

CHAPTER 5. PRINCIPAL CANCER TYPES

The previous chapters indicate that, relative to the rest of the country, Louth experiences above average rates of cancer mortality and morbidity. This chapter explores whether this excess is caused by particular types of cancer, or whether Louth has generally elevated rates of all types of cancer.

The *Report on Vital Statistics* provides some information on cancer mortality which could be used to address this question, but the data provided by the National Cancer Registry provides a much richer source of information, especially given the steps taken by the Registry to ensure the accuracy of the diagnostic data.¹³ The analysis reported in this chapter therefore uses only the Registry data.

Some patients, as mentioned previously, have multiple tumours. It was decided for the purposes of this chapter to analyse all tumours (in contrast to the previous chapter which was an analysis of patients).

Are Cancer Types In Louth Different To The Rest Of The Country?

Table 13 shows the distribution of cancer sites for males and females in Louth and in the country as a whole. For each sex the table shows the number of tumours between 1994 and 1998 for each of the major sites as an absolute count and as a percentage of the total. The 'excess' column indicates the extent to which the number of cancers in Louth exceeds the number which would be expected if Louth had the same age-specific rates as the rest of the country.¹⁴ Positive numbers indicate that the proportion of cancers in Louth for a particular site was higher than the national proportion.

There are a substantial number of possible sites other than those listed. These are grouped together under the heading 'other'. Although the aggregate number of cancers in these sites is high – more than 10 per cent for both sexes – the numbers for any one site is much smaller than for any of the sites listed.

Skin cancer, especially non-melanoma skin cancer, is by far the most common type of cancer. Louth has a higher percentage of non-melanoma skin cancers than the country as a whole. It is also the type of cancer for which Louth has the largest excess for males and second highest for females. However, non-melanoma skin cancers rarely metastasise and the prognosis is generally very good.¹⁵ The prognosis for melanomas is less optimistic, but fortunately they are much less common. Louth has excess melanomas for females, but slightly fewer than expected for males. It will be noted that Table 13 also includes in situ melanomas and non-melanomas. These are tumours with the potential to become malignant (i.e. invasive), but which have not yet done so. Louth has fewer cases of these than expected.

The next three most common types of cancer for males are prostate cancer, colorectal cancer and lung cancer. Louth has fewer prostate and colorectal cancers than expected, but more lung cancers.¹⁶ As a result,

¹³ The Report on Vital Statistics is based on information extracted from death certificates. However, there are problems associated with the accuracy of the cause of death as recorded on death certificates. The National Cancer Registry identifies the cause more accurately using patient records.

¹⁴ The estimated number of excess cases is calculated using the age-specific rates for all tumours, rather than the age-specific rates for each site. The estimates should therefore be regarded as indicative rather than precise.

¹⁵ Non-melanoma skin cancers are excluded from many analyses because they are so numerous, but not as serious as other forms of cancer.

¹⁶ Colorectal cancer is defined here as cancer of the colon (i.e. large intestine), rectosigmoid junction,

the rank order of these three cancers is the inverse of the national ranking – i.e. lung cancer is the second most common cancer in Louth, whereas prostate cancer is the second most common nationally. However, it is important to keep things in perspective. Louth had 128 cases of lung cancer over 5 years, compared with an expected number of 107. This is a disturbing excess but it would therefore be stretching the point to conclude that there was an ‘epidemic’ of lung cancer in Louth. The very low number of cancers of the prostate in Louth is noteworthy, although the author is uncertain what interpretation should be placed on this.

