
Recent trends in incidence, survival and mortality of oesophageal cancer in Northern Ireland

(A comparison between April-December of 2021, 2020 and 2018-2019)

Further information

Further information is available at: www.qub.ac.uk/research-centres/nicr

Phone: +44 (0)28 9097 6028 **e-mail:** nicr@qub.ac.uk

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INCIDENCE

During the April-December period the number of cases of oesophageal cancer diagnosed increased between 2018-2019 and 2021 by 17.0% from 165 cases per year to 193 cases.

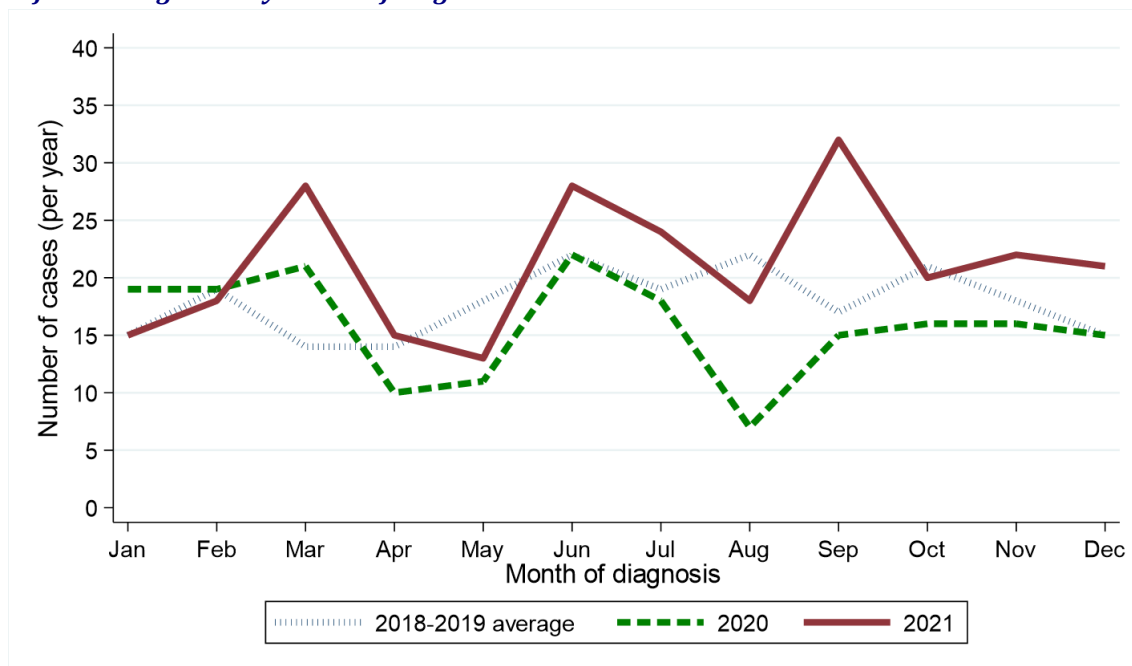
Table 1: Number of oesophageal cancer cases diagnosed in 2018-2021 by month and year of diagnosis

Period of diagnosis	Annual total	Month diagnosed											
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
2018-2019*	212	15	19	14	14	18	22	19	22	17	21	18	15
2020	189	19	19	21	10	11	22	18	7	15	16	16	15
2021	254	15	18	28	15	13	28	24	18	32	20	22	21

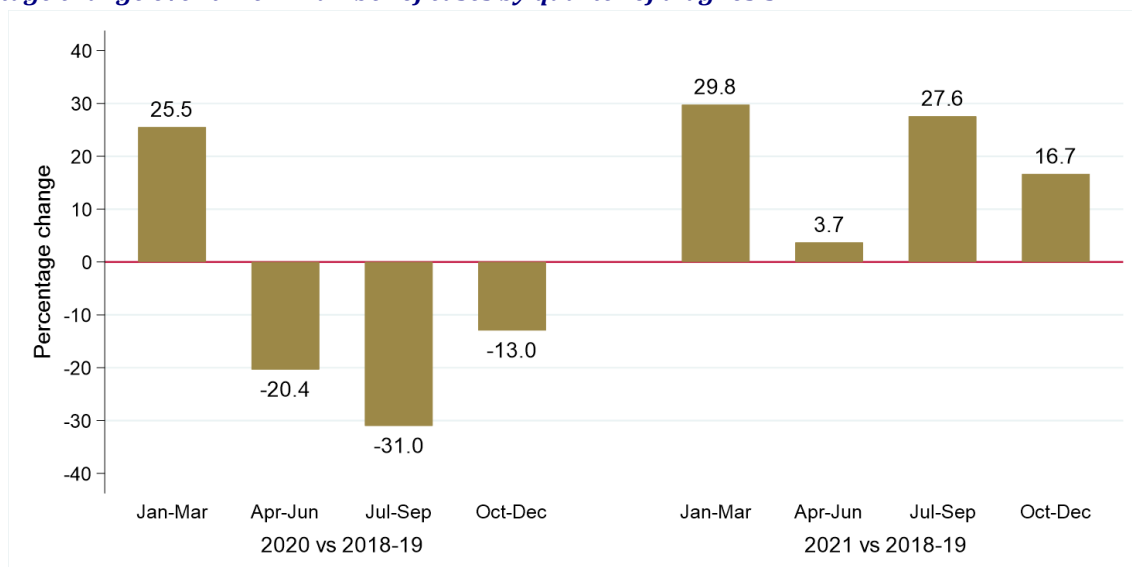
* Average cases per year rounded to the nearest integer. Row sums may thus differ slightly from the total.

