cancer Registry (NCR) 2011
Annexure I (Page 1 of the 2011 NCR) with reference to the column "N(ADJ)" – N(ADJ) refers to the number of cases adjusted for those with sex unknown. This particular column, throughout the whole of the NCR, indicates percentages of the total number of cases as follows:

- Number of new cases with sex known – 8000 cases of Basal Cell Carcinoma (BCC), when adjusted becomes 8286.04 cases
- Number of new cases with sex known – 3386 cases of Squamous Cell Carcinoma (SCC) of the skin, when adjusted becomes ; 3514.67 cases
- Number of new cases with sex known – 1552 cases of Lung Cancer, when adjusted becomes 1590.63 cases
- Etc

The question is: how can one have 8286.04 persons? When this was pointed out to the NCR, the response was that this is normal when adjusting figures. I totally disagree with such a response - one can never have 8286.04 persons! The particular NCR was eventually removed from the Website, corrected and re-posted. How many researchers were confused by this?

National Cancer Registry (NCR) 2012
Annexure II and Annexure III (Page 12 and Page 14 of the 2012 NCR). Both these pages provide frequency data of histologically diagnosed cancer in South Africa, 2012 among **All Males** (Page 12) and **Asian Males** (Page 14), yet comments at the bottom of the pages have the following inscriptions:
(Page 12) SEX KNOWN **(FEMALES)**, POPULATION GROUP
(Page 14) SEX KNOWN **(FEMALE)**, POPULATION GROUP UNKNOWN

Errors of this nature are not acceptable. Are these real errors where female data was included in frequency data of males or is it possibly a typographical error? This causes major confusion among individuals conducting research of cancer incidence in South Africa!

Occupational Health
More than half of the world's population is engaged in work, and so the socio-economic development of each country relies on its workers' health, safety, work ability and well-being. Healthy workers are productive workers. Absenteeism due to work-related disease and disability disrupts the operation of enterprises and tarnishes their reputation, adds costs such as the recruiting and training of replacement workers, and increases social and health-care costs.

Thus safety and health at work are important not only for individual workers, but also for enterprises, communities and countries. The safety and health of workers affect the overall quality of life of working people, and the harmony of society. Safety and health at work also contribute positively to enterprise profitability and national economies through improved productivity, product quality, work ability and job satisfaction.

Data on diseases caused by work and their effects on workers' health are essential for national policy-makers and organisations responsible for workplace safety and health to formulate evidence-based occupational safety and health policies, and to set priorities and targets for action.

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National occupational disease data are also important for international comparisons, to fit the national OSH profile into the international picture, and can be used to calculate regional and global estimates of the burden of occupational diseases.[13]

During the month of July, 2017, researcher conducted research in an effort to collect data to prepare a Fact Sheet on Occupational Cancers in South Africa and could not find any evidence or record of incidence of occupational cancers in South Africa.

The National Cancer Registry (2012) does not differentiate the cause or origin of cancers. It is, therefore, not possible to determine from the National Cancer Registry how many individuals have been diagnosed with an occupational cancer.

The researcher was also unable to find evidence of statistics on occupational cancers in publications of the following:

- Statistics SA
- National Health Laboratory Service
- South African Institute of Occupational Health
- The South African Department of Labour
- The South African Department of Energy
- The South African Department of Transport
- The Chamber of Mines of South Africa
- The Compensation Commissioner

No country can ensure a healthy and safe working environment for its workforce without proper and adequate surveillance and statistics on occupational diseases. It rests in the hands of responsible people, such as the ministries of labour, health, and social security; at those in occupational safety and health inspection, occupational safety and health services, national social security institutions, compensation boards, employers, workers and their organisations to ensure adequate health and safety surveillance and availability of accurate and relevant occupational health statistics and information.

Recommendations:

I wish to make the following recommendations, trusting that they will be forwarded to the appropriate divisions of the proposed National Public Health Institute, for urgent attention:

1.

