Kidney cancer

Number of cases per year (2014-2018) [1]			Number of deaths per year (2014-2018) [1]		
Male	Female	Both sexes	Male	Female	Both sexes
206	114	321	71	35	106
Five-year net survival (2009-2013)			**25-year prevalence (2018)**		
Male	Female	Both sexes	Male	Female	Both sexes
60.0%	67.4%	63.2%	1,333	927	2,260

Incidence

During 2014-2018:

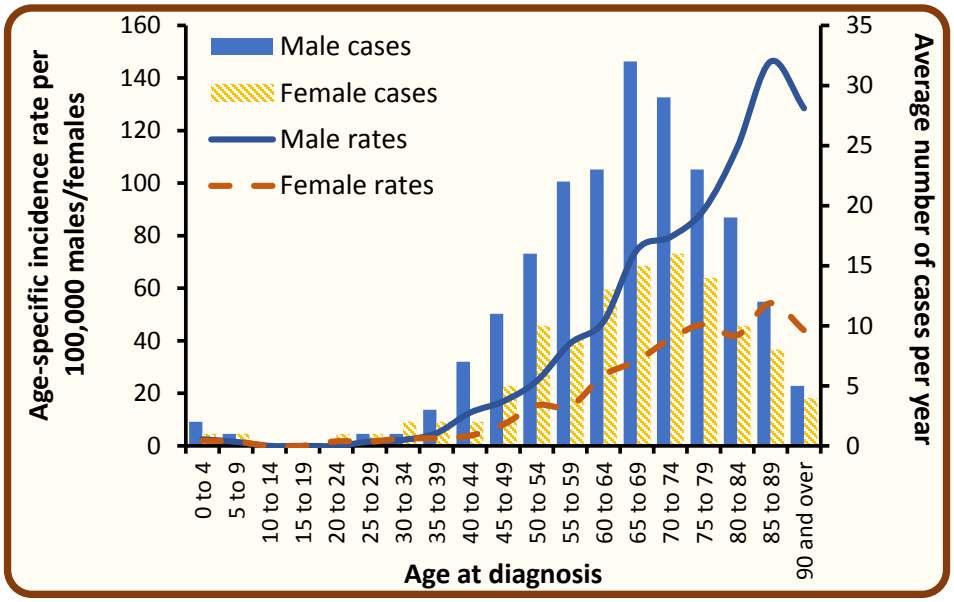
- There were 206 male and 114 female cases of kidney cancer diagnosed each year.
- There were 22.6 male and 12.1 female cases of kidney cancer per 100,000 males/females diagnosed each year.
- Kidney cancer made up 4.3% of all male cancers (ex NMSC), and 2.4% of all female cancers (ex NMSC).
- The risk of developing kidney cancer before the age of 75 was 1 in 66 for men and 1 in 131 for women.

Incidence by sex and age at diagnosis: Kidney cancer 2014-2018[1]

During 2014-2018:

- The median age at diagnosis was 67 for men and 68 for women.
- Kidney cancer risk increased with age, with 58.3% of men and 58.8% of women aged 65 years or more at diagnosis.
- 12.5% of cases were diagnosed among those aged under 50.

Age at diagnosis	Average cases per year		
	Male	Female	Both sexes
0 - 49	26	15	40
50 - 64	61	32	93
65 - 74	61	31	92
75 +	59	36	96
All ages	206	114	321



Incidence by sex and year of diagnosis: Kidney cancer 2009-2018

- Among males the number of cases of kidney cancer increased by 36.4% from an annual average of 151 cases in 2009-2013 to 206 cases in 2014-2018.
- Among females the number of cases of kidney cancer increased by 9.6% from an annual average of 104 cases in 2009-2013 to 114 cases in 2014-2018.

