

# COVID-19 Impact across the Patient Pathway - Incidence and Survival of cancer

A comparison between April-December 2020 and April-December 2018-2019



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## Coronavirus: New regulations come into force

© 28 March 2020



uncertainty fear isolation  
 tracing social  
 wfh lockdowns advice  
 restrictions staffing gp-access  
 stay-at screening hospitals  
 disruption home hsc contact  
 testing



Healthcare & Pharmaceuticals  
**Northern Ireland to enter six-week COVID-19 lockdown on Dec. 26**  
 Reuters  
 December 17, 2020 7:52 PM GMT - Updated 2 years ago



General view of The George Best Hotel in Belfast, after it went into administration without ever opening its doors, following the outbreak of the coronavirus disease (COVID-19), Belfast, Northern Ireland, April 29, 2020. REUTERS/Jason Cairnduff

### What are Northern Ireland's new coronavirus restrictions?

- Closure of all non-essential retail
- Closure of close contact services
- Hospitality only permitted to offer takeaway services
- All leisure and entertainment to close (including gyms and pools)
- Off-licences can remain open to 20:00
- Closure of places of worship (except for weddings and funerals)
- Schools to stay open

Restrictions come into force at 00.01 on Friday 27 November 2020  
 BBC NEWS NI

**BBC NEWS CORONAVIRUS**

**Northern Ireland**

Latest figures as of 14:00, 19 March 2020

Source: Department of Health

**77** confirmed cases

**1** death

**1,646** tests carried out

**CORONAVIRUS (COVID-19)**

**DOWNLOAD THE COVID-19 NI APP NOW**

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**COVID-19 How to stay safe**

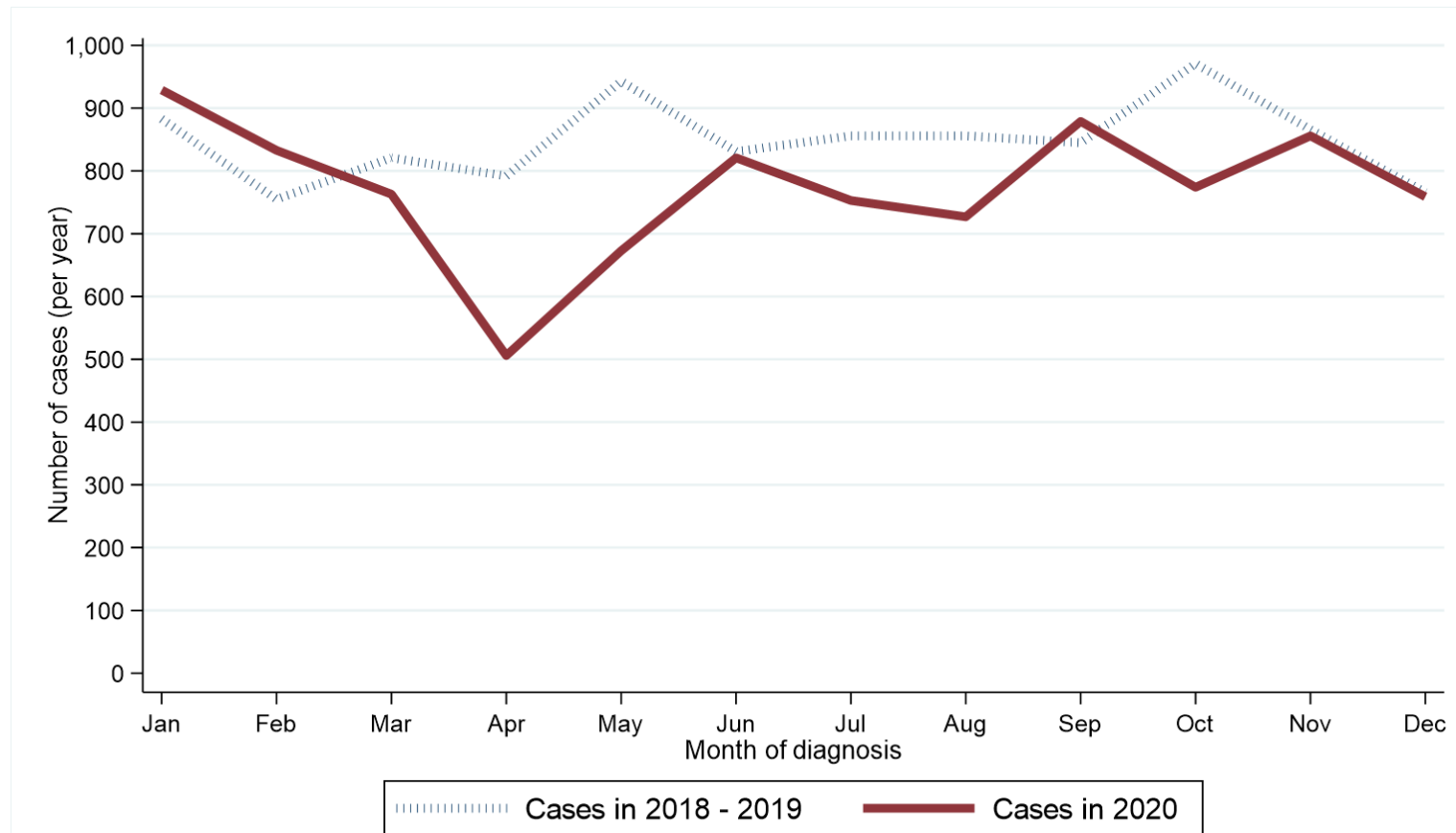
### Coronavirus in Northern Ireland

Total deaths (daily change)	<b>802</b> (▲ 11)	Total positive cases	<b>43,902</b>
Inpatients	<b>420</b> (▼ 6)	Daily change	<b>▲ 514</b>
Intensive Care	<b>50</b> (▼ 5)	People tested	<b>2,449</b>
Ventilated	<b>39</b> (▼ 4)	Seven day cases	<b>3,736</b>

# COVID-19 Impact - Cancer cases

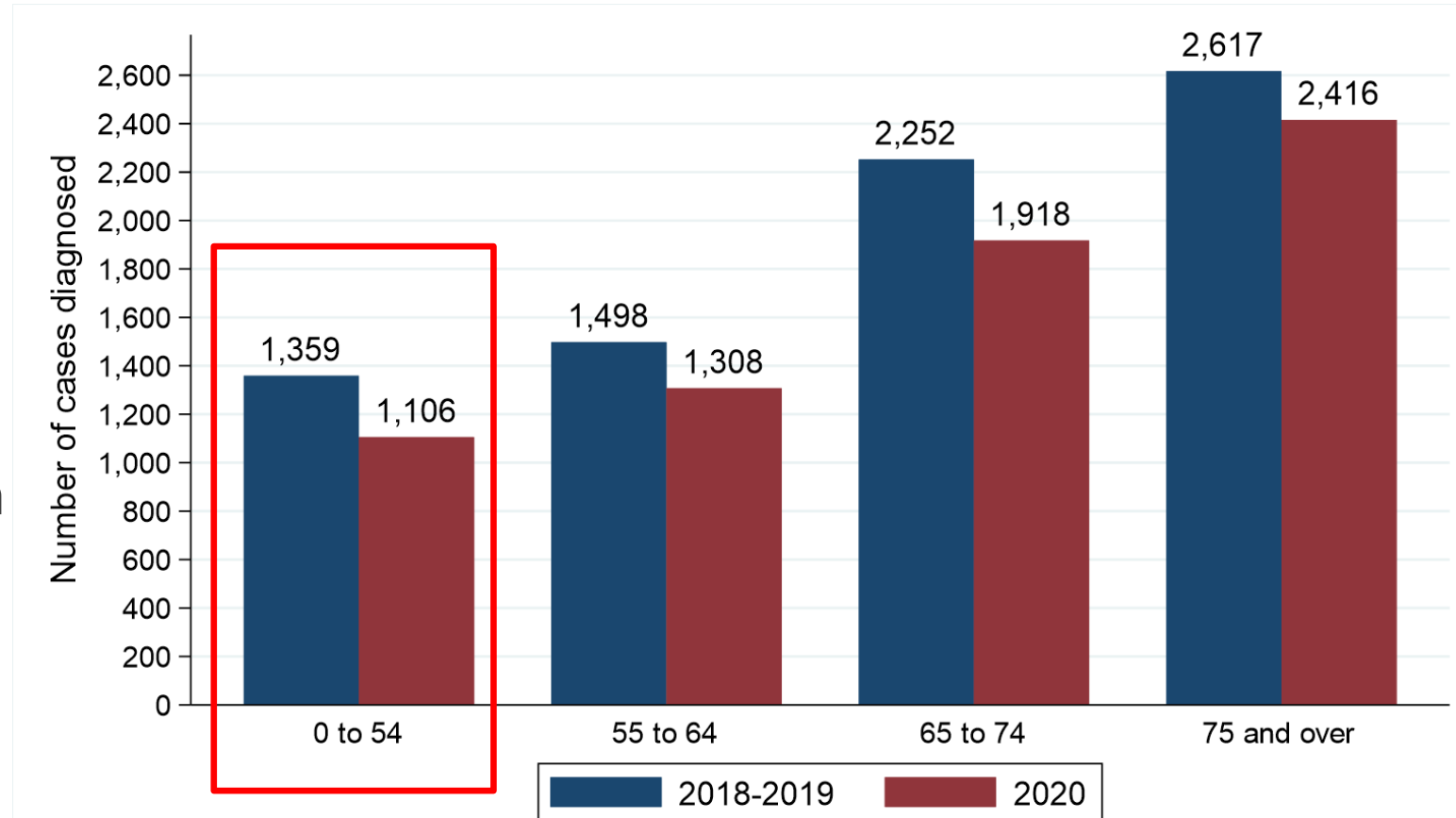
During April-Dec - cases decreased by 12.6%

- ▶ 7,724 in 2018 - 2019
- ▶ 6,748 in 2020
- ▶ ~1000 “missing” cases
- ▶ 11.0% decrease - males
- ▶ 14.4% decrease - females



# COVID-19 Impact - by Age at diagnosis

- ▶ Aged <55yrs .. decreased by 18.6%
- ▶ Aged 75+ .. decreased by 7.7% (2,617 to 2,416).
- ▶ Change in case distribution by age statistically significant ( $p = 0.020$ ).