Figure 1: Number of oesophageal cancer cases diagnosed in 2018-2021 by month/quarter and year of diagnosis

(a) Number of cases diagnosed by month of diagnosis



(b) Percentage change over time in number of cases by quarter of diagnosis



GENDER

Excluding the first quarter of each year the number of male oesophageal cancer cases diagnosed increased by 11.9% from 118 per year in 2018-2019 to 132 in 2021. Between the same two time periods the number of female oesophageal cancer cases diagnosed increased by 29.8% from 47 per year in 2018-2019 to 61 in 2021. The change in case distribution by gender between 2018-2019 and 2021 was not statistically significant.

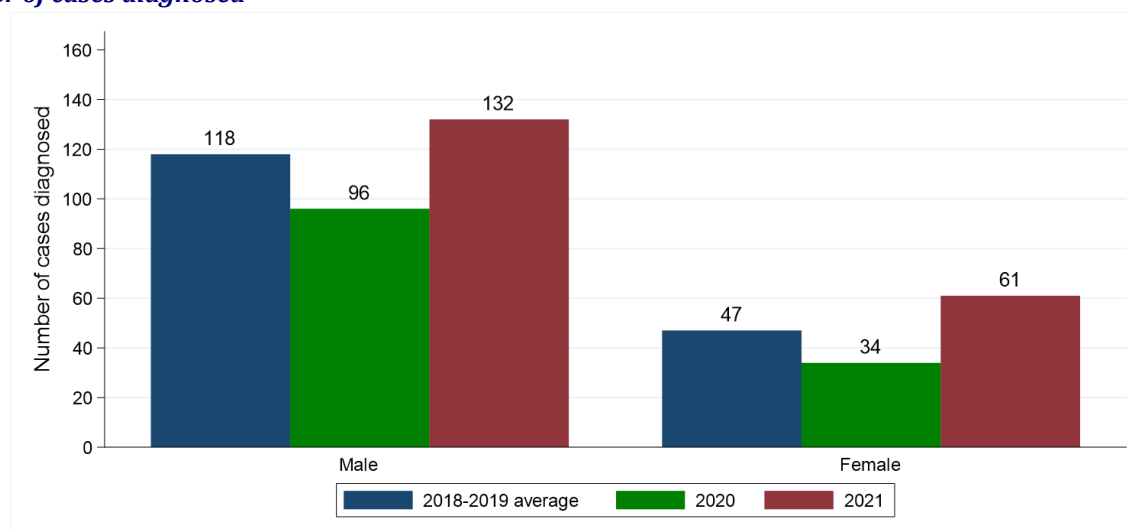
Table 2: Number and proportion of oesophageal cancer cases diagnosed in April-December of 2018-2021 by gender and period of diagnosis

Gender	Period of diagnosis (Apr-Dec)			Percentage change	
	2018-2019*	2020	2021	2020 vs 2018-2019	2021 vs 2018-2019
All persons	165	130	193	-21.2%	+17.0%
Male	118 (71.5%)	96 (73.8%)	132 (68.4%)	-18.6%	+11.9%
Female	47 (28.5%)	34 (26.2%)	61 (31.6%)	-27.7%	+29.8%

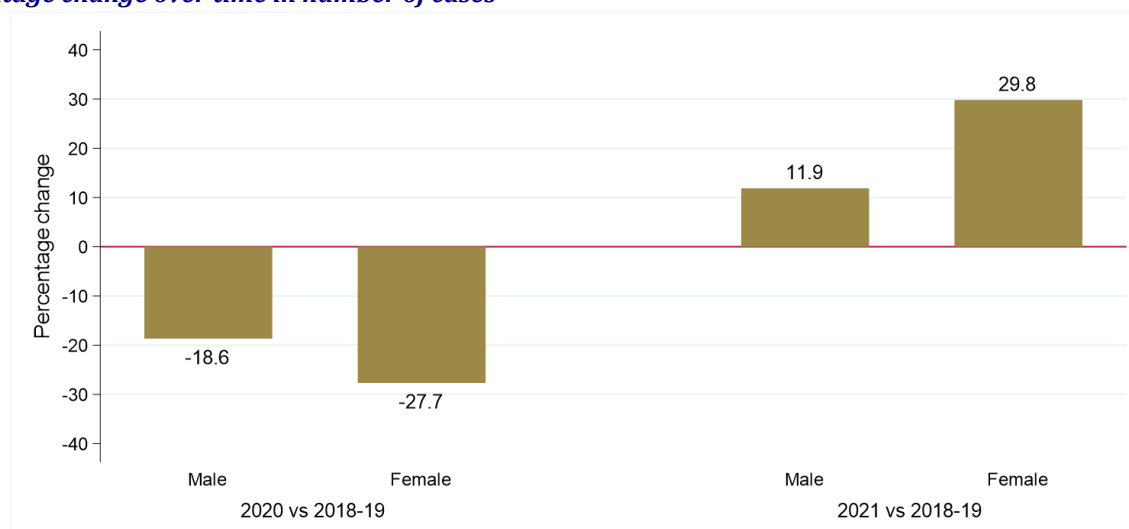
* Average cases per year rounded to the nearest integer. Column sums may thus differ slightly from the total.

