ALL CANCER (EXCLUDING NMSC)

AVERAGE NUMBER OF CASES PER YEAR (2010-2014)			AVERAGE NUMBER OF DEATHS PER YEAR (2010-2014)		
Male	Female	Both sexes	Male	Female	Both sexes
4,426	4,393	8,819[1]	2,124	1,923	4,047
FIVE-YEAR SURVIVAL (2005-2009)			**21-YEAR PREVALENCE (2014)**		
Male	Female	Both sexes	Male	Female	Both sexes
52.3%	55.7%	53.6%	24,386	31,335	55,721

INCIDENCE

From 2010 to 2014, on average, there were 4,426 male and 4,393 female patients diagnosed with cancer each year excluding Non-Melanoma Skin Cancer (NMSC). There were an additional 1,946 male and 1,504 female patients diagnosed with NMSC. The lifetime risk of developing a cancer (excluding NMSC) was 1 in 3.4 for men and 1 in 3.8 for women.

Incidence trends

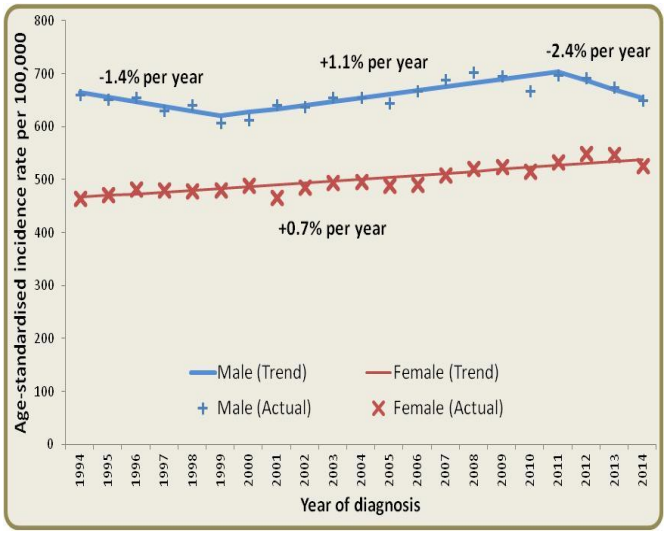
Table 1: Incidence of cancer by sex and year of diagnosis: 2005-2013

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Male	3,619	3,793	4,061	4,173	4,223	4,145	4,454	4,523	4,520	4,486
Female	3,648	3,699	3,874	4,049	4,112	4,123	4,317	4,503	4,568	4,454
Both sexes	7,267	7,492	7,935	8,222	8,335	8,268	8,771	9,026	9,088	8,940

Over the last ten years the number of cancer cases has increased from 3,619 among men and 3,648 among women in 2005 to 4,486 among men and 4,454 among women in 2014. This increase is largely due to an increasing number of older people in the population.

After accounting for our aging population, cancer incidence rates increased among males during 1999-2011 by an average of 1.1% per year, with evidence of a slowing from 2011-2014. From 1993-2014, female incidence rates increased steadily by an average of 0.7% per year.

Figure 1: Trends in cancer incidence rates by sex: 1993-2013



[1] Mean yearly incidence data for period 2010-2014 has been rounded to nearest integer, and thus some numbers in tables will not add to give the exact total.

Incidence and age

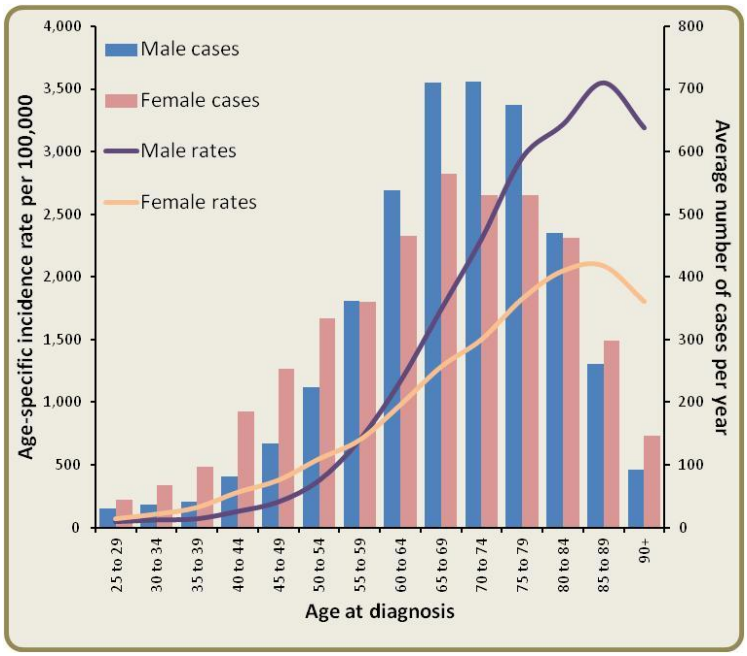
Cancer risk is strongly related to age with over 60% of cancers occurring in those aged over 65 and incidence rates greatest for those aged 80-89 in both men and women.

Table 2: Average number of cancers diagnosed per year by sex and age: 2010-2014

Age (years)	Male	Female	Total
0 to 49	384	701	1,086
50 to 64	1,124	1,159	2,283
65 to 74	1,422	1,095	2,517
75 and over	1,497	1,437	2,933
All ages	4,426	4,393	8,819

Due to rounding of yearly averages, 'All ages' may not equal the sum of age categories in tables.

Figure 2: Incidence of cancer by age and sex: 2010-2014



Cancer site

Cancer can occur in many different parts of the body, some more common than others and with considerable variation between males and females. The most common cancers among males between 2010 and 2014 were prostate, colorectal, lung, lymphomas and head & neck (Fig. 3) while the most common cancers among women were breast, colorectal, lung and body of uterus (Fig. 4).

Figure 3: The most common cancers (excluding NMSC) diagnosed in men: annual incidence 2010-2014

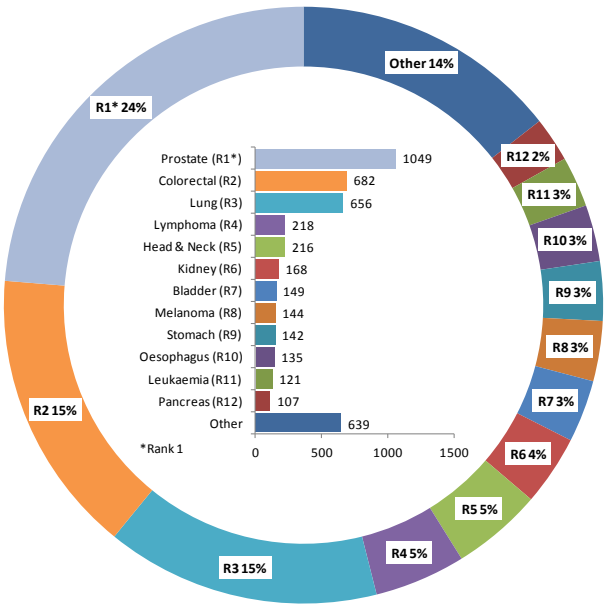
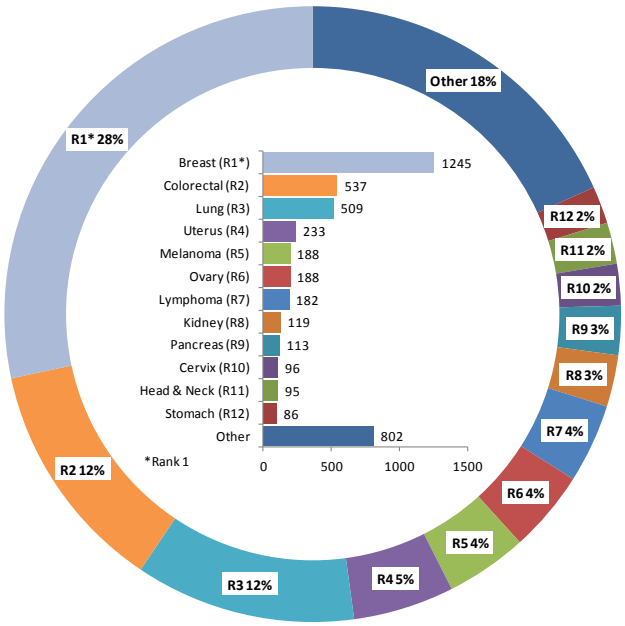


Figure 4: The most common cancers (excluding NMSC) diagnosed in women: annual incidence 2010-2014



Age at diagnosis by cancer site 2010-2014

Age at diagnosis varied by cancer site. Overall the median age at diagnosis was 69 years and was higher among males (69 years) than females (68 years). In men, the median age ranged from 60 years for brain and CNS cancers to 74 years for bladder cancer. In women, the median age ranged from 40 years for cervical cancer to 76 years for stomach cancer. The most common cancers, breast cancer among females and prostate cancer among males, had a median age at diagnosis of 63 years and 70 years, respectively.

Figure 5: The median age of male cancer patients by cancer site

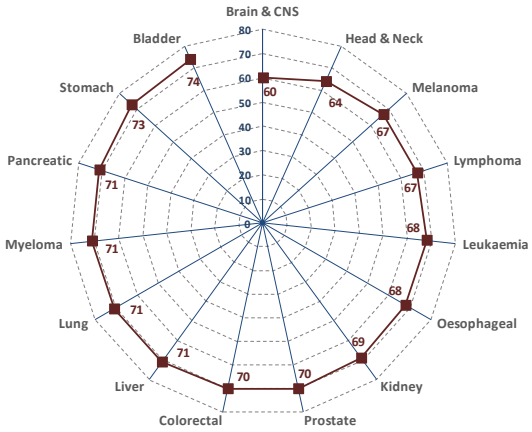
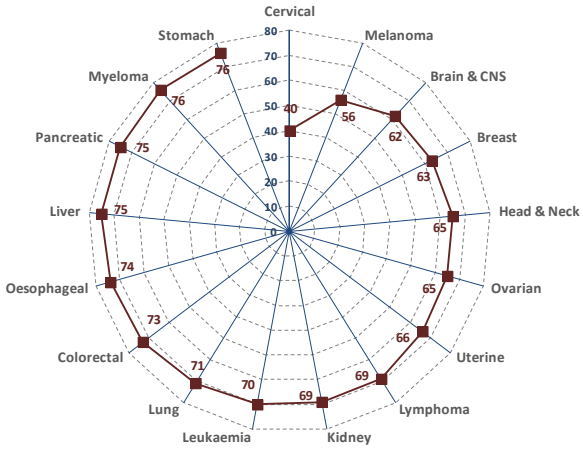


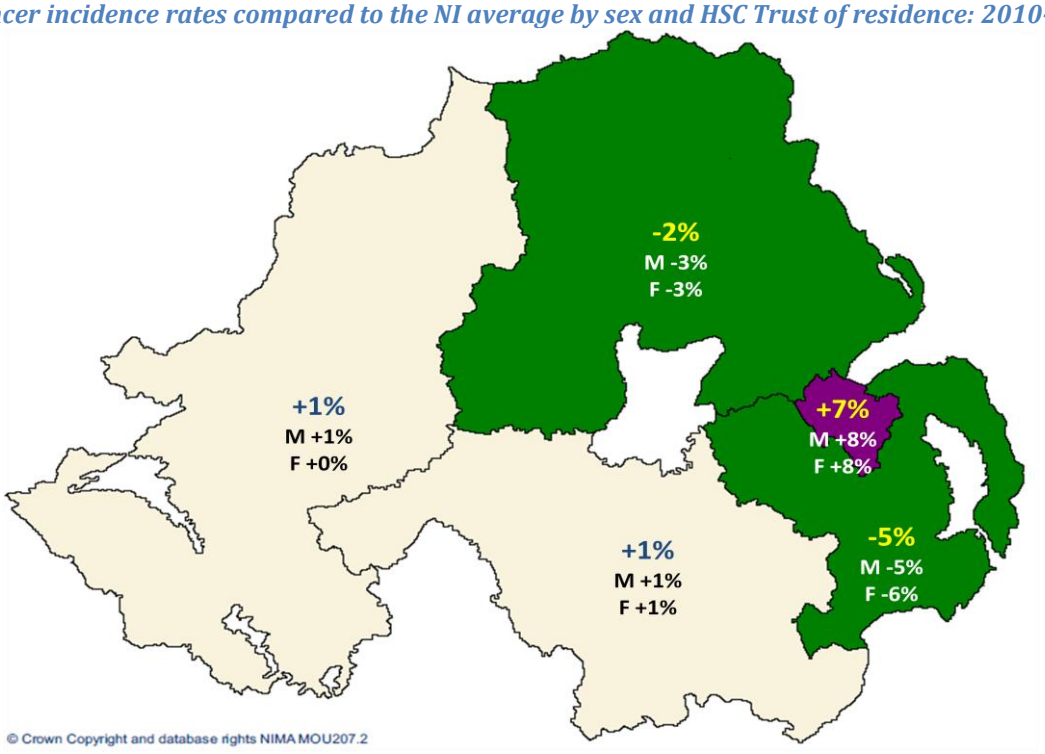
Figure 6: The median age of female cancer patients by cancer site



Incidence by Trust area

Incidence rates of cancer (excluding NMSC) in 2010-2014 were 7% higher among people living in Belfast HSCT area than the NI average. Rates were lower than the NI average for those living in the Northern and South-Eastern Trust area.

Figure 7: Cancer incidence rates compared to the NI average by sex and HSC Trust of residence: 2010-2014



Significantly higher than average

Significantly lower than average

Incidence by deprivation

Some geographical variation is due to a relationship between cancer and socio-economic deprivation. Cancer incidence is higher in the most deprived communities in Northern Ireland though this varies significantly by cancer site. Incidence of cancer of the head & neck, oesophagus, stomach, lung, liver, pancreas, male-colorectal, bladder and cervix are higher in more deprived areas while incidence of melanoma, non-melanoma skin and prostate cancer are higher in the least deprived communities.