Site	ICD Code	Male					Female				
		National		Louth			National		Louth		
		Cases	%	Cases	%	Excess Cases	Cases	%	Cases	%	Excess Cases
Oesophagus	C15	865	1.68	29	2.37	10	581	1.10	8	0.61	-6
Stomach	C16	1,476	2.87	46	3.76	14	871	1.65	28	2.13	8
Colorectal	C18-C21	4,983	9.69	109	8.90	-1	3,778	7.16	76	5.78	-13
Pancreas	C25	798	1.55	17	1.39	-1	816	1.55	21	1.60	2
Lung	C34	4,867	9.46	128	10.45	21	2,540	4.82	66	5.02	6
Melanoma Skin	C43	706	1.37	14	1.14	-2	1,178	2.23	38	2.89	10
NonMelanoma Skin	C44	17,337	33.70	468	38.20	86	14,014	26.57	377	28.65	48
Breast	C50	64	0.12	0	0.00	-1	7978	15.12	178	13.53	-9
Female Sex Organs	C51-C57	0	0.00	0	0.00	0	3,797	7.20	82	6.23	-7
Prostate	C61	5,752	11.18	102	8.33	-25	0	0.00	0	0.00	0
Kidney	C64	757	1.47	20	1.63	3	433	0.82	12	0.91	2
Bladder	C67	1,640	3.19	31	2.53	-5	640	1.21	15	1.14	0
Brain	C71	720	1.40	14	1.14	-2	516	0.98	13	0.99	1
Hodgkin's Lymphoma	C81	224	0.44	4	0.33	-1	188	0.36	2	0.15	-2
Non-Hodgkin's Lymphoma	C82-C85	1,054	2.05	26	2.12	3	925	1.75	17	1.29	-5
Leukaemia	C91-C95	995	1.93	31	2.53	9	728	1.38	19	1.44	2
Melanoma (In Situ)	D03	281	0.55	2	0.16	-4	567	1.07	12	0.91	-1
NonMelanoma (In Situ)	D04	1,621	3.15	33	2.69	-3	3,630	6.69	61	4.64	-22
Cervix (In Situ)	D06						3,783	7.17	143	10.87	54
Other		7,303	14.20	151	12.33	-10	5,886	11.16	148	11.25	10
Total		51,443	100.00	1,225	100.00	93	52,749	100.00	1,316	100.00	78

Table 13. Distribution Of Cancer Sites In Louth, 1994-1998.

Louth males have an excess number of cancers for some of the less common sites. The most striking is cancer of the stomach, where the number of cases was almost one half higher than might be expected (i.e. 46 cases instead of 32). Cancer of the oesophagus had an equally high percentage of excess cases (i.e. 29 cases instead of 19), although the absolute numbers were smaller. Finally, given the fears associated with radiation, the excess number of leukaemia cases (31 instead of 22) is noteworthy.¹⁷

rectum or anus. The colon and the rectum are the more common sites.

¹⁷ Although leukaemia is the type of cancer most associated with radiation, radiation accounts for only a minority of leukaemia cases.

Breast cancer is the second most common type of cancer for women, both nationally and in Louth. However, the number of tumours in Louth is lower than might be expected. Cancers of the female sex organs and colorectal cancers are the third and fourth most common types of malignant cancer both nationally and in Louth, although each type (despite being a composite category) is considerably less common than breast cancer.¹⁸ Louth has fewer cases of both types, especially colorectal cancers, than would be expected. However, the table also records non-malignant tumours of the cervix. There are an exceptionally high number of in situ cervical tumours in Louth (143 instead of 89). Indeed, there is a larger excess of in situ tumours of the cervix than for any other type of type of cancer for females. This, however, does not necessarily indicate a higher risk of cervical cancer – it may simply reflect a higher detection rate arising from effective screening.

Lung cancer is the fifth most common type of malignant cancer for women, both nationally and in Louth. As with men, Louth had more cases than might be expected. However, once again it is important to keep the numbers in perspective: there were 66 cases instead of an expected 60.

Like men, Louth women had an excess number of cancers of the stomach (28 cases instead of 20), although stomach cancer is much less common in women than men, both nationally and in Louth. Unlike men, women in Louth do not have an excess number of cancers of the oesophagus. Indeed, although fairly uncommon amongst women at the national level, the number of cases in Louth was exceptionally low (8 cases instead of an expected 14). Finally, and reassuringly given the concerns about radiation, leukaemia amongst females does not appear to be significantly different from the national average (19 cases instead of an expected 17).

The number of cases for other sites for females was more or less what might be expected. The number of lymphomas, both Hodgkin's and non-Hodgkin's was less than might be expected. The miscellaneous 'other' category produced an excess number of cases for females (148 instead of 138), but males had an equal sized deficit of cases.

Table 14 shows the number and percentage of deaths attributed to each cancer site in the Public Health Information System for the period 1980 to 2001. The diagnosis is probably not as reliable as in the National Cancer Registry data., but it reaffirms that the distribution of cancer sites in Louth is generally similar to that nationally. It also indicates that Louth has an excess number of deaths attributed to lung cancer (males), stomach cancer (males and females) and breast cancer (females) and a lower percentage attributed to prostate cancer (males), colon cancer (males and females) and pancreas (males and females). Given the concerns associated with radiation, it is noteworthy that Leukaemia deaths are lower than the national average for both sexes. Deaths from breast cancer, however, are above the national average, whereas the morbidity data indicated they were less common in Louth.