Figure 2: Number of oesophageal cancer cases diagnosed in April-December of 2018-2021 by gender and period of diagnosis

(a) Number of cases diagnosed



(b) Percentage change over time in number of cases



AGE

Excluding the first quarter of each year the number of cases of oesophageal cancer diagnosed among those aged 0 to 54 decreased by 6.3% from 16 per year in 2018-2019 to 15 in 2021. Between the same two time periods the number of cases of oesophageal cancer diagnosed among those aged 55 to 64 increased by 48.5% from 33 per year in 2018-2019 to 49 in 2021. The change in case distribution by age between 2018-2019 and 2021 was not statistically significant.

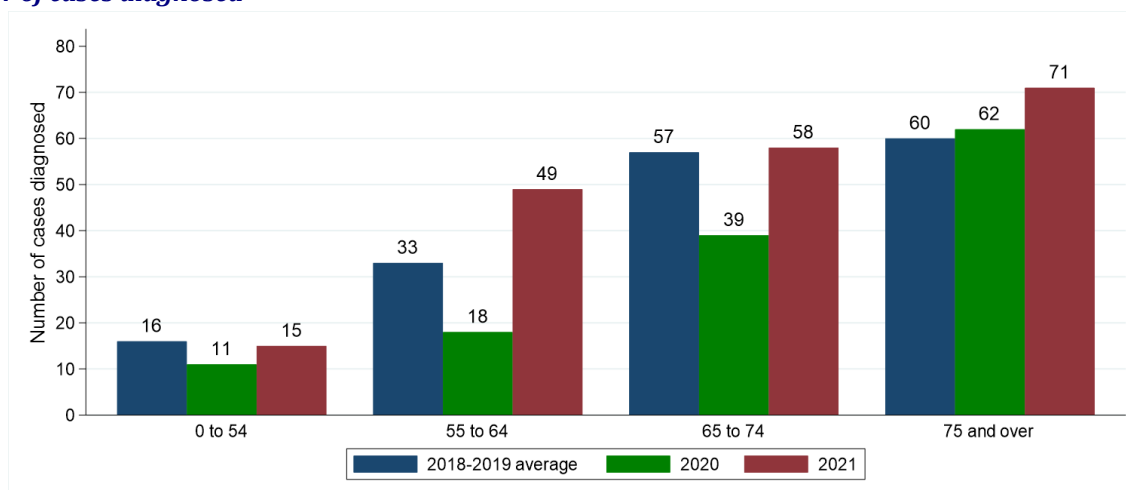
Table 3: Number and proportion of oesophageal cancer cases diagnosed in April-December of 2018-2021 by age and period of diagnosis

Age	Period of diagnosis (Apr-Dec)			Percentage change	
	2018-2019*	2020	2021	2020 vs 2018-2019	2021 vs 2018-2019
All ages	165	130	193	-21.2%	+17.0%
0 to 54	16 (9.7%)	11 (8.5%)	15 (7.8%)	-31.3%	-6.3%
55 to 64	33 (20.0%)	18 (13.8%)	49 (25.4%)	-45.5%	+48.5%
65 to 74	57 (34.5%)	39 (30.0%)	58 (30.1%)	-31.6%	+1.8%
75 and over	60 (36.4%)	62 (47.7%)	71 (36.8%)	+3.3%	+18.3%

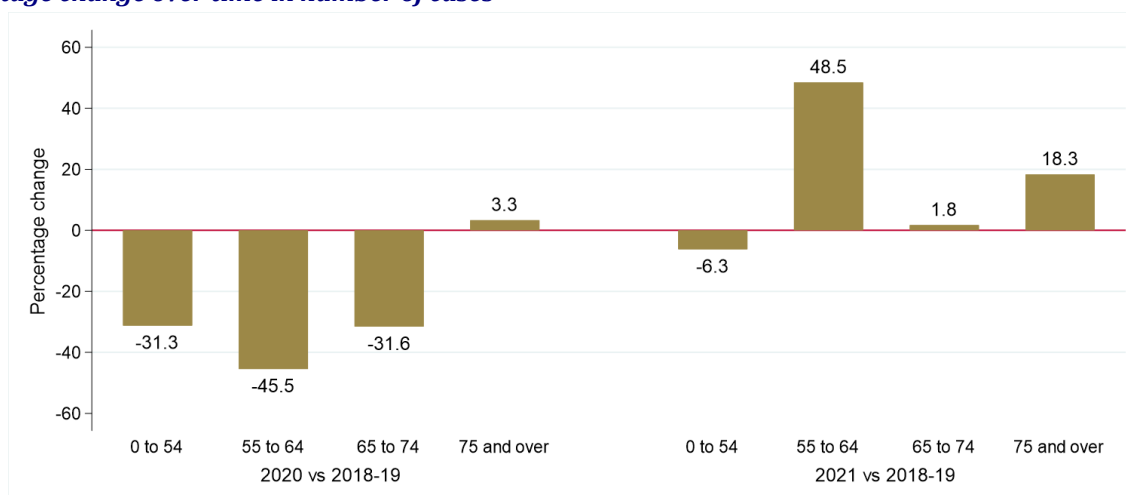
* Average cases per year rounded to the nearest integer. Column sums may thus differ slightly from the total.