Figure 8: All cancer incidence rates compared to the NI average by sex and deprivation quintile: 2010-2014

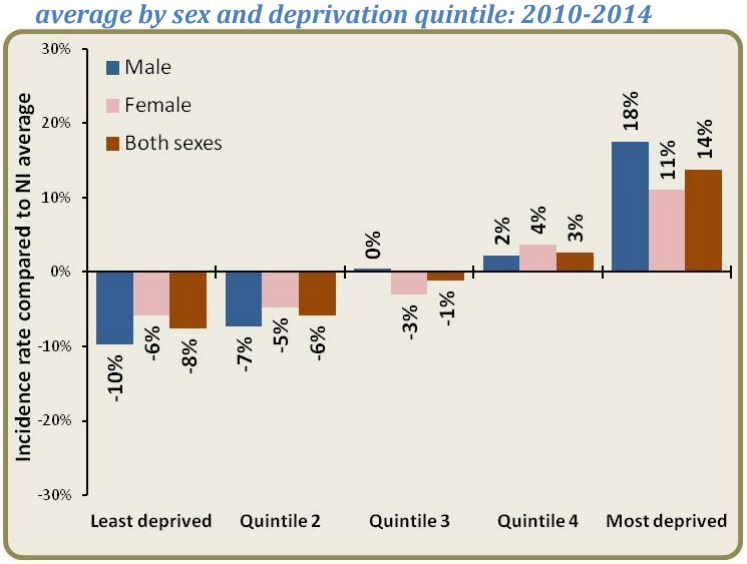


Table 3: The relationship between cancer incidence rates and socio-economic deprivation

Incidence rates higher in deprived than affluent areas	No significant relationship	Incidence rates higher in affluent than deprived areas
Head & neck, oesophagus, stomach, lung, liver, pancreas, male-colorectal, bladder, cervix	Uterus, Ovary, Testes, Lymphoma, Leukaemia	Melanoma, Non-melanoma skin, Prostate

SURVIVAL

Overall survival

The net survival was 70.1% at one year, and 54.3% at five years for patients diagnosed in 2005 to 2009.

Table 4: Five-year survival by sex: patients diagnosed 2005-2009

Time since diagnosis	Diagnosed 2004-2008		
	Male	Female	Both sexes
6 months	76.8%	77.7%	77.4%
1 year	68.9%	71.0%	70.1%
5 years	52.3%	55.7%	54.3%

Survival Trends

Five-year survival from cancer has improved when we compare patients diagnosed from 1993 to 1999 to those diagnosed from 2005 to 2009; increasing from 37.3% to 52.3% for men and from 47.8% to 55.7% for women.

Table 6: Five-year survival by period of diagnosis and sex

Period of diagnosis	Male	Female	Both sexes
1993-1999	37.3%	47.8%	43.0%
2000-2004	45.4%	52.0%	49.1%
2005-2009	52.3%	55.7%	54.3%

Survival and cancer site

Survival varied by cancer site with estimates of five-year (age-standardised) net survival for male patients diagnosed 2005-2009 ranging from 5.8% for pancreatic cancer to 98.8% for testicular cancer. Among females five-year (age-standardised) net survival ranged from 5.3% for pancreatic cancer to 92.5% for malignant melanoma. Comparisons of five-year survival for patients diagnosed 2005-2009 to those diagnosed 1993-1999 show survival improvements for most cancers in males and females. Three of the four most common cancers showed strong improvement.

Table 7: Five-year age-standardised net survival of patients diagnosed 2005-2009 compared to patients diagnosed 1993-1999 by site

	1993-1999		2005-2009	
Site (ICD10 code[1])	Male	Female	Male	Female
All Cancers excluding NMSC (C00-C43,C45-C97)	37.3%	47.8%	52.3%	55.7%
Bladder (C67)	60.4%	48.4%	59.1%	48.5%
Brain and other CNS (C70-C72,C75.1-C75.3)	16.3%	22.0%	23.7%	24.6%
Breast (C50)	-	75.0%	-	80.9%
Cervix (C53)	-	57.8%	-	65.9%
Childhood cancer (C00-C97,ex C44)	72.8%[3]	74.4%[3]	73.8%[3]	86.3[3]
Colon (C18)	50.3%	51.3%	55.3%	57.3%
Colorectal (C18-C20)	49.2%	50.3%	55.3%	57.5%
Head and Neck (C00-C14; C30-C32)	52.6%	49.5%	55.4%	56.2%
Hodgkin Lymphoma (C81)	75.3%[3]	79.6%[3]	83.2%[3]	75.0%[3]
Kidney (C64-C66,C68)	48.4%	50.7%	56.7%	53.7%
Leukaemia (C91-C95)	33.3%	33.6%	48.5%	49.6%
Lip, Oral Cavity & Pharynx (C00-C14)	46.5%	43.7%	51.0%	54.2%
Liver & Intrahepatic Bile Ducts (C22-C24)	4.5%	5.6%	6.3%	8.0%
Lung, Bronchus & Trachea (C33-C34)	8.0%	9.8%	10.0%	11.4%
Lymphoma (C81-C86)	44.9%	49.1%	61.2%	66.5%
Malignant Melanoma (C43)	84.4%	91.1%	88.0%	92.5%
Multiple Myeloma (C90)	26.2%	34.8%	50.2%	53.3%
Non-Hodgkin Lymphoma (C82-C85)	42.6%	47.7%	59.5%	66.9%
Non-Invasive Brain (D32,D33.0-D33.4,D35.2-D35.4,D42,D43.0-D43.4,D44.3-D44.5)	79.3%	78.9%	84.0%	89.1%
Oesophagus (C15)	8.9%	16.8%	18.0%	16.8%
Ovary (C56)	-	36.8%	-	37.2%
Pancreas (C25)	3.0%	2.8%	5.8%	5.3%
Prostate (C61)	60.4%	-	87.6%	-
Rectum and Anus (C19-C21)	47.6%	47.2%	56.8%	57.9%
Stomach (C16)	15.6%	17.1%	17.8%	23.4%
Testis (C62)	94.5[3]	-	98.8[3]	-
Unknown primary (C76-C80)	5.9%	9.9%	10.8%	10.9%
Uterus body (endometrium) (C54-C55)	-	65.6%	-	77.7%

1 The classification of different tumours codes see: International Statistical Classification of Diseases and Related Health Problem to cancer types, e.g. lung is done using ICD10 codes. For a listing and explanation of ICD10 topography or site s, Tenth Revision, World Health Organisation, Geneva. Or view online at http://apps.who.int/classifications/icd10/browse/2010/en#/II

2 Not-applicable

3 Survival estimate is not age-standardised because of small numbers of patients diagnosed in the period

MORTALITY

Mortality statistics are provided by the Northern Ireland General Registrar's Office. In 2010-2014 there were on average 2,153 male and 1,965 female deaths from malignant cancer each year. The most common cause of cancer death among males was lung cancer followed by prostate cancer and colorectal cancer (Fig. 9), while among women the most common cause of cancer death was lung cancer followed by breast cancer (Fig. 10).

Figure 9: The most common cancer deaths in men: average annual deaths 2010-2014. *Kidney, multiple myeloma, mesothelioma, and malignant melanoma included in 'other'.*

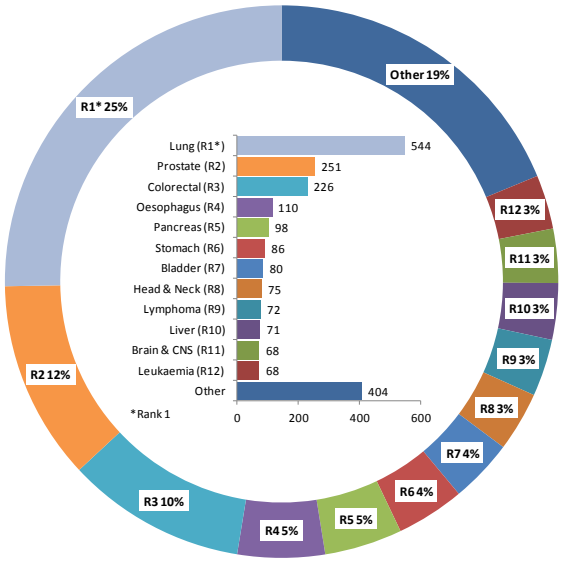
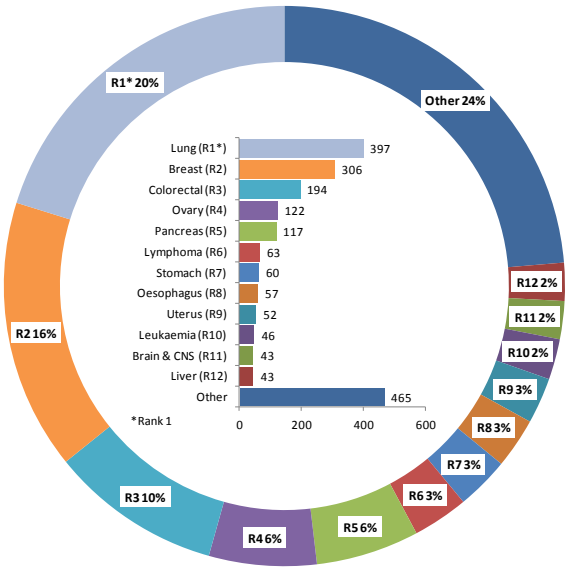


Figure 10: The most common cancer deaths in women: average annual deaths 2010-2014. *Liver, bladder, multiple myeloma, head and neck, cervix, malignant melanoma included in 'other'.*

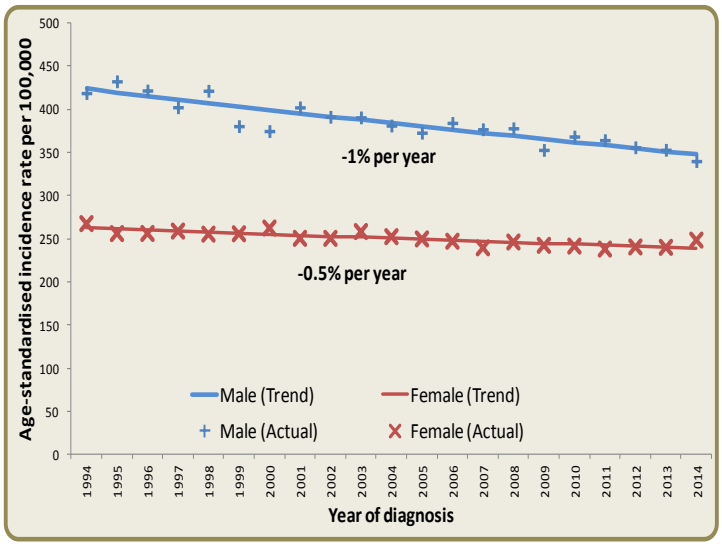


Mortality trends

Over the ten years to 2014 the number of cancer deaths increased from 1,907 among men and 1,819 among women in 2005 to 2,164 among men and 2,085 among women in 2014.

When adjusted for age and population change, cancer mortality rates during 1993-2014 decreased per year by 1.0% in males, and 0.5% in females. Trends in cancer death varied by cancer site. Among men, mortality rates decreased for lung, prostate and colorectal cancer. Among women, mortality rates have increased for lung but decreased for breast and colorectal cancer.

Figure 11: Trends in cancer mortality rates by sex: 1993-2014



PREVALENCE

At the end of 2014 there were 55,721 people living in NI who had been diagnosed with cancer within the previous twenty-two years (Table 8). Of these, 43.8% were male, 46.1% were aged 70 and over and 11.4% had been diagnosed in the previous year.

Table 8: Number of people living with cancer at the end of 2014 who were diagnosed within the past twenty-two years by time since diagnosis

Sex	Age at end of 2014	Time since diagnosis				22-year Prevalence
		0-1 year	1-5 years	5-10 years	10-22 years	
Male	0-69	1,767	4,385	3,037	2,579	11,768
	70+	1,395	3,972	3,772	3,479	12618
	All ages	3,162	8,357	6,809	6,058	24386
Female	0-69	2,004	5,957	4,995	5,305	18,261
	70+	1,167	3,531	3,017	5,359	13,074
	All ages	3,171	9,488	8,012	10,664	31,335
Both sexes	0-69	3,771	10,342	8,032	7,884	30,029
	70+	2,562	7,503	6,789	8,838	25,692
	All ages	6,333	17,845	14,821	16,722	55,721

Among men, prostate cancer was the most prevalent cancer accounting for 36% of total prevalence (Fig. 12). This was followed by colorectal cancer (18%) and lymphoma (7%). Among women, breast cancer (45%) was most prevalent followed by colorectal cancer (12%) and body of uterus (7%) (Fig. 13).