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Male	140	142	163	143	168	192	217	205	241	177
Female	86	97	86	123	129	106	110	124	124	107
Both sexes	226	239	249	266	297	298	327	329	365	284

1. Annual averages based upon several years have been rounded to the nearest integer. Sums of numbers in table rows or columns may thus differ slightly from the given total.
NMSC: Non-melanoma skin cancer

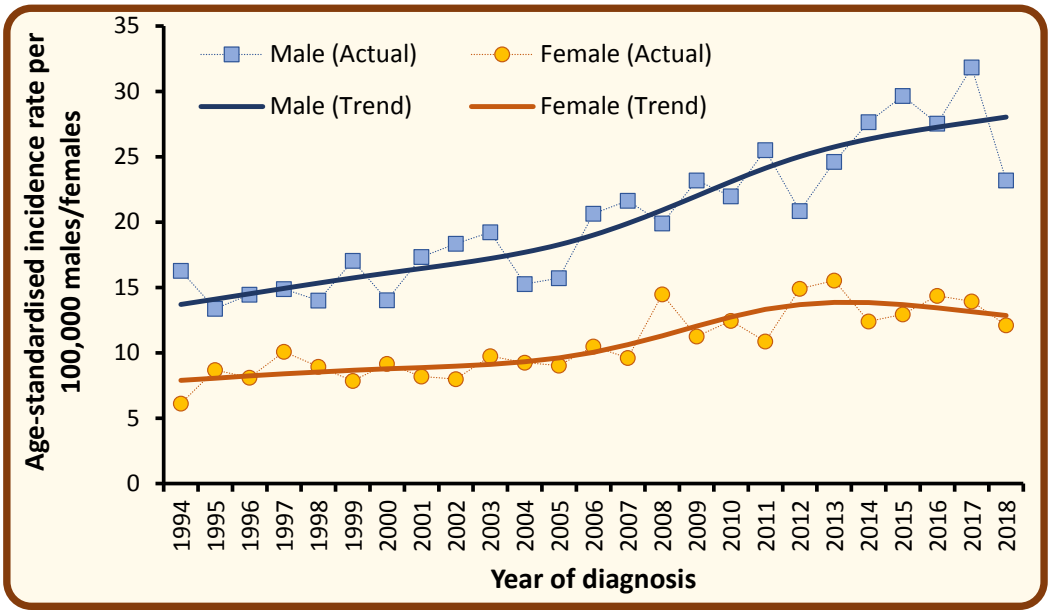
Trends in age-standardised incidence rates by sex: Kidney cancer 1994-2018

▪ Among males age-standardised incidence rates of kidney cancer increased by 20.4% from 23.2 per 100,000 person years in 2009-2013 to 27.9 cases per 100,000 persons years in 2014-2018. This difference was statistically significant.

▪ Among females age-standardised incidence rates of kidney cancer increased by 0.9% from 13.0 per 100,000 person years in 2009-2013 to 13.2 cases per 100,000 persons years in 2014-2018. This difference was not statistically significant.

▪ The decrease in the number of kidney cancers in 2018 is a result of a change in clinical practice for small, low stage kidney cancers, resulting in these cases not being recorded as verified cancers.

Age-standardised incidence rates illustrate the change in the number of cases within a population of a fixed size and age structure (2013 European Standard).
They thus represent changes other than those caused by population growth and/or ageing.