Figure 3: Number of oesophageal cancer cases diagnosed in April-December of 2018-2021 by age and period of diagnosis

(a) Number of cases diagnosed



(b) Percentage change over time in number of cases



HEALTH AND SOCIAL CARE TRUST

Excluding the first quarter of each year the number of cases of oesophageal cancer diagnosed among those resident in Northern HSCT decreased by 23.1% from 52 per year in 2018-2019 to 40 in 2021. Between the same two time periods the number of cases of oesophageal cancer diagnosed among those resident in South Eastern HSCT increased by 54.5% from 33 per year in 2018-2019 to 51 in 2021. The change in case distribution by Health and Social Care Trust between 2018-2019 and 2021 was not statistically significant.

Table 4: Number and proportion of oesophageal cancer cases diagnosed in April-December of 2018-2021 by Health and Social Care Trust and period of diagnosis

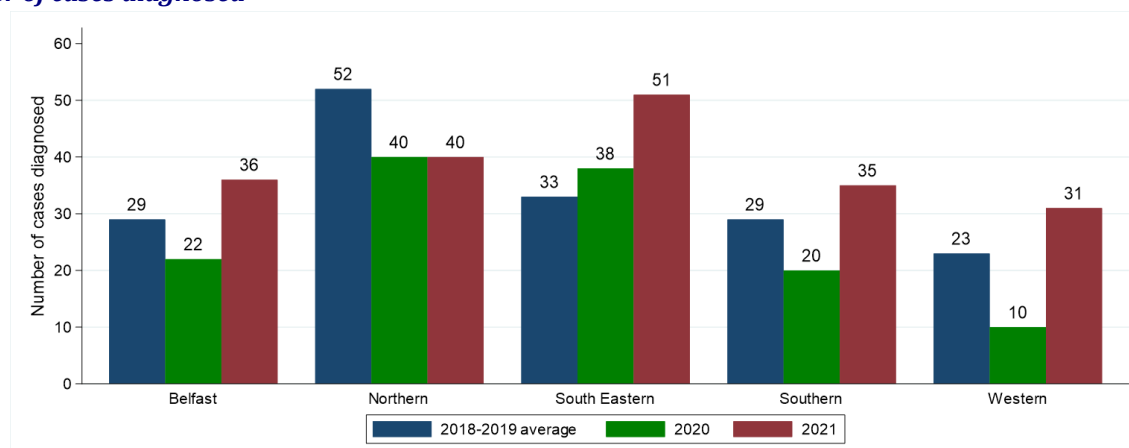
Health and Social Care Trust	Period of diagnosis (Apr-Dec)			Percentage change	
	2018-2019*	2020	2021	2020 vs 2018-2019	2021 vs 2018-2019
Northern Ireland	165	130	193	-21.2%	+17.0%
Belfast	29 (17.6%)	22 (16.9%)	36 (18.7%)	-24.1%	+24.1%
Northern	52 (31.5%)	40 (30.8%)	40 (20.7%)	-23.1%	-23.1%
South Eastern	33 (20.0%)	38 (29.2%)	51 (26.4%)	+15.2%	+54.5%
Southern	29 (17.6%)	20 (15.4%)	35 (18.1%)	-31.0%	+20.7%
Western	23 (13.9%)	10 (7.7%)	31 (16.1%)	-56.5%	+34.8%

* Average cases per year rounded to the nearest integer. Column sums may thus differ slightly from the total.

Note: Cases with unknown Health and Social Care Trust are included in totals.

Figure 4: Number of oesophageal cancer cases diagnosed in April-December of 2018-2021 by Health and Social Care Trust and period of diagnosis

(a) Number of cases diagnosed



(b) Percentage change over time in number of cases



SOCIO-ECONOMIC DEPRIVATION

Excluding the first quarter of each year the number of cases of oesophageal cancer diagnosed among those resident in the least deprived quintile did not change between 2018-2019 and 2021 with an average of 36 diagnosed each year. Between the same two time periods the number of cases of oesophageal cancer diagnosed among those resident in the most deprived quintile increased by 66.7% from 27 per year in 2018-2019 to 45 in 2021. The change in case distribution by deprivation quintile between 2018-2019 and 2021 was not statistically significant.

Table 5: Number and proportion of oesophageal cancer cases diagnosed in April-December of 2018-2021 by deprivation quintile and period of diagnosis

