Age-Specific Incidence of Cancer in Kingston and St Andrew, Jamaica, 1998 – 2002

TN Gibson, G Blake, B Hanchard, N Waugh, D McNaughton

ABSTRACT

A total of 4737 cancers were recorded in Kingston and St Andrew during the period 1998 – 2002: 2387 in males and 2350 in females. Age standardized rates per 100 000 per year (ASR) were 188.6 and 144.2 for males and females respectively. In males, the leading sites for cancer were prostate (873 cases), bronchus (269 cases) and large bowel (176 cases) while in females, the leading sites were breast (639 cases), cervix uteri (318 cases) and large bowel (218 cases). The number of new cases has remained relatively stable, compared to the previous five-year period (1993–1997), but the ASR for females has fallen from 156.7 to 144.2 per 100 000 per year and that for males has increased from 176.7 to 188.6 per 100 000 per year. The leading sites of cancer for both males and females have also been maintained in the same order but there was a moderate increase in prostate cancer (ASR 56.4 vs 65.5 per 100 000 per year) and a moderate decrease in cervical cancer (ASR 25.2 vs 19 per 100 000 per year). The incidence of cancer of the female breast has remained relatively stable (ASR 43.2 vs 40.1 per 100 000 per year). In both males and females, colon cancer incidence rates remain high at ASR of 9.9 per 100 000 per year in males and 9.4 per 100 000 per year in females. These data support the continuation of existing programmes for prevention and control of cancers of the prostate, lung, breast and cervix uteri and the introduction of new programmes specifically for cancers of the large bowel in the Jamaican population.

Incidencia Específica por Edad en Relación con el Cáncer en Kingston y en Saint Andrew, Jamaica, 1998 – 2002

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RESUMEN

En el periodo 1998–2002, se registraron un total de 4737 cánceres en Kingston y Saint Andrew: 2387 en varones y 2350 en hembras. Las tasas ajustadas por edad (TAE) por cada 100 000 por año fueron 188.6 y 144.2 para los varones y las hembras respectivamente. En los varones, el cáncer estuvo localizado principalmente en la próstata (873 casos), los bronquios (269 casos) y el intestino grueso (176 casos), en tanto que en las hembras, los lugares principales fueron las mamas (639 casos), el cuello del útero (318 casos) y el intestino grueso (218 casos). El número de nuevos casos ha permanecido relativamente estable, en comparación con el periodo quinquenal anterior (1993–1997), pero la TAE para las hembras descendió de 156.7 a 144.2 por cada 100 000 por año, mientras que el de los varones aumentó de 176.7 a 188.6 por cada 100 000 por año. También se han mantenido los lugares principales de cáncer en el mismo orden tanto para varones como para hembras, pero hubo un aumento moderado en el cáncer de la próstata (TAE 56.4 frente a 65.5 por cada 100 000 por año) y una disminución moderada en el cáncer cervical (TAE 25.2 frente a 19 por cada 100 000 por año). La incidencia de cáncer de mamas en hembras, ha permanecido relativamente estable (TAE 43.2 frente

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a 40.1 por cada 100 000 por año). Las tasas de incidencia del cáncer permanecen altas a TAE 9.9 por cada 100 000 por año en varones y hembras, en los varones y 9.4 por cada 100 000 por año en las hembras. Estos datos apoyan la continuación de los programas existentes destinados específicamente a la prevención y el control de los cánceres de próstata, pulmón, mamas y cuello del útero, así como la introducción de nuevos programas para los cánceres de intestino grueso en la población jamaicana.

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INTRODUCTION

Since the inception of the Jamaica Cancer Registry in 1958, the incidence of cancer in Jamaica has been monitored through regular five-year reports. The last report, published in 2001, covered the period 1993–1997, and included the incidence of cancer in males and females in Kingston and St Andrew, the population base of the registry, as well as cumulative rates and lifetime risk, not published in previous reports. This report covers the period 1998–2002 and includes the usual analyses of cancer incidence as well as a comparison with the previous report.

MATERIALS AND METHODS

The methodology of the registry has been previously stated (1, 2). Cases are registered from information gleaned from public and private hospitals and general practitioners in Kingston and St Andrew and verified by pathologists at the Cancer Registry in accordance with standard techniques of registration (3). We have continued the practice of using Kingston and St Andrew as the population denominator, given that the diagnostic services (pathology and radiology) and the facilities for treatment (oncology and radiotherapy) in Jamaica are concentrated in these parishes. By this means, case ascertainment can be maintained at the highest possible level, as the data required for the identification of cases is readily available from these sources.

This report includes all cases collected from the resident population in Kingston and St Andrew, over the five-year period 1998–2002, tabulated by age and gender. Age-specific incidence rates were calculated for each site, as per the ninth edition of the International Classification of Diseases (ICD-9), using the 2000 census figures for Kingston and St Andrew, provided by the Statistical Institute of Jamaica.

Terminology and Calculations

Age-specific incidence rate

Age-specific cancer incidence was calculated for each site by dividing the total number of cases for each five-year stratum by five times the population estimate for that stratum and multiplying the result by 100 000. The rate is therefore expressed per 100 000 per year.

Crude incidence rate (CIR)

The crude incidence rate was calculated in a manner similar to the above using the total number of cases for each site and the total population for each gender.

Age standardized rate (ASR)

The age standardized rate was calculated in a two-step procedure. For each site, the product of each age-specific incidence rate and its corresponding world standard population were obtained and then all were summed to produce the ASR.

