

CANCER INCIDENCE AND SURVIVAL STATISTICS FOR NORTHERN IRELAND 1993-2019

Issue: Publication of statistics on cancer incidence and survival in Northern Ireland during 1993-2019.

Timescale: Statistics will be available on the Northern Ireland Cancer Registry (NICR) website at 9.30am on Thursday 16th September 2021.

Presentation issues: A press release will be issued from Queen's University Belfast Press Office on Thursday 16th September 2021.

FOI Implications: This submission is fully disclosable with regard to Freedom of Information.

Recommendation(s): You are invited to note the publication date and key cancer incidence and survival statistics.

SUMMARY

Official Statistics on cancers diagnosed in Northern Ireland during 1993-2019 will be published on 16th September 2021. Key facts and figures from the release are presented below.

Number of cancer cases diagnosed

- There were 9,861 (4,952 male, 4,909 female) patients diagnosed with cancer each year during 2015-2019.
- This excludes the frequently diagnosed but easily treated non-melanoma skin cancer (NMSC). There were on average 3,962 cases of NMSC diagnosed each year.
- The most common cancers diagnosed during 2015-2019 were:
 - Prostate cancer (1,238 cases per year, 25% of all male cancers ex NMSC), lung cancer (690 cases per year, 14%) and bowel cancer (649 cases per year, 13%) among men;

- Breast cancer (1,479 cases per year, 30% of all female cancers ex NMSC), lung cancer (649 cases per year, 13%) and bowel cancer (522 cases per year, 11%) among women.
- Cancer risk was strongly related to age with 34% of cases occurring among people aged 75 years and over. Incidence rates were greatest for those aged 85-89 years.
- Despite this younger people can still get cancer. On average 50 children (aged 0-14) were diagnosed with cancer each year, while half of all testicular cancers were diagnosed among men aged under 36 and half of all cervical cancers were diagnosed among women aged under 44.
- The odds of developing cancer by the age of 75 during 2015-2019 was 1 in 3.4 for men and 1 in 3.7 for women. By the age of 85 it was 1 in 2.1 for men and 1 in 2.5 for women.

Trends in cancer cases diagnosed

- Over the last five years the average number of cancer cases (ex. NMSC) per year has increased by 11% from 8,877 cases in 2010-2014 to 9,861 cases in 2015-2019. These increases are largely due to our ageing population.
- The magnitude of the increase was similar for men and women. Specifically there was an:
 - 11% increase for men, from an average of 4,468 cases per year in 2010-2014 to 4,952 cases in 2015-2019;
 - 11% increase for women, from an average of 4,410 cases per year in 2010-2014 to 4,909 cases in 2015-2019;
- After removing the effect of changes in the age and size of the population over time:
 - Cancer incidence rates in males decreased by 2% between 2010-2014 and 2015-2019.
 - In contrast, cancer incidence rates in females increased by 4% between 2010-2014 and 2015-2019.
- Cancer types with increases greater than 20% in the average number of cases per year between 2010-2014 and 2015-2019 were:

- For men: thyroid cancer (64% increase), myeloma (39% increase), pancreatic cancer (35% increase), kidney cancer (31% increase), melanoma (29% increase) and liver cancer (23% increase);
 - For women: thyroid cancer (54% increase), myeloma (29% increase), liver cancer (27% increase), lung cancer (26% increase), bladder cancer (25% increase) and head and neck cancer (22% increase).
- Cancer types with decreases in the average number of cases per year between 2010-2014 and 2015-2019 were:
 - For men: stomach cancer (11% decrease), bowel cancer (4% decrease) and testicular cancer (4% decrease);
 - For women: stomach cancer (15% decrease), cervical cancer (13% decrease), oesophageal cancer (6% decrease) and bowel cancer (2% decrease).
- Changes in the number of cases diagnosed over time are driven by changes in the population size, particularly the number of elderly people. Removing these factors for the four most common cancers, between 2010-2014 and 2015-2019:
 - Rates of female breast cancer increased by 7%;
 - Rates of bowel cancer decreased by 14% for men and by 9% for women;
 - Rates of lung cancer decreased by 7% for men and increased by 16% for women;
 - Rates of prostate cancer increased by 2%.

