

GYNECOLOGIC
CANCER INTERGROUP

An Organization of International Cooperative
Groups for Clinical Trials in Gynecologic Cancers

Cervical cancer prevention and screening in South Africa

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CECRC

COMMON EPITHELIAL CANCER RESEARCH CENTRE

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- South African National Department of Health Cervical Cancer Control Policy
- South African National Cancer Registry (2014)
www.ncr.ac.za
- GLOBOCAN 2018. IARC (International Agency for Research in Cancer)

Conflicts of interest

- I have no conflicts of interest related to this presentation

Cervical cancer in South Africa

- Cervical cancer is the 8th most common cancer in women with 569,847 new patients (3.2% both sexes) diagnosed worldwide (GLOBOCAN 2018)
- Cervical carcinoma is the 2nd most common cancer in South African females after breast cancer and the most common cancer in black South African females
- It affects mainly young women and is often fatal if left untreated.
- Along with maternal deaths, cervical cancer has been identified as a critical healthcare priority in most LMICs, including those in sub-Saharan Africa.
- Cervical cancer is associated with oncogenic human papilloma virus (HPV) types (mainly types 16 & 18).
- Disease progression rate is aggravated by co-infection with human immunodeficiency virus (HIV).
- Both HPV and HIV are sexually transmitted

Cancer in South African females (NCR 2014)

SUMMARY STATISTICS OF CANCER DIAGNOSED HISTOLOGICALLY IN 2014
FEMALE - ALL POPULATION GROUPS COMBINED

SITE	N(OBS)	N(ADJ)	%	CRUDE	ASR	95% LCL	95% UCL	CUMRISK 0-74	LR 0-74
Breast	8230	8230.00	21.78	29.75	33.35	32.63	34.08	3.67	27
BCC	7030	7033.91	18.61	25.42	28.59	27.92	29.27	3.17	32
Cervix	3735	3735.00	15.17	20.73	22.56	21.97	23.15	2.36	42
SCC of skin	2674	2675.56	7.08	9.67	10.64	10.23	11.05	1.07	93
Primary site unknown	1691	1691.00	4.47	6.11	6.91	6.58	7.25	0.80	124
Colorectal	1620	1620.45	4.29	5.86	6.60	6.27	6.92	0.75	134
Uterus	1256	1256.00	3.32	4.54	5.33	5.03	5.62	0.69	143
Lung	996	996.00	2.48	3.38	3.95	3.70	4.21	0.51	195
Non Hodgkin lymphoma	870	870.48	2.30	3.15	3.32	3.09	3.54	0.34	296
Melanoma	755	755.45	2.00	2.73	3.00	2.79	3.22	0.32	311
Oesophagus	650	650.35	1.72	2.35	2.67	2.46	2.88	0.31	326
Ovary	518	518.00	1.37	1.87	2.15	1.96	2.33	0.26	387
Stomach	451	451.00	1.19	1.63	1.84	1.67	2.01	0.21	483
Kaposi Sarcoma	669	669.40	1.77	2.42	2.22	2.05	2.39	0.18	555
Thyroid	420	420.00	1.11	1.52	1.60	1.44	1.75	0.16	623
Bladder	337	337.00	0.89	1.22	1.37	1.22	1.52	0.15	654
Vulva	343	343.00	0.91	1.24	1.27	1.14	1.41	0.13	789
Kidney	242	242.00	0.64	0.87	0.98	0.85	1.10	0.10	977
Eye	358	358.00	0.95	1.29	1.25	1.12	1.39	0.10	991
Leukaemia	258	258.00	0.68	0.93	1.00	0.87	1.12	0.09	1069
Myeloma	175	175.00	0.46	0.63	0.73	0.62	0.84	0.09	1090
Mouth	196	196.00	0.52	0.71	0.80	0.68	0.91	0.09	1091
Connective tissue	255	255.00	0.67	0.92	0.99	0.86	1.11	0.09	1095
Pancreas	175	175.00	0.46	0.63	0.73	0.62	0.83	0.09	1125
Skin other	192	192.00	0.51	0.69	0.76	0.65	0.87	0.09	1161
Liver & Bile duct	165	165.00	0.44	0.60	0.67	0.56	0.77	0.08	1277
Other specified	150	150.00	0.40	0.54	0.60	0.50	0.70	0.07	1510
Vagina	164	164.00	0.43	0.59	0.65	0.55	0.75	0.07	1520
Brain, CNS	176	176.00	0.47	0.64	0.68	0.58	0.78	0.06	1568
Hodgkin lymphoma	201	201.00	0.53	0.73	0.71	0.61	0.81	0.06	1646
Tongue	112	112.00	0.30	0.40	0.46	0.38	0.53	0.05	1948
Naso-Oropharynx	107	107.00	0.28	0.39	0.42	0.34	0.50	0.05	2083
Anus	125	125.00	0.33	0.45	0.49	0.40	0.57	0.05	2135
Larynx	76	76.00	0.20	0.27	0.32	0.25	0.40	0.04	2383
Salivary gland	81	81.00	0.21	0.29	0.31	0.25	0.38	0.03	2968
Bone	82	82.00	0.22	0.30	0.31	0.24	0.37	0.03	3809
Small intestine	62	62.00	0.16	0.22	0.23	0.19	0.31	0.03	3973
Mesothelioma	42	42.00	0.11	0.15	0.18	0.12	0.23	0.02	4831
Lip	38	38.00	0.10	0.14	0.15	0.10	0.20	0.02	5412
Burkitt lymphoma	58	58.00	0.15	0.21	0.21	0.15	0.26	0.02	5661
Placenta	43	43.00	0.11	0.16	0.14	0.10	0.18	0.01	9245
Haematology other	26	26.00	0.07	0.09	0.10	0.06	0.14	0.01	9750
Gum	21	21.00	0.06	0.08	0.09	0.05	0.12	0.01	10769
Endocrine	21	21.00	0.06	0.08	0.08	0.05	0.12	0.01	14553
Ill defined	1	1.00	0.00	0.00	0.00	0.00	0.01	0.00	126876
Total	37787	37794.61	100.00	101.51*	112.17*	110.85*	113.50*	12.28*	8*