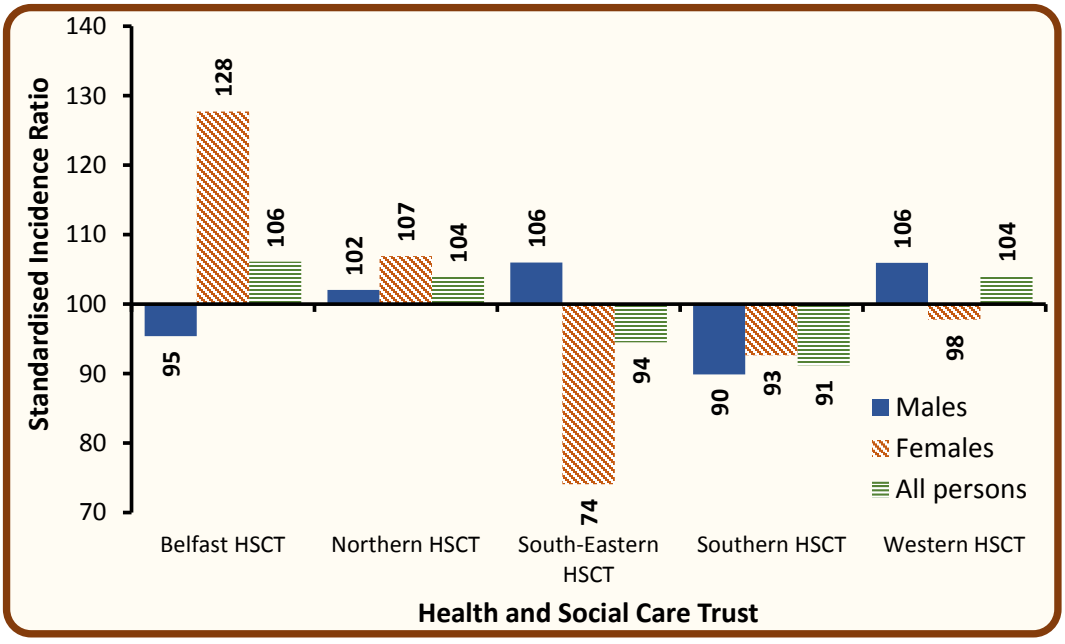


Incidence (cases and rates) by sex and Health and Social Care Trust (HSCT): Kidney cancer 2014-2018[1]

The annual number of kidney cancer cases during 2014-2018 varied in each HSCT due to variations in population size and age (see table).
After accounting for these factors, incidence rates (see figure):

- in Belfast HSCT did not vary significantly from the NI average.
- in Northern HSCT did not vary significantly from the NI average.
- in South-Eastern HSCT did not vary significantly from the NI average.
- in Southern HSCT did not vary significantly from the NI average.
- in Western HSCT did not vary significantly from the NI average.

Health and Social Care Trust	Average cases per year		
	Male	Female	Both sexes
Belfast HSCT	35	28	63
Northern HSCT	56	32	88
South-Eastern HSCT	45	18	63
Southern HSCT	35	20	55
Western HSCT	35	17	52
Northern Ireland	206	114	321



Standardised incidence ratios compare incidence rates in each HSC Trust with the Northern Ireland incidence rate.

A value above 100 means that incidence rates in that HSC Trust are greater than the Northern Ireland average.

This measure takes account of population size and age structure. Differences are thus not a result of these factors.

1. Annual averages based upon several years have been rounded to the nearest integer. Sums of numbers in table rows or columns may thus differ slightly from the given total.
HSCT: Health and Social Care Trust

Incidence (cases and rates) by sex and deprivation quintile: Kidney cancer 2014-2018[1]

The annual number of kidney cancer cases during 2014-2018 varied in each deprivation quintile due to variations in population size and age (see table).

After accounting for these factors, incidence rates (see figure):