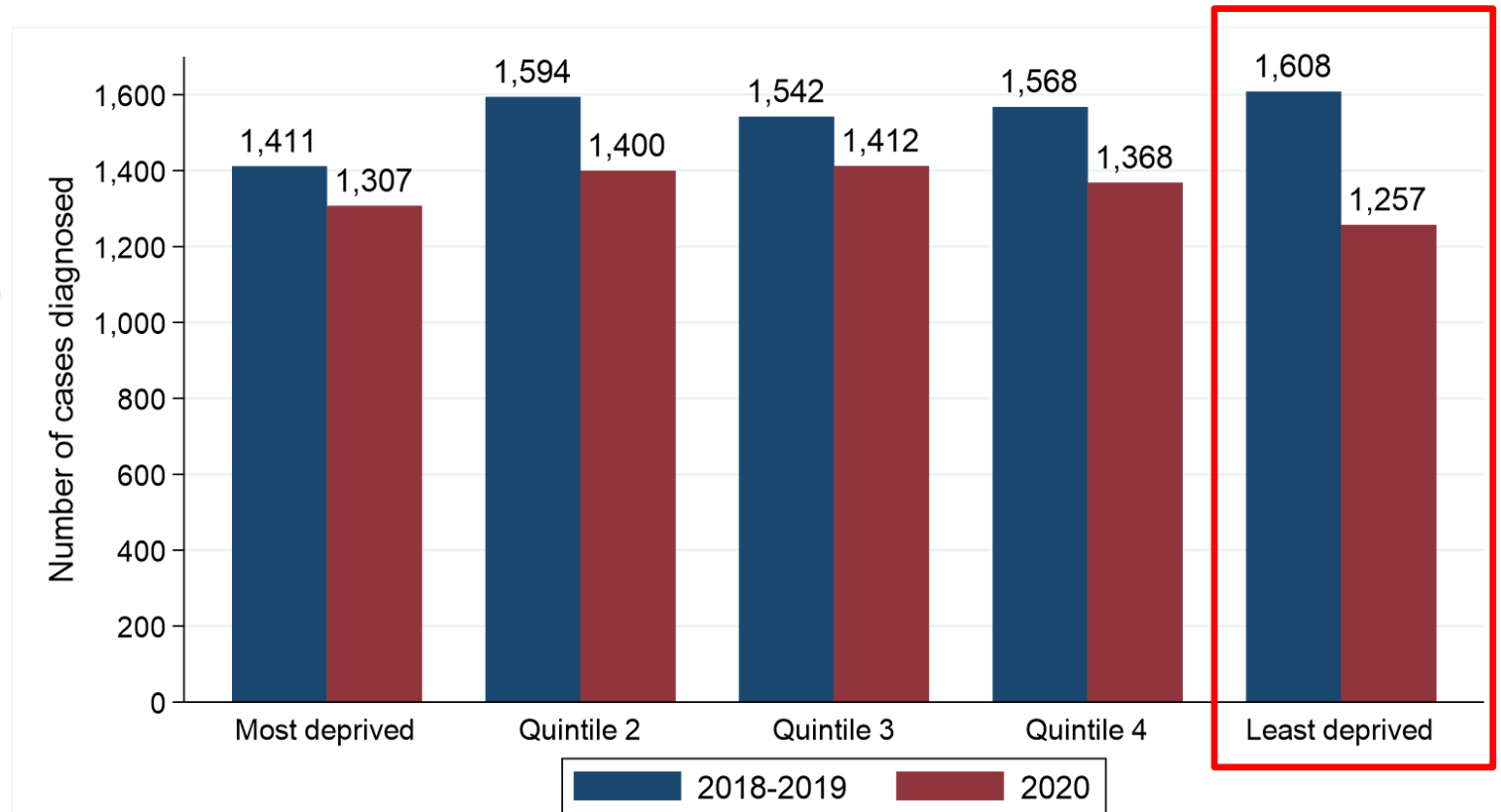


Apr-Dec period only

- Impact of screening pause (cervical, breast)
- “ignoring” mild-moderate symptoms
- Major life disruption (WFH, home schooling, childcare etc.)

# COVID-19 Impact - by Deprivation quintile

- ▶ Among residents of the **least deprived areas** ..**21.8% decrease**.
- ▶ Among residents of the **most deprived areas** ..cases decreased by **7.4%**.
- ▶ Change by deprivation quintile ..**statistically significant** ( $p = 0.003$ ).



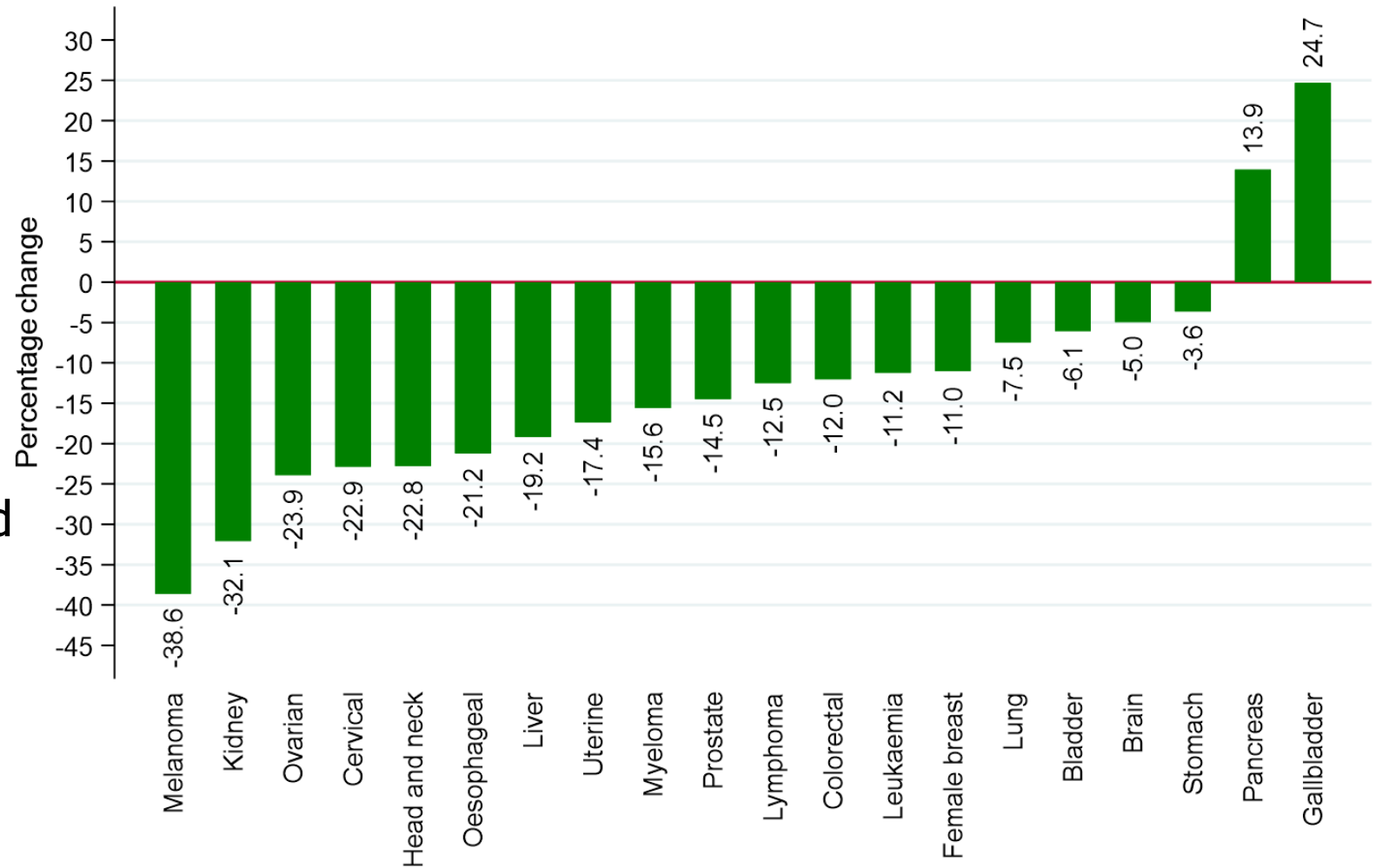
Apr-Dec period only

- **Impact of screening pause - attendance ↑ Less deprived**
- **? Interpret STAY AT HOME v strictly - Avoid HSC**
- **Mild-moderate symptoms**

# COVID-19 Impact - by Cancer type

Between 2018-19 and 2020 the number of cases of:

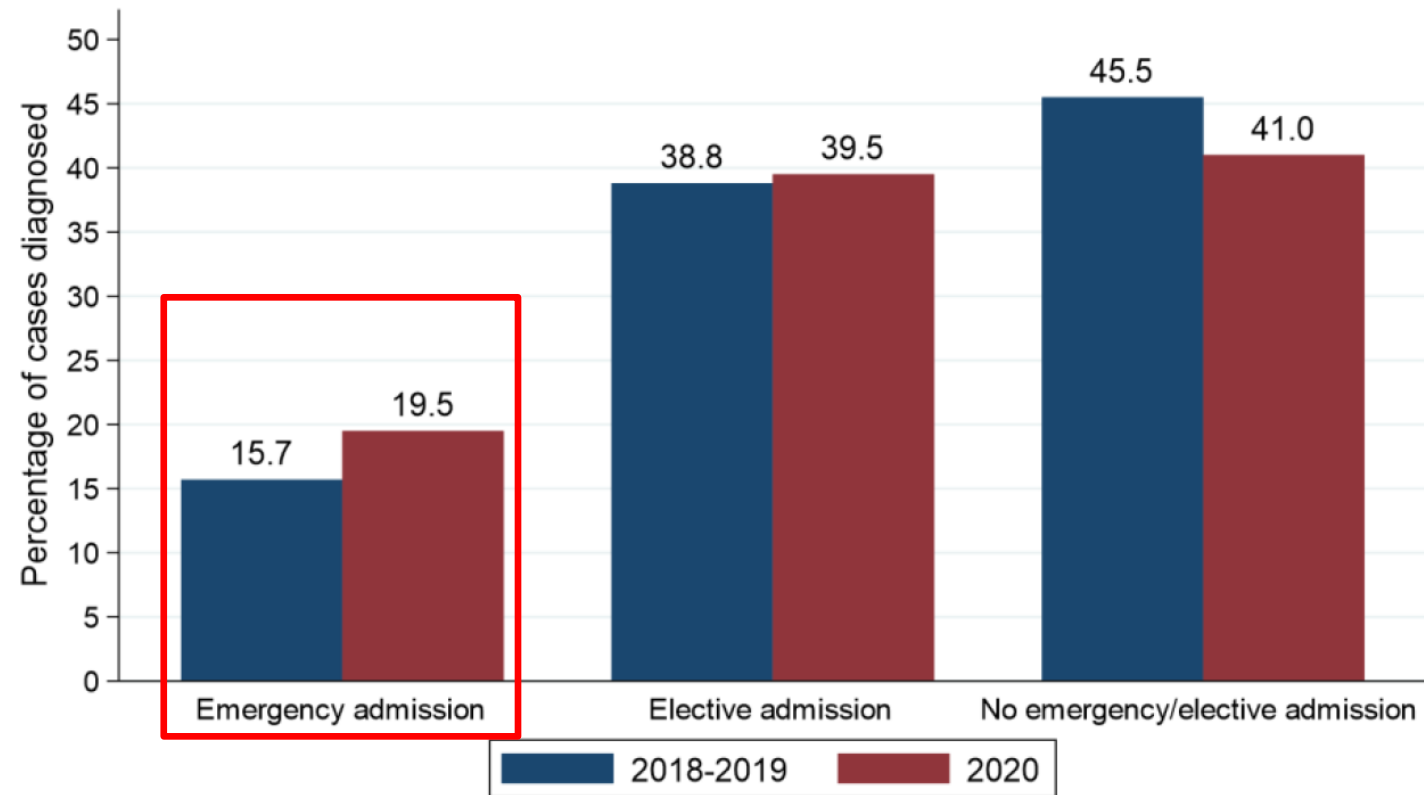
- Breast cancer decreased by 11.0%.
- Lung cancer decreased by 7.5%.
- Prostate cancer decreased by 14.5%.
- Colorectal cancer decreased by 12.0%.





# COVID-19 Impact - by Method of Hospital Admission

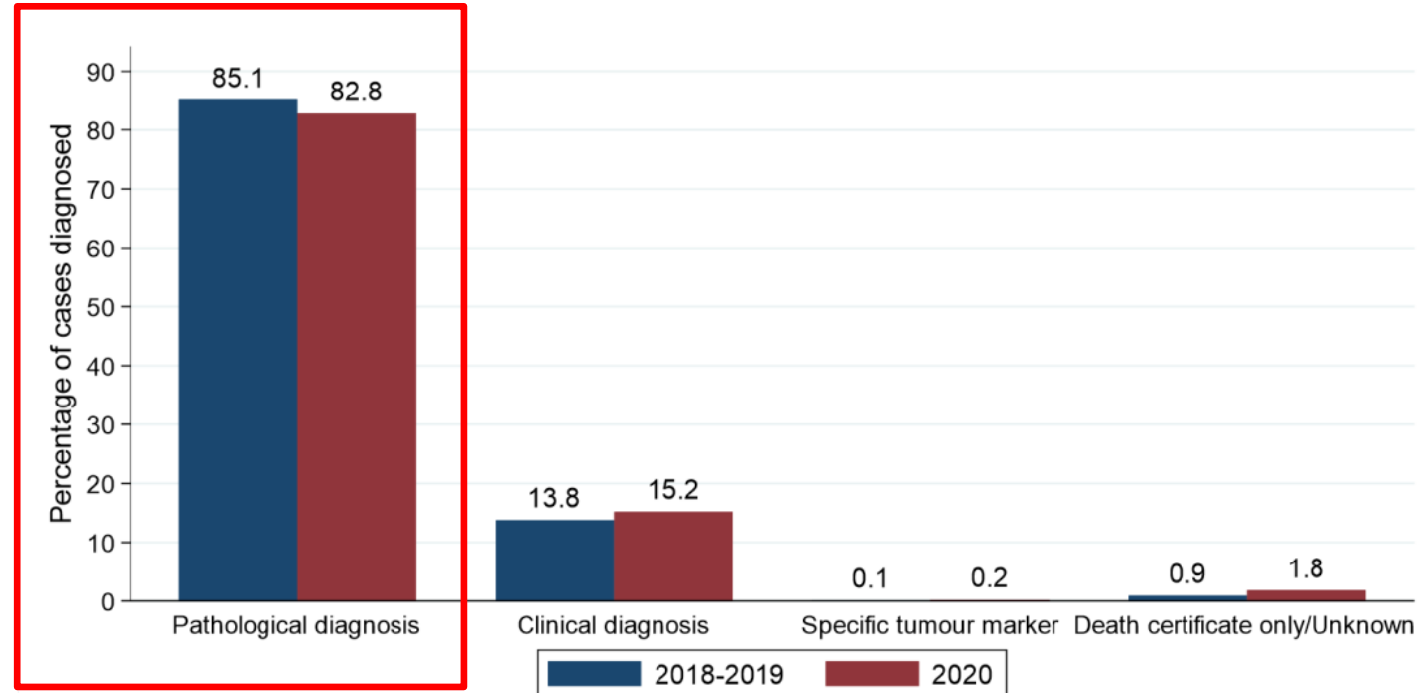
- ▶ Proportion of cases with Emergency Admission increased by from 15.7% (1,212) to 19.5% (1,315).
- ▶ Change in case distribution (by hospital admission type) .. statistically significant ( $p < 0.001$ )



Apr-Dec period only

# COVID-19 Impact - by Basis of diagnosis

- ▶ Proportion of cases diagnosed pathologically decreased from 85.1% (6,574) to 82.8% (5,585).
- ▶ Change in case distribution (by basis of diagnosis) .. statistically significant ( $p < 0.001$ )



Apr-Dec period only



# Cancers detected by Screening

- ▶ Screening paused - March 2020
- ▶ ? Impact on n/proportion diagnosed via screening
- ▶ ? Impact on early diagnosis (esp Stage 1)

- Routine **Breast cancer screening** ...temporarily paused for four months in 2020...
- **Bowel cancer screening programme .. paused in March 2020.** Screening colonoscopy services reintroduced by Trusts from June 2020...those who had a positive screening result ...Routine invitations for bowel cancer screening started again from 17<sup>th</sup> August 2020...
- **Cervical cancer screening paused 16<sup>th</sup> March 2020** ... programme resumed in June 2020... higher risk prioritised. Routine invitations resumed in August 2020...with catch up..