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] [per 100 people]
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

Cancer in black females (NCR 2014)

SUMMARY STATISTICS OF CANCER DIAGNOSED HISTOLOGICALLY IN 2014
BLACK FEMALE

SITE	N(OBS)	N(ADJ)	%	CRUDE	ASR	95% LCL	95% UCL	CUMRISK 0-74	LR 0-74
Cervix	4870	4901.62	30.46	22.09	27.01	26.24	27.78	2.84	35
Breast	3162	3225.89	20.05	14.54	18.01	17.37	18.64	1.88	59
Primary site unknown	1020	1043.45	6.48	4.70	6.08	5.70	6.45	0.70	143
Uterus	723	731.15	4.54	3.30	4.62	4.28	4.96	0.61	165
Oesophagus	513	521.01	3.24	2.35	3.16	2.89	3.44	0.37	273
Colorectal	457	465.33	2.89	2.10	2.68	2.43	2.92	0.29	342
BCC	374	374.55	2.33	1.69	2.21	1.98	2.44	0.24	409
Non Hodgkin lymphoma	481	491.65	3.06	2.22	2.39	2.18	2.61	0.22	448
Lung	269	273.98	1.70	1.23	1.70	1.49	1.90	0.21	466
Kaposi Sarcoma	611	612.32	3.81	2.76	2.58	2.37	2.79	0.21	469
SCC of skin	367	367.96	2.29	1.66	2.03	1.82	2.24	0.20	494
Ovary	190	193.74	1.20	0.87	1.11	0.95	1.27	0.13	777
Stomach	180	182.43	1.13	0.82	1.08	0.92	1.24	0.13	781
Eye	324	327.66	2.04	1.48	1.47	1.31	1.63	0.12	831
Vulva	254	258.52	1.61	1.17	1.25	1.10	1.41	0.12	833
Melanoma	151	151.20	0.94	0.68	0.88	0.73	1.02	0.09	1072
Thyroid	165	168.61	1.05	0.76	0.90	0.76	1.04	0.09	1074
Connective tissue	158	163.12	1.01	0.74	0.84	0.71	0.98	0.08	1237
Bladder	120	120.72	0.75	0.54	0.71	0.58	0.84	0.08	1283
Vagina	126	126.77	0.79	0.57	0.69	0.57	0.81	0.07	1481
Liver & Bile duct	92	92.56	0.58	0.42	0.53	0.42	0.63	0.07	1537
Mouth	91	93.87	0.58	0.42	0.53	0.42	0.64	0.06	1793
Skin other	90	90.00	0.56	0.41	0.50	0.39	0.60	0.05	1823
Myeloma	72	74.12	0.46	0.33	0.45	0.34	0.55	0.05	1830
Kidney	99	101.09	0.63	0.46	0.53	0.43	0.64	0.05	2037
Leukaemia	115	118.21	0.73	0.53	0.57	0.47	0.68	0.05	2104
Hodgkin lymphoma	124	125.88	0.78	0.57	0.55	0.45	0.65	0.05	2115
Anus	82	84.02	0.52	0.38	0.44	0.34	0.54	0.05	2193
Pancreas	61	62.79	0.39	0.28	0.37	0.28	0.47	0.04	2297
Naso-Oropharynx	63	64.82	0.40	0.29	0.35	0.26	0.43	0.04	2455
Other specified	75	76.01	0.47	0.34	0.41	0.31	0.50	0.04	2651
Brsin, CNS	65	66.13	0.41	0.30	0.33	0.25	0.42	0.03	3616
Larynx	31	31.00	0.19	0.14	0.19	0.13	0.26	0.03	3639
Salivary gland	44	44.55	0.28	0.20	0.23	0.16	0.30	0.03	3721
Tongue	33	33.30	0.21	0.15	0.19	0.12	0.25	0.02	4796
Small intestine	30	30.49	0.19	0.14	0.18	0.11	0.24	0.02	5475
Burkitt lymphoma	46	46.81	0.29	0.21	0.21	0.15	0.27	0.02	5587
Bone	45	46.71	0.29	0.21	0.21	0.15	0.28	0.02	6279
Mesothelioma	18	18.00	0.11	0.08	0.11	0.06	0.17	0.01	7521
Placenta	41	41.00	0.25	0.18	0.17	0.12	0.22	0.01	7601
Lip	15	15.00	0.09	0.07	0.08	0.04	0.12	0.01	8721
Haematology other	12	12.00	0.07	0.05	0.06	0.03	0.10	0.01	16409
Endocrine	13	13.00	0.08	0.06	0.06	0.03	0.10	0.00	22930
Gum	8	8.40	0.05	0.04	0.05	0.01	0.08	0.00	23130
Ill defined	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-
Total	15880	16091.43	100.00	69.18*	84.49*	83.13*	85.86*	9.00*	11*

