Prostate cancer

N. IRELAND Cancer Registry

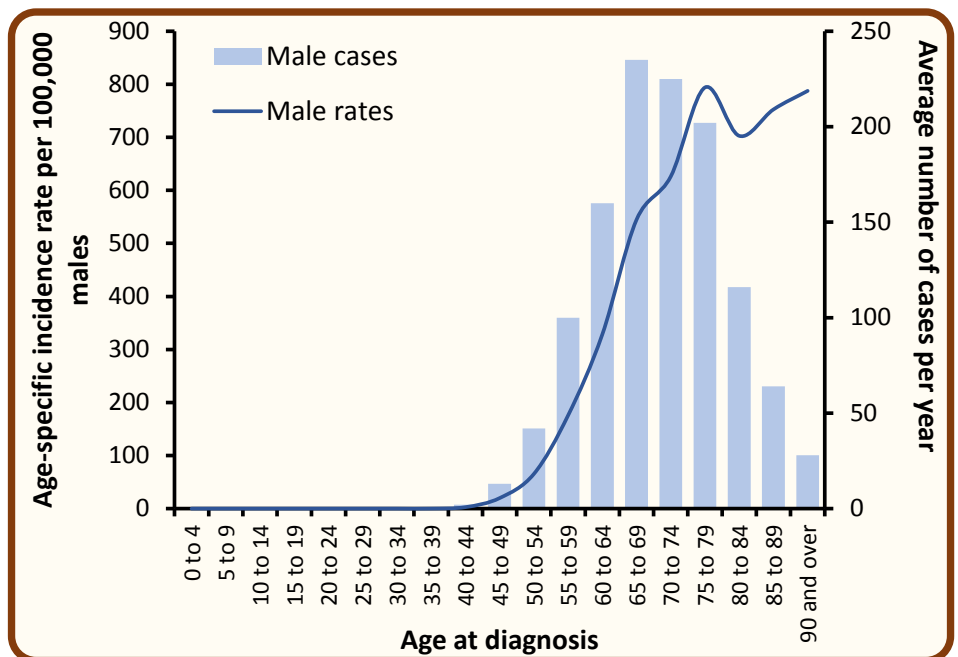| Number of cases per year	Number of deaths per year
(2014-2018) [1]	(2014-2018) [1]
Male	Male
1,187	276
Five-year net survival	25-year prevalence
(2009-2013)	(2018)
Male	Male
87.0%	10,938

Incidence

During 2014-2018:

▪ There were 1,187 cases of prostate cancer diagnosed each year.

▪ There were 129.7 cases of prostate cancer per 100,000 males diagnosed each year.

▪ Prostate cancer made up 24.7% of all male cancers (ex NMSC).

▪ The risk of a man developing prostate cancer before the age of 75 was 1 in 12.

Incidence by age at diagnosis: Prostate cancer 2014-2018[1]

During 2014-2018:

▪ The median age at diagnosis for prostate cancer was 71.

▪ Prostate cancer risk increased with age, with 73.3% of men aged 65 years or more at diagnosis.

▪ 1.3% of cases were diagnosed among those aged under 50.

Age at diagnosis	Average cases per year
	Male
0 - 49	15
50 - 64	302
65 - 74	460
75 +	410
All ages	1,187