Cumulative rate

The five-year age-specific incidence rates were multiplied by five and summed for each five-year stratum between 0 and 74 years. This rate is expressed as a percentage.

Lifetime risk

Lifetime risk (to age 75 years) was calculated by dividing 100 by the cumulative rate. This is a unitary expression of the number of persons at risk.

RESULTS

The average population for Kingston and St Andrew during the period of registration, 1998–2002, was obtained from the Statistical Institute of Jamaica. Figure 1 represents population pyramids for males and females in Kingston and St Andrew, using these figures. Figure 2 shows the population distribution of Kingston and St Andrew compared to the World Standard Population (4).

Cases

A total of 4737 new cases were recorded for the five-year period: 2387 for males and 2350 for females. The crude incidence rate per 100 000 for males was 154.6 and 137 for females. The age standardized rate per 100 000 per year for males was 188.6 and 144.2 for females. Cumulative rates for males and females were 16.2% and 23.4% respectively. Lifetime risk was 1 in 4.3 for males and 1 in 6.2 for females (Tables 1 and 2).

Leading sites

The leading cancer sites by gender are presented in Fig. 3. In males, the leading site was prostate (873 cases), followed by bronchus (lung) [269] and large bowel (176). In females, breast was the leading site (639), followed by cervix uteri (318) and large bowel (218). Overall, in males and females, the leading sites were prostate, breast and large bowel, followed by bronchus, cervix uteri and lymphoma.

The leading sites by age-group and gender are presented in Fig. 4. In males, prostate was the leading site in those aged 60 years and above; cancer of the lung in those in

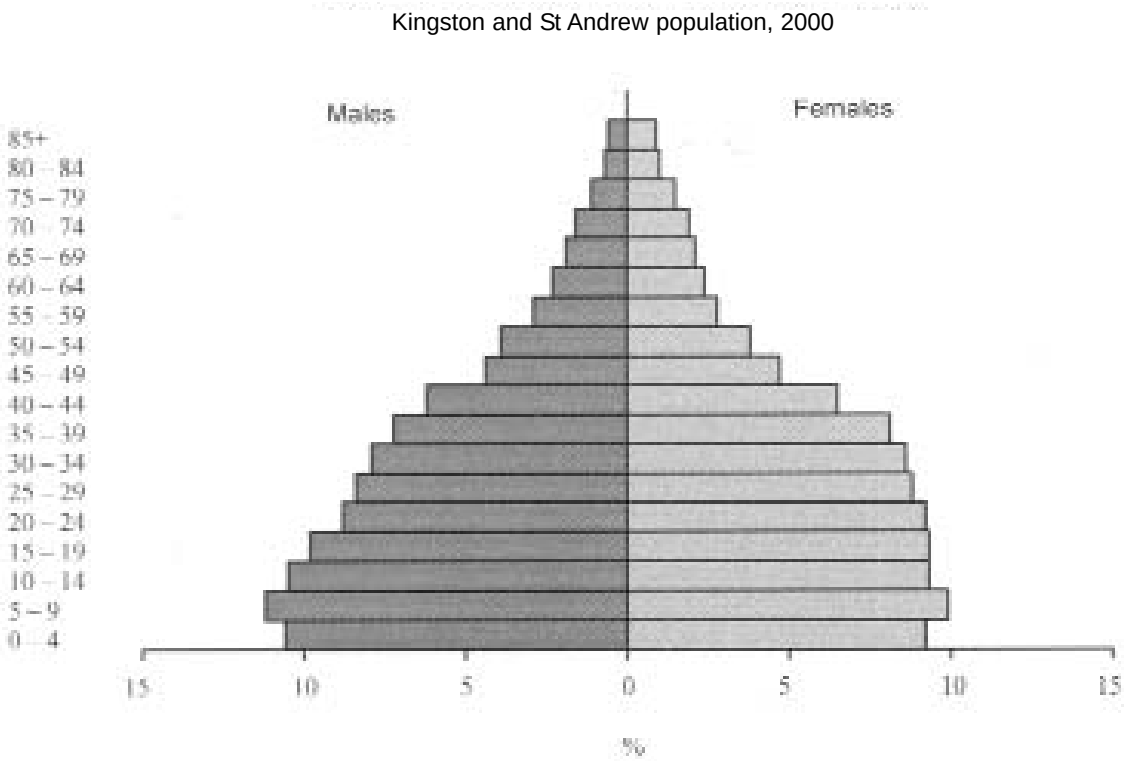


Fig. 1: Population pyramids, males and females, Kingston and St Andrew, 2000.