Geographic patterns in cancer cases diagnosed

- Incidence rates (age-standardised) of cancer in 2015-2019 were 7% higher among people living within the Belfast Health and Social Care Trust area compared to the Northern Ireland average. Incidence rates were lower than average among people living in the South-Eastern Trust area.
- Cancer incidence rates were 14% higher in the most deprived areas compared to the Northern Ireland average and were 4% lower than average in the least deprived areas.
- The relationship with deprivation varies by cancer type with incidence of lung cancer, bowel cancer (male only), head & neck cancer, oesophageal cancer, stomach cancer (male only), liver cancer, pancreatic cancer (male only), kidney cancer (female only) and cervical cancer higher than average in the most

deprived areas. Incidence of melanoma and prostate cancer were higher than average in the least deprived areas.

Cancer stage

- During 2015-2019 the proportion of patients diagnosed with late stage disease (stage IV) ranged from less than 1% among testicular cancer patients to 50% for pancreatic cancer patients.
- For the four most common cancer types the proportion of patients diagnosed at stage IV during 2015-2019 was 44% for lung cancer, 21% for bowel cancer, 18% for prostate cancer and 5% for breast cancer.

Screening

- Among breast cancer patients aged 50 to 70 who were diagnosed in 2015-2019, 52% had their cancer detected via screening, while among bowel cancer patients aged 60 to 74 who were diagnosed in 2015-2019, one in five (21%) had their cancer detected via screening.

Emergency hospital inpatient admissions

- During 2015-2019, 16% of cases had an emergency inpatient admission to hospital recorded up to 30 days prior to their cancer diagnosis.
- The proportion of patients with an emergency admission ranged from 0.5% among melanoma patients to 40% for brain cancer patients. In addition almost half (49%) of patients with an unknown primary cancer had an emergency hospital admission prior to diagnosis.
- For the four most common cancer types the proportion of patients diagnosed in 2015-2019 who had an emergency hospital inpatient admission up to 30 days prior to diagnosis was 27% for lung cancer, 18% for bowel cancer, 5% for prostate cancer and 3% for breast cancer.

Cancer survival

- Among patients diagnosed with cancer during 2010-2014, one-year net survival after diagnosis was 73%, while five-year net survival was 57%. However, one in five (20%) patients died within 6 months of diagnosis.
- Five-year net survival for patients diagnosed in 2010-2014 for the most common cancers was as follows:
 - Female breast cancer = 84%;
 - Male bowel cancer = 61%, Female bowel cancer = 62%;
 - Prostate cancer = 87%;
 - Male lung cancer = 11%, Female lung cancer = 15%.
- Five-year net survival was highest for testicular cancer (95%) and melanoma (93%), but remained poor for liver cancer (14%), gallbladder cancer (14%) and pancreatic cancer (6%).
- Cancer survival improved significantly between 2005-2009 and 2010-2014, with one-year survival increasing for men from 69% to 72% and for women from 71% to 74%. Five-year survival increased among men from 53% to 54% and among women from 56% to 59%.
- For specific cancers, there were significant improvements in five-year survival between 2005-2009 and 2010-2014 for male bowel cancer, female lung cancer and female kidney cancer. No cancer type demonstrated significant reductions in cancer survival during his period.
- Cancer survival varies considerably depending upon age at diagnosis. For the four most common cancer types five-year survival for younger and older age groups diagnosed in 2010-2014 was as follows:
 - Breast cancer: 89% for 15-54 year olds, compared to 74% for 75+ year olds;
 - Bowel cancer: 65% for 15-54 year olds, compared to 51% for 75+ year olds;
 - Lung cancer: 24% for 15-54 year olds, compared to 6% for 75+ year olds;
 - Prostate cancer: 93% for 15-64 year olds, compared to 50% for 85+ year olds.
- However, stage at diagnosis remains the biggest factor in cancer survival. The contrast in five-year survival between early and late stage disease for patients diagnosed in 2010-2014 was as follows:
 - 21% for late stage breast cancer, compared to 99% for early stage;
 - 8% for late stage bowel cancer, compared to 96% for early stage;

- 1% for late stage lung cancer, compared to 46% for early stage;
 - 42% for late stage prostate cancer, compared to 99.6% for early stage.
- For bowel and breast cancer, screen detection of cancer was also an important factor in cancer survival due to its relationship to stage at diagnosis. Five-year survival for patients diagnosed in 2010-2014 was:
 - 98% for breast cancer patients aged 50-70 who were screen detected, compared to 83% among those who were not detected via screening.
 - 91% for bowel cancer patients aged 60-74 who were screen detected compared to 61% among those who were not detected via screening.
- Patient survival was also strongly related to whether the patient had presented to hospital as an emergency inpatient up to 30 days prior to their cancer diagnosis. Five-year survival for patients diagnosed in 2010-2014 was:
 - 33% for bowel cancer patients who had an emergency inpatient admission prior to diagnosis, compared to 72% for those who had an elective inpatient admission.
 - 2% for lung cancer patients who had an emergency inpatient admission prior to diagnosis, compared to 19% for those who had an elective inpatient admission.