Department of Health

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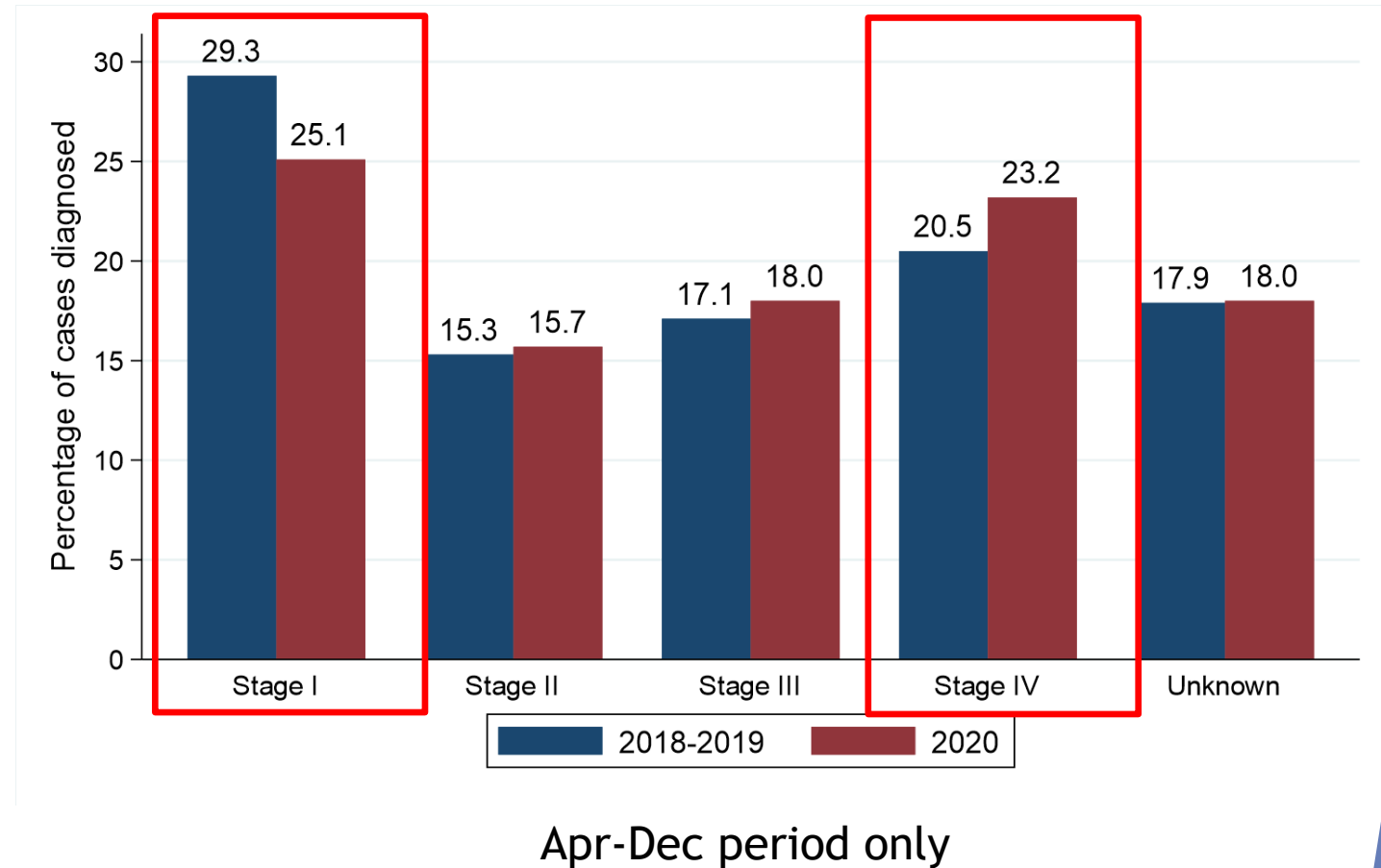
Temporary pause of routine screening programmes

Date published: 07 April 2020

**CORONAVIRUS  
(COVID-19)  
LATEST NEWS**

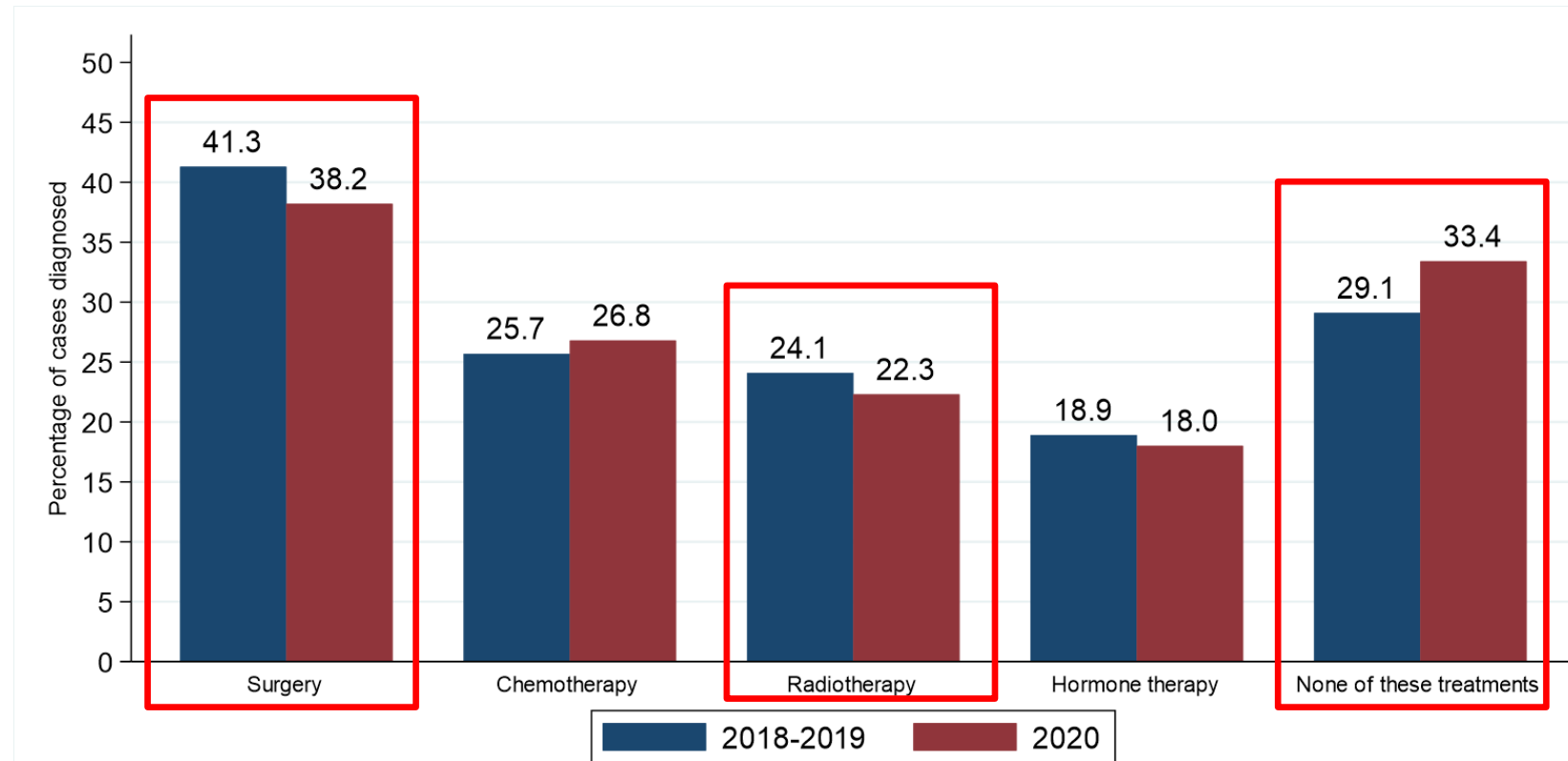
# Stage shift - from early to more advanced disease

- ▶ Proportion of cancers diagnosed at Stage I (Early stage) decreased from 29.3% to 25.1% ..**e.g. Screening paused**
- ▶ Proportion diagnosed at Stage IV (Late stage) increased from 20.5% to 23.2% ..**major change to HSC access + behavioral aspects (fear, uncertainty)**
- ▶ Change in case distribution by stage was statistically significant ( $p < 0.001$ ).



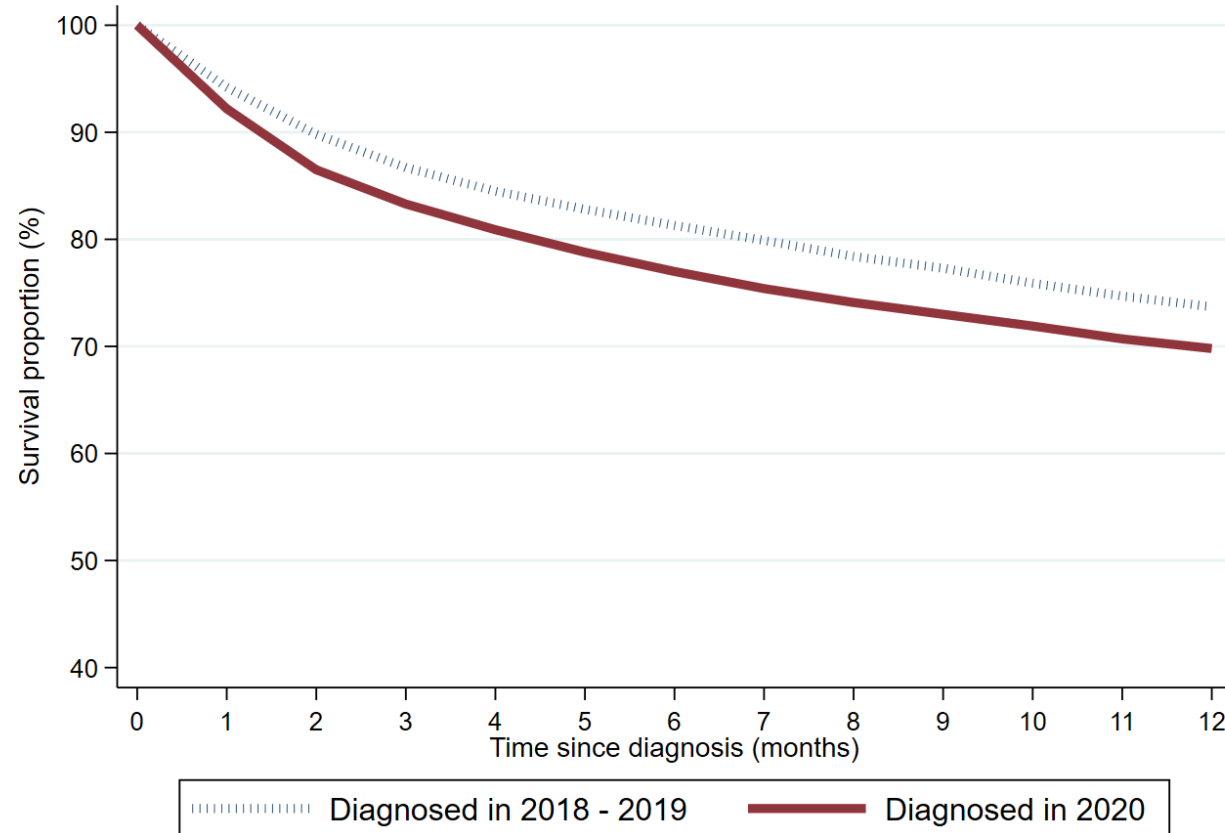
# Impact on treatment

- Between 2018-19 and 2020 - significant drop in the proportion receiving surgery and radiotherapy..  
↓ Access to Surgery / Radiotherapy...transmission risk / staffing
- BUT - no significant change in the proportion receiving chemotherapy or hormone therapy..easier to deliver within COVID-19 IPC frameworks
- Significant increase in % getting No Treatment (29% to 33.4%)..Stage shift + restricted treatment access