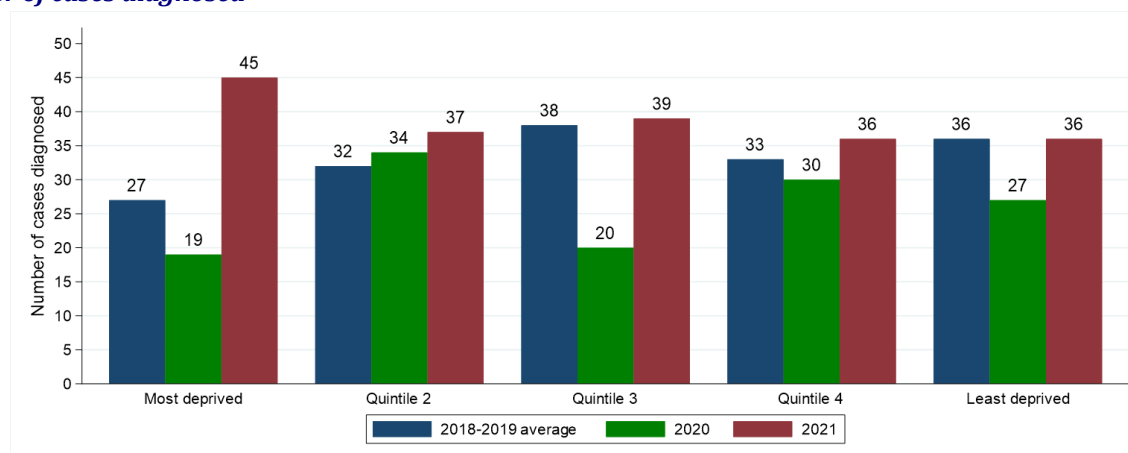
Deprivation quintile	Period of diagnosis (Apr-Dec)			Percentage change	
	2018-2019*	2020	2021	2020 vs 2018-2019	2021 vs 2018-2019
Northern Ireland	165	130	193	-21.2%	+17.0%
Most deprived	27 (16.4%)	19 (14.6%)	45 (23.3%)	-29.6%	+66.7%
Quintile 2	32 (19.4%)	34 (26.2%)	37 (19.2%)	+6.3%	+15.6%
Quintile 3	38 (23.0%)	20 (15.4%)	39 (20.2%)	-47.4%	+2.6%
Quintile 4	33 (20.0%)	30 (23.1%)	36 (18.7%)	-9.1%	+9.1%
Least deprived	36 (21.8%)	27 (20.8%)	36 (18.7%)	-25.0%	0.0%

* Average cases per year rounded to the nearest integer. Column sums may thus differ slightly from the total.

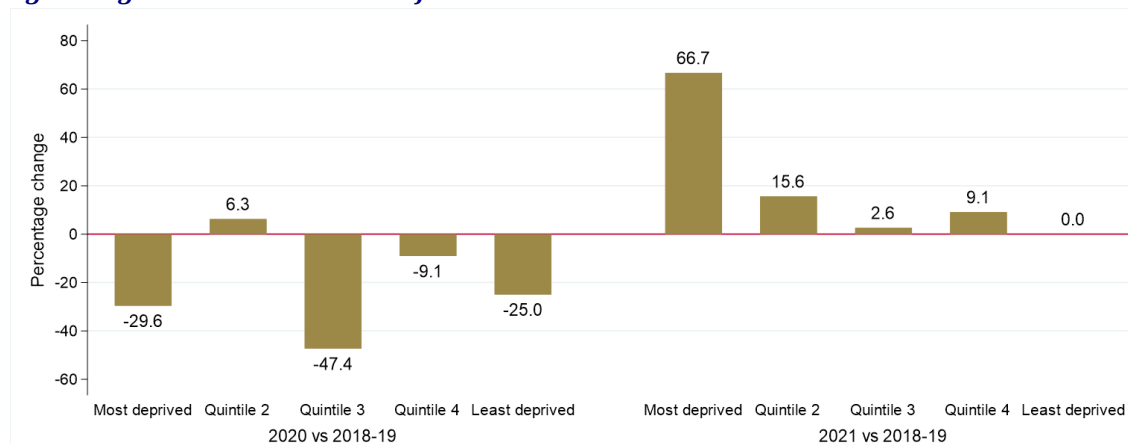
Note: Cases with unknown deprivation quintile are included in totals.

Figure 5: Number of oesophageal cancer cases diagnosed in April-December of 2018-2021 by deprivation quintile and period of diagnosis

(a) Number of cases diagnosed



(b) Percentage change over time in number of cases



BASIS OF DIAGNOSIS

Excluding the first quarter of each year the number of cases of oesophageal cancer diagnosed via histology/cytology increased by 17.6% from 159 per year in 2018-2019 to 187 in 2021. As a proportion of all cases, histology/cytology diagnosis increased from 96.4% in 2018-2019 to 96.9% in 2021. The change in case distribution by basis of diagnosis between 2018-2019 and 2021 was not statistically significant.

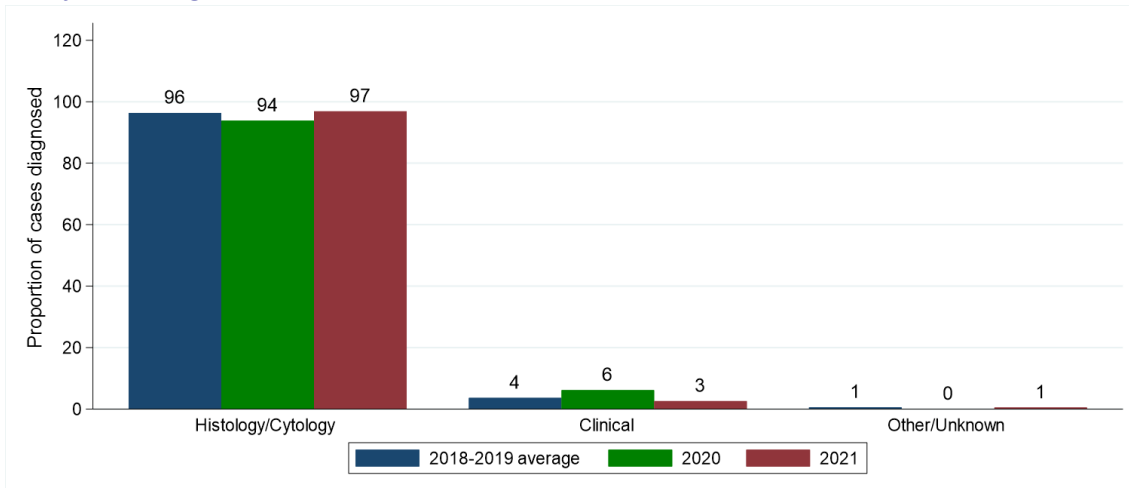
Table 6: Number and proportion of oesophageal cancer cases diagnosed in April-December of 2018-2021 by basis and period of diagnosis