NOTES:
N(OBS) Number of new cases with sex and population group known
N(ADJ) Number of new cases adjusted for those with sex and/ or population group 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

Cancer in white females (NCR 2014)

SUMMARY STATISTICS OF CANCER DIAGNOSED HISTOLOGICALLY IN 2014
WHITE FEMALE

SITE	N(OBS)	N(ADJ)	%	CRUDE	ASR	95% LCL	95% UCL	CUMRISK 0-74	LR 0-74	
BCC	3884	3887.80	35.84	251.49	138.04	134.26	141.83	14.20	7	
Breast	3303	3369.74	20.51	143.93	87.46	84.34	90.58	9.30	11	NOTES:
SCC of skin	2040	2046.92	12.46	87.43	38.80	37.00	40.60	4.08	24	N(OBS)
Colorectal	820	835.40	5.09	35.68	18.57	17.22	19.92	2.09	48	Number of new cases with sex and population group known
Melanoma	542	543.17	3.31	23.20	15.31	13.92	16.70	1.52	66	N(ADJ)
Cervix	407	409.64	2.49	17.50	13.10	11.78	14.42	1.25	80	Number of new cases adjusted for those with sex and/or population group unknown
Lung	410	417.58	2.54	17.84	9.03	8.13	9.97	1.17	83	%
Primary site unknown	393	402.03	2.45	17.17	9.20	8.24	10.16	1.08	92	CRUDE
Uterus	315	318.55	1.94	13.61	7.44	6.58	8.29	0.88	114	Adjusted cases per 100 000/year
Ovary	255	260.02	1.58	11.11	6.35	5.53	7.16	0.75	134	ASR
Non Hodgkin lymphoma	244	249.15	1.52	10.64	5.80	5.02	6.59	0.64	156	Age standardised incidence rate per 100 000 (World standard population)
Thyroid	174	177.81	1.08	7.59	6.18	5.22	7.13	0.76	179	The ASR calculation incorporates an adjustment for the proportion of cases with age unknown
Bladder	129	129.95	0.97	6.83	3.47	2.89	4.06	0.39	256	95% L/UCL
Stomach	141	142.90	0.87	6.10	3.13	2.59	3.71	0.34	293	Lower/Upper 95% confidence intervals for the ASR
Leukaemia	89	91.48	0.76	3.91	3.22	2.41	4.02	0.28	363	CUMRISK 0-74
Brain, CNS	82	83.42	0.51	3.56	2.96	2.22	3.71	0.26	390	Cumulative lifetime incidence risk (0-74 years)
Kidney	93	94.96	0.58	4.06	2.29	1.79	2.79	0.25	395	LR 0-74
Pancreas	86	88.53	0.54	3.78	1.88	1.46	2.29	0.23	431	Lifetime (0-74) risk of developing a cancer expressed as 1 in X number of people
Skin other	80	80.00	0.49	3.42	1.96	1.48	2.43	0.21	483	*TOTALS
Connective tissue	67	69.17	0.42	2.95	2.24	1.62	2.86	0.19	528	The rates calculated for the total exclude BCC and SCC of the skin
Oesophagus	68	69.06	0.42	2.95	1.64	1.23	2.04	0.18	560	
Myeloma	59	60.74	0.37	2.59	1.33	1.00	1.70	0.18	567	
Mouth	52	53.64	0.33	2.29	1.41	0.99	1.82	0.17	600	
Other specified	53	53.72	0.33	2.29	1.35	0.94	1.76	0.16	615	
Vulva	52	52.93	0.32	2.26	1.32	0.93	1.70	0.14	722	
Tongue	48	48.43	0.29	2.07	1.20	0.85	1.56	0.13	754	
Hodgkin lymphoma	41	41.62	0.25	1.78	1.63	1.10	2.20	0.13	786	
Liver & Bile duct	47	47.29	0.29	2.02	1.06	0.71	1.40	0.12	810	
Naso-Oropharynx	27	27.78	0.17	1.19	0.69	0.41	0.98	0.07	1378	
Larynx	26	26.00	0.16	1.11	0.63	0.38	0.92	0.07	1378	
Salivary gland	29	29.36	0.18	1.23	0.73	0.43	1.02	0.07	1399	
Kaposi Sarcoma	20	20.03	0.12	0.86	0.82	0.43	1.19	0.07	1493	
Vagina	20	20.12	0.12	0.86	0.50	0.27	0.72	0.06	1774	
Anus	26	26.64	0.16	1.14	0.59	0.35	0.84	0.06	1799	
Bone	18	18.68	0.11	0.80	0.66	0.32	1.00	0.05	1826	
Lip	18	18.00	0.11	0.77	0.47	0.24	0.71	0.05	1924	
Eye	17	17.19	0.10	0.73	0.69	0.31	1.07	0.05	2029	
Mesothelioma	18	18.00	0.11	0.77	0.37	0.19	0.55	0.05	2079	
Small intestine	19	19.31	0.12	0.82	0.43	0.23	0.64	0.05	2173	
Haematology other	11	11.00	0.07	0.47	0.24	0.08	0.39	0.03	3702	
Endocrine	5	5.00	0.03	0.21	0.21	-0.01	0.42	0.02	5450	
Gum	7	7.35	0.04	0.31	0.13	0.04	0.26	0.02	5598	
Burkitt lymphoma	6	6.11	0.04	0.26	0.18	0.03	0.33	0.02	6579	
Ill defined	1	1.00	0.01	0.04	0.02	-0.02	0.06	0.00	28017	
Placenta	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-	
Total	16272	16427.23	100.00	362.74*	218.02*	213.01*	223.03*	23.32*	4*	