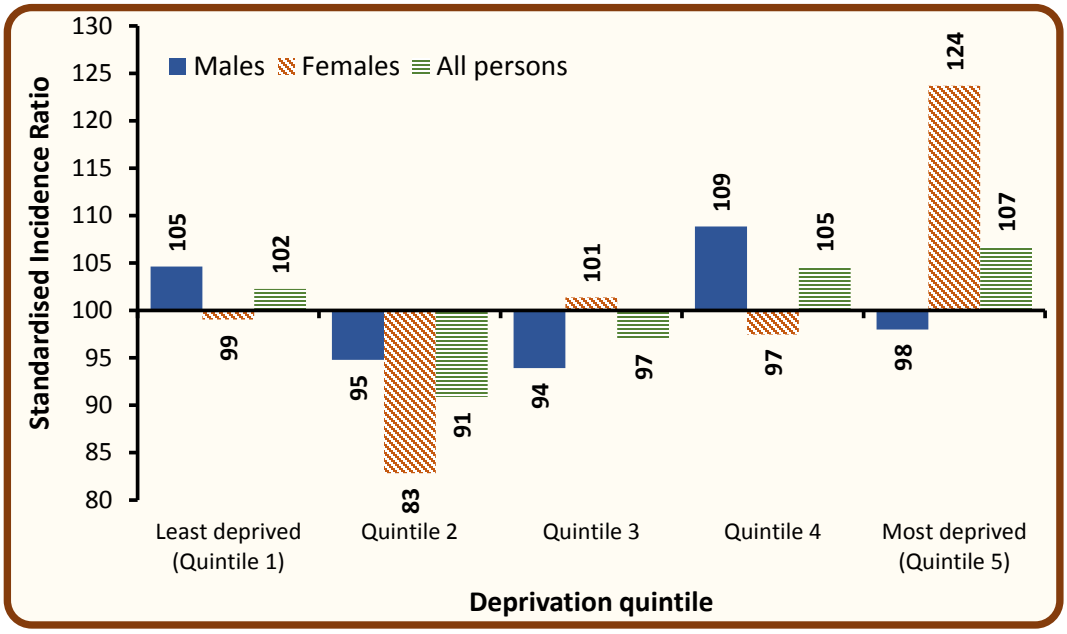
- in the most socio-economically deprived areas did not vary significantly from the NI average for both sexes combined despite rates among women being 23.7% higher than the NI average.
- in the least socio-economically deprived areas did not vary significantly from the NI average.

Deprivation quintile	Average cases per year		
	Male	Female	Both sexes
Least deprived (Quintile 1)	45	24	69
Quintile 2	42	20	62
Quintile 3	41	24	65
Quintile 4	45	22	67
Most deprived (Quintile 5)	33	24	57
Northern Ireland	206	114	321

Standardised incidence ratios compare incidence rates in each deprivation quintile with the Northern Ireland incidence rate.

A value above 100 means that incidence rates in that deprivation quintile are greater than the Northern Ireland average.

This measure takes account of population size and age structure. Differences are thus not a result of these factors.



Survival

- 75.8% of patients were alive one year and 54.1% were alive five years from a kidney cancer diagnosis in 2009-2013. (observed survival)
- Age-standardised net survival (ASNS), which removes the effect of deaths from causes unrelated to cancer, was 78.6% one year and 63.2% five years from a kidney cancer diagnosis in 2009-2013.
- Five-year survival (ASNS) for patients diagnosed in 2009-2013 was 60.0% among men and 67.4% among women.
- Estimates for survival (ASNS) of patients diagnosed during 2012-2016 are 82.8% one year, and 69.0% five years from diagnosis.

Period of diagnosis[2]	Gender	Observed survival		Age-standardised net survival	
		One-year	Five-years	One-year	Five-years
2009-2013	Male	75.6%	51.6%	78.2%	60.0%
	Female	76.1%	57.7%	78.8%	67.4%
	Both sexes	75.8%	54.1%	78.6%	63.2%
2012-2016 estimates	Male	79.0%	56.9%	81.1%	65.1%
	Female	82.8%	64.4%	85.4%	74.4%
	Both sexes	80.5%	60.0%	82.8%	69.0%

Observed survival is the proportion of patients still alive one/five years after diagnosis. However, in this measure patients may have died from causes unrelated to their cancer.

Age-standardised net survival is the proportion of patients who would survive if the patient could not die from causes unrelated to their cancer. This measure is more typically used in studies of cancer survival.