Figure 12: The number of male cancer patients alive on 31st December 2014 diagnosed since 1993 (22-year prevalence) by cancer site

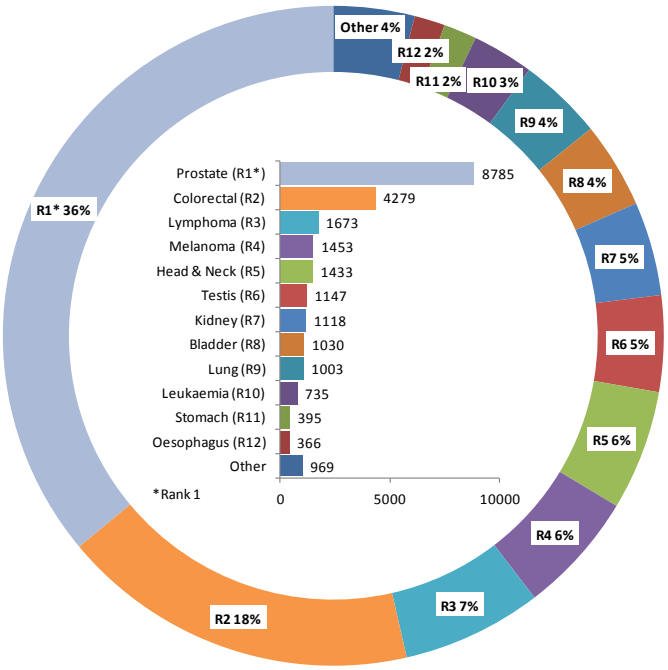
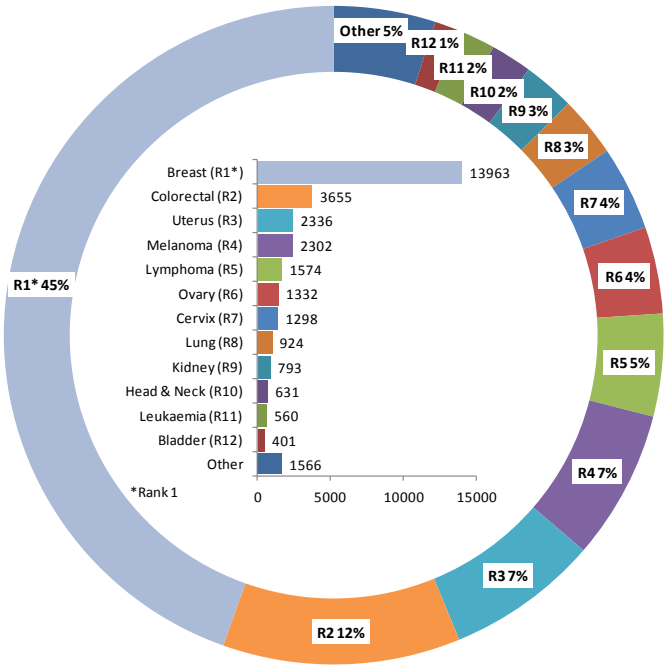


Figure 13: The number of female cancer patients alive on 31st December 2014 diagnosed since 1993 (20-year prevalence) by cancer site



Background notes

ICD10 Topography Codes
The classification of tumour sites is carried out using ICD10 codes. For a listing and explanation of ICD10 topography or site codes see: International Statistical Classification of Diseases and Related Health Problems, Tenth Revision, World Health Organisation, Geneva. Or view online at http://apps.who.int/classifications/icd10/browse/2010/en#/II

Age Standardised Incidence Rate
An age-standardised incidence rate per 100,000 persons is an estimate of the incidence rate if that population had a standard population age structure. Eighteen or nineteen age-group specific incidence rates are weighted by standard weights of the Standard Population, and summed to give the age-standardised rate. Commonly used Standard Populations (with number of age groups) are the 1976 European Standard Population (18), 2013 European Standard Population (19), and the World Standard Population (18). Standardising to a common Standard Population allows comparisons of incidence rates to be made between different time periods and geographic areas.

Standardised Incidence Ratio (SIR)
The ratio of the number of cases observed in a given population to the number of cases expected if the age-groups specific rates of a reference population were operative. This statistic is often used to compare if smaller geographic units (e.g. Trust areas) incidence rates differ from the national incidence rates, (e.g. Northern Ireland in these statistics), which is taken as the reference. An SIR of 100% indicates no difference.

Confidence Intervals (CI)
Confidence intervals are a measure of the precision of a statistic (e.g. lung cancer incidence rate). Typically, when incidence is low, precision is poorer and confidence intervals will be wider. As a general rule, when comparing statistics (e.g. cervical cancer incidence rate in year 2012 vs year 2013), if the confidence interval around one statistic overlaps with the interval around another, it is unlikely that there is any real difference between the two.

Lifetime risk
Lifetime risk is estimated as the cumulative risk of getting cancer up to age 75 (life expectancy for a typical person) using the age-specific cancer incidence rates according to this formula: cumulative risk=1 - exp(-sum(rates from age 1-74)). This method was proposed by Day (Day, 1987. Cumulative rates and cumulative risk. In Cancer Incidence in Five Continents, Muir C, Waterhouse J, Mack T, Powell J, Whelan S [eds] vol. V, pp 787-789. International Agency for Research on Cancer. IARC Scientific Publications No. 88: Lyon), and represents the lifetime risk of developing cancer when competing risks are ignored. Although this is currently the standard statistic for estimating lifetime risk of developing cancer, there are other methods which employ death information to address competing risk (see: Sasieni PD, Shelton J, Ormiston-Smith N, Thomson CS, Silcocks PB, 2011. What is the lifetime risk of developing cancer?: the effect of adjusting for multiple primaries. Bristish Journal of Cancer 105, 460-465). The odds of developing the disease before age 75 is the inverse of the cumulative risk.

Geographic Areas
Geographic areas are assigned based on a patient's postcode of usual residence at diagnosis using the Central Postcode Directory (CPD) produced by the NI Statistics and Research Agency (available at www.nisra.gov.uk)

Deprivation Quintiles
Super output areas (SOA), or 897 census output areas of NI, are assigned to each patient based on their postcode of usual residence at diagnosis. The patient is then assigned, through its SOA, to a socio-economic deprivation quintile based on the SOA's 2010 Income domain of the Multiple Deprivation Measure. The 2010 Multiple Deprivation Measure is available from the NI Statistics and Research Agency (www.nisra.gov.uk)

Prevalence of patients who have had a diagnosis of cancer

Prevalence is the number of cancer-diagnosed patients who are alive in the population on a specific date, e.g. 31st December 2013. If the Registry is recently established, there will be patients in the population diagnosed prior to establishment who were not registered by the Registry; hence the prevalence will be underestimated, and more so in good-prognosis cancers. An 'x'-year prevalence, e.g. 20-year prevalence, is defined as the number of patients that were diagnosed in a `x'-year period (prior to a time point) and alive at that time point. 'x'-year prevalence can be used between registries of differing ages to measure the survivorship associated with a certain type of cancer. Age in the prevalence table refers to the age of patients on the 31st December 2013, not age at cancer diagnosis.

Net Survival

Net Survival is an estimate of survival where the effect on survival of background population mortality rates has been removed. As background population mortality rates, as presented in a life table, are a good approximation to the non-cancer related death rates among cancer patients, the net survival represents the [theoretical] survival of cancer patients if they could only die from cancer-related causes. Net survival is suitable for comparison of survival between different time periods and populations, as the confounding effect of non-cancer death rates is removed. Age-standardised net survival estimates are the estimates that would occur if that population [of cancer patients] had a standard population age structure. Five age-group specific survival estimates are weighted by standard weights, and summed to give the age-standardised survival estimate. The age groups and weights used here are those defined by EUROCARE, an international study group that compares cancer survival among European countries (Corazziari I, Quinn M, Capocaccia R, 2004. Standard cancer patient population for age standardising survival ratio. European Journal of Cancer 40: 2307-2316). The weights reflect the age-structure of cancer patients and can differ between cancer sites. Due to small numbers in NI for many cancer sites, the two youngest age-groups have been combined, as well as their weights, in the estimation of age-standardised net survival.

Mortality

Information relating to cancer mortality is sourced from GRONI and is based upon the date on which death occurs. Results may thus differ slightly than those produced by the Northern Ireland Statistics and Research Agency (NISRA), which produces deaths data based upon the date on which the death is registered with GRO.

BREAST CANCER

NUMBER OF CASES PER YEAR (2010-2014)			NUMBER OF DEATHS PER YEAR (2010-2014)		
Male	Female	Both sexes	Male	Female	Both sexes
9	1283	1293	3	306	309
FIVE-YEAR SURVIVAL (2005-2009)			**22-YEAR PREVALENCE (2014)**		
Male	Female	Both sexes	Male	Female	Both sexes
-	80.9%	-	-	13963	-

INCIDENCE

In 2010-2014 there were 1,283 female patients diagnosed with breast cancer each year. The lifetime risk of developing a breast cancer was 1 in 11 for women.

Incidence trends

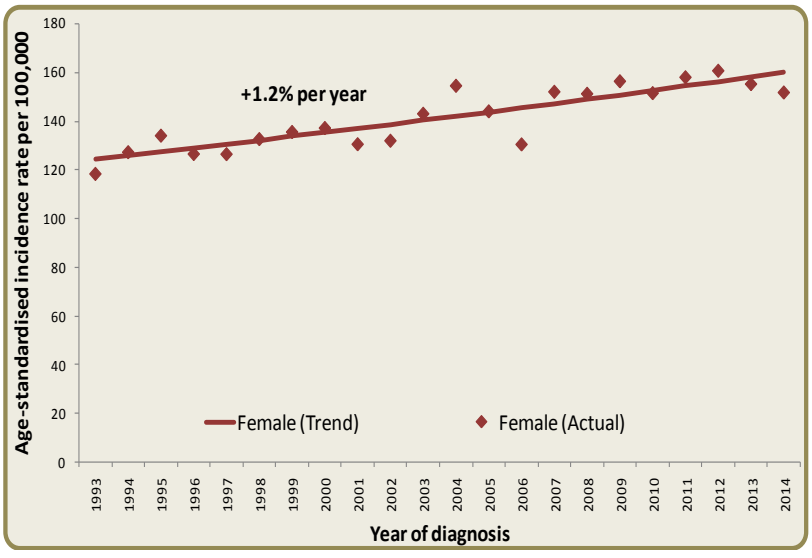
Table 1: Incidence of female breast cancer and year of diagnosis: 2005-2014

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Female	1079	991	1166	1179	1231	1217	1288	1322	1297	1293

Over the last ten years the number of breast cancers cases in women has increased from 1079 in 2004 to 1293 in 2013.

After accounting for the increasing number of older people in the NI population, breast cancer incidence rates in women have increased during 1993-2014 by an average of +1.2% per year.

Figure 1: Trends in female breast cancer incidence rates: 1993-2014



Incidence and age

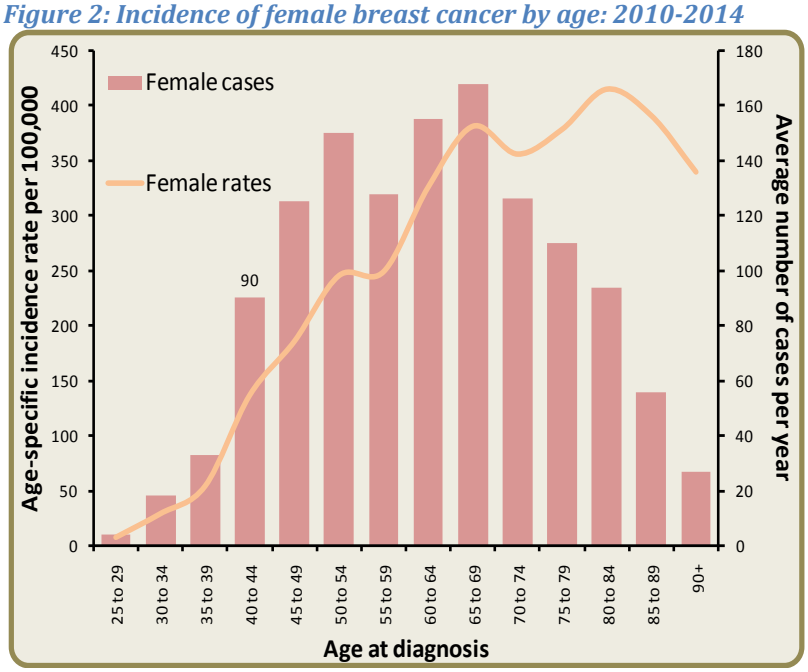
Breast cancer risk is strongly related to age with 79% of cases occurring in females over the age of 50 years and incidence rates greatest among women aged 80-89.

Table 2: Average annual number of breast cancers diagnosed by age: 2010-2014

Age	Female
0 to 49	271
50 to 64	433
65 to 74	294
75 and over	287
All ages	1283

Due to rounding of yearly averages, 'All ages' may not equal the sum of age categories in tables.