Basis of diagnosis	Period of diagnosis (Apr-Dec)			Percentage change	
	2018-2019*	2020	2021	2020 vs 2018-2019	2021 vs 2018-2019
All types	165	130	193	-21.2%	+17.0%
Histology/Cytology	159 (96.4%)	122 (93.8%)	187 (96.9%)	-23.3%	+17.6%
Clinical	6 (3.6%)	8 (6.2%)	5 (2.6%)	+33.3%	-16.7%
Other/Unknown	1 (0.6%)	0 (0.0%)	1 (0.5%)	-	-

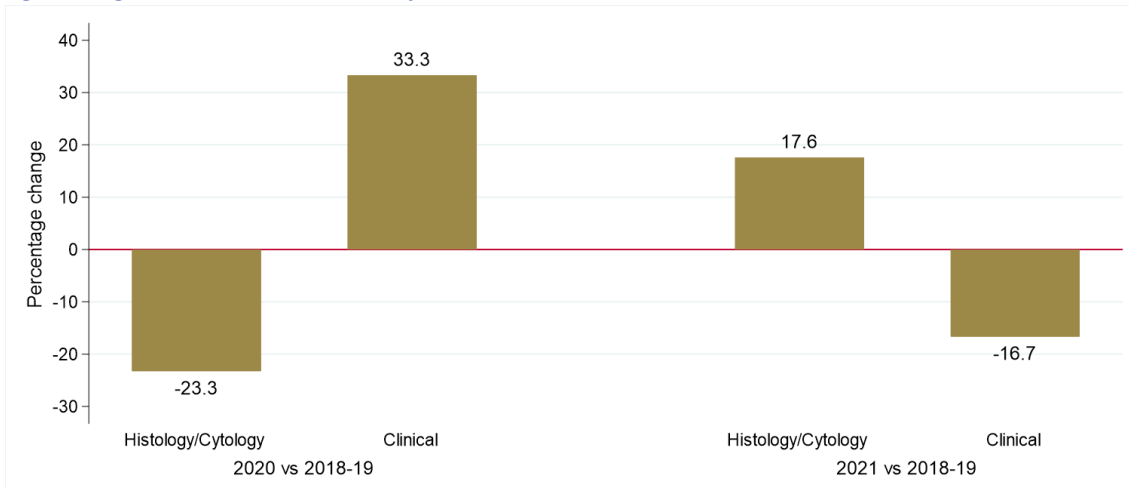
* Average cases per year rounded to the nearest integer. Column sums may thus differ slightly from the total.

Figure 6: Proportion of oesophageal cancer cases diagnosed in April-December of 2018-2021 by basis and period of diagnosis

(a) Proportion of cases diagnosed



(b) Percentage change over time in number of cases



STAGE AT DIAGNOSIS

The number of oesophageal cancer cases diagnosed at stage I in April to December of each year increased by 5.6% from 18 per year in 2018-2019 to 19 in 2021. In addition the number of oesophageal cancer cases diagnosed at stage IV increased by 30.3% from 66 per year in 2018-2019 to 86 in 2021. As a proportion of all cases, stage IV diagnosis increased from 40.0% in 2018-2019 to 44.6% in 2021. The change in stage distribution between 2018-2019 and 2021 was not statistically significant.

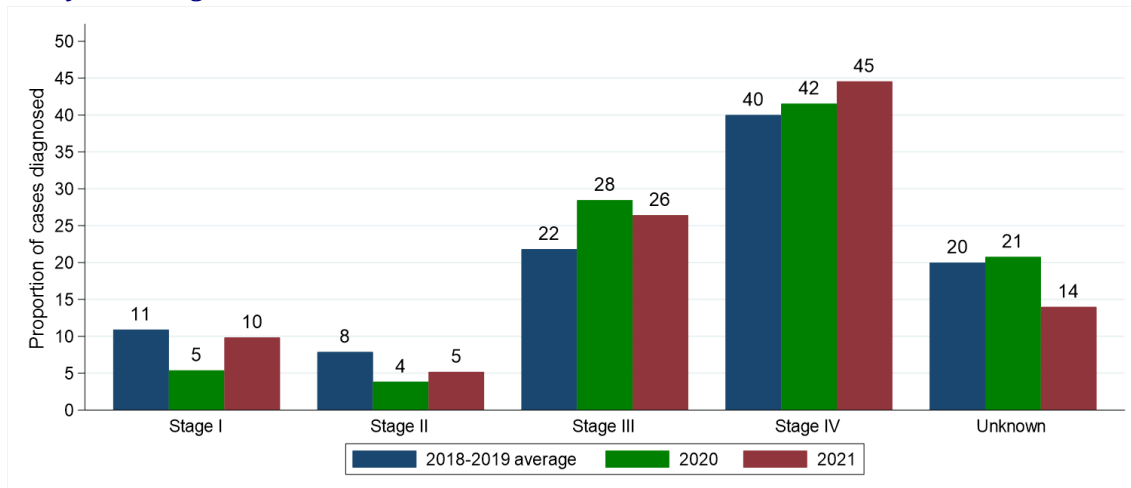
Table 7: Number and proportion of oesophageal cancer cases diagnosed in April-December of 2018-2021 by stage and period of diagnosis