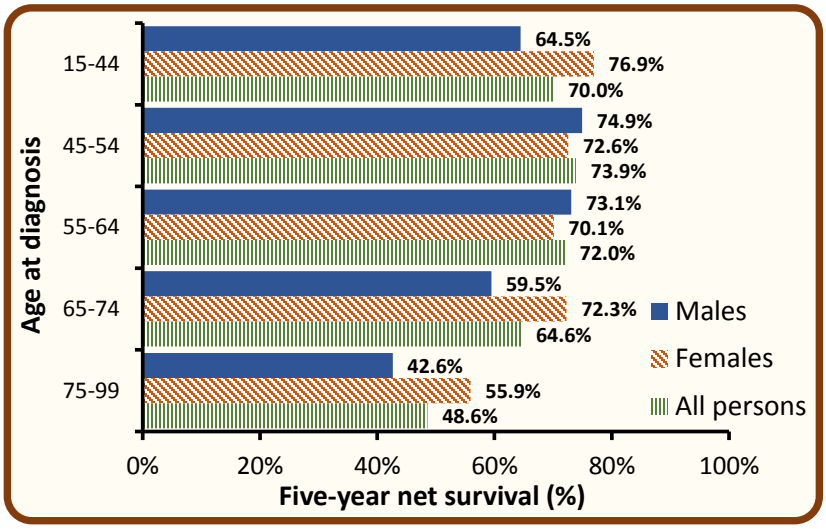
1. Annual averages based upon several years have been rounded to the nearest integer. Sums of numbers in table rows or columns may thus differ slightly from the given total.

2. Five-year survival for 2012-2016 are estimates as not all patients have five years worth of follow up.

ASNS: Age-standardised net survival

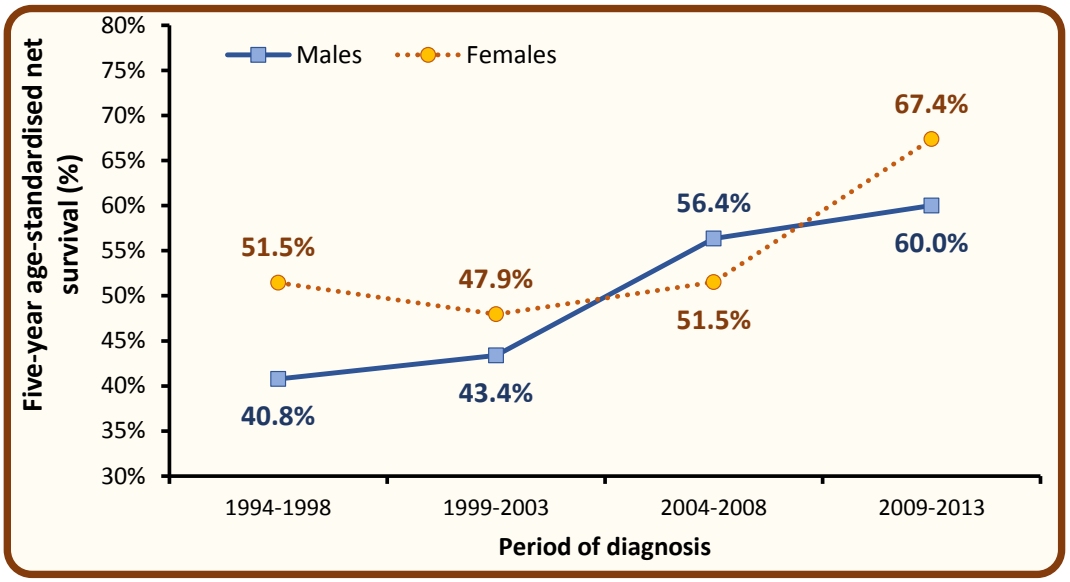
Survival by sex and age at diagnosis: Kidney cancer 2009-2013

- Survival from kidney cancer varies by age at diagnosis with five-year survival decreasing as age increases.
- Five-year net survival ranged from 73.9% among patients aged 45-54 at diagnosis to 48.6% among those aged 75 and over.
- Five-year net survival among patients aged 75 and over was 42.6% for men and 55.9% for women.