The National Department of Health must be instructed to provide, as a matter of urgency, an approved, functional, relevant, and current National Cancer Control Programme (NCCP) for South Africa, without which no cancer control is possible.

2.

The National Department of Health and the National Cancer Registry must ensure that all individuals responsible to report cases of cancer diagnoses are effectively trained in how to complete the prescribed notification of cancer cases so as to ensure that all relevant statistics are received by the National Cancer Registry for inclusion in the Registry.

3.

The National Cancer Registry must ensure that **all** diagnoses of **all** cancer cases are reported to ensure inclusion in the National Cancer Registry.

4.

The National Department of Health and the National Cancer Registry must ensure that cancer diagnoses on the prescribed notification of cancer cases be done in terms of the ICD-10 Coding System.

5.

The National Department of Health and the National Cancer Registry must, as soon as possible, introduce a Population-based National Cancer Registry instead of continuing with the current Histology-based National Cancer Registry.

6.

The National Cancer Registry must urgently introduce an intensive training programme for its staff in statistics and other relevant topics to ensure that no unacceptable and erroneous statistics or inclusions are published in the National Cancer Registry.

7.

The National Cancer Registry must introduce a system of careful scrutiny (editing) of the content of the National Cancer Registry to prevent typographical errors (as those pointed out having appeared in the 2012 National Cancer Registry).

8.

The National Cancer Registry must be urged to hasten the publication of more recent cancer statistics. It is impossible to adequately plan for cancer control with statistics that are 5 years old.

9.

The National Cancer Registry must revise and expand the manner in which cancer statistics are currently presented to be more in line with the ICD-10 Coding System and not, for example, post all the different types of leukaemia under one heading.

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10.

An effort must be made to ensure that accurate statistics become available concerning occupational cancers in an effort to better protect the workforce of South Africa from exposure to carcinogens in the workplace. This should be available from at least the following:

- Statistics South Africa
- National Health Laboratory Service
- South African Institute of Occupational Health
- The Chamber of Mines of South Africa
- The Compensation Commissioner

11.

International research indicates that low– and middle–income countries bear the greatest burden of new cancer cases as well as deaths, amid an ever–increasing total number of affected individuals worldwide. Since cancer kills more people worldwide than HIV/AIDS, tuberculosis, and malaria combined, it needs to be a global health priority.[14;15] It is, therefore, recommended that the Cancer Surveillance Division of the proposed Institute investigate this to determine why South African health statistics do not reflect this, even though South Africa has the skewed burden of Aids, Tuberculosis and Malaria.

I wish to thank the Portfolio Committee on Health for the opportunity to submit written comments on the National Public Health Institute of South Africa Bill.

Sincerely
Michael C Herbst (Prof)

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SUMMARY STATISTICS OF CANCER DIAGNOSED HISTOLOGICALLY IN SOUTH AFRICA IN 2011
ALL POPULATION GROUPS: MALE