Cancer in coloured females (NCR 2014)

SUMMARY STATISTICS OF CANCER DIAGNOSED HISTOLOGICALLY IN 2014
COLOURED FEMALE

SITE	N(OBS)	N(ADJ)	%	CRUDE	ASR	95% LCL	95% UCL	CUMRISK 0-74	LR 0-74
Breast	1146	1169.16	28.37	47.29	49.38	46.50	52.27	3.35	19
BCC	725	725.55	17.73	29.34	32.68	30.27	35.10	3.48	29
Cervix	340	342.21	8.36	13.84	13.72	12.24	15.21	1.47	68
Colorectal	228	232.15	5.67	9.39	10.62	9.23	12.01	1.27	79
Lung	205	208.79	5.10	8.44	9.55	8.23	10.87	1.26	80
SCC of skin	239	239.63	5.86	9.69	11.47	10.00	12.94	1.14	88
Primary site unknown	183	187.21	4.57	7.57	8.26	7.05	9.46	0.99	101
Uterus	117	118.32	2.89	4.79	5.69	4.66	6.73	0.79	127
Non Hodgkin lymphoma	89	90.88	2.22	3.68	4.12	3.26	4.99	0.49	205
Stomach	87	88.17	2.15	3.57	3.95	3.11	4.79	0.44	226
Melanoma	58	58.08	1.42	2.35	2.44	1.80	3.08	0.29	345
Oesophagus	51	52.15	1.27	2.11	2.35	1.70	2.99	0.25	405
Ovary	41	41.81	1.02	1.69	1.87	1.29	2.45	0.22	457
Bladder	42	42.25	1.03	1.71	1.95	1.35	2.55	0.21	470
Thyroid	47	48.03	1.17	1.94	1.84	1.31	2.37	0.19	527
Kidney	33	33.70	0.82	1.36	1.49	0.98	2.00	0.18	563
Myeloma	33	33.97	0.83	1.37	1.54	1.02	2.07	0.18	568
Leukaemia	35	35.98	0.88	1.46	1.64	1.10	2.18	0.15	684
Skin other	20	20.00	0.49	0.81	0.95	0.53	1.38	0.14	736
Mouth	28	28.88	0.71	1.17	1.24	0.78	1.70	0.13	751
Pancreas	20	20.59	0.50	0.83	0.90	0.50	1.30	0.13	760
Larynx	18	18.00	0.44	0.73	0.80	0.42	1.17	0.11	950
Kaposi Sarcoma	36	36.05	0.88	1.46	1.28	0.86	1.71	0.09	1064
Hodgkin lymphoma	23	23.35	0.57	0.94	0.90	0.53	1.27	0.08	1260
Brain, CNS	22	22.38	0.55	0.91	0.97	0.56	1.37	0.08	1331
Vulva	15	15.27	0.37	0.62	0.66	0.32	0.99	0.07	1508
Bone	12	12.46	0.30	0.50	0.56	0.24	0.88	0.06	1599
Vagina	12	12.07	0.30	0.49	0.49	0.21	0.77	0.06	1705
Other specified	14	14.19	0.35	0.57	0.57	0.27	0.88	0.06	1713
Connective tissue	18	18.58	0.45	0.75	0.80	0.43	1.17	0.06	1724
Tongue	15	15.14	0.37	0.61	0.64	0.31	0.96	0.05	1893
Naso-Oropharynx	10	10.29	0.25	0.42	0.41	0.16	0.67	0.05	2142
Liver & Bile duct	15	15.09	0.37	0.61	0.71	0.35	1.07	0.04	2295
Anus	11	11.27	0.28	0.46	0.50	0.20	0.79	0.04	2561
Eye	13	13.15	0.32	0.53	0.51	0.23	0.78	0.04	2810
Small intestine	8	8.13	0.20	0.33	0.30	0.09	0.51	0.03	2987
Salivary gland	5	5.06	0.12	0.20	0.24	0.03	0.45	0.03	3082
Gum	5	5.25	0.13	0.21	0.25	0.03	0.47	0.03	3428
Mesothelioma	6	6.00	0.15	0.24	0.26	0.05	0.46	0.02	5129
Burkitt lymphoma	3	3.05	0.07	0.12	0.12	-0.02	0.26	0.01	6974
Lip	3	3.00	0.07	0.12	0.14	-0.02	0.31	0.01	7832
Haematology other	3	3.00	0.07	0.12	0.14	-0.02	0.29	0.01	11111
Endocrine	2	2.00	0.05	0.08	0.08	-0.03	0.18	0.01	16352
Placenta	2	2.00	0.05	0.08	0.07	-0.03	0.18	0.00	20161
Ill defined	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-
Total	4038	4092.28	100.00	126.47*	134.90*	130.08*	139.71*	15.15*	7*