# COVID-19 Impact - Survival (Observed), All cancers

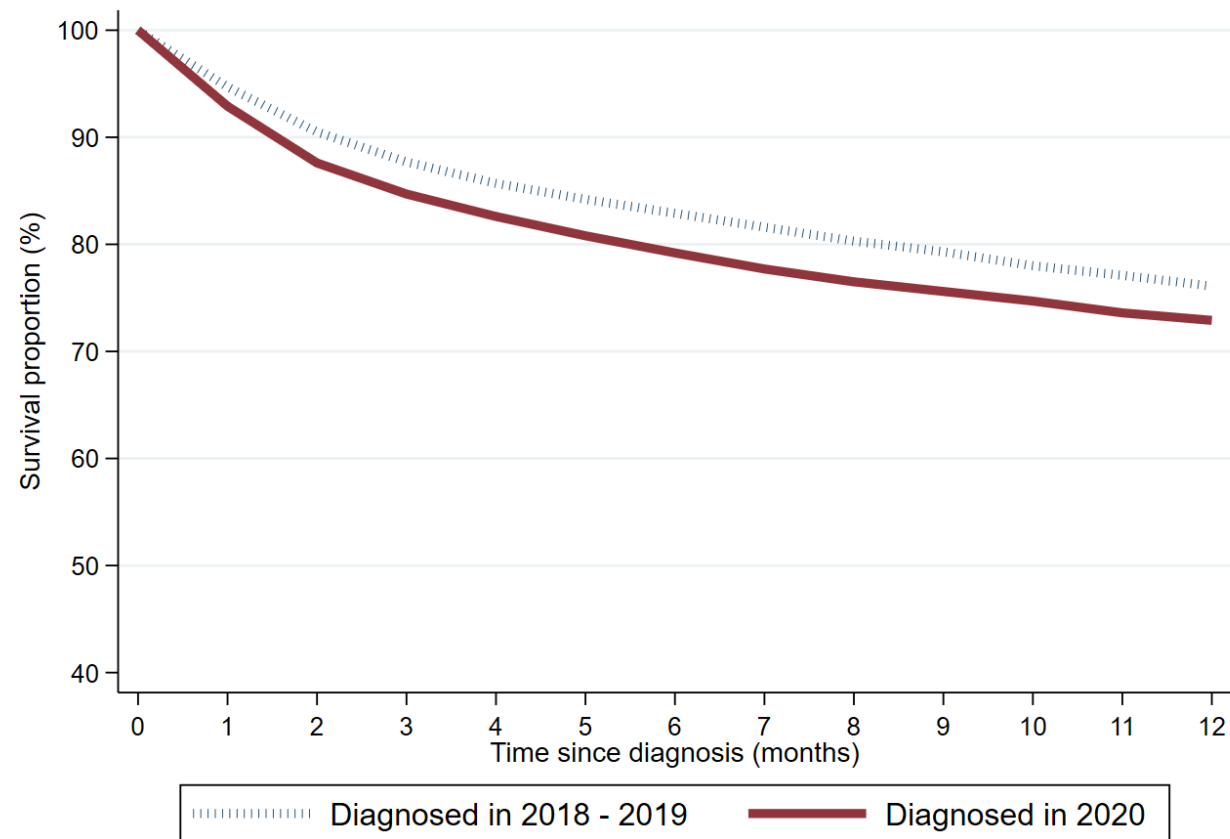
## Observed survival (Death from any cause)



- ▶ Survival one-year after diagnosis decreased from 73.7% to 69.8% (comparing those diagnosed Apr-Dec 2018 - 2019 to Apr-Dec 2020)
- ▶ A statistically significant difference existed between the survival curves for 2018-2019 and 2020 ( $p < 0.001$ ).

# COVID-19 Impact - Survival (Net), All cancers

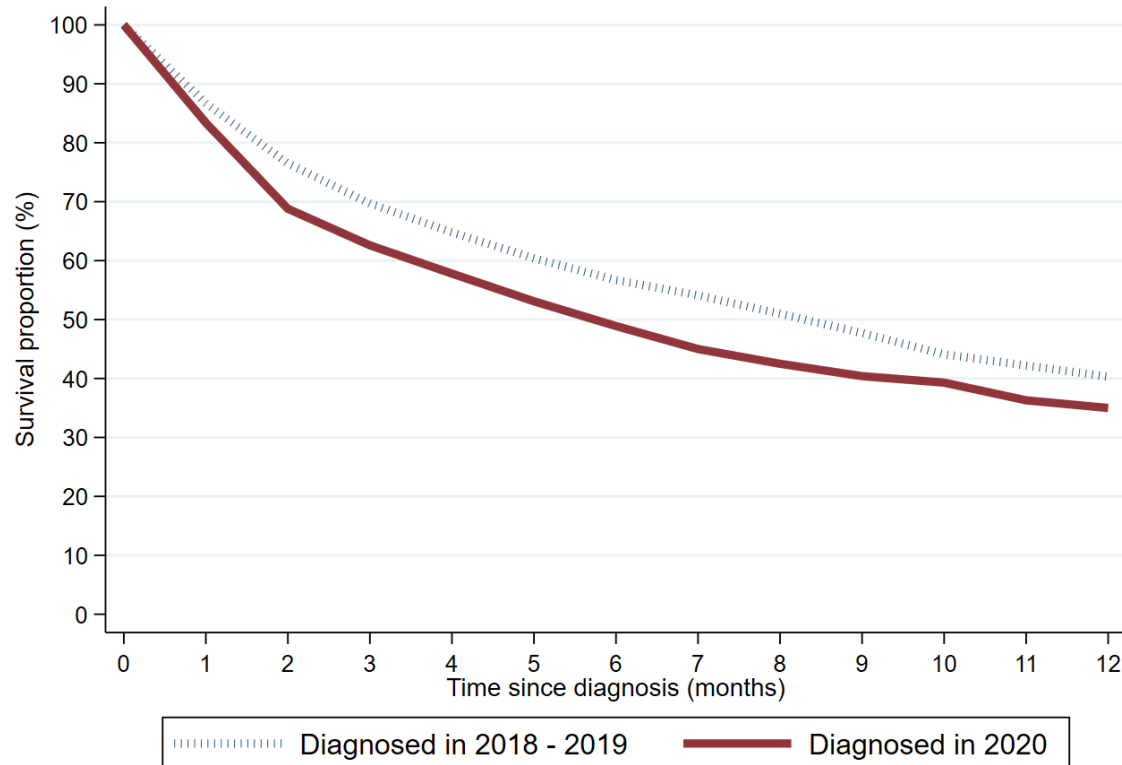
## Net survival (Cancer related death)



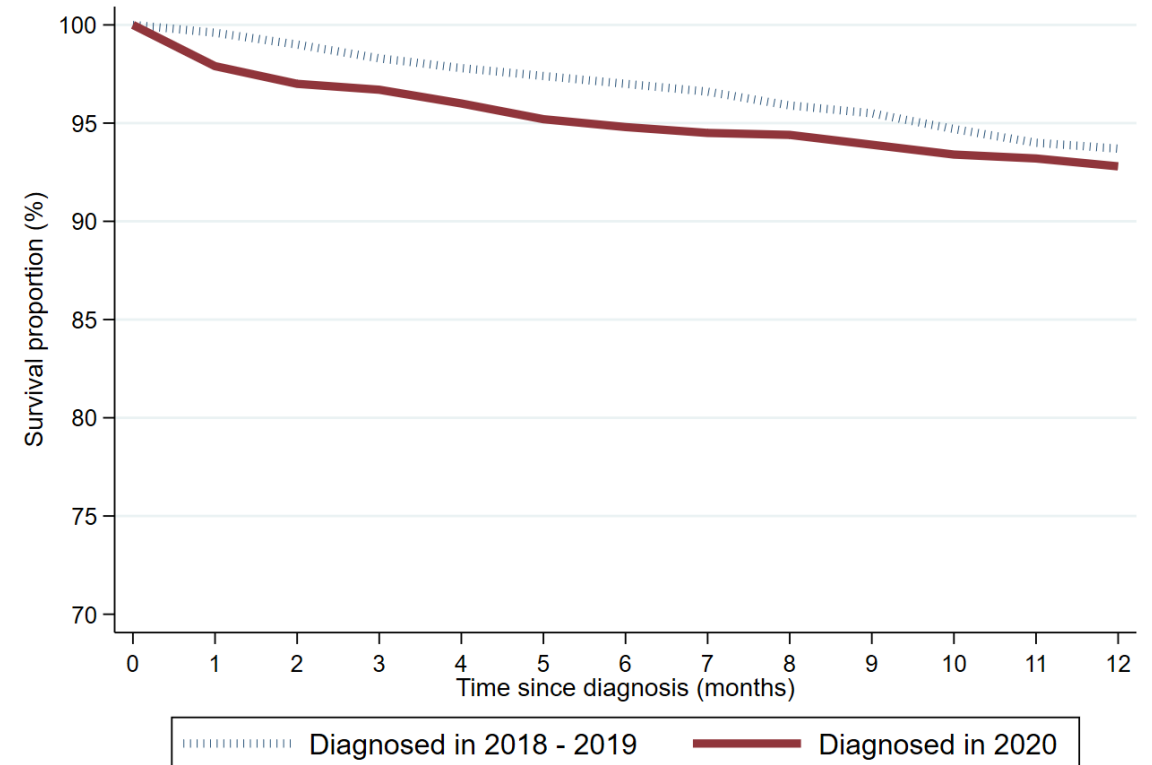
- ▶ One-year Age-Standardised Net Survival (ASNS) decreased from 76.1% to 72.9%. (comparing those diagnosed Apr-Dec 2018 - 2019 to Apr-Dec 2020)
- ▶ This change was statistically significant.