NATIONAL HEALTH LABORATORY SERVICE
National Cancer Registry

SITE	N(OBS)	N(ADJ)	%	CRUDE	ASR	95% LL	95% UCL	CUMRISK 0-74	LR 0-74
BCC	6000	8286.04	24.87	33.80	52.08	50.94	53.22	5.78	17
Prostate	6143	6356.00	19.07	25.93	41.86	40.82	42.90	5.24	19
SCC of skin	3386	3514.67	10.55	14.34	23.09	22.32	23.87	2.50	40
Lung	1552	1590.63	4.77	6.49	9.90	9.41	10.39	1.23	82
Colorectal	1586	1639.59	4.92	6.69	10.17	9.67	10.67	1.18	82
Primary site unknown	1495	1540.52	4.62	6.28	9.28	8.81	9.75	1.09	92
Oesophagus	864	899.17	2.70	3.66	5.56	5.19	5.93	0.66	150
Bladder	859	893.00	2.68	3.64	5.80	5.42	6.19	0.63	158
Stomach	668	693.91	2.08	2.83	4.32	4.00	4.65	0.52	193
Melanoma	672	698.00	2.09	2.85	4.23	3.90	4.55	0.47	213
Non Hodgkin lymphoma	804	838.60	2.52	3.42	4.35	4.04	4.66	0.44	218
Kaposi Sarcoma	1016	1064.11	3.19	4.34	4.60	4.31	4.89	0.41	244
Larynx	435	452.00	1.36	1.84	2.81	2.55	3.07	0.36	280
Mouth	338	345.30	1.04	1.41	2.07	1.85	2.30	0.24	423
Leukaemia	437	459.75	1.38	1.88	2.33	2.11	2.55	0.24	425
Kidney	329	343.00	1.03	1.40	2.01	1.80	2.23	0.23	432
Tongue	274	280.17	0.84	1.14	1.70	1.49	1.90	0.21	483
Naso-Oropharynx	268	279.00	0.84	1.14	1.59	1.40	1.78	0.19	540
Liver & Bile duct	259	274.00	0.82	1.12	1.56	1.37	1.75	0.17	593
Myeloma	157	162.00	0.49	0.66	0.97	0.82	1.12	0.12	828
Eye	282	298.64	0.90	1.22	1.41	1.24	1.58	0.12	842
Connective tissue	241	251.95	0.76	1.03	1.27	1.10	1.43	0.11	881
Skin other	200	210.00	0.63	0.86	1.24	1.06	1.41	0.11	893
Brain, CNS	170	185.00	0.56	0.75	0.95	0.81	1.10	0.11	897
Breast	145	148.05	0.45	0.61	0.92	0.77	1.07	0.11	922
Mesothelioma	113	119.00	0.36	0.49	0.77	0.63	0.91	0.10	989
Pancreas	124	132.00	0.40	0.54	0.82	0.68	0.96	0.09	1066
Other specified	130	134.00	0.40	0.55	0.75	0.62	0.88	0.09	1101
Penis	135	140.00	0.42	0.57	0.76	0.63	0.89	0.08	1276
Hodgkin lymphoma	219	222.00	0.67	0.91	0.92	0.79	1.04	0.09	1280
Salivary gland	105	111.00	0.33	0.45	0.67	0.54	0.80	0.07	1429
Lip	102	103.00	0.31	0.42	0.62	0.49	0.74	0.07	1443
Thyroid	82	98.00	0.26	0.36	0.48	0.38	0.59	0.06	1759
Anus	77	82.00	0.25	0.33	0.48	0.37	0.59	0.05	1826
Testis	130	135.00	0.41	0.55	0.55	0.45	0.64	0.04	2239
Small intestine	64	67.00	0.20	0.27	0.40	0.31	0.50	0.04	2339
Burkitt lymphoma	81	86.80	0.26	0.35	0.39	0.31	0.47	0.03	3215
Bone	86	91.50	0.27	0.37	0.37	0.29	0.45	0.03	3298
Haematology other	55	57.00	0.17	0.21	0.29	0.21	0.37	0.03	3391
Gum	19	20.00	0.06	0.08	0.12	0.07	0.18	0.01	6773
Endocrine	34	25.00	0.08	0.10	0.11	0.07	0.16	0.01	10175
Ill defined	5	5.00	0.02	0.02	0.02	0.00	0.05	0.00	55447
*TOTALS	32131	33321	100	87.79	129.41	127.65	131.17	14.16	7

NOTES:
- N(OBS)   Number of new cases with sex known
- N(ADJ)   Number of new cases adjusted for those with sex unknown
- %   Percentage of all cancers
- CRUDE   Adjusted cases per 100 000/year
- ASR   Age standardised incidence rate per 100 000 (World standard population). The ASR calculation incorporates an adjustment for the proportion of cases with age unknown
- 95% L/UCL   Lower/Upper 95% confidence intervals for the ASR
- CUMRISK 0-74   Cumulative lifetime incidence risk (0-74 years)
- LR 0-74   Lifetime (0-74) risk of developing a cancer expressed as 1 in X number of people
- *TOTALS   The rates calculated for the total exclude BCC and SCC of the skin