Incidence by year of diagnosis: Prostate cancer 2009-2018

▪ Among males the number of cases of prostate cancer increased by 11.6% from an annual average of 1,064 cases in 2009-2013 to 1,187 cases in 2014-2018.
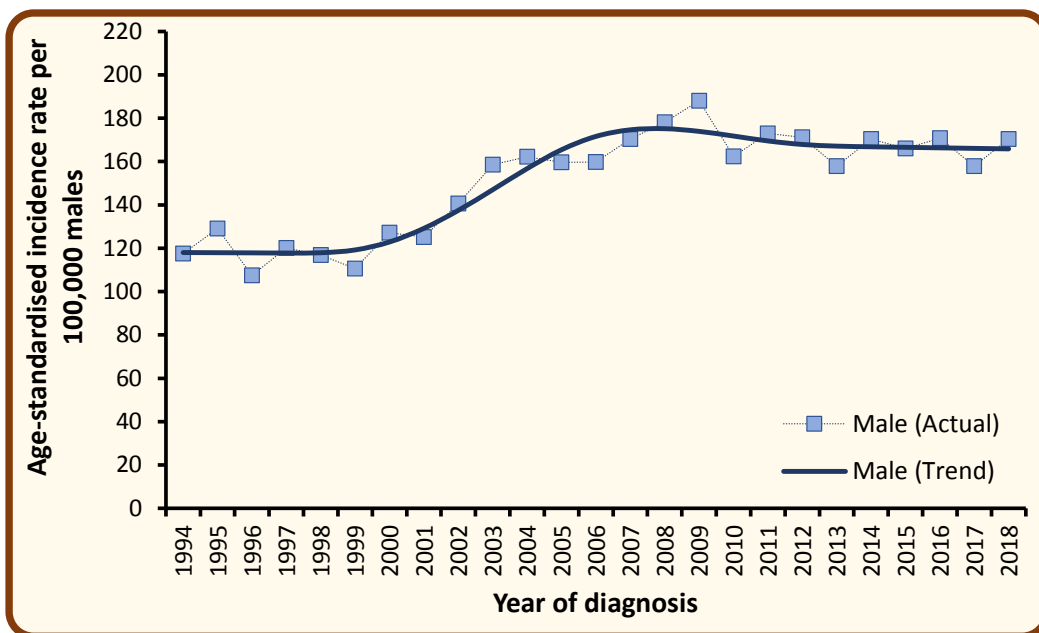
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Male	1,124	972	1,079	1,103	1,040	1,157	1,150	1,199	1,162	1,265

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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: Prostate cancer 1994-2018

▪ Age-standardised incidence rates of prostate cancer decreased by 1.9% from 170.2 per 100,000 person years in 2009-2013 to 167.1 cases per 100,000 persons years in 2014-2018. This difference was not statistically significant.

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).

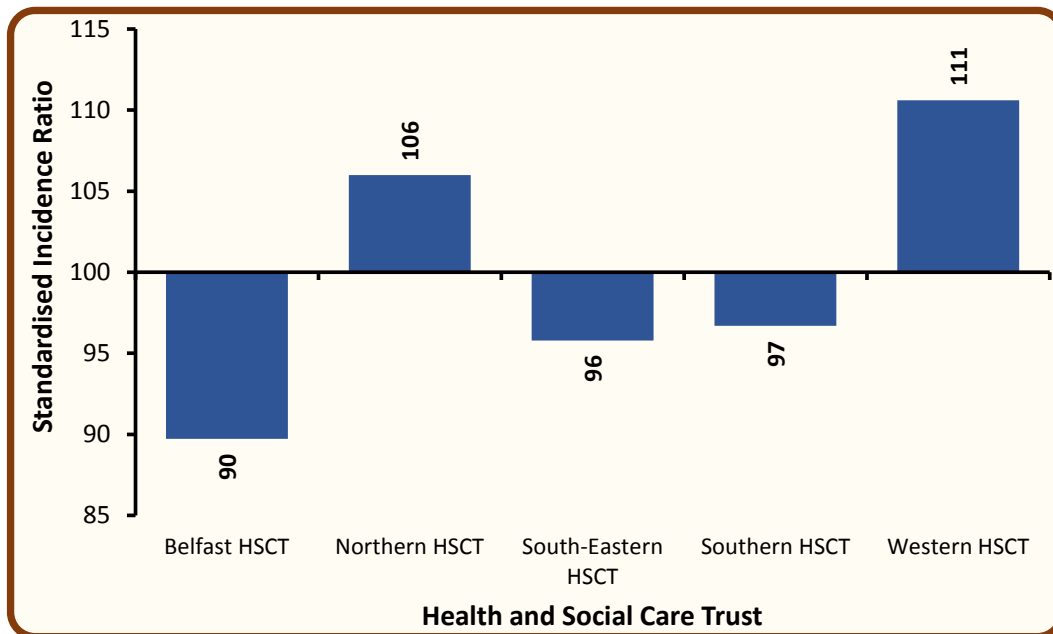They thus represent changes other than those caused by population growth and/or ageing.

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

The annual number of prostate 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 were significantly lower than the NI average.
  ▪ in Northern HSCT were significantly higher than 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 were significantly higher than the NI average.