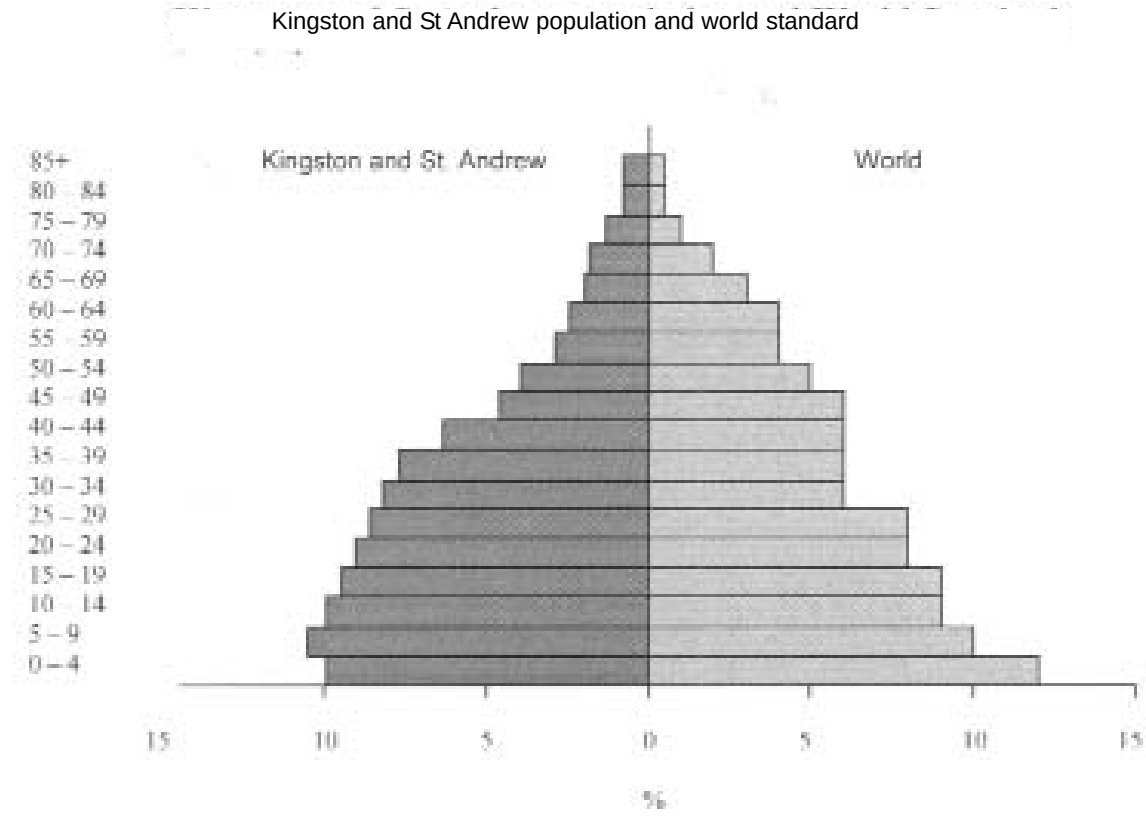


Fig. 2: Population pyramids, Kingston and St Andrew (total), 2000 and World Standard Population.

Fig. 3: Leading cancer sites, Kingston and St Andrew, 1998 – 2002

The top ten cancer sites in Kingston and St. Andrew are included for males, females and both (total). The bars represent the percentages of total new cases in each site. Numbers of cases are shown to the right of the graphs.

ALL CANCERS

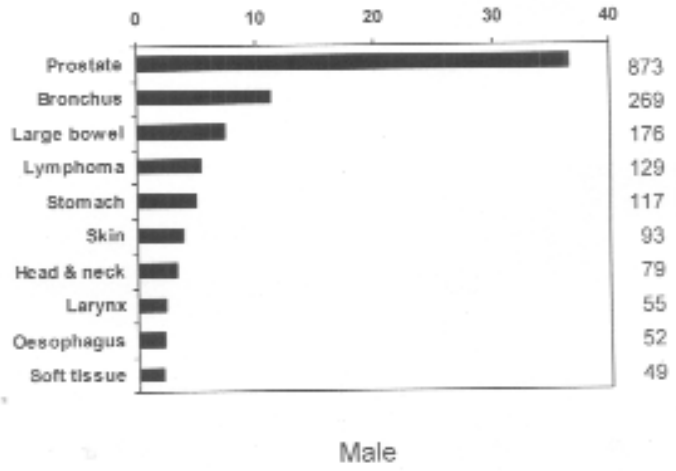
Incidence

Male	2387
Female	2350
Total	4737

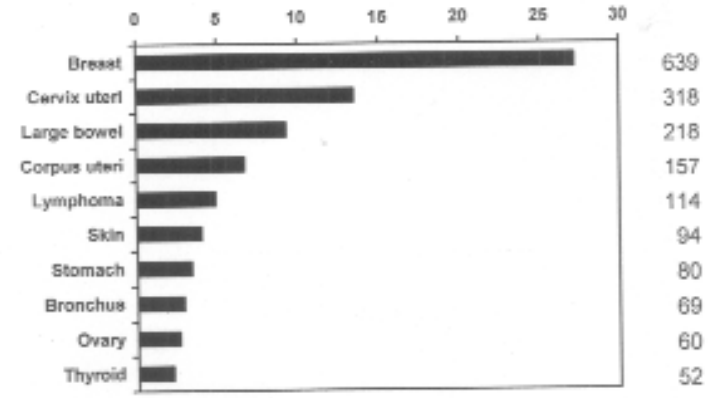
NB: Head and neck cancers include ICD-9 sites 140-149

Large bowel includes cancers of the colon and rectum.

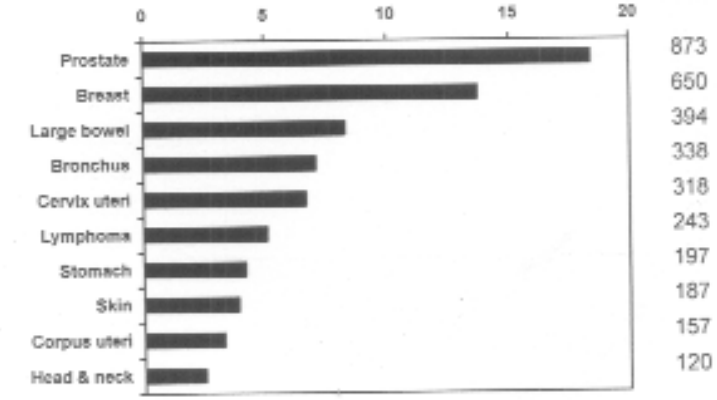
Skin includes melanoma.