NOTES:

- N(OBS) Number of new cases with sex and population group known
- N(ADJ) Number of new cases adjusted for those with sex and/ or population group unknown
- % Percentage of all cancers
- CRUDE Adjusted cases per 100 000/year
- ASR Age standardised incidence rate per 100 000 (World standard population)
- 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

Cancer in Asian females (NCR 2014)

SUMMARY STATISTICS OF CANCER DIAGNOSED HISTOLOGICALLY IN SOUTH AFRICA IN 2014

ASIAN FEMALE									
SITE	N(OBS)	N(ADJ)	%	CRUDE	ASR	95% LCL	95% UCL	CUMRISK 0-74	LR 0-74
Breast	456	465.21	39.30	69.77	57.44	52.20	62.67	6.56	15
Uterus	87	87.98	7.43	13.19	10.85	8.58	13.12	1.44	69
Colorectal	86	87.57	7.40	13.13	10.33	8.15	12.50	1.10	91
Cervix	81	81.53	6.89	12.23	9.98	7.30	12.15	1.10	91
Primary site unknown	57	58.31	4.93	8.74	7.30	5.40	9.21	0.85	118
Lung	35	35.65	3.01	5.35	4.48	3.00	5.95	0.60	167
BCC	46	46.01	3.89	6.90	5.40	3.33	6.97	0.51	198
Non Hodgkin lymphoma	38	38.80	3.28	5.82	4.87	3.33	6.41	0.49	206
Stomach	37	37.50	3.17	5.62	4.54	3.08	6.00	0.47	215
Ovary	22	22.43	1.90	3.36	2.87	1.87	4.06	0.40	248
SCC of skin	21	21.06	1.78	3.16	2.60	1.48	3.71	0.34	292
Mouth	19	19.60	1.66	2.94	2.37	1.31	3.42	0.30	335
Thyroid	25	25.55	2.16	3.83	3.15	1.92	4.38	0.27	368
Vulva	16	16.28	1.38	2.44	1.97	1.01	2.93	0.26	386
Tongue	15	15.14	1.28	2.27	1.83	0.90	2.75	0.24	412
Bladder	14	14.08	1.19	2.11	1.70	0.81	2.59	0.21	480
Kidney	12	12.25	1.04	1.84	1.62	0.68	2.57	0.18	557
Leukaemia	12	12.33	1.04	1.85	1.73	0.75	2.71	0.16	607
Liver & Bile duct	10	10.06	0.85	1.51	1.23	0.47	1.99	0.16	622
Hodgkin lymphoma	10	10.15	0.86	1.52	1.50	0.55	2.45	0.12	828
Myeloma	6	6.18	0.52	0.93	0.74	0.15	1.33	0.12	849
Oesophagus	8	8.12	0.69	1.22	0.99	0.31	1.67	0.11	950
Other specified	6	6.08	0.51	0.91	0.73	0.15	1.32	0.10	1045
Naso-Oropharynx	4	4.12	0.35	0.62	0.53	0.02	1.04	0.07	1456
Vagina	5	5.03	0.43	0.75	0.58	0.07	1.10	0.05	1876
Pancreas	3	3.09	0.26	0.46	0.36	-0.04	0.75	0.05	1890
Brain, CNS	4	4.07	0.34	0.61	0.51	0.01	1.00	0.05	1914
Bone	4	4.15	0.35	0.62	0.57	0.02	1.11	0.05	2051
Connective tissue	4	4.13	0.35	0.62	0.50	0.01	0.98	0.04	2523
Lip	2	2.00	0.17	0.30	0.27	-0.10	0.63	0.03	3015
Anus	3	3.07	0.26	0.46	0.35	-0.04	0.74	0.03	3426
Small intestine	4	4.07	0.34	0.61	0.44	0.01	0.86	0.03	3623
Salivary gland	2	2.03	0.17	0.30	0.22	-0.08	0.53	0.02	4312
Burkitt lymphoma	2	2.04	0.17	0.31	0.39	-0.17	0.96	0.02	4529
Larynx	1	1.00	0.08	0.15	0.13	-0.13	0.39	0.02	6029
Skin other	2	2.00	0.17	0.30	0.23	-0.09	0.54	0.01	7011
Kaposi Sarcoma	1	1.00	0.08	0.15	0.13	-0.12	0.37	0.01	7977
Melanoma	3	3.00	0.25	0.45	0.33	-0.05	0.72	0.01	9396
Endocrine	1	1.00	0.08	0.15	0.10	-0.10	0.31	0.01	11478
Eye	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-
Gum	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-
Haematology other	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-
Ill defined	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-
Mesothelioma	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-
Placenta	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-
Total	1164	1183.67	100.00	167.45*	137.84*	129.70*	145.97*	15.73*	6*