Table 14 also indicates that the pattern of deaths is quite different to that for morbidity. Lung cancer is by far the major cause of death for males, both nationally and in Louth, followed a long way behind by cancers of the prostate, stomach and colon. Breast cancer is the major cause of death for females, followed by lung cancer, colon cancer and stomach cancer. However, cancers of the cervix, uterus and ovary combined would rank third in Louth. The high percentage of deaths attributed to lung cancer for both sexes, but especially males, is out of proportion to the numbers indicated in the morbidity data in Table 13. This reflects the poor prognosis for this particular type of cancer.

¹⁸ Cancers of the female sex organs are defined here as cancers of the vulva, vagina, cervix, uterus or ovaries. The ovaries, uterus and cervix are the more common sites.

	Males				Females			
	National		Louth		National		Louth	
	Cases	%	Cases	%	Cases	%	Cases	%
Oesophagus : ICD 150	3,557	4.2	86	4.0	2,441	3.4	57	3.1
Stomach : ICD 151	5,974	7.1	189	8.8	3,947	5.5	122	6.5
Colon : ICD 153	7,755	9.2	174	8.1	7,262	10.1	169	9.1
Rectum : ICD 154	3,307	3.9	96	4.4	1,993	2.8	43	2.3
Pancreas : ICD 157	4,147	4.9	96	4.4	3,656	5.1	90	4.8
Lung : ICD 162	22,366	26.4	686	31.8	10,530	14.6	272	14.6
Melanoma : ICD 172	561	0.7	13	0.6	698	1.0	13	0.7
Other Skin : ICD 173	673	0.8	18	0.8	434	0.6	8	0.4
Breast : ICD 174	0	0.0	0	0.0	13,510	18.8	386	20.7
Cervix : ICD 180	0	0.0	0	0.0	1,465	2.0	42	2.3
Uterus : ICD 182	0	0.0	0	0.0	1,034	1.4	27	1.4
Ovary : ICD 183	0	0.0	0	0.0	4,321	6.0	105	5.6
Prostate : ICD 185	9,732	11.5	213	9.9		0.0		0.0
Bladder : ICD 188	2,334	2.8	53	2.5	1,045	1.5	29	1.6
Kidney : ICD 189	1,630	1.9	43	2.0	942	1.3	27	1.4
Lymphoma : ICD 200-202	2,601	3.1	55	2.5	2,114	2.9	50	2.7
Multiple myeloma ICD 203	1,514	1.8	31	1.4	1,272	1.8	40	2.1
Leukaemia : ICD 204-208	2,770	3.3	66	3.1	2,035	2.8	46	2.5
Other	15,740	18.6	339	15.7	13,229	18.4	339	18.2
Total : ICD 140-208	84,661	100.0	2,158	100.0	71,928	100.0	1,865	100.0

Table 14, Distribution Of Sites Resulting In Death, 1980-2001.

Are Cancer Types In Drogheda Different To Elsewhere?

Drogheda was observed in Chapter 2 to have a higher age standardised mortality ratio for cancer than the rest of the county. It was also observed to have a higher age standardised incidence rate in Chapter 4. This raises obvious questions as to why the rates should be so high. The distribution of cancer sites of patients in ‘Greater Drogheda’ (as defined in Chapter 4) was therefore examined using the National Cancer Registry data to explore whether people in Drogheda had a higher risk of particular types of cancer.

Table 15 shows the distribution of cancer types for patients living in Drogheda. The table shows the percentages of cancers of each type in Drogheda, Louth and the country as a whole for males and females.

The percentages of non-melanoma skin cancers were slightly higher for both males and females, but given that Louth has a higher percentage than the country as a whole for both sexes (especially males) this translates into a substantial number of cases.

The percentage of lung cancers for males in Drogheda is slightly higher than the rest of the county, which again is higher than the national percentage. This represents about 4 cases more than would be expected relative to the rest of Louth and 8 more than would be expected relative to the rest of the country. However, the female percentage is lower than the rest of the county and slightly lower than the national figure.

The figure that stands out most clearly is the percentage of in situ tumours of the cervix. The Drogheda percentage is almost 50 per cent higher than that for the rest of the county and twice the national figure.

However, as noted previously, this may reflect more effective screening.

Overall the percentages for Drogheda for most sites are not too different from those in Louth as a whole. The prevailing impression is that people in Drogheda are not affected by different types of cancer than elsewhere, but they do have more cases.