Male



Female



Total

Fig. 3: Leading cancer sites, Kingston and St Andrew, 1998–2002

Fig. 4: Leading cancer sites for cancer incidence, Kingston and St. Andrew, 1998 – 2002, by gender and age group

For each age group and gender, the top ranking new cancer sites in 1998 – 2002 are included. Each cancer is represented as a percentage of total new cases in that age group. Actual numbers appear to the right of the bars.

ALL CANCERS
Incidence by age group and gender

Female	
0 – 14	35
15 – 24	43
25 – 59	1048
60 – 74	695
75+	523
Unknown	6

Male	
0 – 14	35
15 – 24	26
25 – 59	608
60 – 74	1064
75+	652
Unknown	2

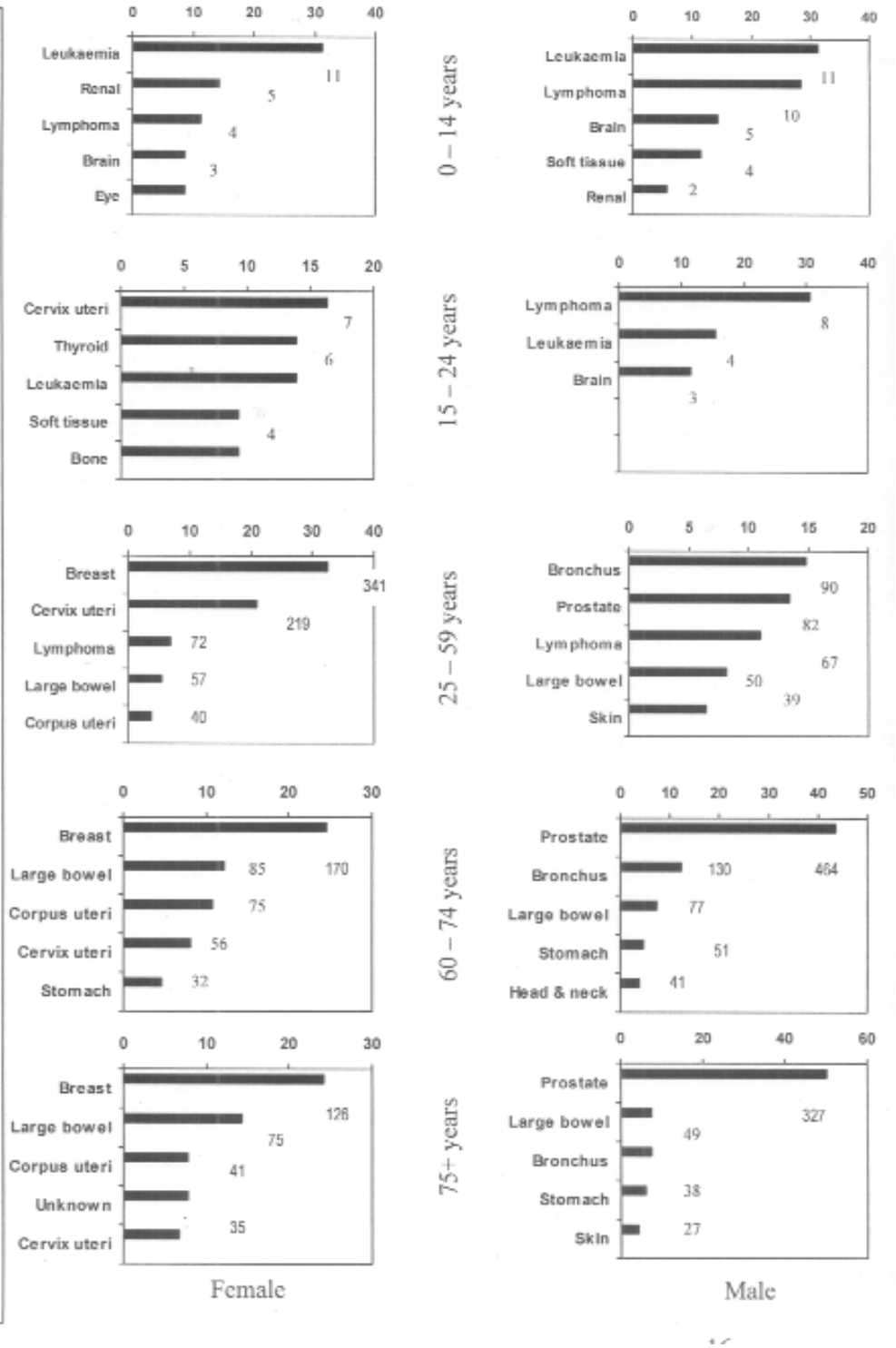


Fig. 4: Leading cancer sites by age, Kingston and St Andrew, 1998–2002

the 25–59-year age group and haematopoietic malignancies in those less than 25 years of age. In females, breast cancer was the commonest site in women aged 25 years and over. The majority of cases occurred in those between the ages of 25 and 59 years. This age group also accounted for the majority of cancers of the cervix uteri. As in males, the haematopoietic malignancies were most common in females less than 25 years of age, but, thyroid, renal and cervical cancers also contributed significantly to the total.