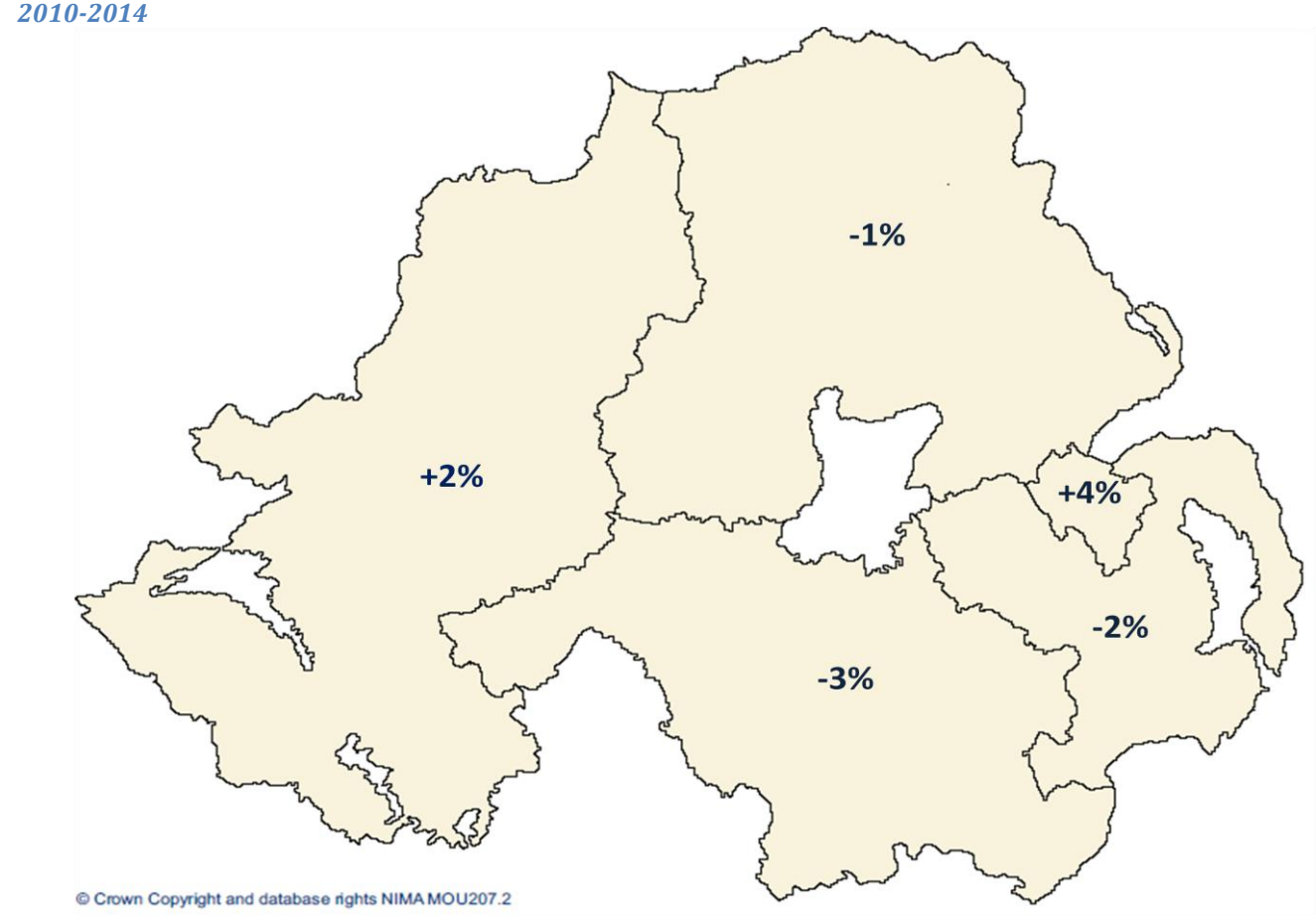
Figure 2: Incidence of female breast cancer by age: 2010-2014



Incidence by Trust area

Breast cancer incidence rates in 2010-2014 did not vary significantly across HSCT Trusts in Northern Ireland.

Figure 3: Female breast cancer incidence rates compared to the NI average by sex and HSC Trust of residence: 2010-2014



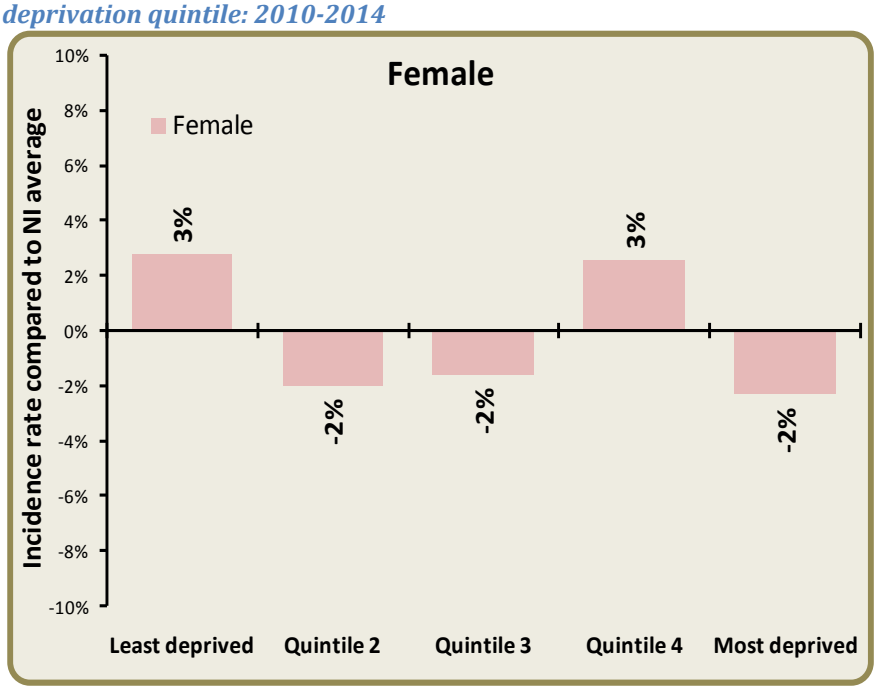
Significantly higher than average

Significantly lower than average

Incidence by deprivation

While incidence of many cancers vary by socio economic deprivation, there is no evidence of this association for breast cancer incidence rates in Northern Ireland since 2010.

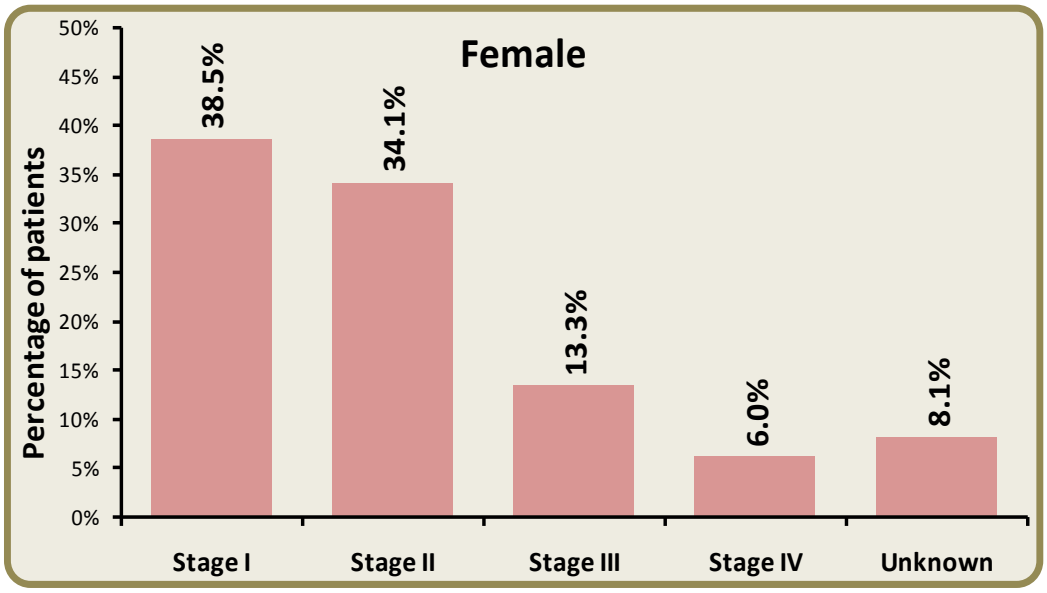
Figure 4: Breast cancer incidence rates compared to the NI average by deprivation quintile: 2010-2014



Incidence by stage

Cancer stage is a way of describing the size of a cancer and how far it has grown and spread. This information is important in helping decide what treatments are needed and stage of disease at diagnosis is strongly associated with survival.

Figure 5: Breast cancer stage distribution: 2010-2014



In 2010-2014 over 90% of female breast cancer patients in Northern Ireland were assigned a stage at diagnosis.

The majority of breast cancer patients were diagnosed at Stage I (38.5%) and Stage II (34.1%) with 6.0% diagnosed at stage IV.

SURVIVAL

The net survival for women with breast cancer was 94.7% at one year, and 80.9% at five years for patients diagnosed in 2005 to 2009.

Table 3: Five-year female breast cancer survival by survival time: patients diagnosed 2005-2009

Time since diagnosis	Diagnosed 2005-2009
	Female
6 months	96.2%
1 year	94.7%
5 years	80.9%

Survival Trends

Five-year survival for breast cancer in women has improved over time with survival increasing from 75.0% in the 1993-1999 diagnosis period to 80.9% in the 2005-2009 diagnosis period.

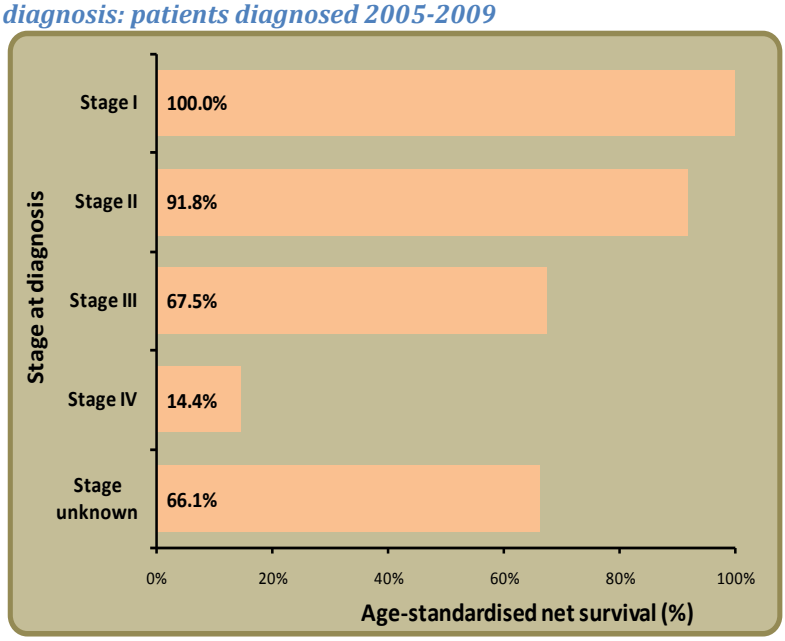
Table 4: Five-year breast cancer survival by period of diagnosis

Period of diagnosis	Female
1993-1999	75.0%
2000-2004	78.1%
2005-2009	80.9%

Survival and stage

Stage at diagnosis is one of the most important factors in breast cancer survival with five year survival decreasing as stage at diagnosis increases. Five-year survival ranged from 100.0% for early (stage I) disease to 14.4% for late (stage IV) disease highlighting the importance of early diagnosis.

Figure 6: Five year survival from breast cancer by stage of diagnosis: patients diagnosed 2005-2009



Mortality

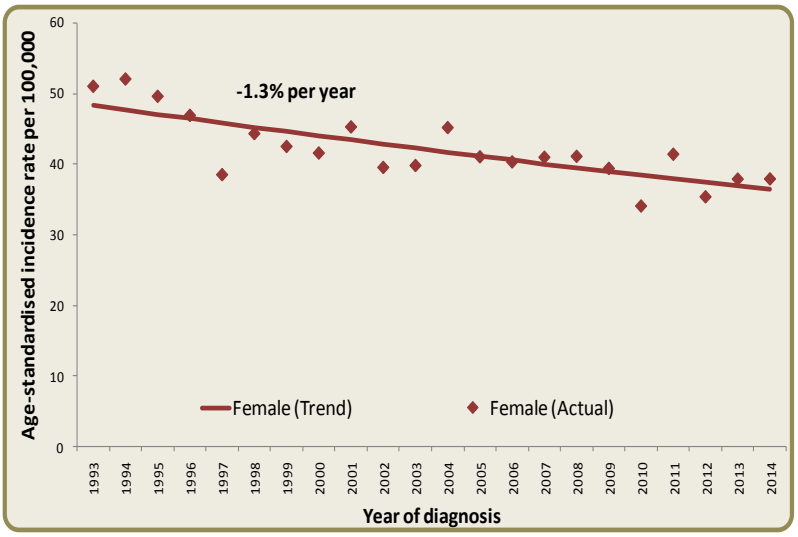
Mortality statistics are provided by the Northern Ireland General Registrar's Office. In 2010-2014 there were 306 female deaths from breast cancer each year.

Mortality trends

Over the last ten years, the number of breast cancer deaths have not changed from 301 among women in 2005 to 320 among women in 2014.

When adjusted for age and population change, female breast cancer mortality rates decreased by -1.3% per year during 1993-2014.

Figure 7: Trends in female breast cancer mortality rates: 1993-2014



Prevalence

At the end of 2014 there were 13,963 females living in NI who had been diagnosed with breast cancer from 1993-2014 (Table 5). Of these, 39.9% were aged 70 and over and 8.5% had been diagnosed in the previous year.

Table 5: Number of people living with breast cancer at the end of 2014 who were diagnosed from 1993-2014 by time since diagnosis

Sex	Age	Time since diagnosis				22-year Prevalence
		0-1 year	1-5 years	5-10 years	10-22 years	
Female	0-69	829	2692	2424	2447	8392
	70+	362	1445	1284	2480	5571
	All ages	1191	4137	3708	4927	13963

Further Information

Further data is available from the Northern Ireland Cancer Registry web site: **www.qub.ac.uk/nicr**

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Acknowledgements

NICR is funded by the Public Health Agency and is hosted by Queen's University, Belfast.

COLORECTAL CANCER

NUMBER OF CASES PER YEAR (2010-2014)			NUMBER OF DEATHS PER YEAR (2010-2014)		
Male	Female	Both sexes	Male	Female	Both sexes
682	537	1219	226	194	419
FIVE-YEAR SURVIVAL (2005-2009)			**22-YEAR PREVALENCE (2014)**		
Male	Female	Both sexes	Male	Female	Both sexes
55.3%	57.5%	56.3%	4279	3655	7934

INCIDENCE

In 2010-2014 there were 682 male and 537 female patients diagnosed with colorectal cancer each year. The lifetime risk of developing a colorectal cancer was 1 in 19 for men and 1 in 31 for women.