# COVID-19 Impact - Observed survival

## Lung cancer (Significant decrease, p=0.002)



## Prostate cancer (No Significant Change Overall)

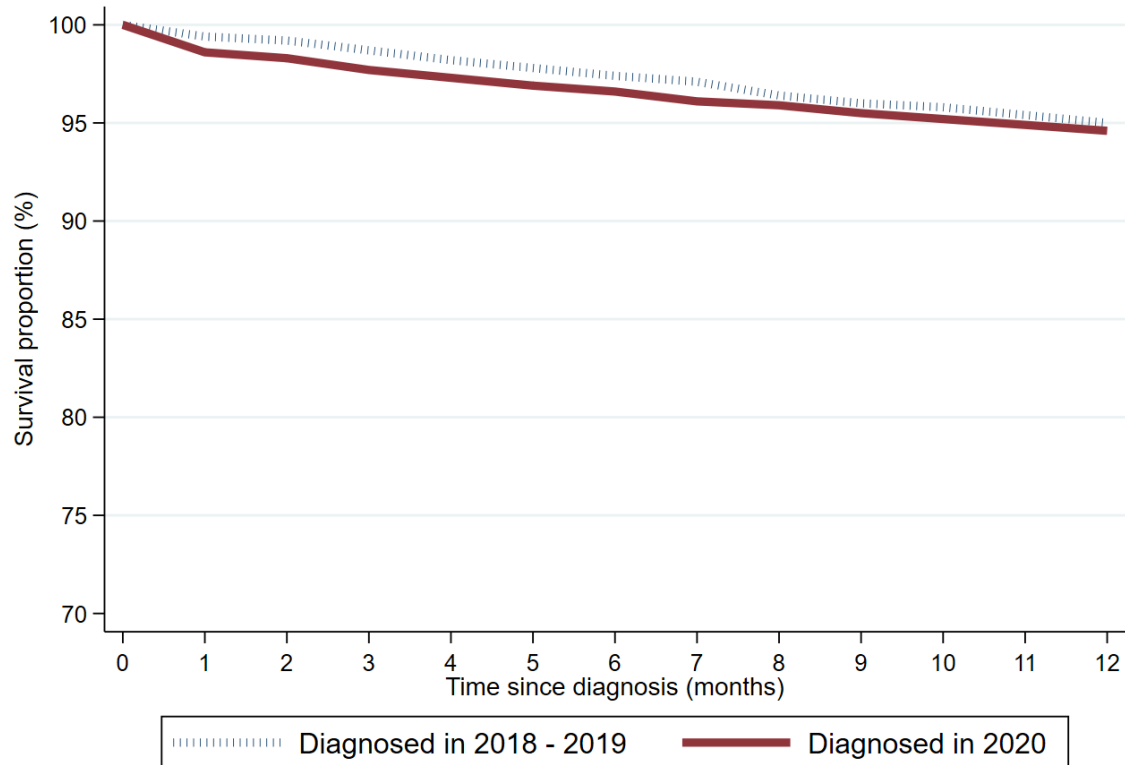


	2018-2019	2020
6 months	56.7% (54.5% - 58.9%)	48.9% (45.7% - 52.1%)
One-year	40.3% (38.1% - 42.4%)	35.0% (32.0% - 38.1%)

survtime	2018-2019	2020
6 months	97.0% (96.2% - 97.7%)	94.8% (93.2% - 96.1%)
One-year	93.7% (92.5% - 94.7%)	92.8% (90.9% - 94.3%)

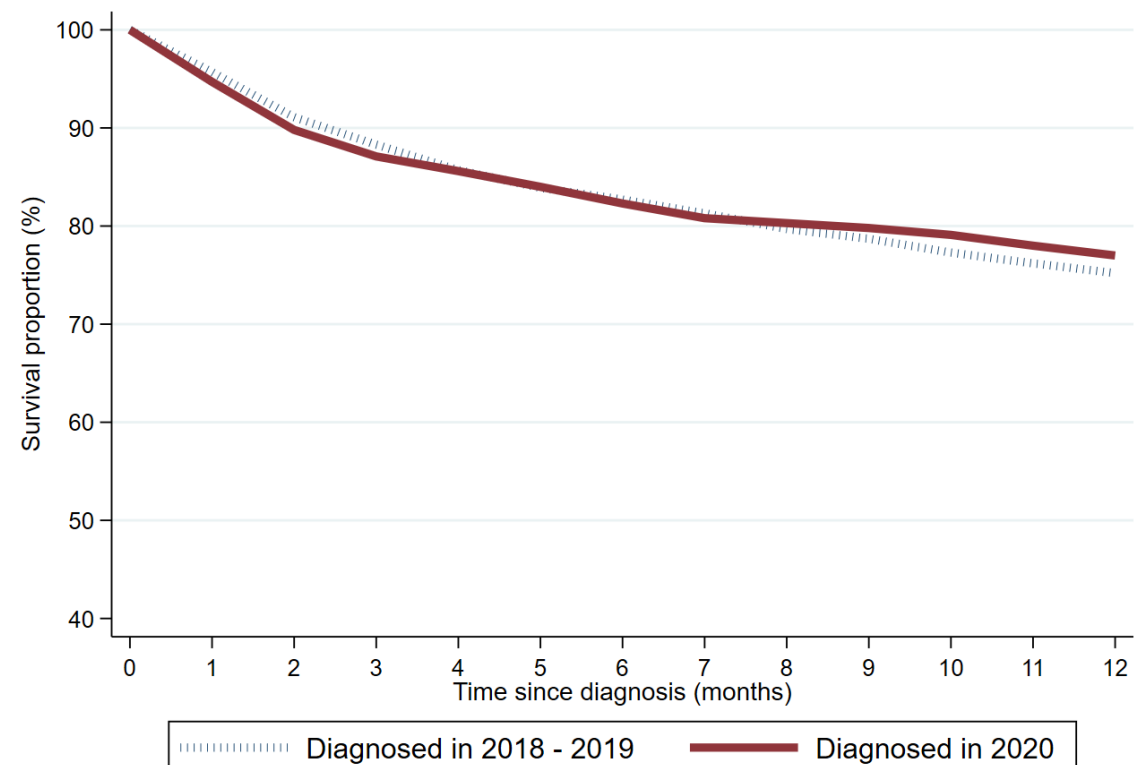
# COVID-19 Impact - Observed survival

## Breast cancer (No Significant Change Overall)



	2018-2019	2020
6 months	97.4% (96.6% - 98.0%)	96.6% (95.2% - 97.6%)
One-year	95.0% (94.0% - 95.9%)	94.6% (92.9% - 95.9%)

## Colorectal cancer (No Significant Change Overall)



	2018-2019	2020
6 months	82.7% (80.8% - 84.4%)	82.3% (79.4% - 84.8%)
One-year	75.2% (73.2% - 77.2%)	77.0% (73.8% - 79.8%)



# COVID-19 Impact - Observed survival Summary by cancer type

## Significant decrease

- ▶ Head and neck cancer
- ▶ Oesophageal cancer
- ▶ Lung cancer
- ▶ Uterine cancer
- ▶ Lymphoma

## No significant change

- ▶ Stomach cancer
- ▶ Pancreatic cancer
- ▶ Colorectal cancer
- ▶ Liver cancer
- ▶ Melanoma
- ▶ Breast cancer
- ▶ Cervical cancer
- ▶ Ovarian cancer
- ▶ Prostate cancer
- ▶ Kidney cancer
- ▶ Bladder cancer
- ▶ Brain cancer
- ▶ Myeloma
- ▶ Leukaemia

# Summary - profound impact of COVID-19

- ▶ Cases ↓ 13% ..... ~1000 “missing” cancer cases

Profound impact across the entire cancer patient pathway:

- ▶ Presentation - ↑ emergency admission
- ▶ Diagnosis - ↓ diagnosed pathologically
- ▶ Stage - shift from early to more advanced stage disease
- ▶ Treatment - ↓ surgery and radiotherapy
- ▶ Survival - Significant reduction one year survival

**Need to monitor key cancer statistics to assess for recovery. Also trends in pathologically diagnosed cancers ..recently shown some signs of recovery**