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CANCER ASSOCIATION OF SOUTH AFRICA
85 Years 1931 - 2016

FREQUENCY OF HISTOLOGICALLY DIAGNOSED CANCER IN SOUTH AFRICA, 2012
ALL MALES

SITE	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	75-79	80-84	85+	U/K	Total
Anus	0	0	0	2	0	0	2	7	6	16	11	11	13	7	8	5	7	4	2	94
PCC	0	0	3	5	7	31	99	186	379	513	758	1096	1104	1371	1179	1044	701	596	135	9109
Bladder	3	0	0	1	0	1	2	10	22	34	54	95	111	163	163	132	117	71	7	1005
Bone	1	8	9	18	21	14	4	2	4	16	4	6	0	5	5	1	0	0	1	100
Brain, CNS	10	18	11	12	11	8	12	12	14	16	27	26	21	18	21	10	5	13	3	256
Breast	0	0	0	2	0	1	4	7	7	12	19	19	32	28	19	17	0	1	12	212
Burkitt lymphoma	3	13	7	5	3	7	12	13	17	5	9	6	2	1	0	1	0	1	2	107
Colorectal	0	1	4	0	14	14	44	34	75	104	146	214	228	262	261	203	142	88	21	1038
Connective tissue	10	8	7	8	10	5	17	9	23	23	26	30	29	18	21	19	0	6	0	285
Endocrine	4	1	2	1	5	3	1	2	0	5	5	1	1	3	1	1	0	0	0	37
Eye	20	0	1	4	1	7	24	63	60	44	30	18	12	6	6	2	0	2	16	330
Gum	0	0	0	0	0	0	3	3	2	2	3	3	4	3	3	2	0	0	0	28
Haematolog other	3	5	1	11	9	4	3	3	3	2	6	6	4	2	0	2	2	0	2	65
Hodgkin lymphoma	1	17	14	14	15	17	29	25	32	29	11	6	4	5	3	0	2	0	1	231
Ill defined	0	0	0	0	0	0	0	0	0	0	2	1	0	1	0	2	0	0	0	9
Kaposi Sarcoma	21	2	8	7	20	68	188	236	215	155	95	61	23	19	8	6	4	8	78	1225
Kidney	14	11	5	0	2	3	5	11	14	32	38	52	50	55	45	30	4	4	5	414
Larynx	0	0	0	0	0	1	2	2	10	26	54	83	111	91	61	28	18	5	7	499
Leukaemia	19	24	25	20	10	19	22	16	20	22	23	27	29	25	39	15	13	7	5	380
Lip	0	0	0	0	0	2	6	2	4	10	5	14	9	8	12	6	2	2	1	85
Liver & Bile duct	3	3	0	3	3	4	7	11	26	27	24	26	39	36	24	15	11	12	12	296
Lung	0	1	0	0	2	10	17	8	38	104	204	281	988	263	216	173	64	33	17	1743
Melanoma	8	0	0	3	3	0	1	37	45	54	61	73	76	94	87	72	45	35	18	733
Mesothelioma	0	0	0	1	1	0	1	0	2	1	10	20	18	17	24	11	9	7	2	121
Mouth	0	0	0	0	1	3	3	8	14	39	46	73	71	56	39	21	13	9	2	406
Myeloma	0	0	0	0	0	0	3	9	7	12	19	24	20	16	12	11	2	2	1	150
Naso-Oropharynx	1	7	3	4	0	5	3	9	10	30	38	54	66	69	26	14	7	5	7	366
Non Hodgkin lymphoma	4	7	8	13	14	32	47	87	110	98	108	91	78	68	58	47	31	18	14	933
Oesophagus	0	0	0	0	1	1	4	12	23	64	134	190	195	163	117	83	43	23	47	1122
Other specified	1	0	0	1	0	0	3	7	4	9	13	15	24	20	15	10	4	4	7	144
Pancreas	0	0	0	0	0	0	3	1	4	13	17	28	33	35	24	12	11	2	3	191
Penis	0	0	0	0	0	9	5	11	25	14	15	18	17	17	13	2	2	2	9	141
Primary site unknown	4	0	0	4	7	9	23	42	82	91	200	249	280	239	190	123	59	37	62	1703
Prostate	0	0	0	3	2	1	3	3	21	62	294	729	1098	1356	1218	1018	527	351	100	6607
SCC of skin	2	0	2	3	0	10	35	44	64	137	217	294	442	568	568	559	458	896	46	3843
Salivary gland	0	0	3	1	1	2	4	9	5	18	7	17	14	15	15	17	4	6	1	133
Skin other	0	0	1	6	0	5	10	13	17	14	18	23	21	25	25	20	23	10	5	241
Small intestine	0	0	0	0	1	1	2	4	6	5	9	11	15	7	5	5	1	4	5	78
Stomach	1	5	0	0	3	3	24	14	30	49	73	112	187	114	113	84	47	39	18	796
Testis	0	5	8	6	18	30	8	25	21	13	4	3	1	7	8	1	0	0	0	170
Thyroid	0	0	1	0	3	3	8	9	10	9	22	14	14	14	8	3	5	1	2	126
Tongue	0	1	0	8	0	0	8	2	12	23	51	53	71	47	36	14	8	8	8	330
Total	114	157	113	155	191	352	699	1064	1493	1957	2924	4097	4785	5327	4697	3851	2450	1799	720	26897