Incidence trends

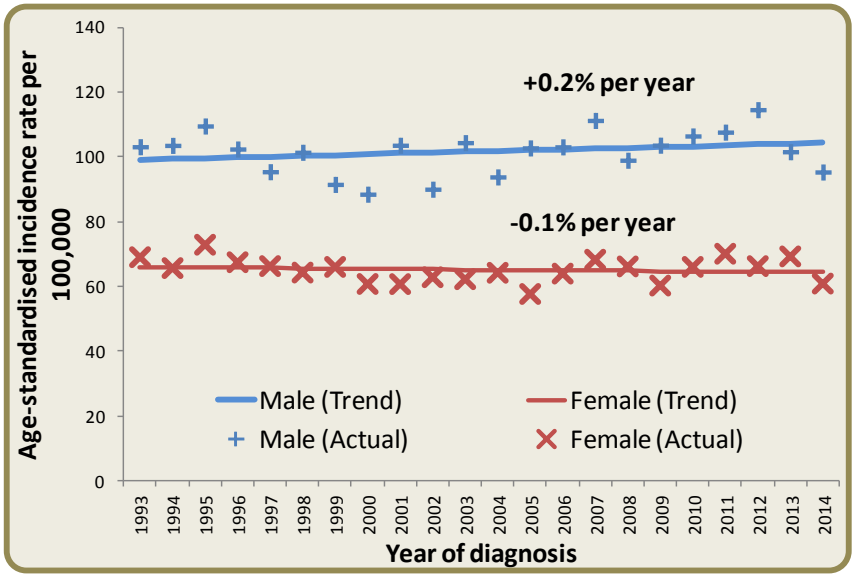
Table 1: Incidence of colorectal cancer by sex and year of diagnosis: 2005-2014

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Male	571	570	641	589	605	654	682	742	676	655
Female	415	470	512	503	464	514	553	536	574	510
Both sexes	986	1040	1153	1092	1069	1168	1235	1278	1250	1165

Over a ten year period the number of colorectal cancer cases increased from 571 among men and 415 among women in 2005 to 655 among men and 510 among women in 2014.

After accounting for the increasing number of older people in the NI population, colorectal cancer incidence rates among males and females during 1993-2014 have remained constant.

Figure 1: Trends in colorectal cancer incidence rates by sex: 1993-2014



Incidence and age

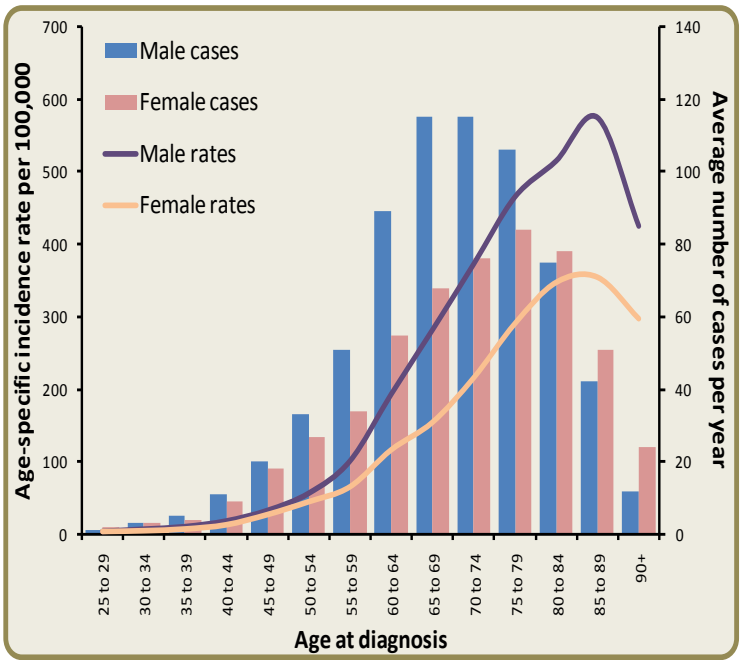
Colorectal cancer risk is strongly related to age with almost 70% of patients diagnosed over the age of 65 years. Incidence rates are highest among men and women aged 85-89.

Table 2: Average annual number of colorectal cancers diagnosed by sex and age: 2010-2014

Age	Male	Female	Total
0 to 49	42	38	83
50 to 64	173	116	289
65 to 74	230	144	374
75 and over	235	237	474
All ages	682	537	1219

Due to rounding of yearly averages, 'All ages' may not equal the sum of age categories in tables.

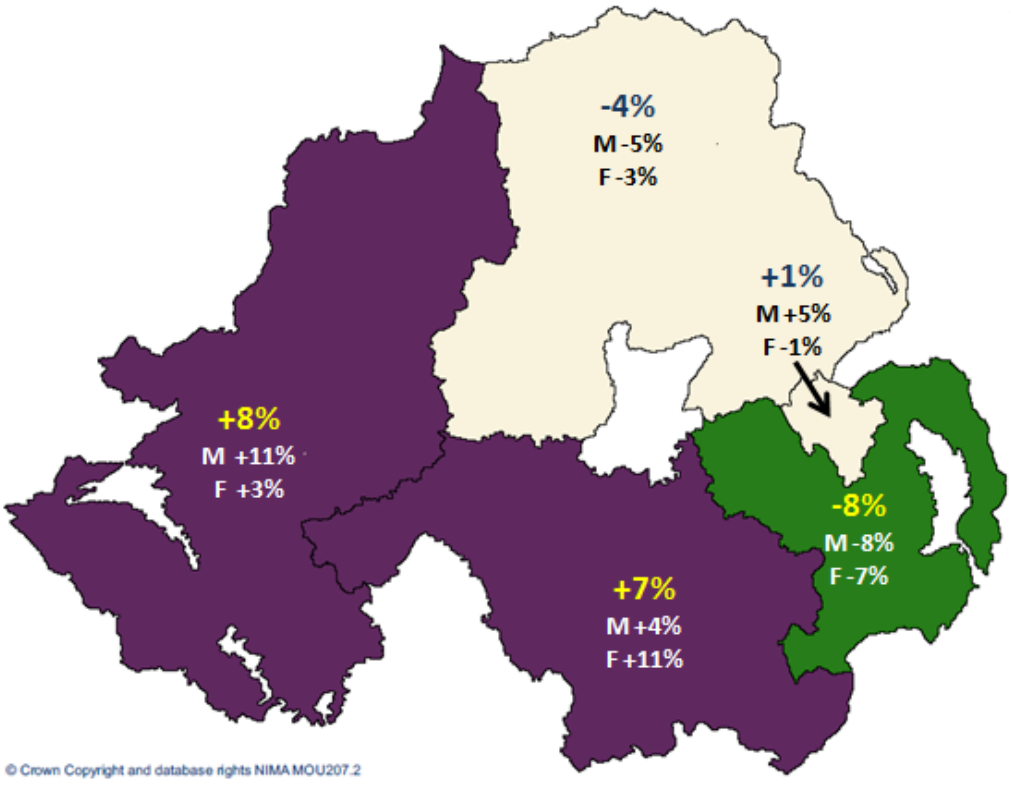
Figure 2: Incidence of colorectal cancer by age and sex: 2010-2014



Incidence by Trust area

Colorectal cancer incidence rates in 2010-2014 were and higher than the NI average among people living within the Southern and Western HSCT areas, respectively. Incidence rates were lower than the NI average in the South-Eastern Trust area, particularly for men.

Figure 3: Colorectal cancer incidence rates compared to the NI average by sex and HSC Trust of residence: 2010-2014

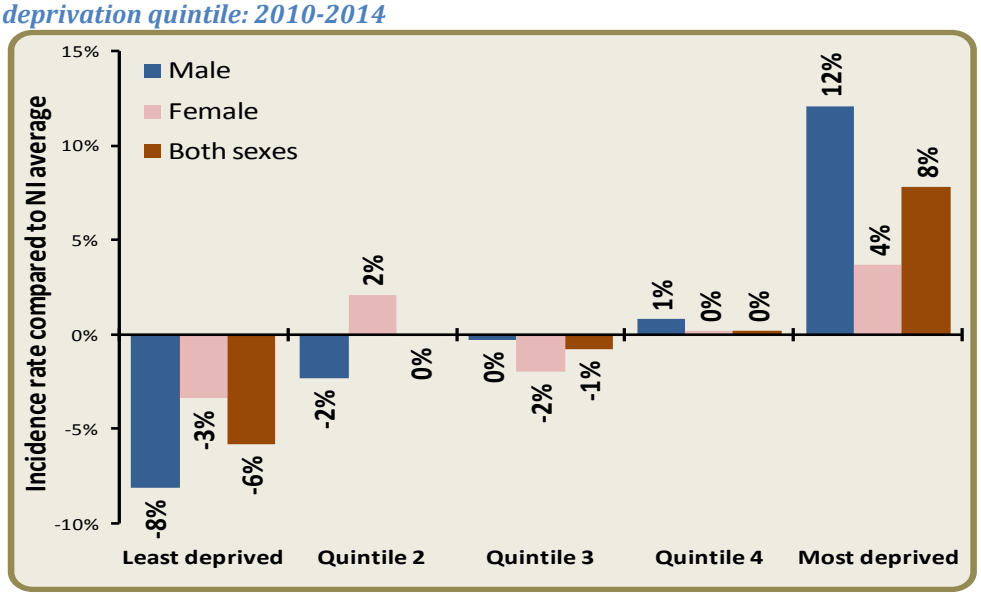


Significantly higher than average

Significantly lower than average

Incidence by deprivation

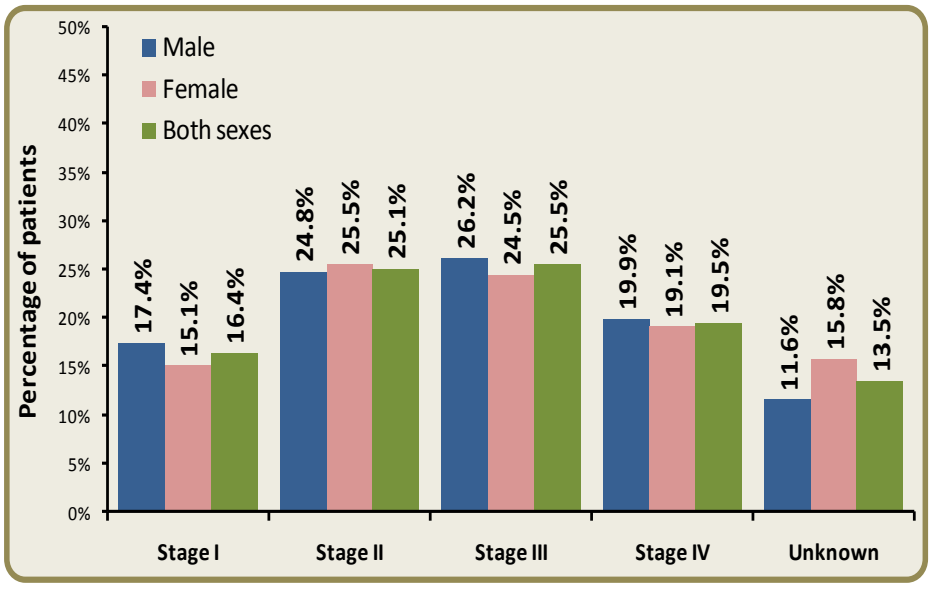
Figure 4: Colorectal cancer incidence rates compared to the NI average by sex and deprivation quintile: 2010-2014



Colorectal cancer incidence rates are associated with socio-economic deprivation with incidence rates increasing with levels of deprivation. This pattern is particularly marked for male colorectal cancer with incidence 12% higher in the most deprived communities than the NI average and 8% lower in the least deprived areas compared to NI as a whole.

Incidence by stage

Figure 5: Colorectal cancer stage distribution: 2010-2014



Cancer stage is a way of describing the size of a cancer and how far it has grown and spread. This information is important in helping decide what treatments are needed and stage of disease at diagnosis is strongly associated with cancer survival.

In 2010-2014 over four fifths (86.5%) of colorectal cancer patients in Northern Ireland were assigned a stage at diagnosis.

A significant proportion of colorectal cancer patients were diagnosed at a later stages with 25.5% at stage III and 19.5% at stage IV, compared to 16.4% at stage I. There were no significant differences in stage distribution between males and females.

SURVIVAL

The net survival was 77.3% at one year, and 56.3% at five years for colorectal cancer patients diagnosed in 2005 to 2009.

Table 3: Five-year colorectal cancer survival by survival time and sex: patients diagnosed 2005-2009

Time since diagnosis	Diagnosed 2005-2009		
	Male	Female	Both sexes
6 months	84.8%	82.7%	83.9%
1 year	78.6%	75.7%	77.3%
5 years	55.3%	57.5%	56.3%

Survival Trends

Five-year survival for colorectal cancer has improved from the 1993-1999 diagnosis period to the 2005-2009 diagnosis period; increasing from 49.6% to 56.3%.

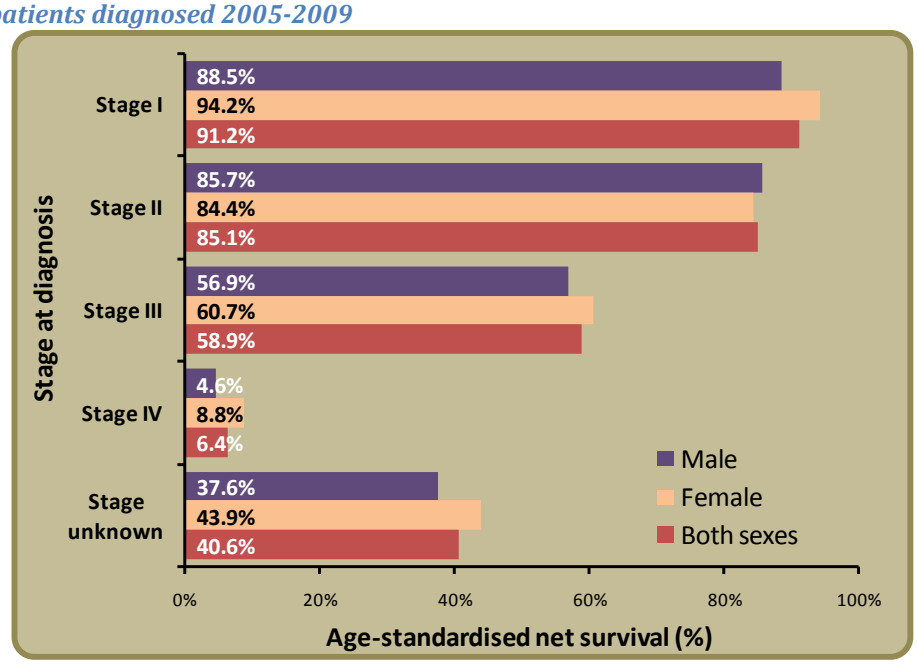
Table 4: Five-year colorectal cancer survival by period of diagnosis and sex

Period of diagnosis	Male	Female	Both sexes
1993-1999	49.2%	50.3%	49.6%
2000-2004	50.1%	55.4%	52.6%
2005-2009	55.3%	57.5%	56.3%

Survival and stage

Stage at diagnosis is one of the most important factors in colorectal cancer survival with five year survival decreasing as stage increases. Five-year survival ranged from 91.2% for early (stage I) disease to 6.4% for late (stage IV) disease highlighting the importance of early diagnosis.