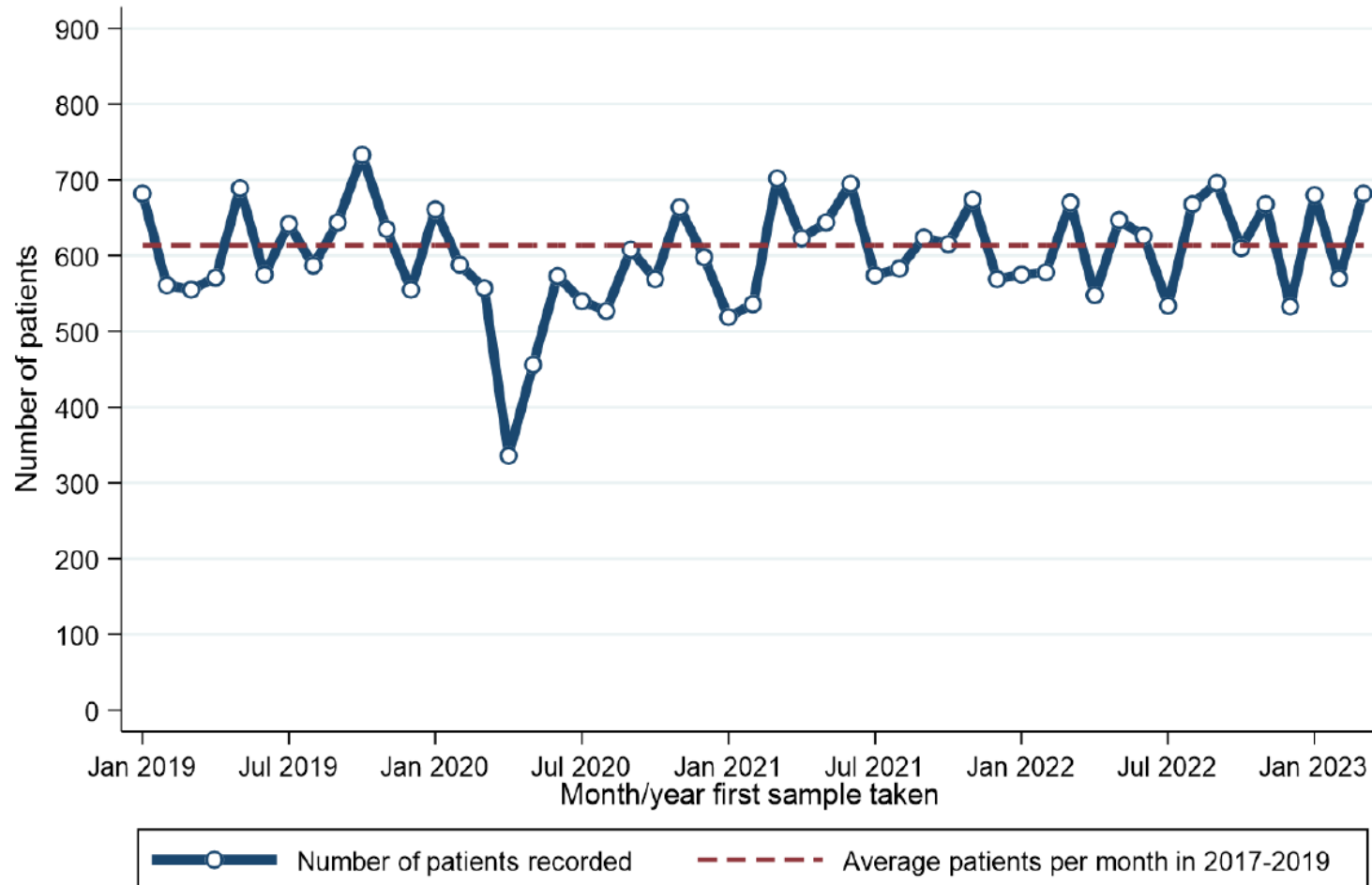
# Recent trends in pathologically diagnosed cancers



# Recent trends in patients with Pathologically Diagnosed (PD) cancers: up to March 2023

- ▶ Patients with pathology samples indicating cancer (Pathologically Diagnosed (PD)) - to March 2023
- ▶ Trends compared with expected levels (annual average patients with PD cancer during 2017-2019) - to provide an early signal/indication of COVID-19 impact.
- ▶ Data from 4 HSC Pathology Laboratories (Belfast, Antrim, Craigavon, Altnagelvin) - usually monthly.

# Trend in patients with Pathologically Diagnosed (PD) cancer



- ▶ From Mar-20 to Mar-23 - number of PD patients - **2.8%** lower than equivalent period average 2017-2019.
- ▶ NB - some of these "missing" patients may have a clinical only diagnosis (e.g. as a result of an emergency hospital admission) - need final registered data.



# Trends in patients with PD cancers - tumour type/age/sex

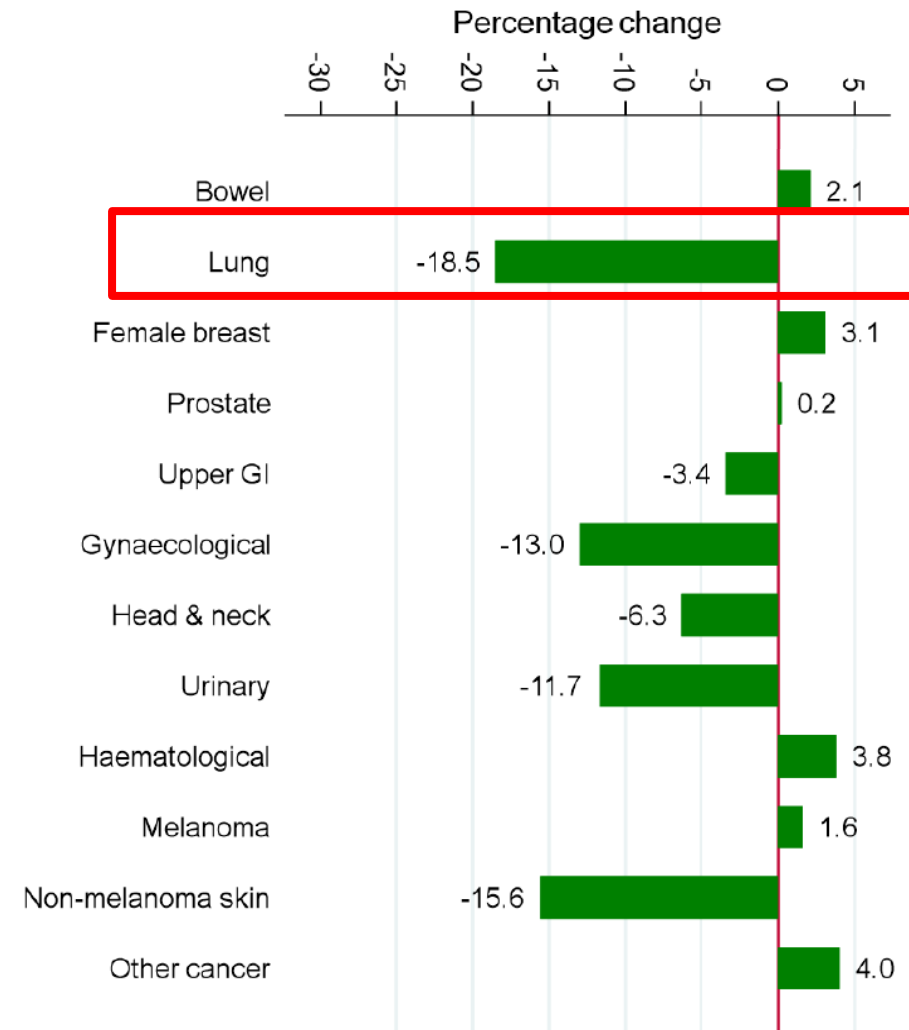
Compared to expected levels based upon 2017-2019 data, from Mar-20 to Mar-23 -

Largest decreases in PD:

- ▶ Lung cancers - 18.5%

Also

- ▶ Males > Females
- ▶ Younger  $\leq 69$  yrs > Older  $\geq 70$  yrs



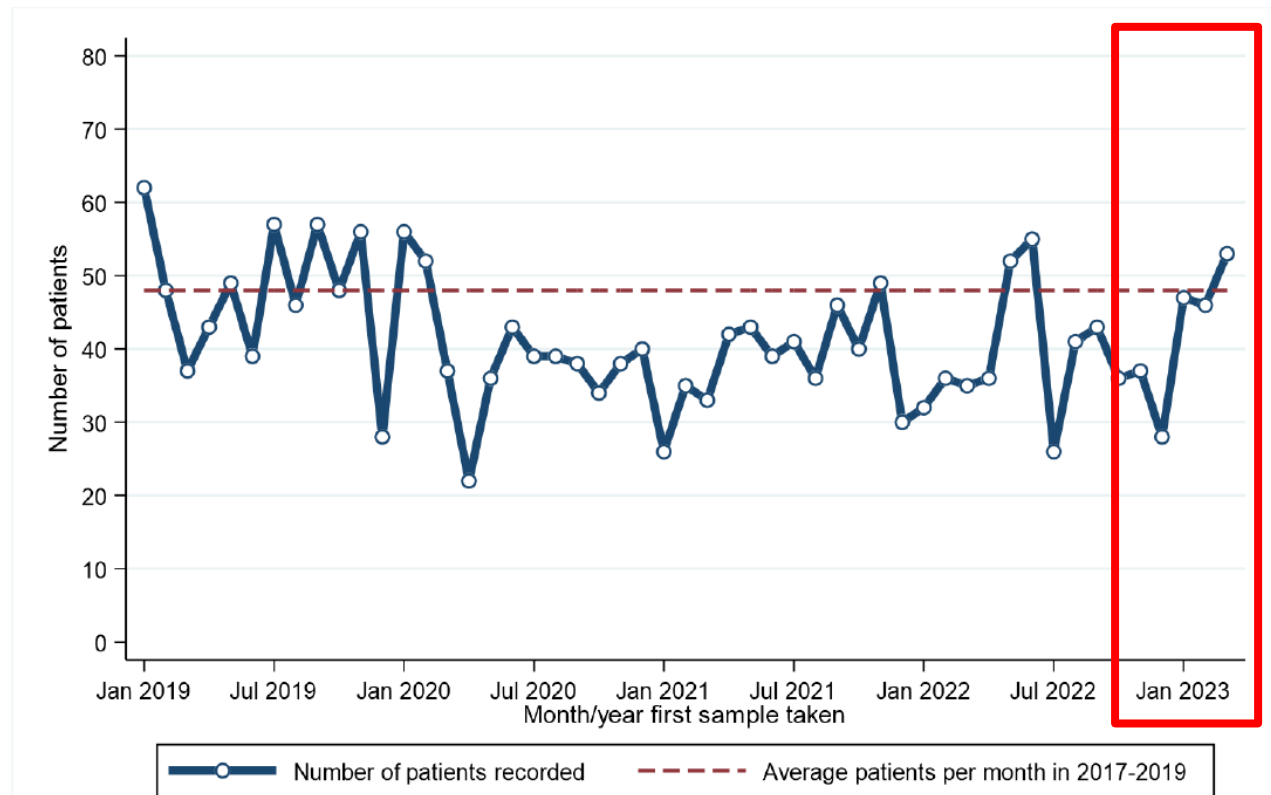
# Trends in patients with PD cancers - Lung Cancer

- ▶ But....possible early signs of recovery?



Percentage change from March 2020 to March 2023 compared to expected number based on 2017-2019 average

**-18.5%**

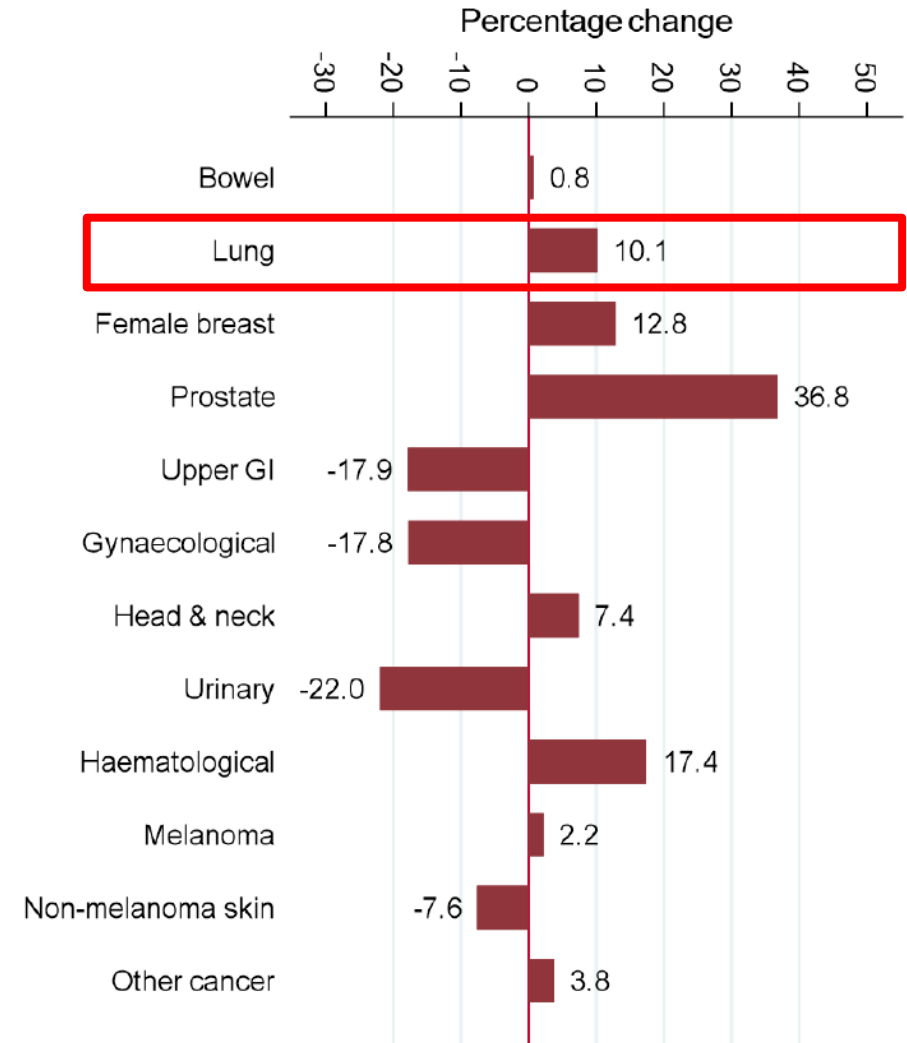




# Trends in PD patients - more recent weeks

(12 weeks to 1<sup>st</sup> Apr 2023)

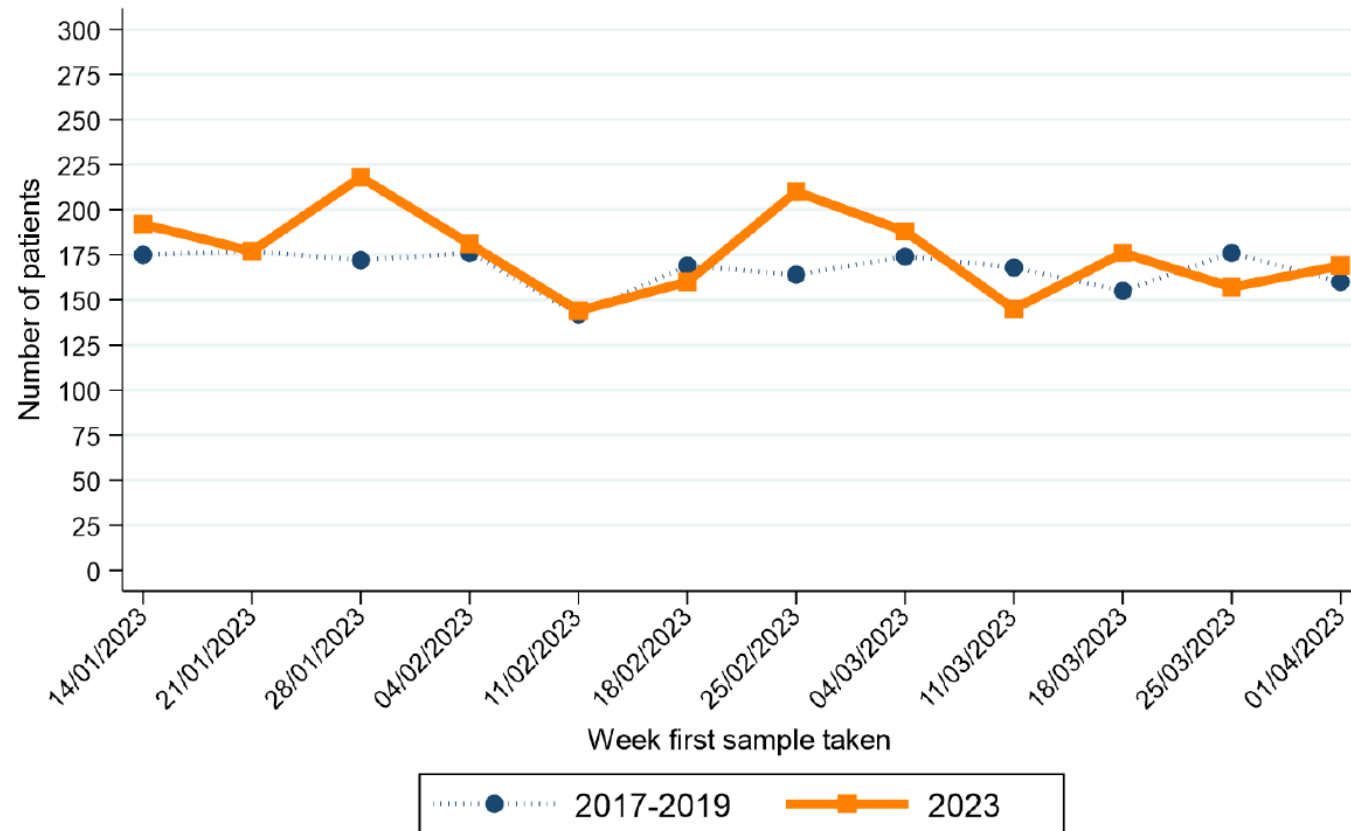
- ▶ Number of patients with PD lung cancer - increased by 10.1% (first time since pandemic began)
- ... early signs - turning the corner?



# Trends in PD patients - more recent weeks

(12 weeks to 1<sup>st</sup> Apr 2023)

**5.4% increase** in PD patients in **12 weeks up to 01-April-23** compared to equivalent weeks in 2017-2019



# Consequences of reductions in pathological diagnoses

- ▶ Patients missed altogether
  - ▶ **Death before cancer diagnosis** - from cancer or non-cancer cause (e.g. COVID-19 ...if no health service contact
  - ▶ Patient living, unaware of cancer.
- ▶ Patients diagnosed clinically
  - ▶ Patients still diagnosed but likely:
    - ▶ **Later stage**
    - ▶ **Less likely to receive curative treatment**
    - ▶ **Poorer survival outcome**

# Cancer Awareness