	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	75-79	80-84	85+	U/K	Total
SEX KNOWN (FEMALES), POPULATION GROUP	8	5	7	7	8	8	27	29	44	81	74	100	129	185	159	118	74	52	25	1122
POPULATION GROUP KNOWN, SEX UNKNOWN	0	0	0	0	0	0	0	0	0	1	0	0	0	2	3	1	1	0	17	23
SEX AND POPULATION GROUP UNKNOWN	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1

DATA INCLUDE:
SEX KNOWN (FEMALES), POPULATION GROUP
DATA EXCLUDE:
POPULATION GROUP KNOWN, SEX UNKNOWN
SEX AND POPULATION GROUP UNKNOWN

Imagine a world without cancer

85 Years 1931 - 2016
CANCER ASSOCIATION OF SOUTH AFRICA

FREQUENCY OF HISTOLOGICALLY DIAGNOSED CANCER IN SOUTH AFRICA, 2012

ASIAN MALES

SITE	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	75-79	80-84	85+	U/K	Total
Anus																				6
BCC																				40
Bladder																				44
Bone																				2
Brain, CNS																				17
Breast																				12
Burkitt lymphoma																				9
Colorectal																				92
Connective tissue																				11
Endocrine																				1
Eye																				9
Gum																				2
Haematology other																				12
Hodgkin lymphoma																				9
Ill defined																				13
Kaposi Sarcoma																				22
Kidney																				18
Larynx																				11
Leukaemia																				2
Lip																				10
Liver & bile duct																				82
Lung																				7
Melanoma																				15
Mesothelioma																				13
Mouth																				16
Myeloma																				28
Naso-Oropharynx																				16
Non Hodgkin lymphoma																				4
Oesophagus																				7
Other specified																				5
Pancreas																				47
Penis																				148
Primary site unknown																				23
Prostate																				9
SCC of skin																				3
Salivary gland																				3
Skin other																				45
Small intestine																				12
Stomach																				6
Testis																				10
Total	5	5	1	5	3	12	13	17	30	52	63	74	106	138	93	94	48	27	35	811

DATA EXCLUDE:

POPULATION GROUP KNOWN (ASIAN), SEX UNKNOWN	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	2	2
SEX AND POPULATION GROUP UNKNOWN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
SEX KNOWN (FEMALE), POPULATION GROUP UNKNOWN	8	5	7	7	8	8	27	29	44	61	74	100	129	185	159	118	74	52	28	1122