Figure 6: Five year survival from colorectal cancer by stage of diagnosis: patients diagnosed 2005-2009



Mortality

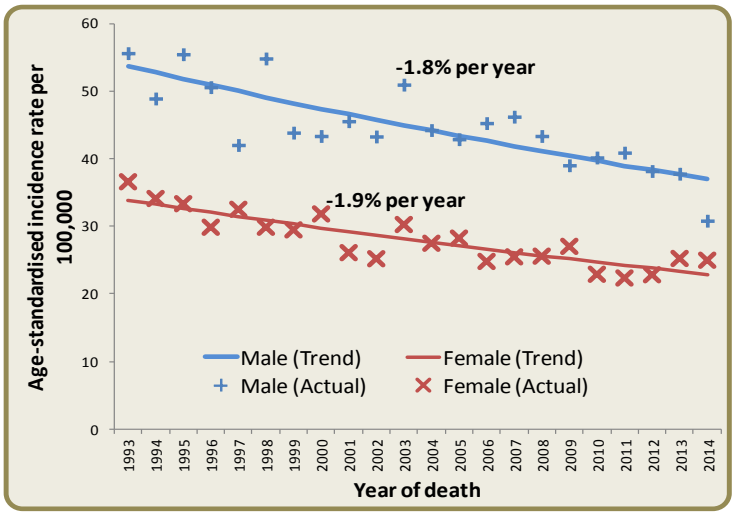
Mortality statistics are provided by the Northern Ireland General Registrar's Office. In 2010-2014 there were 226 male and 194 female deaths from colorectal cancer each year.

Mortality trends

Over the last ten years the number of colorectal cancer deaths has decreased among men from 223 in 2005 to 201 in 2014 and have not changed among women from 207 in 2005 to 212 in 2014.

When adjusted for age and population change, colorectal cancer mortality rates decreased for males by -1.8% per year during 1993-2013, and decreased by -1.9% per year for females.

Figure 7: Trends in colorectal cancer mortality rates by sex: 1993-2014



Prevalence

At the end of 2014 there were 7,934 people living in NI who had been diagnosed with colorectal cancer from 1993-2014 (Table 5). Of these, 53.9% were male, 63.4% were aged 70 and over and 11.7% had been diagnosed in the previous year.

Table 5: Number of people living with colorectal cancer at the end of 2014 who were diagnosed from 1993-2014 by time since diagnosis

Sex	Age	Time since diagnosis				22-year Prevalence
		0-1 year	1-5 years	5-10 years	10-21 years	
Male	0-69	259	732	389	243	1623
	70+	283	867	691	815	2656
	All ages	542	1599	1080	1058	4279
Female	0-69	179	535	314	254	1282
	70+	211	706	579	877	2373
	All ages	390	1241	893	1131	3655
Both sexes	0-69	438	1267	703	497	2905
	70+	494	1573	1270	1692	5029
	All ages	932	2840	1973	2189	7934

Further Information

Further data is available from the Northern Ireland Cancer Registry web site: **www.qub.ac.uk/nicr**

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Acknowledgements

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LUNG CANCER

NUMBER OF CASES PER YEAR (2010-2014)			NUMBER OF DEATHS PER YEAR (2010-2014)		
Male	Female	Both sexes	Male	Female	Both sexes
656	509	1165[1]	544	397	940
FIVE-YEAR SURVIVAL (2004-2008)			**22-YEAR PREVALENCE (2014)**		
Male	Female	Both sexes	Male	Female	Both sexes
10.0%	11.4%	10.5%	1003	924	1927

INCIDENCE

In 2010-2014 there were 656 male and 509 female patients diagnosed with lung cancer each year. The lifetime risk of developing a lung cancer was 1 in 20 for men and 1 in 29 for women.

Incidence trends

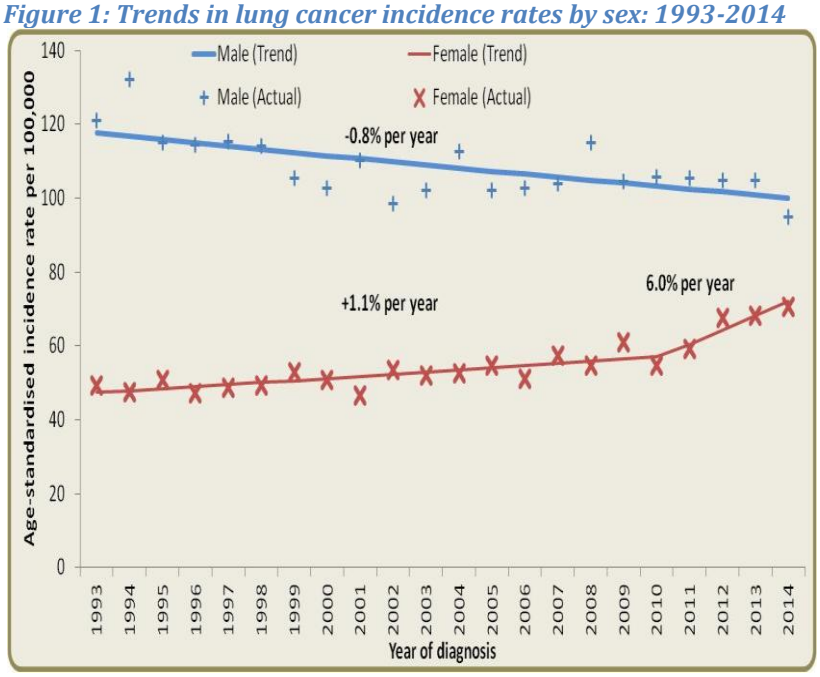
Table 1: Incidence of lung cancer by sex and year of diagnosis: 2005-2014

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Male	559	574	602	654	621	640	657	657	685	640
Female	395	369	423	410	462	422	465	535	551	574
Both sexes	954	943	1,025	1,064	1,083	1,062	1,122	1,192	1,236	1214

Over a ten year period the number of lung cancer cases increased from 559 among men and 395 among women in 2005 to 640 among men and 574 among women in 2014.

After accounting for the increasing number of older people in the NI population, lung cancer incidence rates decreased among males during 1993-2014 by an average of 0.8% per year. However for the same period, female incidence rates increased by an average of 1.1% per year between 1993 and 2009 and 6.0% per year between 2010 and 2014. These patterns reflect historic smoking trends, (the most important risk factor for lung cancer), with decreasing rates of smoking among males and increasing rates among females influencing recent trends.

Figure 1: Trends in lung cancer incidence rates by sex: 1993-2014



[1] Mean yearly incidence data for period 2010-2014 has been rounded to nearest integer, and thus some numbers in tables will not add to give the exact total.

Incidence and age

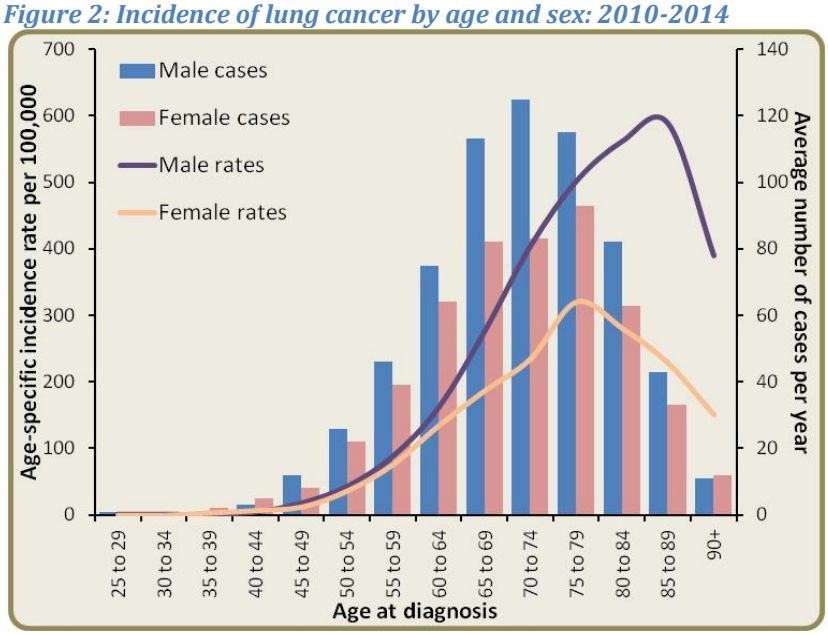
Lung cancer risk is strongly related to age with 73% of patients diagnosed over the age of 65 years. Incidence rates are highest among men aged 85-89 and among women aged 75-79.

Table 2: Average number of lung cancers diagnosed per year by sex and age: 2010-2014

Age	Male	Female	Total
0 to 49	19	15	35
50 to 64	147	125	272
65 to 74	238	165	403
75 and over	251	201	452
All ages	656	509	1,165

Due to rounding of yearly averages, 'All ages' may not equal the sum of age categories in tables.

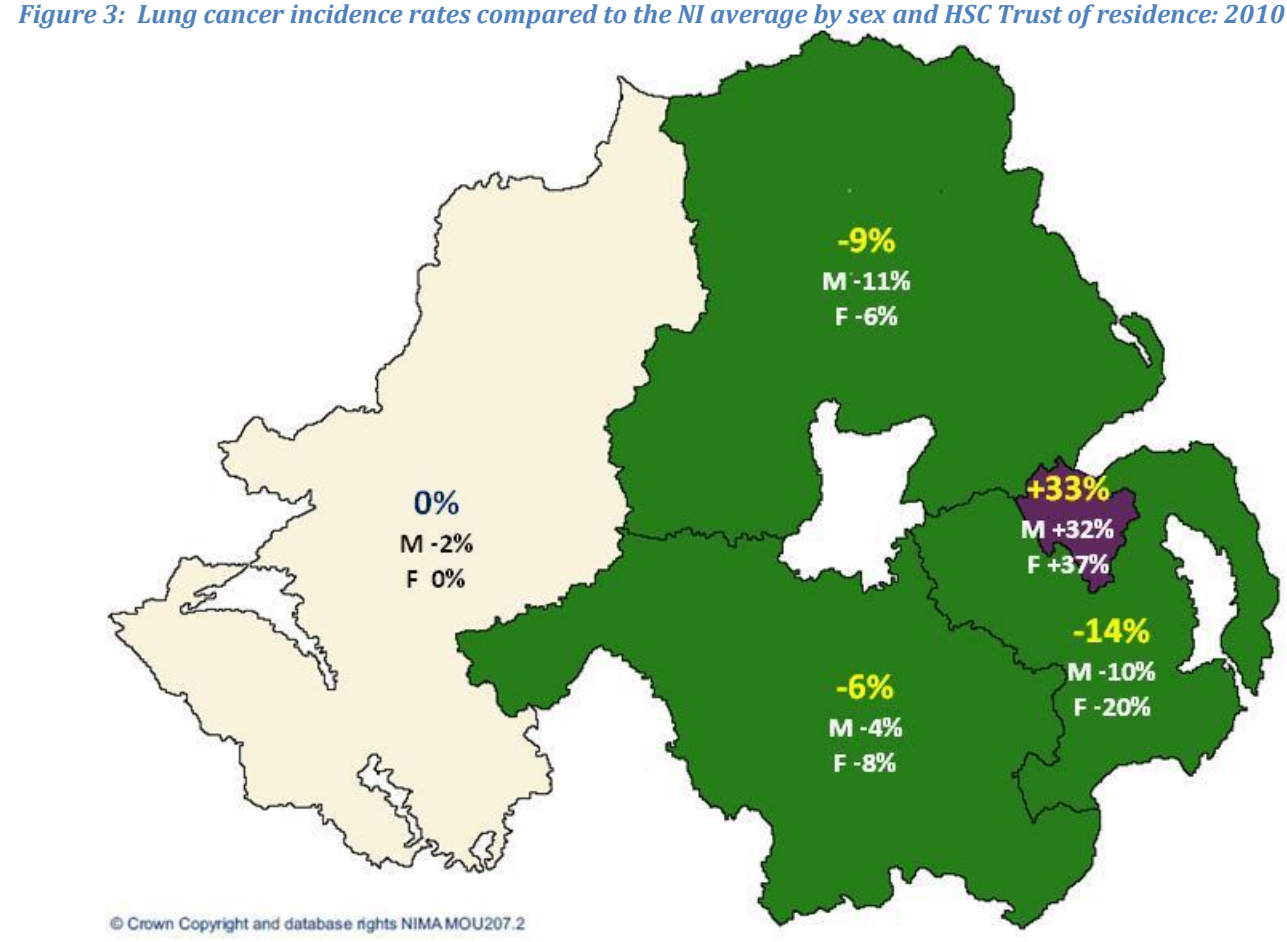
Figure 2: Incidence of lung cancer by age and sex: 2010-2014



Incidence by Trust area

Lung cancer incidence rates in 2010-2014 were 33% higher than the NI average among people living within the Belfast HSCT area. Incidence rates were lower than the NI average in the Northern, Southern, and South-Eastern Trust areas.