Health and Social Care Trust	Average cases per year
	Male
Belfast HSCT	185
Northern HSCT	337
South-Eastern HSCT	242
Southern HSCT	213
Western HSCT	209
Northern Ireland	1,187

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.

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HSCT: Health and Social Care Trust

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

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

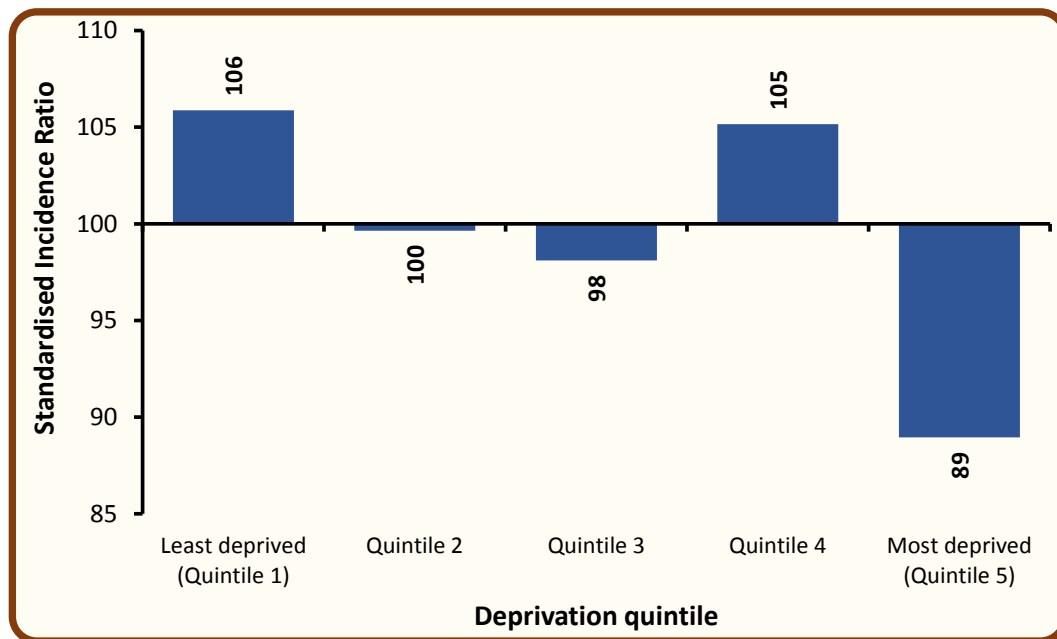After accounting for these factors, incidence rates (see figure):

▪ in the most socio-economically deprived areas were 11.1% lower than the NI average.

▪ in the least socio-economically deprived areas were 5.9% higher than the NI average.

Deprivation quintile	Average cases per year
	Male
Least deprived (Quintile 1)	266
Quintile 2	252
Quintile 3	248
Quintile 4	249
Most deprived (Quintile 5)	171
Northern Ireland	1,187

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

▪ 92.5% of prostate cancer patients were alive one year and 71.2% were alive five years from a diagnosis in 2009-2013. (observed survival)

▪ Age-standardised net survival (ASNS), which removes the effect of deaths from causes unrelated to cancer, was 96.4% one year and 87.0% five years from a prostate cancer diagnosis in 2009-2013.

▪ Estimates for survival (ASNS) of patients diagnosed during 2012-2016 are 97.0% one year, and 87.8% 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	92.5%	71.2%	96.4%	87.0%
2012-2016 estimates	Male	93.3%	72.6%	97.0%	87.8%