Table 1: Jamaica, Kingston and St. Andrew 1998 - 2002 (Male); Average incidence per 100,000 by age group (years)

SITE	ICD 9 No	Total	Age Unknown	0-	5-	10-	15-	20-	25-	30-	35-	40-	45-	50-	55-	60-	65-	70-	75-	80-	85+	Crude rate	Age standardized rate	Cumulative rate (%)	Lifetime risk
Lip	140	'		0		0		0		0	0		1.5	0	0	0		0		0	0	0.26	0.29	0.0075	13534
Tongue	141	23		0		0		0		0	0			3.5	4.5	8.4	26.7	1'.9	'7.4	3.7	1'.6	'.5	2	0.27	335
Salivary gland	142	8		0		0		0		0.8	0			'.7	3.7	2.8	6.7	0		0	0	0.5	0.7	0.058	'070
Mouth	143-145	15		0		0		0		0	0	'	1.5	0	5.9	1'.5	6.3	0	'7.4	0	23.1	1	'.5	0.'5	770
Oropharynx	146	3		0		0		0		0	0			0	0	16.9	13	0		0	0	0.6	1	0.'5	744
Nasopharynx	147	13		0		0	0.7	0		2.5	0			3.5	0	14.1		4	5.8	0	0	0.8	'.1	0.'2	8'.4
Hypopharynx	148	3		0		0		0		0	0		1.5	'.7	4.5	2.8	6.7	4	5.8	0	0	0.6	0.8	0.'1	944
Pharynx	149	'		0		0		0		0	0			0	0	0		0		0	0	0	0	0	0
Oesophagus	150	52		0		0		0		0	0.9	4.4	5.3	13.4	28.1	23.4	35.5	42.5	57.7	0	0	3.4	4.5	0.55	184
Stomach	151	'17		0		0		0	0.7	'.6	3.6	'	4.4	15.5	13.4	47.8	36.7	90.9	88.4	126	92.4	7.6	8.1	' .1	82
Small intestine	152	3		0		0		0		0	0			0	2.2	2.8	6.3	0		0	0	0.2	0.3	0.42	2'.0
Colon	153	'25		0		0		0	0.8	2.8	4.5	8.'	'4.5	8.7	22.5	31	56.8	1'.1	82.5	155	80.9	8.4	8.9	'.3	80
Rectum	154	47		0		0		0	0.8	2.8	3.9	4.2	4.4	8.7	4.5	15.7	20	3'.6	34.7	29	1'.6	3	3.8	0.47	2'.4
Liver	155	23		0		0	1.3	0		0	3.9	8.'	1.5	5	0	0	'3.4	15.8	'7.4	3.7	1'.6	'.5	'.7	0.21	488
Gall bladder	156	7		0		0		0		0	0		1.5	0	0	5.6	6.3	1'.9		0	0	0.5	0.6	0.'1	887
Pancreas	157	52		0		0		0		0	3.9	2.'	2.8	8.7	2.2	1'.5	26.7	4	'7.4	58	0	2.1	2.6	0.28	355
Peritoneum	158	2		0		0		0		0	0			0	0	0		4		0	1'.6	0.1	0.1	0.02	5020
Nose sinuses	160	3		0		0.7	0.7	0		0	0			0	0	2.8	13	0	5.8	16.8	0	0.6	0.7	0.07	'439
Larynx	161	55		0		0		0		2.8	3.9	2.'	5.8	8.7	13.4	22.5	33.4	43.5	'7.4	29	23.1	3.6	4.7	0.55	155
Bronchus trachea	162	268		0		0		0	2.3	2.8	'.8	'0.5	23.4	28.5	9'.6	121	'54	150	'3.5	145	1'.6	17.4	22.8	2.27	34
Pleura	163	'		0		0		0		0	0			'.7	0	0		0		0	0	0.1	0.1	0.029	1'.1'.1
Other thoracic organs	164	2		0		0		0		0	0			0	0	2.8	6.3	0		0	0	0.1	0.2	0.031	3279
Bone	170	8		0		0	1.3	0		2.8	0			'.7	0	0		4		3.7	0	0.7	0.7	0.039	2535
Connective tissue	171	43		'.2		'.2		'.5	2.3	3.5	4.5	4.2	4.4	'.0	15.6	1'.5	6.7	4	'.3	3.7	1'.6	3.2	3.6	0.35	285
Mesothelioma of skin	172	7		0		0		0		0	0		1.5	0	2.2	0	6.7	4	5.8	0	1'.6	0.5	0.6	0.072	'389
Other skin	173	85		0		0		0		4.1	4.5	5.2	'0.2	'.0	22.1	15.9	33.4	3'.6	86.8	67.7	34.7	5.6	5.4	0.58	148
Breast	175	1'		0		0		0		0	0		1.5	'.7	2.2	2.8	3.3	15.8	5.8	0	1'.6	0.7	0.9	0.'4	735
Prostate	185	873		0		0		0		0	0		4.4	38.4	125	275	536	8'.4	367	938	728	53.6	65.5	8.9	'2
Testis	186	2		0.6		0		0		0.8	0			0	0	0		0		0	0	0.1	0.1	0.027	14286
Penis	187	14		0		0		0		0	0.9		2.8	'.7	4.5	5.6	6.7	4		0	34.7	0.9	'.2	0.'3	750
Bladder	188	48		0		0	0.7	0		0.8	2.7		2.8	3.5	8.7	5.6	'3.4	4'.4	28.8	67.7	6.8.5	3.1	3.4	0.42	240
Other urinary	189	17		'.2		0		0		'.6	'.8		2.8	3.5	2.2	5.6		7.9	5.8	3.7	0	'.1	'.3	0.'1	755
Eye	190	'		0.6		0		0		0	0			0	0	0		0		0	0	0.06	0.07	0.'3	33534
Brain nervous system	191-192	28		'.8	0.8	2.6	0.7	'.5	0.8	2.5	5.4	2.'	4.4	3.5	4.5	2.8		0		0	0	'.8	'.9	0.'6	545
Thyroid	193	7		0		0		0.7		0.8	0.9			0	4.5	0	6.3	4		0	0	0.5	0.5	0.07	'.39
Other endocrine	194	2		0.6		0		0		0	0.9			0	0	0		0		0	0	0.1	0.1	0.028	13534
Hodgkin's disease	201	1'		0	1.2	0	0.7	0.7	1.5	0	0.9	'		'.7	2.2	0	6.3	0		0	0	0.7	0.7	0.057	'524
Non-Hodgkin's lymphoma	202	'18	'	'.8	1.2	'.9	2.7	'.5		5.7	7.2	'1.5	'6.'	25.7	22.5	22.5	53	53.5	28.2	67.7	43.2	7.6	8.7	0.68	107
Multiple myeloma	203	43		0		0		0		0.8	0.9	'	5.8	5	8.7	14.1	33.4	27.7	28.2	16.8	23.1	2.8	3.5	0.48	2'.0
Lymphocytic leukemia	204	18		'.8	2.5	2.6	1.3	0	0.8	2.8	0.9			0	0	0	6.7	0	5.8	0	0	'.2	'.2	0.062	'220
Myeloid leukemia	205	15		0.6		0.6		0.7		0	0	3.'	4.4	'.7	0	2.8	13	7.9	5.8	3.7	1'.6	'.2	'.5	0.'6	626
Monocytic leukemia	206	0		0		0		0		0	0			0	0	0		0		0	0	0	0	0	0
Other specified leukemia	207	0		0		0		0		0	0			0	0	0		0		0	0	0	0	0	0
Leukemia unspecified	208	2		0		0		0		0	0			0	2.2	0	6.3	0		0	0	0.1	0.2	0.076	'525
Primary site uncertain	199	'98	'	0		0		0	1.5	'.6	2.7	8.4	'3.'	2'.7	6.7.3	64.7	'0.'	127	'68	126	127	12.8	15.8	' .9	55
All sites		2387	2	12.4	5.8	4.9	'0.8	7.5	'1.5	5'.9	4.8.6	64	'6.8	224	459	750	1235	'647	1847	'972	'431	'54.6	'88.6	23.4	4.5
All sites but 175		2307	2	12.4	5.8	4.9	'0.8	7.5	'1.5	27.8	44.1	58.8	'2.5	2'.4	449	735	1202	'6'.6	176.2	'92.4	'45.6	'43.1	'82.2	22.8	4.4