NOTES:
 N(OBS) Number of new cases with sex and population group known
 N(ADJ) Number of new cases adjusted for those with sex and/ or population group 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

Cervical cancer diagnosis in South Africa

- NCR data are pathology-based at present reflecting the exact number of patients with a tissue diagnosis of cervical cancer
- GLOBOCAN data for South Africa from IARC are estimates based extrapolations from the Harare, Zimbabwe population-based registry
- GLOBOCAN 2018 reported 14,409 new patients with cervical cancer in southern Africa with ASR per 100,000 of 43.1
- South African population-based cancer registry in Ekurhuleni (population ~3.5 million) started in 2017

Cervical cancer control policy

“A comprehensive programme includes three interdependent components. These strategies are aimed at (i) reducing oncogenic human papillomavirus (HPV) infections, (ii) detecting and treating cervical pre-cancer lesions, and (iii) providing timely treatment and/or palliative care for invasive cancer”

Dr Aaron Motsoaledi

Minister of Health

Cervical cancer policy targets

- To immunise at least 90% of grade 4 girls with the HPV vaccine, annually by 2020 through the integrated school health programme
- To increase the coverage of cervical screening amongst eligible women from approximately 50% to 75% by 2020.
- To increase the proportion of health facilities that provide treatment for pre-cancerous lesions in each district to 60% by 2020
- To decrease the proportion of cervical cancer cases diagnosed with late stage disease (FIGO stages III and IV) by 20% by 2020
- To reduce the numbers of women with invasive cervical cancer from over 5735 per annum (2014) to 3600 per annum
- To reduce the mortality rate due to cervical cancer by 20% by 2020

Cervical cancer screening

- Cervical screening in South Africa has traditionally been done using cervical cytology (conventional Papanicolaou or Pap smear)
- Liquid based cytology is now considered as an alternative more sensitive cytology investigation which is being phased in depending on resources
- HPV DNA PCR testing is extremely sensitive for current and future cervical cancer and will be phased in as the HPV vaccination program matures
- The use of VIA has not been considered appropriate in the South African setting at present

Target groups and frequency of screening

- General or low risk population:
- Asymptomatic women older than 30 years of age who are HIV negative or HIV unknown.
- An unscreened low risk woman is older than 30 years who reports her last screening more than 10 years previously or never.
- Screening is offered to the low risk women as follows:
 - Three times at 10 yearly intervals starting at the age of 30 years.
 - Asymptomatic women under the age of 30 years should not be screened unless infected with HIV.

Target groups and frequency of screening

- HIV positive or high risk population
- HIV positive women whether on ART or not
- An unscreened high risk woman is anyone who is HIV positive and sexually active who has not been screened in the last three years or has never been screened
- Recipients of organ transplants as well as patients with immunosuppressive disorders and those on chronic immune suppressant treatment are also at high risk and should be screened in the same way.
- Screening is offered to the high risk (sexually active) women:
 - At three year intervals starting as soon as immunodeficiency or HIV infection is diagnosed.
 - Screening will be done irrespective of CD4 count and ART treatment and continued for life.

Target groups and frequency of screening

- Symptomatic women:
- All adult women who present with any of the symptoms of early cervical cancer as well as women 40 years and older who are treated for presumed STIs
- These women should be examined via a vaginal speculum to clearly visualise the cervix, cytology procured and then should be referred immediately to the next level of care