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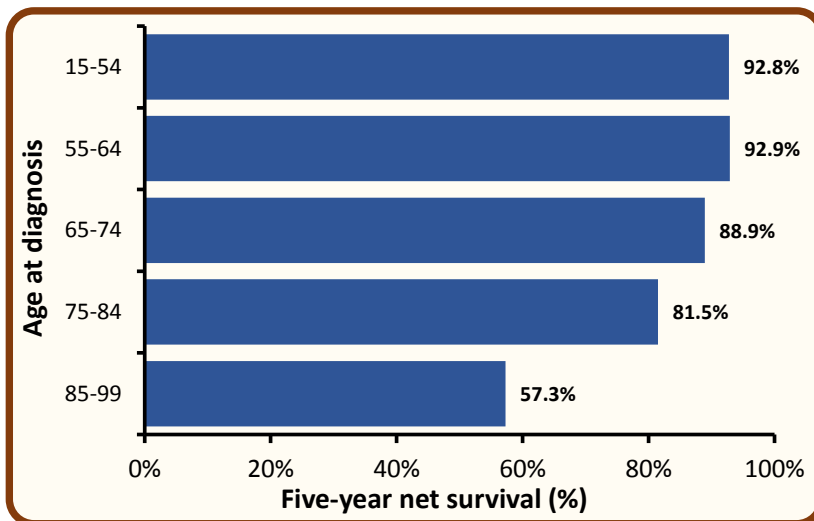
1. Annual averages based upon several years have been rounded to the nearest integer. Sums of numbers in table rows or columns may thus differ slightly from the given total.

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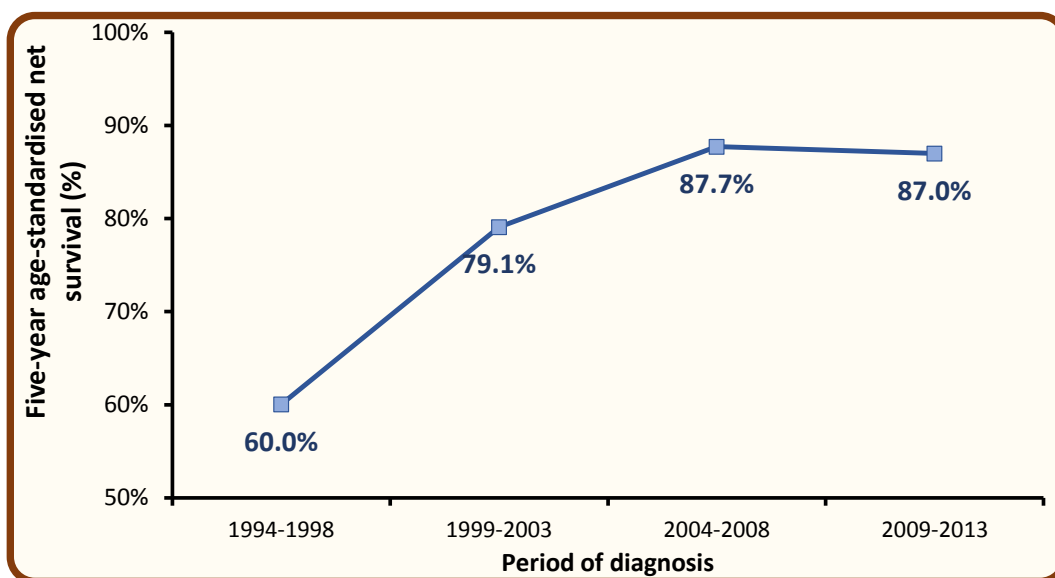
ASNS: Age-standardised net survival

Survival by age at diagnosis: Prostate cancer 2009-2013

▪ Survival from prostate cancer is related to age at diagnosis with five-year survival decreasing as age increases.

▪ Five-year net survival ranged from 92.8% among patients aged 15-54 at diagnosis to 57.3% among those aged 85 and over.

Trends in age-standardised net survival: Prostate cancer 1994-2013

▪ Among men five-year survival (ASNS) from prostate cancer increased from 60.0% for those diagnosed in 1994-1998 to 87.0% for those diagnosed in 2009-2013. This difference was statistically significant.

Prevalence

▪ At the end of 2018 there were 10,938 males living with prostate cancer who had been diagnosed with the disease during 1994-2018.

▪ Of these, 69.3% were aged 70 and over, and 11.2% 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).