Trends in age-standardised net survival by sex: Kidney cancer 1994-2013

- Among men five-year survival (ASNS) from kidney cancer increased from 40.8% for those diagnosed in 1994-1998 to 60.0% for those diagnosed in 2009-2013. This difference was statistically significant.
- Among women five-year survival (ASNS) from kidney cancer increased from 51.5% for those diagnosed in 1994-1998 to 67.4% for those diagnosed in 2009-2013. This difference was statistically significant.



Prevalence

- At the end of 2018, there were 2,260 people (Males: 1,333; Females: 927) living with kidney cancer who had been diagnosed with the disease during 1994-2018.
- Of these, 59.0% were male, 49.3% were aged 70 and over, and 10.9% had been diagnosed in the previous year.

25-year prevalence refers to the number of cancer survivors who were alive at the end of 2018, and had been diagnosed with their cancer in the previous 25 years (i.e. 1994-2018).

Time since diagnosis	25-year prevalence								
	Aged 0-69			Aged 70+			All ages		
	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes
0-1 year	81	49	130	73	43	116	154	92	246
1-5 years	354	174	528	219	161	380	573	335	908
5-10 years	163	116	279	167	153	320	330	269	599
10-25 years	115	93	208	161	138	299	276	231	507
0-25 years	713	432	1,145	620	495	1,115	1,333	927	2,260

ASNS: Age-standardised net survival

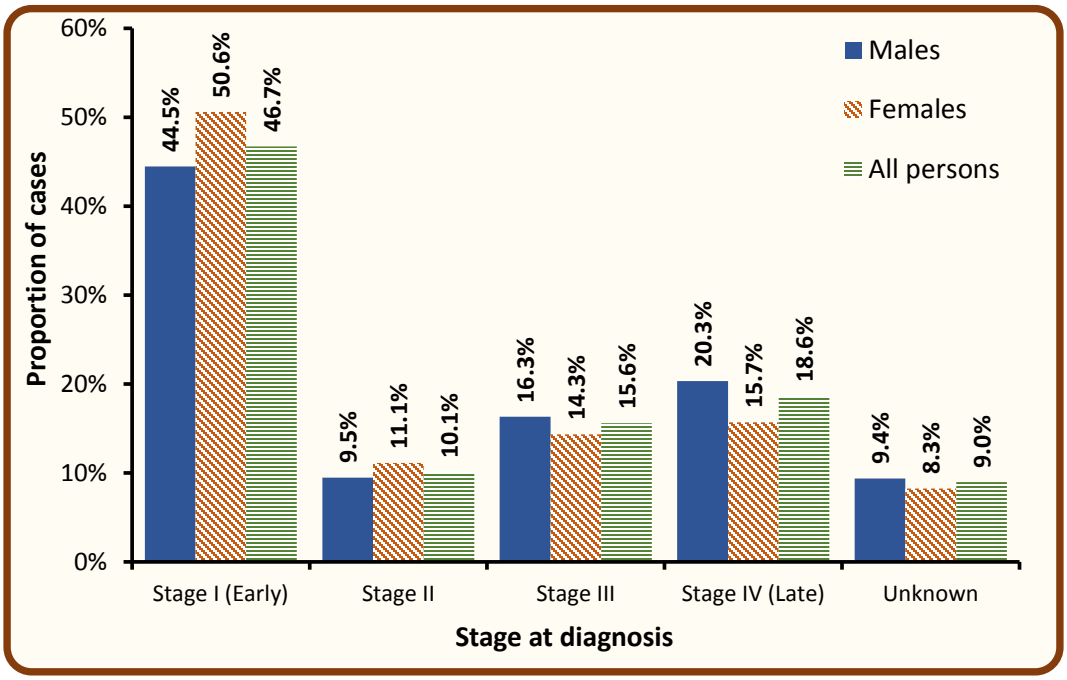
Cancer stage

Incidence by sex and stage at diagnosis: Kidney cancer 2013-2017[1]

During 2013-2017:

- 91.0% of cases diagnosed had a stage assigned.
- 46.7% of cases were diagnosed at stage I. (51.3% of staged cases)
- 18.6% of cases were diagnosed at stage IV. (20.5% of staged cases)
- Among cases which were staged, 22.4% of male cases were diagnosed at stage IV, compared to 17.1% of female cases.