Table 2. Jamaica, Kingston and St. Andrew: 1998 - 2012 (Female). Average incidence per 100,000 by age group (years).

SITE	ICD-10 No.	Total	Age Unknown	0-	5-	10-	15-	20-	25-	30-	35-	40-	45-	50-	55-	60-	65-	70-	75-	80-	85+	Age standardised rate	Cumulative rate (%)	Lifetime risk
Lip	C00	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7.8	0	5.3	0.2	0.1	-	—
Tongue	C01	4	0	0	0	0	0	0	0	0	0	0	0	0	0	2.4	5.5	0	0	5.6	0	0.2	0.3	0.02	2532
Salivary gland	C07	14	0	0	0	0.8	0.6	0.6	0	0.7	0.4	0.8	0	1.5	2.1	2.4	2.8	5	5.8	0	0	0.8	0.8	0.09	1145
Mouth	C03-C06	8	0	0	0	0	0	0	0	0	0	0.8	0	0	0	0	2.8	5.1	5.8	5.6	0.5	0.5	0.4	0.054	0859
Oropharynx	C09	5	0	0	0	0	0	0	0	0	0	0	0	1.5	0	2.4	0	5	0	5.6	5.3	0.3	0.3	0.035	2859
Nasopharynx	C11	5	0	0	0	0	0	0	0	0	0.7	0	0.2	1.5	0	4.8	0	0	0	0	0	0.3	0.4	0.04	2440
Hypopharynx	C12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5.6	0	0.06	0.02	-	—
Pharynx	C14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Oesophagus	C15	22	0	0	0	0	0	0	0	0	0.7	0.8	0.2	0	0	3.6	8.5	5.1	15.6	0	26.3	0.6	0.6	0.07	725
Stomach	C16	80	0	0	0	0	0	0	0	0	0.4	2.7	3.7	6.7	14.4	20.2	38.6	38.6	31.3	46.3	31.6	4.7	5	0.55	155
Small intestine	C17	3	0	0	0	0	0	0.7	0	0	0	0	0	0	0	4.8	2.8	5	5.8	0	0	0.5	0.4	0.06	1770
Colon	C18	158	0	0	0	0	0.6	0	2	0	2.9	5.6	12.5	16.7	18.4	33.7	55.2	88.4	82.5	75.3	80.4	5.2	5.4	1.17	86
Rectum	C19	60	0	0	0	0	0	0	0	0	0.7	0	0.8	2.5	0.8	4.1	15.8	22.1	27.5	59.2	26.3	2.5	3.6	0.4	251
Liver	C22	12	0	0.8	0	0	0	0	0	0	0	0	0.9	2.5	0	2.4	0	5.1	0	0	5.3	0.6	0.7	0.081	0235
Gall bladder	C23	23	0	0	0	0	0	0	0	0	0.7	0	2.5	6.7	0	4.8	2.8	12.2	0.7	0.4	5.3	0.5	0.5	0.05	688
Pancreas	C25	42	0	0	0	0	0	0	0	0	0.4	0	0.2	3.3	2.1	3.6	13.8	33.5	0.8	34.6	21.3	2.4	2.5	0.35	290
Peritoneum	C48	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2.8	0	0	0	0	0.06	0.08	0.007	7145
Nose, sinuses	C30	10	0	0	0	0	0	0	0	0	0	0	0	1.5	2.1	2.4	5.6	0	5.8	5.6	5.3	0.6	0.6	0.058	0740
Larynx	C32	3	0	0	0	0	0	0	0	0	0	0	0	0	2.1	2.4	0	5	0	0	0	0.21	0.2	0.038	2657
Bronchus, trachea	C33	65	0	0	0	0	0.6	0	0	0.7	0	0.9	3.7	9.2	24.7	25.4	24.8	27.5	25.7	34.6	31.6	4	4.6	0.56	179
Pleura	C38	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other thoracic organs	C37	1	0	0	0	0	0	0	0	0.7	0	0	0	0	0	0	0	0	0	0	0	0.06	0.04	0.0035	28752
Bone	C40	3	0	0	0.8	1.3	0.6	0.6	0	0.7	0	0	0.2	0	0	0	0	0	0	0	0	0.5	0.5	0.032	3126
Connective tissue	C47	45	0	0	0.8	0	0.6	0.6	0.6	0.4	2.9	3.6	5.2	4.5	4.1	14.4	1.1	12.2	0.8	0	0	2.6	2.9	0.32	309
Melanoma of skin	C44	15	0	0	0	0	0	0	0.7	0	0	0.8	0.2	1.5	5.2	2.4	5.6	0	7.8	5.6	0.5	4.5	4.2	0.047	2122
Other skin	C43	78	2	0	0	0	0	0	0.7	2.1	2.2	2.9	7.5	7.5	5.2	14.4	16.5	33.5	35.5	29.5	47.4	2.9	3	0.31	1037