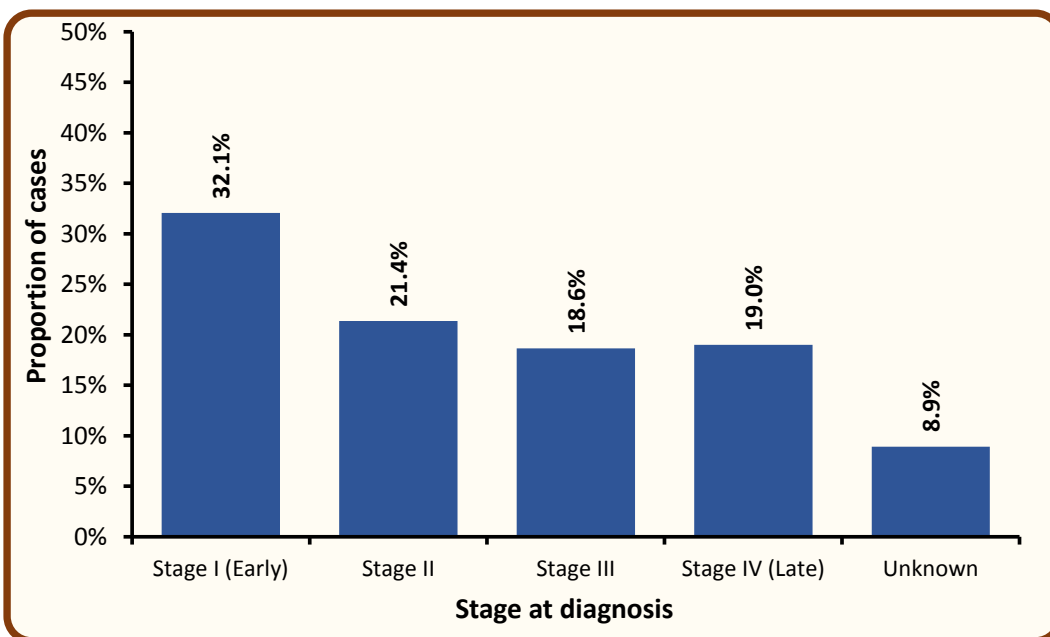| Time since diagnosis	25-year prevalence		
	Aged 0-69	Aged 70+	All ages
	Male	Male	Male
0-1 year	530	691	1,221
1-5 years	1,535	2,307	3,842
5-10 years	960	2,298	3,258
10-25 years	332	2,285	2,617
0-25 years	3,357	7,581	10,938

ASNS: Age-standardised net survival

Cancer stage

Incidence by stage at diagnosis: Prostate cancer 2013-2017[1]

During 2013-2017:

- 91.1% of prostate cancer cases had a stage assigned at diagnosis.
- 32.1% of cases were diagnosed at stage I. (35.2% of staged cases)
- 19.0% of cases were diagnosed at stage IV. (20.9% of staged cases)

Stage at diagnosis	Average cases per year
	Male
Stage I (Early)	366
Stage II	244
Stage III	213
Stage IV (Late)	217
Unknown	102
All stages	1,142

Cancer stage describes the size of a cancer and how far it has grown and spread.
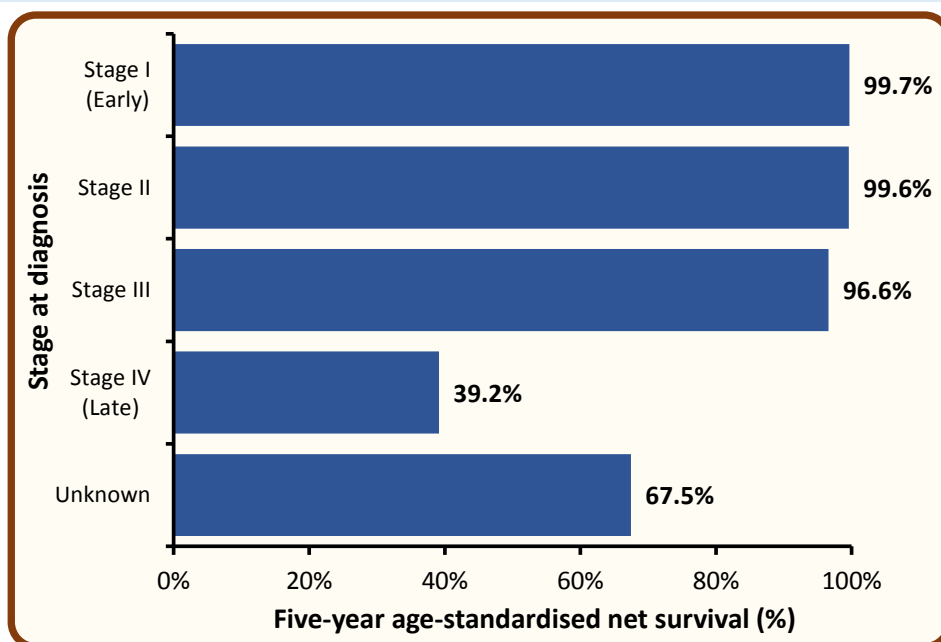
This information is used to help decide what treatments are needed.