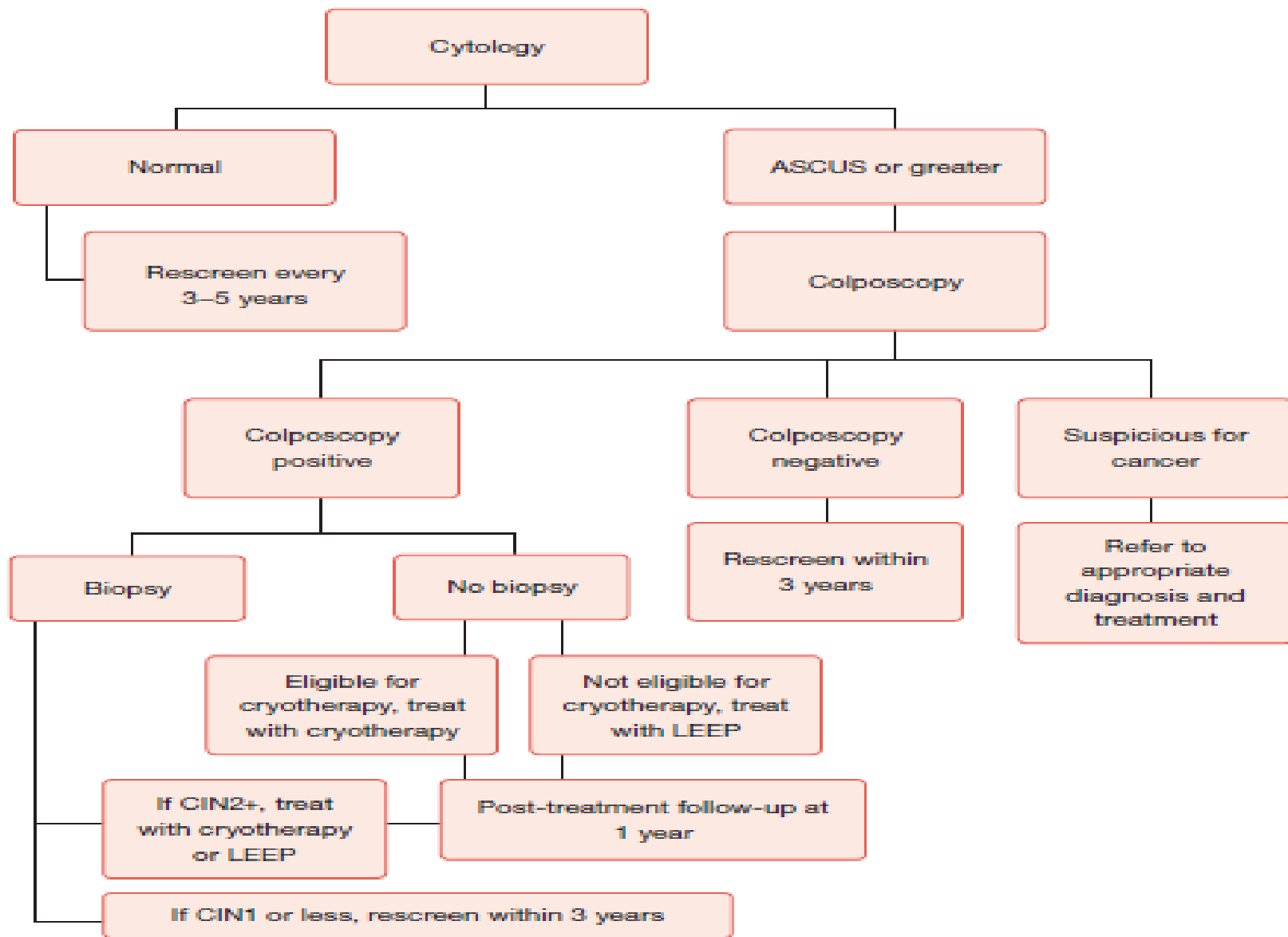
Cervical cancer screening (NHLS 2014)

- Cervical cancer screening coverage for South African women 30 years and older increased from 54.5% in 2014/15 financial year to 57.4% in second quarter of 2015/16 financial year .
- NHLS 2014 report indicates a low level of adequacy (55%) in smears collected which may be attributed to healthcare workers skills deficiencies
- The results indicated that 8% of patients had LSIL (Low Grade Squamous Epithelial Lesion); 4% had HSIL (High Grade Squamous Epithelial Lesion); 4.1 % had ASCUS (Atypical Squamous Cells of Unknown Significance); 0.3 % had a malignancy and 0,1% had AGUS (Atypical Glandular Cells of Undetermined Significance)
- The report suggests that ~12% of women who were screened in the previous year had pre-cancerous lesions, which without intervention may progress to true cancerous lesions