Stage at diagnosis	Period of diagnosis (Apr-Dec)			Percentage change	
	2018-2019*	2020	2021	2020 vs 2018-2019	2021 vs 2018-2019
All stages	165	130	193	-21.2%	+17.0%
Stage I	18 (10.9%)	7 (5.4%)	19 (9.8%)	-61.1%	+5.6%
Stage II	13 (7.9%)	5 (3.8%)	10 (5.2%)	-61.5%	-23.1%
Stage III	36 (21.8%)	37 (28.5%)	51 (26.4%)	+2.8%	+41.7%
Stage IV	66 (40.0%)	54 (41.5%)	86 (44.6%)	-18.2%	+30.3%
Unknown	33 (20.0%)	27 (20.8%)	27 (14.0%)	-18.2%	-18.2%

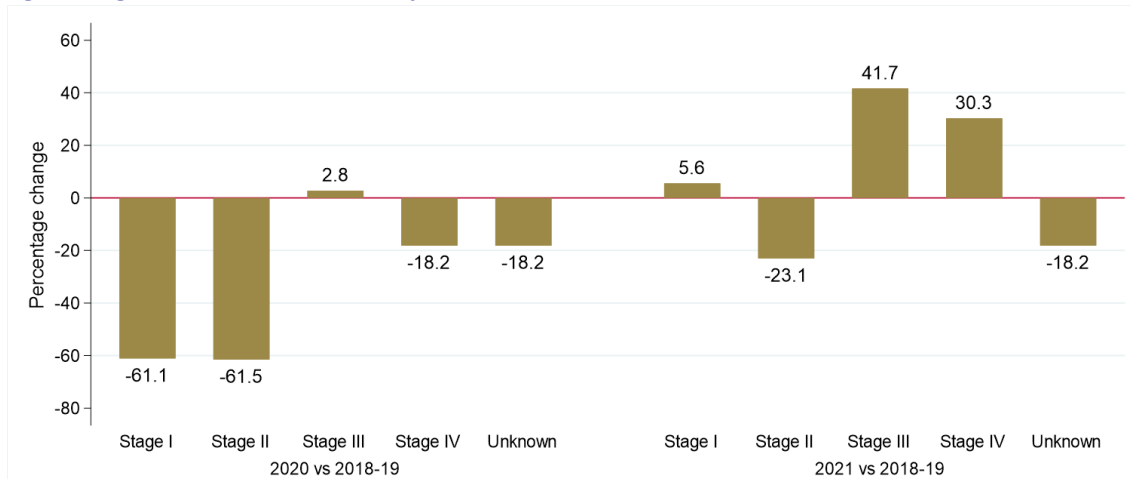
* Average cases per year rounded to the nearest integer. Column sums may thus differ slightly from the total.

Figure 7: Proportion of oesophageal cancer cases diagnosed in April-December of 2018-2021 by stage and period of diagnosis

(a) Proportion of cases diagnosed



(b) Percentage change over time in number of cases



TREATMENT

Excluding the first quarter of each year the number of oesophageal cancer cases resulting in treatment by surgery within six months increased by 42.9% from 84 per year in 2018-2019 to 120 in 2021. The resulting increase in the proportion receiving surgery from 50.9% in 2018-2019 to 62.2% in 2021 was statistically significant ($p = 0.010$).

Between the same two time periods the number of oesophageal cancer cases resulting in treatment by systemic therapy increased by 13.2% from 91 per year in 2018-2019 to 103 in 2021. The resulting decrease in the proportion receiving systemic therapy from 55.2% in 2018-2019 to 53.4% in 2021 was not statistically significant.

The number of oesophageal cancer cases treated with radiotherapy decreased by 13.5% from 37 per year in 2018-2019 to 32 in 2021. The resulting decrease in the proportion receiving radiotherapy from 22.4% in 2018-2019 to 16.6% in 2021 was not statistically significant.