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 stage at diagnosis: Prostate cancer 2009-2013

- Stage at diagnosis is one of the most important factors in prostate cancer survival with five-year survival decreasing as stage increases.

- Five-year survival (ASNS) ranged from 99.7% for early stage (stage I) disease to 39.2% for late stage (stage IV) disease.

- Five-year survival (ASNS) for unstaged prostate cancer was 67.5%.

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ASNS: Age-standardised net survival

Mortality

During 2014-2018:

▪ There were 276 deaths from prostate cancer each year.

▪ Death from prostate cancer made up 12.0% of all male cancer deaths (ex NMSC).

Deaths by age at death: Prostate cancer 2014-2018[1]

During 2014-2018:

▪ The median age at death from prostate cancer among men was 80.

▪ Risk of death from prostate cancer among men was strongly related to age, with 92.8% of men aged 65 years or more at time of death.

▪ 0.4% of prostate cancer deaths occurred among those aged under 50.

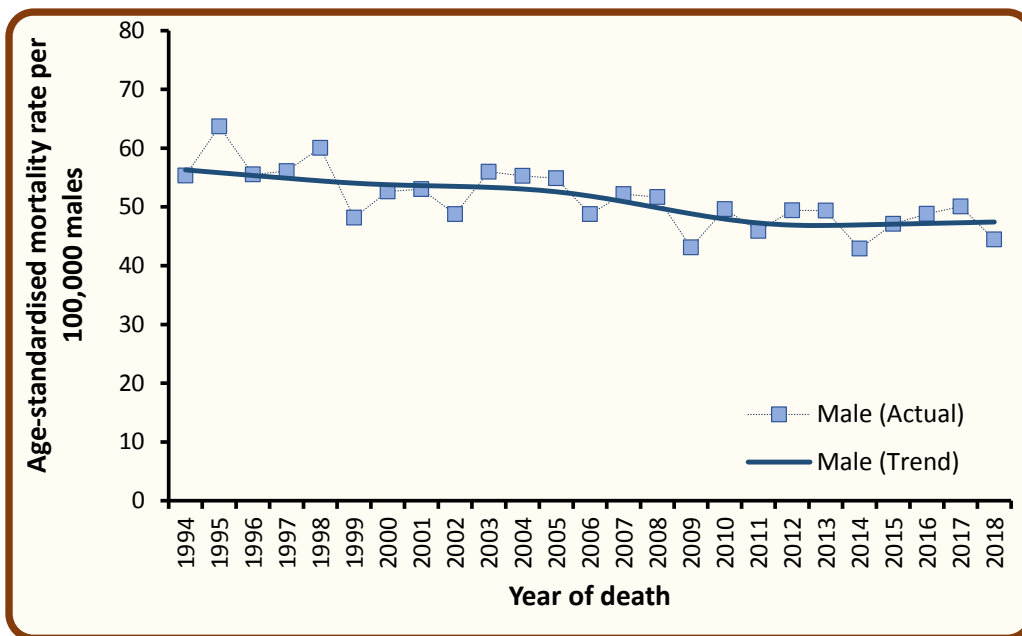| Age at death	Average deaths per year
	Male
0 - 49	1
50 - 64	18
65 - 74	58
75 +	198
All ages	276

Deaths by year of death: Prostate cancer 2009-2018

▪ Among males the number of deaths from prostate cancer increased by 12.7% from an annual average of 245 deaths in 2009-2013 to 276 deaths in 2014-2018.

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Male	207	247	234	266	271	242	267	293	300	276

Trends in age-standardised mortality rates: Prostate cancer 1994-2018

▪ Among men age-standardised mortality rates from prostate cancer decreased by 1.7% from 47.6 per 100,000 person years in 2009-2013 to 46.8 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.

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NMSC: Non-melanoma skin cancer