Cervical cancer screening

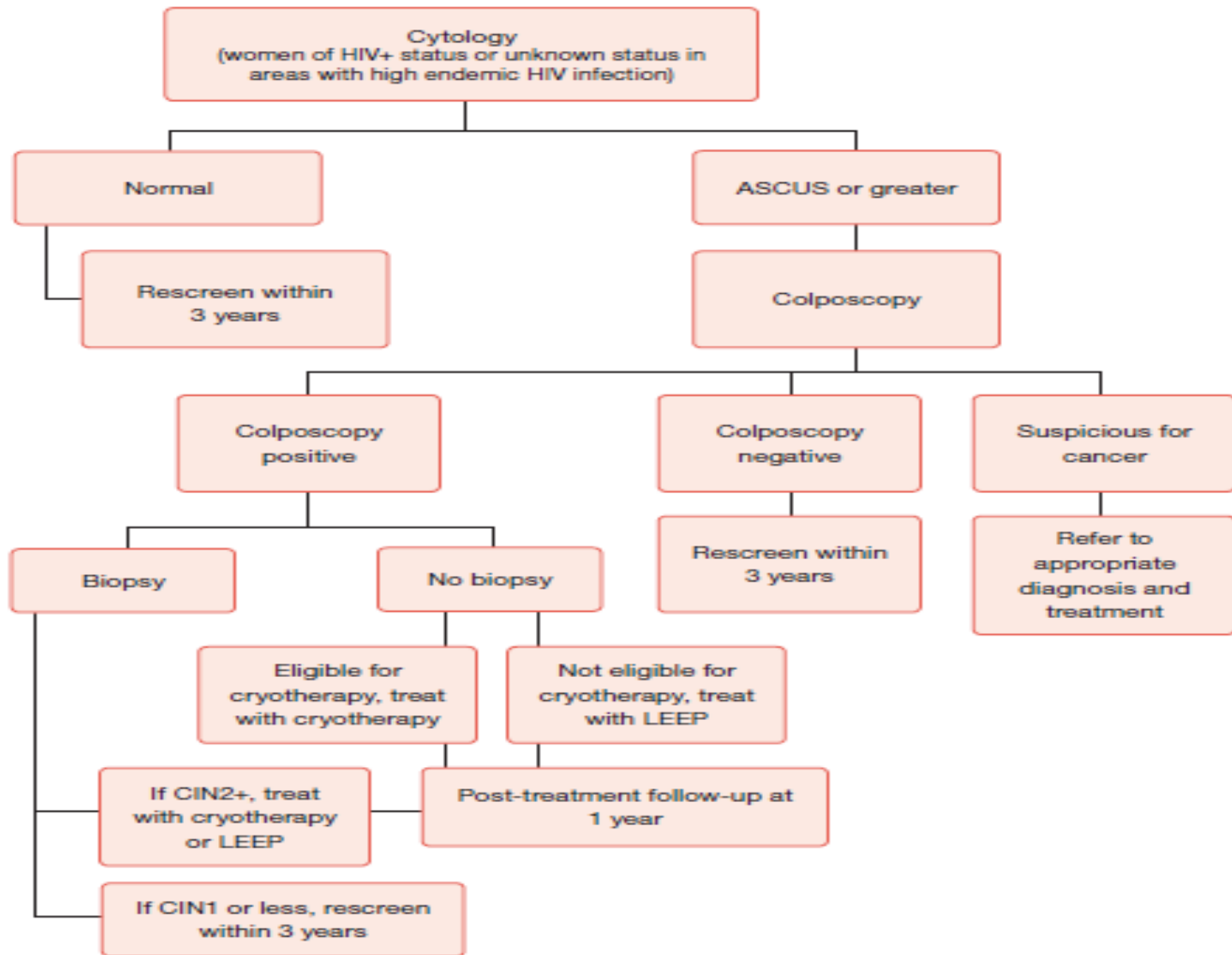
- HIV status:
 - 6.7% of smears were collected from HIV positive women on ART.
 - 18.7 % smears collected were from HIV positive women not on ART.
 - 25.2% from HIV negative women.
 - 45.4% were of unknown HIV status.

Screen with cytology followed by colposcopy (with or without biopsy)¹ and treat with cryotherapy, or LEEP when not eligible for cryotherapy



Screening with cytology for general or low risk population

Screen with cytology followed by colposcopy (with or without biopsy)¹ and treat with cryotherapy or LEEP (when not eligible for cryotherapy)



Screening in high risk groups and symptomatic women

HPV vaccination in South Africa

- The most effective strategy to prevent infection is by immunisation against the most common causative HPV types, especially types 16 and 18.
- HPV vaccination is indicated for pre-pubertal girls, before they become sexually active, in many countries.
- Our current vaccination programme is jointly implemented through the Integrated School Health Programme by the National Department of Health, Department of Basic Education and the Department of Social Development.
- Although the HPV vaccine will prevent infection by the most oncogenic HPVs, cervical cancer will not be completely prevented immediately.
- It will take at least two decades after implementing the HPV vaccination programme before realising the impact of the programme on cervix cancer incidence.

HPV vaccination in South Africa

- Since the introduction of the HPV vaccination programme in public schools in 2014, over 1.5 million girls have received doses 1 and 2
- The vaccine is offered to girls who are in grade 4, whose minimum age is 9 years as per the vaccine registration requirement
- A bivalent vaccine (types 16 & 18) is given as 2 rounds per calendar year; with dose 1 and dose 2 approximately 6 months apart
- All the girls that have been vaccinated had signed parental consent
- Children without consent are not vaccinated

HPV vaccination in South Africa

- The delays in reaching the targeted 2 dose coverage is caused by the high number of girls who are less than 9 years old in grade 4 at the beginning of the year when dose 1 is administered.
- Most of the girls go on to turn 9 later in the year and receive their dose 1 when their peers are getting their dose 2.
- These girls will only receive their dose 2 the following year when they are in grade 5 and so will be added to their original cohort later the following year.
- Plans are underway to move the vaccination campaign to grade 5, in order to mitigate the problem.

HPV vaccination in South Africa

The common side effect of HPV vaccination is soreness around the injection site.

The Department of Health has a national system for monitoring vaccine side effects for all vaccines used in South Africa including HPV.

The guidance for the programme is provided by a ministerial-appointed group of experts called the NISEC (National Immunisation Safety Committee) and their TORs are adopted from the WHO.

The primary aim of HPV vaccination is the long term prevention of cervical cancer where the benefits definitely outweigh the minimal side effects.