Breast	C50	555	1	0	0	0	0	2.6	5.6	27.9	37.6	52.7	72.2	120.3	157.6	152.5	130	143.2	122	97	151.4	37.2	42.1	4.4	28
Cervix uteri	C53	318	1	0	0	0	0.6	3.8	8.6	22.5	33.9	44.5	53.1	47	43.5	57.7	62.5	27.4	47.3	33.7	33.6	16.5	19	1.9	52
Other carcinoma	C76	2	0	0	0	0	0	0	0.7	0	0.7	0	0	0	0	0	0	0	0	0	0	0.1	0.1	0.007	14256
Corpus uteri	C54	157	0	0	0	0	0	0.6	1.5	2.1	1.4	3.6	8.7	12.2	28.8	62.5	77.5	54	78.3	57.5	58.5	5.2	10.5	1.4	77
Ovary	C56	60	0	0	0.8	0.8	0.6	1.5	2.6	1.4	2.2	5.4	5.2	6.7	10.5	12	24.8	16.5	11.8	5.6	10.5	3.5	3.9	0.46	217
Other female genital	C84	23	0	0	0	0	0	0	1.5	1.4	2.7	2.9	2.5	1.5	5.2	4.8	0	5.1	7.8	5.6	21.3	1.5	1.5	0.15	788
Bladder	C67	55	0	0	0	0	0	0	0	0	0	0	2.5	1.5	5.2	4.8	8.5	16.5	15.6	25.2	55.2	2	1.8	0.25	536
Other urinary	C68	27	0	3.2	0	0	0.6	0.6	0	1.4	0	1.8	1.2	3	4.1	4.8	8.5	5.1	7.8	5.6	5.3	1.6	1.8	0.18	570
Eye	C69	4	0	1.6	0.8	0	0	0.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.3	0.03	8001
Brain, nervous system	C70-72	57	0	1.6	0	0	1.6	0.6	1.5	2.1	2.7	2.7	3.7	0	5.2	4.8	8.5	5.1	0	5.6	0.5	1.8	1.9	0.21	487
Thyroid	C73	52	0	0	0	0	1.6	2.6	5.5	5.5	2.9	3.7	2.5	4.5	10.5	4.8	5.5	5.1	1.8	0	0.5	3	3	0.29	344
Other endocrine	C74	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2.4	0	0	0	0	0	0.06	0.1	0.02	5534
Hodgkin's disease	C81	3	0	0	0	0	0.6	0	0	0	0.4	2.7	0	0	0	0	0	0	0	0	0	0.5	0.5	0.024	4256
Non-Hodgkin's lymphoma	C82-85	202	0.8	0	0.6	0.8	1.3	2.5	0.6	5.5	4.1	7.9	11.8	17.4	22.2	14.4	5.6	2.1	24.4	39.5	7.4	1.5	5.5	0.52	152
Multiple myeloma	C90	203	4.7	0	0	0	0	0	0	0	0	0	3.7	3	5.2	15.8	2.1	27.4	35.5	7.4	0	2.4	2.8	0.35	286
Lymphocytic leukaemia	C91	14	0	2.5	0.8	1.3	0	0	0	0	0	0	0	0	0	2.4	2.8	5	0	5.6	0	0.6	0.7	0.065	1568
Myeloid leukaemia	C92	23	1	0.6	0	0.8	0	0.6	0.7	1.4	1.4	1.8	3.2	1.5	5.2	2.4	0	12.2	0	2.1	0	0.5	0.5	0.05	654
Monocytic leukaemia	C93	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other specified leukaemia	C97	1	0	0.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.05	0.08	0.005	33534
Leukaemia unspecified	C95	3	0	0	0	0.8	0	0	0	0	0	0	2.9	0	0	0	0	0	5.8	0	0	0.2	0.2	0.028	13534
Primary site uncertain	C80	153	1	0	0	0.8	0	0	0.7	1.4	2.9	4.5	8.7	18.2	28.8	33.7	43.9	42.7	75	39.5	55.2	7.8	8.2	0.85	136
All sites		2357	6	1.4	3.5	6.8	12	15.5	36.6	62.8	108.5	152.2	214	251.5	402.6	548.2	557.1	703.9	825.5	822.7	878.5	137	14.42	1.52	52
All sites but C44		2272	4	1.4	3.5	6.8	12	15.5	36.9	67.7	105.2	156.5	227	284	398.5	553.8	557.8	577.4	850.7	755.2	771.7	132.4	14.21	1.57	54
Cervix uteri data	C53	525	5	0	0	0	1.9	28.1	57.4	78	75.1	74.2	42.5	34.5	24.7	2.6	15.6	12.2	5.8	0	5.3	3.5	2.6	2.5	425