Figure 3: Lung cancer incidence rates compared to the NI average by sex and HSC Trust of residence: 2010-2014

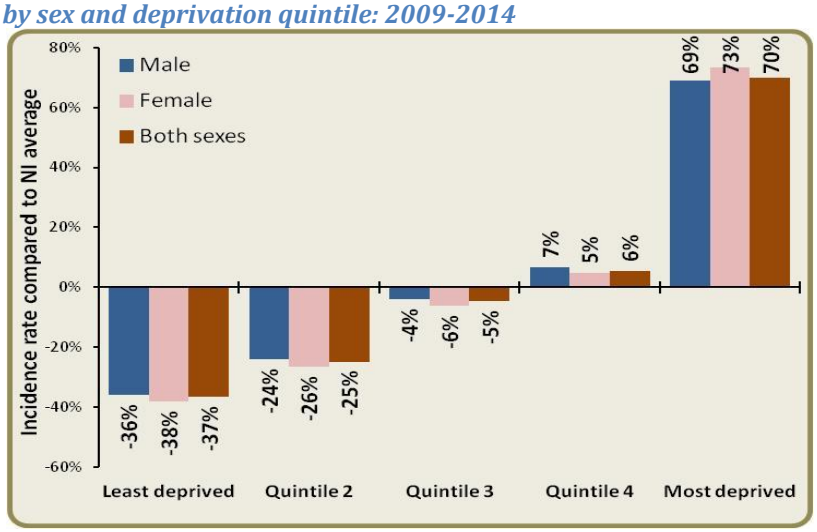


Incidence by deprivation

Lung cancer incidence is higher among the most deprived communities in Northern Ireland. This likely relates to higher smoking prevalence in these areas.

It is estimated that 230 fewer men and 190 fewer women would be diagnosed each year in Northern Ireland if the lung cancer incidence rates (in years 2010-2014) in the least deprived regions applied to all Northern Ireland.

Figure 4: Lung cancer incidence rates compared to the NI average by sex and deprivation quintile: 2009-2014

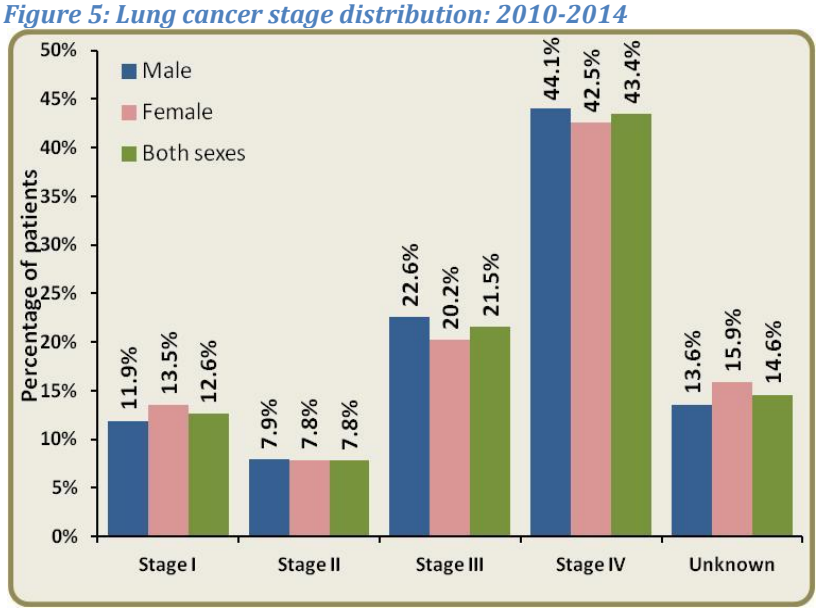


Incidence by stage

Cancer stage is a way of describing the size of a cancer and how far it has grown and spread. This information is important in helping decide what treatments are needed and stage of disease at diagnosis is strongly associated with cancer survival.

In 2010-2014 over four fifths (85.3%) of lung cancer patients in Northern Ireland were assigned a stage at diagnosis.

Figure 5: Lung cancer stage distribution: 2010-2014



The majority of lung cancer patients were diagnosed at a later stage with 43.4% (50.9% of staged disease) diagnosed at stage IV compared to 12.6% (14.8% of staged disease) at stage I. There was no significant difference in the distribution of stage at diagnosis between men and women.

SURVIVAL

The net survival was 31.5% at one year, and 10.5% at five years for lung cancer patients diagnosed in 2005 to 2009.

Table 3: Five-year lung cancer survival by survival time and sex: patients diagnosed 2005-2009

Time since diagnosis	Diagnosed 2005-2009		
	Male	Female	Both sexes
6 months	46.2%	51.8%	48.5%
1 year	30.1%	33.7%	31.5%
5 years	10.0%	11.4%	10.5%

Survival Trends

Five-year survival for lung cancer has improved from the 1993-1999 diagnosis period to the 2005-2009 diagnosis period; increasing for men from 8.0% to 10.0% and for women from 9.8% to 11.4%.

Table 4: Five-year lung cancer survival by period of diagnosis and sex

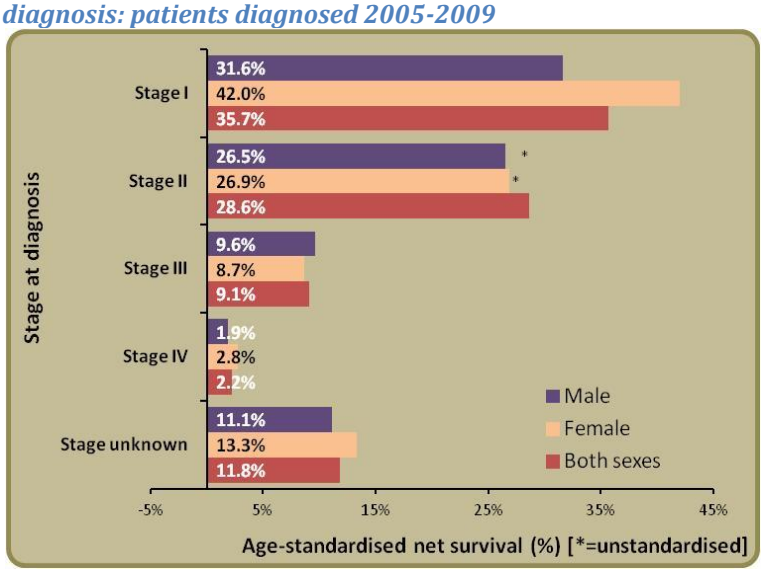
Period of diagnosis	Male	Female	Both sexes
1993-1999	8.0%	9.8%	8.6%
2000-2004	8.7%	9.9%	9.2%
2005-2009	10.0%	11.4%	10.5%

Survival and stage

Stage at diagnosis is one of the most important factors in lung cancer survival with five year survival decreasing as stage increases. Five-year survival ranged from 35.7% for early (stage I) disease to 2.2% for late (stage IV) disease highlighting the importance of early diagnosis.

Differences in survival between males and females diagnosed with stage I lung cancer is also apparent with 31.6% of males surviving five years compared to 42.0% of females.

Figure 6: Five year survival from lung cancer by stage of diagnosis: patients diagnosed 2005-2009



Mortality

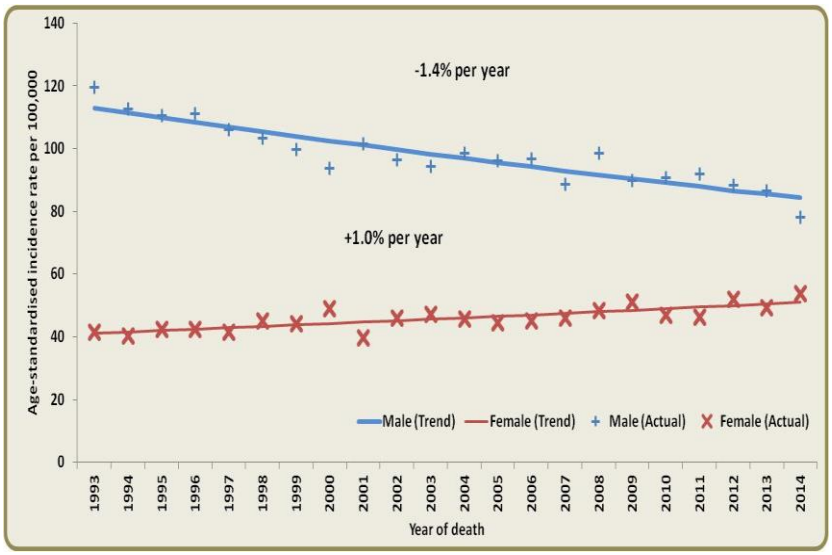
Mortality statistics are provided by the Northern Ireland General Registrar's Office. In 2010-2014 there were 544 male and 397 female deaths from lung cancer each year.

Mortality trends

Over the last ten years the number of lung cancer deaths has increased from 511 among men and 319 among women in 2005 to 518 among men and 442 among women in 2014.

When adjusted for age and population change, lung cancer mortality rates decreased for males by -1.4% per year during 1993-2014, but increased by 1.0% per year for females.

Figure 7: Trends in lung cancer mortality rates by sex: 1993-2014



Prevalence

At the end of 2014 there were 1,927 people living in NI who had been diagnosed with lung cancer from 1993-2014 (Table 5). Of these, 52.0% were male, 56.7% were aged 70 and over and 33.8% had been diagnosed in the previous year.

Table 5: Number of people living with lung cancer at the end of 2014 who were diagnosed from 1993-2014 by time since diagnosis

Sex	Age	Time since diagnosis				22-year Prevalence
		0-1 year	1-5 years	5-10 years	10-22 years	
Male	0-69	152	151	75	45	423
	70+	190	203	89	98	580
	All ages	342	354	164	143	1003
Female	0-69	141	173	53	45	412
	70+	169	174	86	83	512
	All ages	310	347	139	128	924
Both sexes	0-69	293	324	128	90	835
	70+	359	377	175	181	1092
	All ages	652	701	303	271	1927

Further Information

Further data is available from the Northern Ireland Cancer Registry web site: **www.qub.ac.uk/nicr**

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Acknowledgements

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PROSTATE CANCER

NUMBER OF CASES PER YEAR (2010-2014)	NUMBER OF DEATHS PER YEAR (2010-2014)
Male	Male
1,049	251
FIVE-YEAR SURVIVAL (2004-2008)	**22-YEAR PREVALENCE (2014)**
Male	Male
87.6%	8,785

INCIDENCE

In 2010-2014 there were 1,049 men diagnosed with prostate cancer each year. The risk for men of developing a prostate cancer up to the age of 75 was 1 in 12.

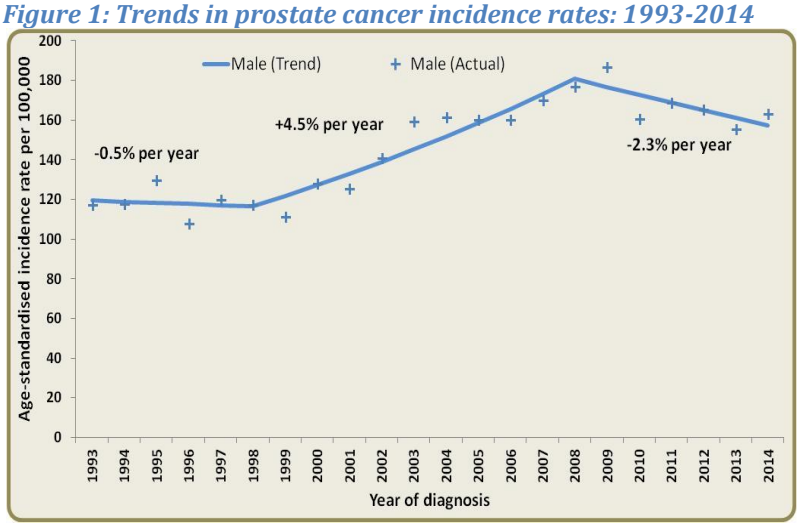
Incidence trends

Table 1: Incidence of prostate cancer and year of diagnosis: 2005-2014

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Male	843	885	972	1,024	1,117	964	1,061	1,072	1,030	1,119

Over a ten year period from 2005 to 2014 the number of prostate cancers cases in men has increased from 843 to 1,119. Prostate cancer incidence rates in men have increased during 1998-2008 by an average of +4.5% per year, and then have decreased by -2.3% from 2008-2014. Incidence rates of prostate cancer have increased internationally. This is primarily a result of the widespread use of prostate specific antigen (PSA) testing which is a blood test that is used as a diagnostic approach to detect prostate cancer at an early stage but which also detects very slowly growing cancers that would never cause any problems or symptoms in a man's lifetime.

Figure 1: Trends in prostate cancer incidence rates: 1993-2014



Incidence and age

Prostate cancer risk is strongly related to age with approximately 70% of patients diagnosed over the age of 65 years and incidence rates greatest among those aged over 70.