Cancer prevalence

- At the end of 2019 there were 68,361 people living in Northern Ireland who had been diagnosed with cancer since 1995 (i.e. over the last 25 years). Of these, 44% were male, 34% were aged 75 and over and 12% had been diagnosed in the previous year.
- The most prevalent types of cancer were prostate cancer, with 11,620 men living with the disease, and breast cancer, with 16,931 women living with the disease.

BACKGROUND

1. The purpose of this submission is to advise you of the release of Northern Ireland cancer incidence and survival statistics for 2019. The latest release, which will be published on 16th September 2021, reports on cancer incidence and survival statistics from 1993-2019 in Northern Ireland.
2. The incidence data has been collected by the NI Cancer Registry (NICR). Cancer registrations in NICR are made primarily from electronic downloads of pathology reports, information from the Patient Administration System (PAS) from the Health and Social Care Trusts, and death certificates from the General Register Office (GRO), Northern Ireland. NICR data are subject to strict internationally-validated rules and quality checks. Information is stored on a computer network with no external connection, within a high-security facility.
3. The statistics reported here are subject to recommendations of the Information Commissioner, and are designed not to be patient-identifiable.
4. Definitions relating to the statistics reported in this briefing are contained in Annex 1.

Official Statistics - Privileged Early Access

5. Legislation governing pre-release access to official statistics came into effect in Northern Ireland on 1st April 2009. Guidance on the implications of this for statistical publications have been circulated by the Senior Statistician within the Department to senior management. Specifically:
 - a. under no circumstances will pre-release access be given to any official statistics in their final form prior to 24 hours before publication;
 - b. the list of those eligible for pre-release access will need to be reviewed and each instance justified, with the presumption being that access will be minimized;
 - c. the specific posts which have been granted pre-release access will be published alongside the publication; and
 - d. those granted pre-release access must not divulge anything about the statistics they have been granted access to prior to publication including any indication or description of their content.

6. Under no circumstances should recipients make available or discuss the content of the release with anyone else not already included on the pre-release list. This includes any staff working for them. It is also imperative that the statistician responsible for the statistics is immediately made aware of any accidental release of the information to others.
7. Official Statistics are produced to high professional standards set out in the UK Statistics Authority Code of Practice for Official Statistics. They are produced free from political interference. They are required to comply with the Codes Principles and supporting Protocols including the Protocol on Release Practices.

Statistics Release

8. The statistical release will go live on the NICR website at 9.30am on 16th September 2021 at:
<http://www.qub.ac.uk/research-centres/nicr/CancerInformation/official-statistics/>
9. The statistical press notice, embargoed until 9.30am on 16th September 2021, will be issued to your department and to Queen's University Belfast press office on 15th September 2021.
10. Freedom of information implications: This submission is fully disclosable with regard to Freedom of Information.

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Annex 1: Definitions

- All-cancer incidence statistics reported in this brief exclude non-melanoma skin cancer in order to get an accurate, internationally-comparable, measure of cancer burden in the community. This malignant cancer is very common, but is rarely fatal. Non-melanoma skin cancers made up 29% of the cancer registrations in Northern Ireland during 2015-2019.
- Incidence is the number of new cases of cancer diagnosed in a particular time and population. Prevalence is the number of people diagnosed with cancer in the past twenty-five years who were still alive at the end of 2019.
- The average yearly incidence over 2015-2019 is presented throughout the brief in order to give a stable incidence estimate; the actual number of new cases diagnosed in 2019 will be available in the incidence files available on the NICR website from 9.30am 16th September 2021.
- Incidence rates are defined as the number of cases divided by the population that the cases came from. It is usually expressed as cases per 100,000 people. Age-standardised rates, using the 2013 European Standard Population, are used to detect trends over time, or differences between regions, that are not related to differences in the size or age of the population.
- Five-year survival refers to the proportion of people diagnosed with a cancer who are still alive five years later. Age-standardised net survival used here is a survival statistic that has been adjusted for background mortality and age profile between periods. Net survival is the theoretical survival of patients if they could die only from the cancer in question.
- In order to estimate survival statistics, NICR receives deaths registrations from the General Register Office.