		Males				Females			
		Drogheda		Louth	National	Drogheda		Louth	National
		Cases	%	%	%	Cases	%	%	%
Oesophagus	C15	10	2.67	2.37	1.68	2	0.45	0.61	1.10
Stomach	C16	11	2.94	3.76	2.87	10	2.23	2.13	1.65
Colorectal	C18- C21	28	7.49	8.90	9.69	17	3.79	5.78	7.16
Pancreas	C25	3	0.80	1.39	1.55	4	0.89	1.60	1.55
Lung	C34	43	11.50	10.45	9.46	21	4.68	5.02	4.82
Melanoma Skin	C43	8	2.14	1.14	1.37	12	2.67	2.89	2.23
NonMelanoma Skin	C44	153	40.91	38.20	33.70	134	29.84	28.65	26.57
Breast	C50	0		0.00	0.12	65	14.48	13.53	15.12
Female Sex Organs	C51- C57	0		0.00	0.00	25	5.57	6.23	7.20
Prostate	C61	32	8.56	8.33	11.18	0		0.00	0.00
Kidney	C64	7	1.87	1.63	1.47	3	0.67	0.91	0.82
Bladder	C67	9	2.41	2.53	3.19	4	0.89	1.14	1.21
Brain	C71	3	0.80	1.14	1.40	4	0.89	0.99	0.98
Hodgkin's Lymphoma	C81	0		0.33	0.44	0		0.15	0.36
Non-Hodgkin's Lymphoma	C82- C85	4	1.07	2.12	2.05	6	1.34	1.29	1.75
Leukaemia	C91- C95	6	1.60	2.53	1.93	2	0.45	1.44	1.38
Melanoma (In Situ)	D03	2	0.53	0.16	0.55	0		0.91	1.07
NonMelanoma (In Situ)	D04	8	2.14	2.69	3.15	23	5.12	4.64	6.69
Cervix (In Situ)	D06	0				71	15.81	10.87	7.17
Other		47	12.57	12.33	14.20	46	10.24	11.25	11.16
Total		374	100.00	100.00	100.00	449	100.00	100.00	100.00

Table 15. Distribution Of Cancer Types In Drogheda, 1994-1998.

Are Young Women More Susceptible To Certain Types Of Cancer In Louth Than Elsewhere?

Young adult women (i.e. women aged 15-34) were observed to have high incidence and mortality rates. Table 16 shows the distribution of cancer types affecting women aged 15-34 in Louth and women of the same age nationally. The number of sites shown is less than in the previous two tables because some sites are extremely rare in women of this age.

The most striking feature in this table is the very high percentage of in situ tumours of the cervix, which account for almost two thirds of all tumours affecting young women in Louth. However, although the percentage in Louth is higher than the national figure, it is not dramatically higher than the national

percentage which is also large.

The percentages for most other sites is much the same in Louth as elsewhere. The main exception is melanoma where the percentage in Louth is approximately twice the national percentage (i.e. there are 11 cases where one might have expected only 6).

		National		Louth	
		Cases	%	Cases	%
Colorectal	C18-C21	37	0.9	1	0.7
Melanoma	C43	177	4.4	11	7.7
Non-Melanoma	C44	240	5.9	4	2.8
Breast	C50	239	5.9	6	4.2
Sex Organs	C51-C57	282	7.0	10	7.0
Hodgkin's Lymphoma	C81	101	2.5	2	1.4
Non-Hodgkin's Lymphoma	C82-C85	48	1.2	0	0.0
Leukaemia	C91-C95	59	1.5	3	2.1
Melanoma In Situ	D03	29	0.7	1	0.7
Cervix In Situ	D06	2,344	57.8	92	64.8
Total		4054	100.0	142	100.0

Table 16. Distribution Of Cancer Types Affecting Young Adult Females

Summary

The overall distribution of cancers between the various sites in Louth is much the same as the rest of the country. However, Louth would appear to have lower percentages of several of the more common sites, such as prostate (males), colorectal (males and females), breast (females) and female sex organs (females). The major exceptions are lung cancer, where Louth records an excess number of cases for both sexes, and in situ tumours of the cervix which are significantly more common than elsewhere. Louth also has an excess number of cancers for some of the other sites, most notably stomach (males and females), oesophagus (males), leukaemia (males), melanoma (females) and other site (females). Also although the National Cancer Registry records fewer breast cancers than elsewhere, the number of deaths attributed to breast cancer is higher in Louth.

A somewhat similar pattern was observed in Drogheda, where lung cancer is even more common amongst males than in the rest of the county and in situ tumours of the cervix are strikingly more common amongst females.

Young women aged 15-34 were identified previously as an especially vulnerable group in Louth. The two most common types of tumour are in situ tumours of the cervix and melanoma, both of which are more common in young women in Louth than elsewhere, although not dramatically so.