DISCUSSION

While the overall number of new cases has remained relatively stable when compared to the previous report (5), the ASR for females has fallen from 156.7 to 144.2 per 100 000 per year and that for males has increased from 176.7 to 188.6 per 100 000 per year. We believe that this increase in males is largely due to the increase in the incidence of prostate cancer (ASR 56.4 to 65.5 per 100 000 per year). The decrease in the ASR for females may be explained by a decrease in the ASR for cervical cancer (25.2 to 19 per 100 000 per year).

The leading cancer sites for both males and females have remained the same as compared to the previous report. In males and females, prostate cancer and breast cancer, respectively, remain the leading sites. In the previous report, we made reference to the disparity between our data on the ASR for prostate cancer (56.4 per 100 000 per year) and that published by Glover *et al* (6) [304 per 100 000 per year], stating that we could find no reasonable explanation for the difference. The increase in prostate cancers in this report is predictable, given the progressive increase that has taken place since 1983 when PSA testing first became available in Jamaica. The current ASR of 65.5 per 100 000 per year again does not compare with the extraordinarily high ASR reported by Glover *et al.* Others (7) and ourselves, however, have speculated as to whether Glover's figures represent the five-year cumulative rate rather than the yearly age-adjusted rate per 100 000 or whether the population denominators could have been incorrect. If the former theory is applied, the derived reduction in the incidence rate would bring Glover's figures more in line with ours. This may very well be the answer to what has been a perplexing anomaly.

The incidence of breast cancer has shown little change over the last report (ASR 43.2 per 100 000 per year, 1993–1997) *vs* 40.1 per 100 000 per year (1998–2002). With the increasing use of screening mammography in Jamaica, despite the fact that there is no national structured screening programme, it is expected that an increase in the incidence of breast cancer should occur, as has been the experience of others (8, 9). In view of this, we will continue to monitor the registration of breast cancers over the next five-year reporting period.

It has long been established that screening programmes for cervical cancer are extremely effective in reducing the incidence rate (10, 11). Despite the fact that formal screening programmes for cervical cancer are only in their infancy in Jamaica, there has been a downward trend in this cancer, according to our calculations in this and the previous report (ASR 25.2 per 100 000 per year, 1993–1997) *vs* 19 per 100 000 per year (1998–2002). We suggested in the previous report that a decrease such as this could be due to ablation of pre-invasive (intra-epithelial) neoplastic lesions through the increasing popularity of colposcopic procedures, particularly in the hospital setting (5). With the advent of vaccination for human papilloma virus (HPV) (12, 13) and the likelihood of this being made available in Jamaica, it will be interesting to see, in subsequent reports, the effect that this will have on the ASR for cervical cancer.

Attention is drawn to the fact that colorectal cancer remains the third commonest cancer in both males and females, and the age-standardized rates have remained fairly stable since the last report. Given the effect that screening for colorectal cancer has had in reducing its incidence, primarily by the ablation of pre-malignant lesions in the adenoma-carcinoma sequence (14, 15), it would appear that the introduction of organized screening protocols for colorectal cancer in Jamaica is an urgent necessity if the incidence is to be reduced. In this respect, the proposals for screening, modified for the prevailing medical and economic resources in the Caribbean, outlined in the editorial by Lee in the December 2006 issue of this journal (16), need to be implemented.

Although there has been a change in the distribution of histological subtypes of lung cancer in Jamaica (17) and elsewhere (18, 19), with the ascendancy of adenocarcinoma over squamous cell carcinoma, the lung has maintained its place as the second leading cancer site in males, with an ASR of 22.8 per 100 000 per year. Current programmes aimed at the cessation of smoking will likely take time to show their effect in decreasing the ASR.

In summary, analysis of the cancer incidence data for 1998–2002 in Kingston and St Andrew has shown that the total number of new registrations has remained fairly stable since the last report (1993–1997). The leading cancer sites for both males and females have remained the same. There has been an increase in the ASR per 100 000 per year among males, attributed mainly to an increase in the ASR per 100 000 per year of prostate cancer while there has been a decrease in the ASR per 100 000 per year for females, mainly due to a fall in the ASR per 100 000 per year of cervical cancer. The continued high incidence of colon cancer underscores the need for the development of local screening programmes.

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