Stage at diagnosis	Average cases per year		
	Male	Female	Both sexes
Stage I (Early)	91	60	151
Stage II	19	13	33
Stage III	33	17	50
Stage IV (Late)	42	19	60
Unknown	19	10	29
All stages	205	119	323



Cancer stage describes the size of a cancer and how far it has grown and spread.

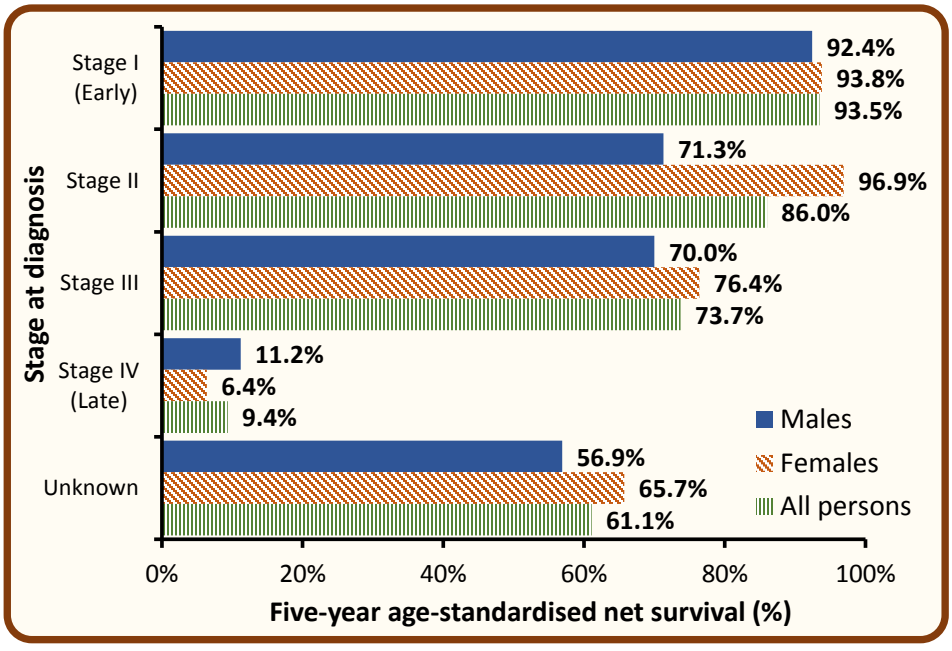
This information is used to help decide what treatments are needed.

The classification used here to stage cancer is the TNM (version 7) classification.

Data on cancer stage in 2018, classified using TNM (version 8), is available online at www.qub.ac.uk/nicr

Survival by sex and stage at diagnosis: Kidney cancer 2009-2013

- Stage at diagnosis is one of the most important factors in kidney cancer survival with five-year survival decreasing as stage increases.
- Five-year survival (ASNS) ranged from 93.5% for early stage (stage I) disease to 9.4% for late stage (stage IV) disease.
- Five-year survival (ASNS) for unstaged kidney cancer was 61.1%.
- Five-year survival (ASNS) for stage IV kidney cancer was 11.2% for men, compared to 6.4% for women.



1. Annual averages based upon several years have been rounded to the nearest integer. Sums of numbers in table rows or columns may thus differ slightly from the given total.

ASNS: Age-standardised net survival

Mortality

During 2014-2018:

- There were 71 male and 35 female deaths from kidney cancer each year.
- Death from kidney cancer made up 3.1% of male cancer deaths (ex NMSC), and 1.7% of female cancer deaths (ex NMSC).

Deaths by sex and age at death: Kidney cancer 2014-2018[1]

During 2014-2018:

- The median age at death was 73 for men and 77 for women.
- Risk of death from kidney cancer was strongly related to age, with 74.6% of men and 80.0% of women aged 65 years or more at time of death.
- 4.7% of kidney cancer deaths occurred among those aged under 50.

