## Official Statistics: Cancer incidence, survival and prevalence: 1993-2020

Dr David Donnelly<br>Gerard Savage<br>Dr Damien Bennett

n. IRELAND
ancer
QUEEN'S
UNIVERSITY
BELFAST

## Official Statistics

- NICR - designated provider of cancer incidence, survival and prevalence data
- Produced to high professional standards (UK Statistics Authority Code of Practice for Official Statistics) since 2012.
- Official Statistics for 1993-2020 - released in four waves throughout 2022/23.


## Cancer cases per year: 2016-2020

- 9,843 (4,968 male, 4,874 female) cases per year.
- Excludes non-melanoma skin cancer (NMSC) - 3,841 cases per year.
- Cancer risk - strongly related to age - 34\% of cases occurring among people aged 75 years and over.
- Odds of developing cancer:
$\rightarrow$ by age 75-1 in 3.5 for men and 1 in 3.8 for women.
- by age 85-1 in 2.1 for men and 1 in 2.5 for women.


## Common cancer types: 2016-2020

## Men:

- prostate cancer (25\%),
- lung cancer (14\%),
- bowel cancer (13\%).


## Women:

- breast cancer (30\%),
- lung cancer (13.5\%),
- bowel cancer (11\%).



## Trends in cancer cases, 1996-2020

Average number of cancer cases (ex. NMSC) per year increased by 7.9\% - from

- 9,125 cases in 2011-2015 to
- 9,843 cases in 2016-2020.
- Men: 8.3\% increase
- Women: 7.5\% increase

- BUT - Drop in cases in 2020 (To be discussed later). Registry

After removing the effect of changes in population age and size (ASR):

Cancer incidence rates

- Females - no change between 2011-2015 and 2016-2020.
- Males - decreased by 3.5\% between 2011-2015 and 2016-2020.


NB - Population effects..... $\uparrow$ ageing ..... $\uparrow \mathrm{n}$

ASR for 4 most common cancers, between 2011-2015 and 2016-2020

- Rates of lung cancer decreased by $8 \%$ for men BUT increased by 10\% for women;
- Rates of breast cancer increased by 2\%;
- Rates of prostate cancer increased by $1 \%$;
- Rates of bowel cancer decreased by $14 \%$ for men and by $10 \%$ for women

Lung cancer


## Cancer and deprivation

## 2016-2020 incidence rates

- $13 \%$ higher in most deprived areas wrt NI average
- Head and neck, Oesophageal, Stomach, Lung and Cervical cancer higher in most deprived areas
- Melanoma, Prostate cancer and Lymphoma - higher in
 least deprived areas


## Cancer stage

During 2016-2020 - \% late-stage disease (stage IV) ranged from

- <1\% (testicular cancer)
- 50\% (pancreatic cancer) patients. (


For 4 most common cancers - the proportion diagnosed at stage IV (late-stage):

- 5\% - breast cancer;
- 18\% - prostate cancer;
- 21\% - bowel cancer;
- 44\% - lung cancer.

Lung cancer


## Cancer survival by stage

 RegistryStage at diagnosis - remains
biggest factor in cancer survival.

- Five-year net survival -

90\% - Early stage (stage I)
14\% - Late stage (stage IV)

## 5yr Survival -

Early stage (stage I) vs Late stage (stage IV)

- Breast cancer: 99\% vs. 20\%;
- Bowel cancer: $95 \%$ vs. $8 \%$;
- Lung cancer: 50\% vs. 1\%;


## All cancers (ex NMSC)



## Cancer prevalence people living with cancer

At end of 2020

- 69,168 people living with cancer
[diagnosed 1996-2020 (25yr-prevalence)]
- 45\% male / 55\% female
- 34\% aged 75+

Most prevalent cancers: Males - prostate + colorectal cancer Females - breast + colorectal cancer


## Cancer incidence projections to 2040

, (ay QUEEN'S
HSC) Public Health HSC) Agency

## Projections to 2040-All cancers

Steady case increase over time

- 1993-~3,000 male / ~3,000 female
- 2010-~4,000 male / ~ 4,000 female
- 2020-~5,000 male / ~ 5,000 female
..projected to continue...

By 2040 - projected cases per year -

- 6,788 male $-45 \%$ rise
- 7,450 female-58\% rise
(using 2013-17 baseline - 4,691 male, 4,710 female)


NB - Population effects..... $\uparrow$ ageing个 $n$

## Projections to 2040 - All cancers

After removing the effect of changes in population age and size (EAS Incidence rates):

- In women - projected continued increase 12\% rise by 2040.
- In men - projected 9\% reduction by 2040.


NB - Population effects..... 个 ageing ..... $\uparrow$ n

## Projections by cancer type (Males)

- By 2040 - cases each year projected to increase for all cancer types compared to 2013-2017 - except stomach cancer.
- By 2040 the most common male cancers are expected to remain:
- Prostate (1,537 cases)
- Lung (1,033 cases)
- Bowel (975 cases)


Projections by cancer type (Females) BELFAST

- By 2040 - cases each year projected to increase for all cancer types compared to 2013-2017, except cervical and stomach cancer.
- By 2040 the most common female cancers are expected to remain:
- Breast (2,201 cases)
- Lung (1,344 cases)
- Bowel (832 cases)