Figure 2: Incidence of prostate cancer by age: 2010-2014

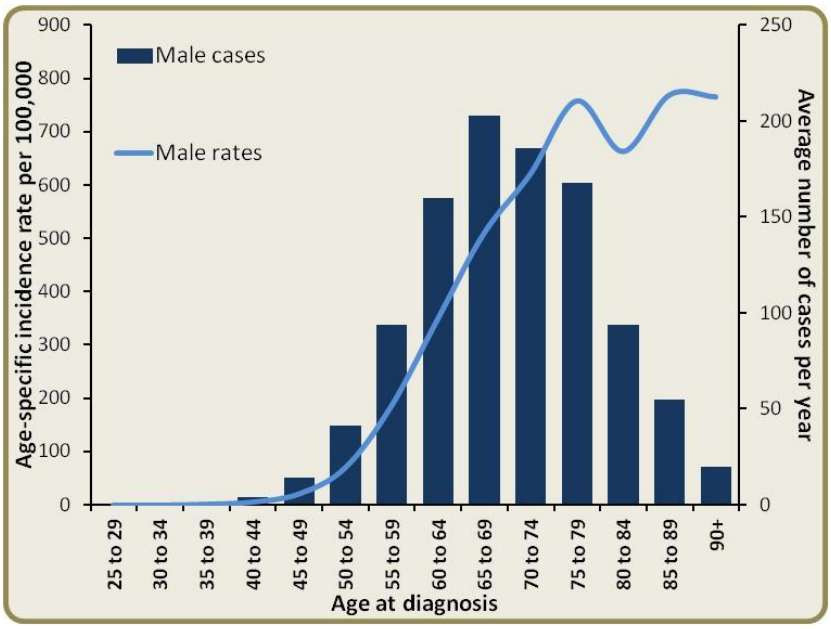


Table 2: Average number of prostate cancers diagnosed per year by age: 2010-2014

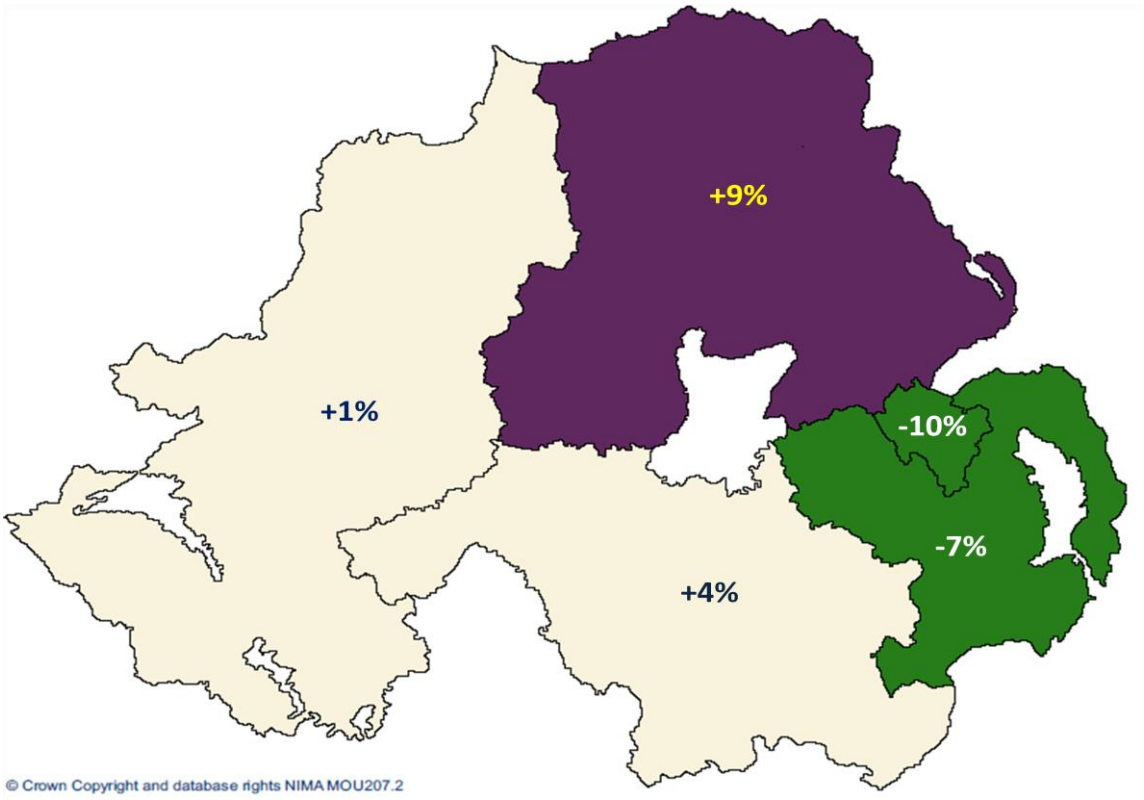
Age	Male
0 to 49	18
50 to 64	290
65 to 74	393
75 and over	348
All ages	1,049

Due to rounding of yearly averages, 'All ages' may not equal the sum of age categories in tables.

Incidence by Trust area

Prostate cancer incidence rates in 2010-2014 were 9% higher among people living in the Northern Trust area than in Northern Ireland as a whole while those living in Belfast and the South-Eastern Trust areas had 7% lower incidence of prostate cancer than the Northern Ireland Average.

Figure 3: Prostate cancer incidence rates compared to the NI average by sex and HSC Trust of residence: 2010-2014



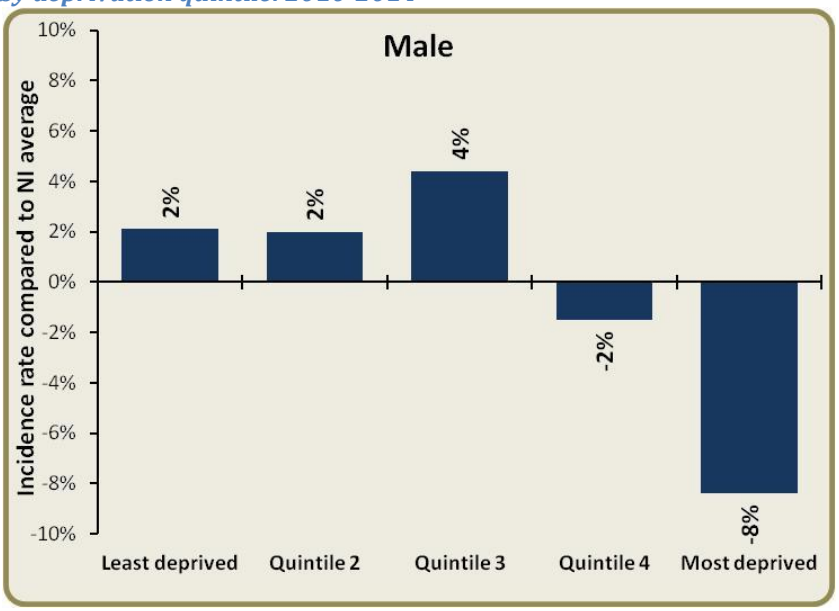
Significantly higher than average

Significantly lower than average

Incidence by deprivation

Prostate cancer incidence rates varied depending upon socio-economic deprivation. Incidence is significantly lower (-8%) in the most-deprived areas in comparison to Northern Ireland as a whole. This pattern most likely reflects higher rates of PSA testing in the most-affluent communities compared to the most-deprived.

Figure 4: Prostate cancer incidence rates compared to the NI average by deprivation quintile: 2010-2014



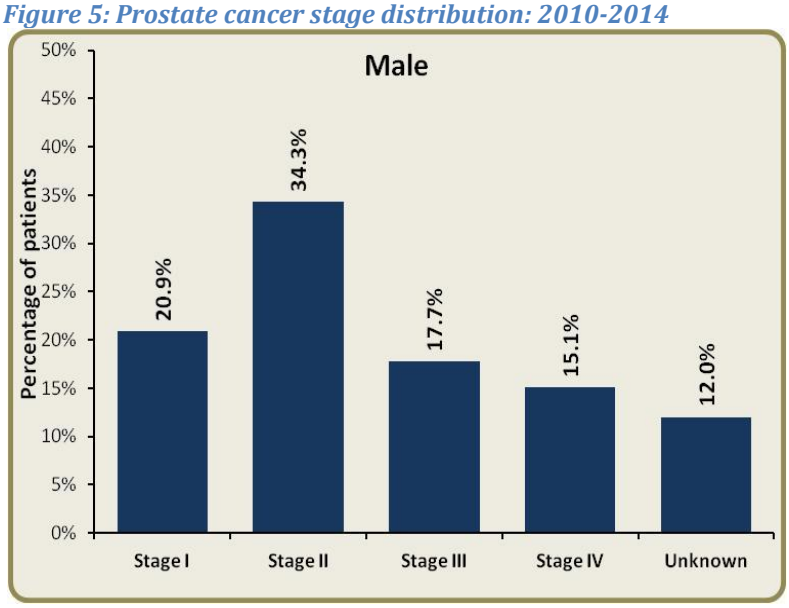
Incidence by stage

Cancer stage is a way of describing the size of a cancer and how far it has grown and spread. This information is important in helping decide what treatments are needed and stage of disease at diagnosis is strongly associated with cancer survival.

From 2010 to 2014 88% of prostate cancer patients in Northern Ireland were assigned a stage at diagnosis.

The majority of prostate cancer patients were diagnosed at early stage (20.9% at stage I and 34.3% at Stage II) and 15.1% diagnosed at late stage (stage IV).

Figure 5: Prostate cancer stage distribution: 2010-2014



SURVIVAL

The net survival was 97.7% at one year, and 87.6% at five years for prostate cancer patients diagnosed in 2005 to 2009.

Table 3: Five-year prostate cancer survival by survival time: patients diagnosed 2005-2009

Time since diagnosis	Diagnosed 2005-2009
	Male
6 months	97.7%
1 year	96.4%
5 years	87.6%

Survival Trends

Five-year survival for prostate cancer in men has improved from 60.4% in the 1994-1999 diagnosis period to 87.6% in the 2005-2009 diagnosis period. Improvements are largely due to increased detection of slow growing prostate cancer and increasing diagnosis in younger men because of PSA testing. Consequently, epidemiologists consider mortality rates as a better indicator of cancer outcome than survival

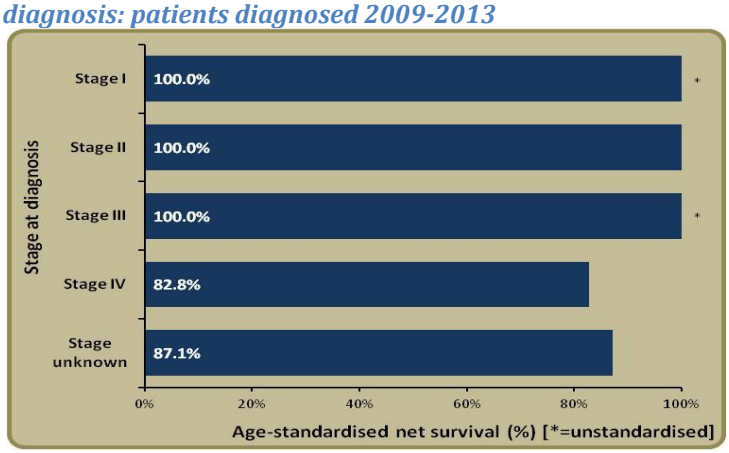
Table 4: Five-year prostate cancer survival by period of diagnosis

Period of diagnosis	Male
1994-1999	60.4%
2000-2004	81.3%
2005-2009	87.6%

Survival and stage

Stage at diagnosis is one of the most important factors in prostate cancer survival with one-year survival decreasing as stage increases. Stage at diagnosis data is available for cancer patients diagnosed since 2009. One-year survival was 100% for all patients except those diagnosed with late stage IV disease (82.8%).

Figure 6: One year survival from prostate cancer by stage of diagnosis: patients diagnosed 2009-2013



MORTALITY

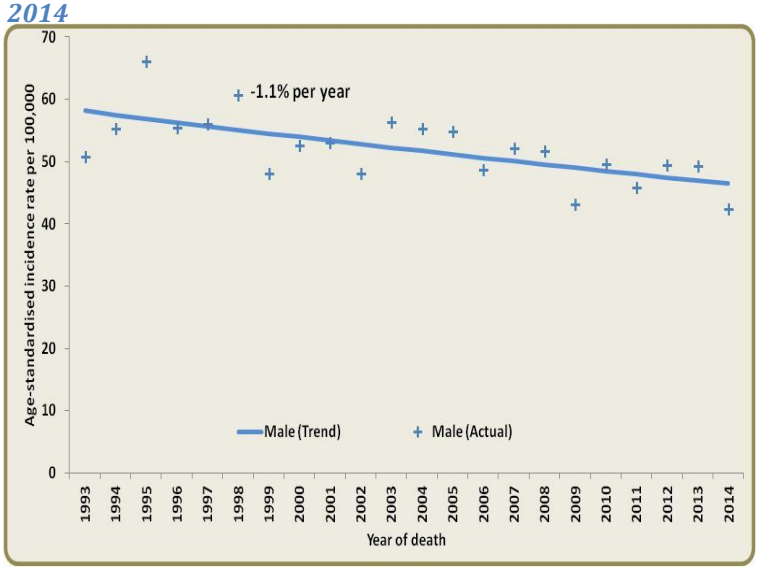
Mortality statistics are provided by the Northern Ireland General Registrar's Office. In 2010-2014 there were 251 deaths from prostate cancer each year.

Mortality trends

Over the last ten years the number of prostate cancer deaths has not changed significantly from 221 among men in 2005 to 239 among men in 2014.

When adjusted for age and population change, prostate cancer mortality rates decreased by -1.1% per year during 1993-2014.

Figure 7: Trends in prostate cancer mortality rates: 1993-2014



PREVALENCE

At the end of 2014 there were 8,785 men living in NI who had been diagnosed with prostate cancer from 1993-2014 (Table 5). Of these, 65.3% were aged 70 and over and 12.2% had been diagnosed in the previous year.

Table 5: Number of men living with prostate cancer at the end of 2014 who were diagnosed from 1993-2014 by time since diagnosis

Sex	Age	Time since diagnosis				22-year Prevalence
		0-1 year	1-5 years	5-10 years	10-22 years	
Male	0-69	536	1439	884	191	3,050
	70+	539	1,852	2,088	1,256	5,735
	All ages	1,075	3,291	2,972	1,447	8,786

FURTHER INFORMATION

Further data is available from the Northern Ireland Cancer Registry web site: **www.qub.ac.uk/nicr**

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