Age at death	Average deaths per year		
	Male	Female	Both sexes
0 - 49	4	1	5
50 - 64	13	7	19
65 - 74	20	9	28
75 +	33	19	53
All ages	71	35	106

Deaths by sex and year of death: Kidney cancer 2009-2018

- Among males the number of deaths from kidney cancer increased by 20.3% from an annual average of 59 deaths in 2009-2013 to 71 deaths in 2014-2018.

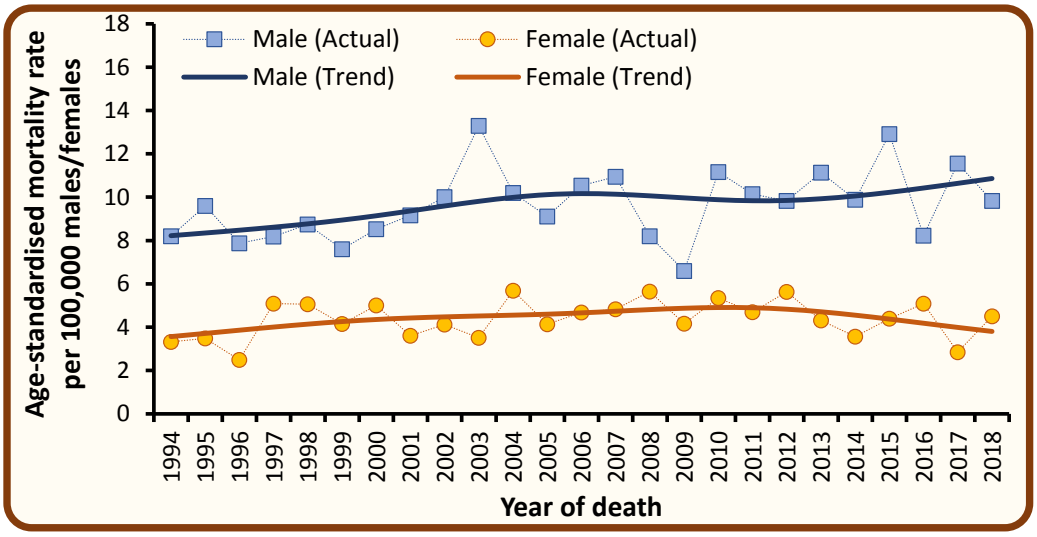
- Among females the number of deaths from kidney cancer decreased by 10.3% from an annual average of 39 deaths in 2009-2013 to 35 deaths in 2014-2018.

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Male	39	62	61	61	73	64	81	52	83	73
Female	33	41	38	45	36	30	38	44	25	40
Both sexes	72	103	99	106	109	94	119	96	108	113

Trends in age-standardised mortality rates by sex: Kidney cancer 1994-2018

- Among males age-standardised mortality rates from kidney cancer increased by 6.6% from 9.8 per 100,000 person years in 2009-2013 to 10.5 deaths per 100,000 persons years in 2014-2018. This difference was not statistically significant.

- Among females age-standardised mortality rates from kidney cancer decreased by 15.6% from 4.8 per 100,000 person years in 2009-2013 to 4.1 deaths per 100,000 persons years in 2014-2018. This difference was not statistically significant.



Mortality data are provided by the Northern Ireland General Registrar Office via the Department of Health.

Counts of the number of deaths are based upon the year that death occurred, and upon the primary cause of death only.

Age-standardised mortality rates remove changes over time caused by population growth and/or ageing.

1. Annual averages based upon several years have been rounded to the nearest integer. Sums of numbers in table rows or columns may thus differ slightly from the given total.
NMSC: Non-melanoma skin cancer

Further Information

Further data is available from the NI Cancer Registry web site: **www.qub.ac.uk/nicr**
Phone: +44 (0)28 9097 6028
e-mail: nicr@qub.ac.uk

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