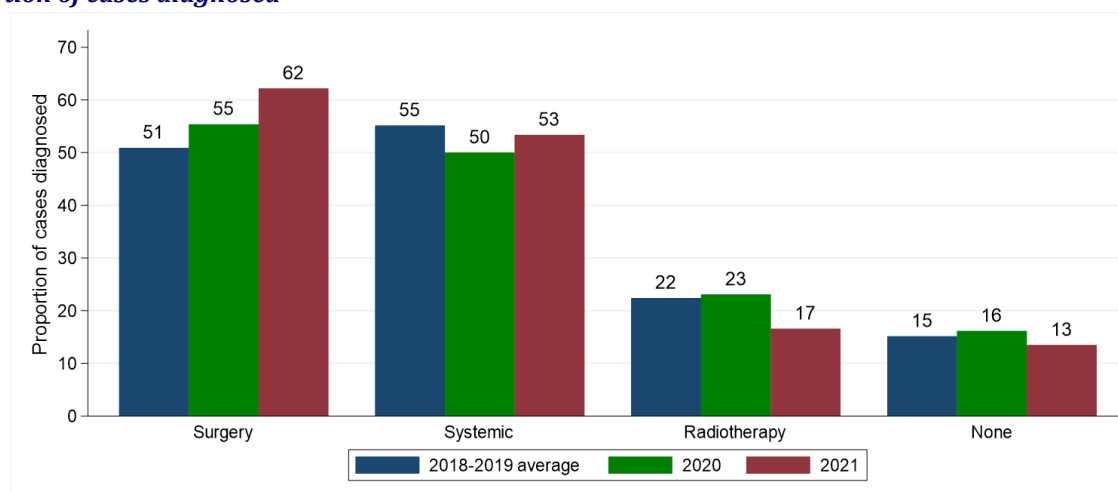
Excluding the first quarter of each year the number of oesophageal cancer cases receiving none of these treatments within six months of diagnosis increased by 4.0% from 25 per year in 2018-2019 to 26 in 2021. The resulting decrease in the proportion receiving none of these treatments from 15.2% in 2018-2019 to 13.5% in 2021 was not statistically significant.

Table 8: Number and proportion of oesophageal cancer cases diagnosed in April-December of 2018-2021 by treatment type (within six months of diagnosis) and period of diagnosis

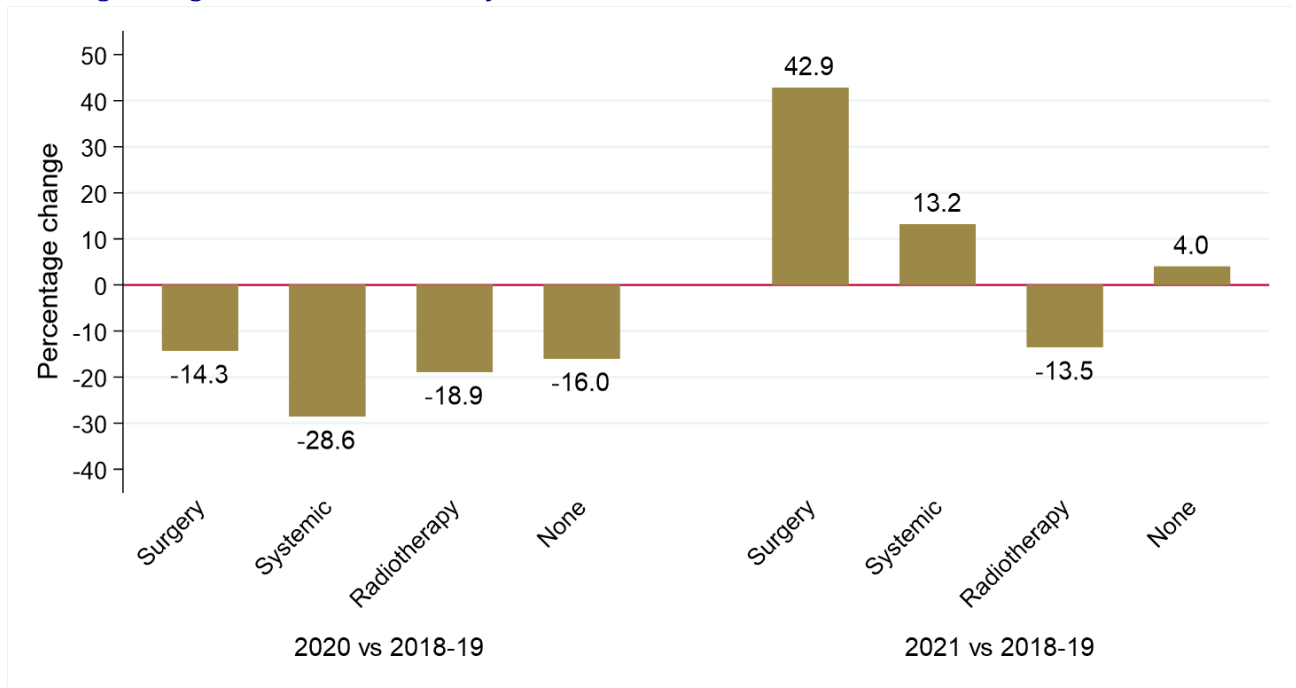
Treatment type	Period of diagnosis (Apr-Dec)			Percentage change	
	2018-2019*	2020	2021	2020 vs 2018-2019	2021 vs 2018-2019
Surgery	84 (50.9%)	72 (55.4%)	120 (62.2%)*	-14.3%	+42.9%
Systemic therapy	91 (55.2%)	65 (50.0%)	103 (53.4%)	-28.6%	+13.2%
Radiotherapy	37 (22.4%)	30 (23.1%)	32 (16.6%)	-18.9%	-13.5%
None of these treatments	25 (15.2%)	21 (16.2%)	26 (13.5%)	-16.0%	+4.0%

* Statistically significant change compared to 2018-2019

Figure 8: Proportion of oesophageal cancer cases diagnosed in April-December of 2018-2021 by treatment type (within six months of diagnosis) and period of diagnosis
(a) Proportion of cases diagnosed



(b) Percentage change over time in number of cases



SURVIVAL

Changes in survival are evaluated using two measures. Observed survival examines the time between diagnosis and death from any cause. It thus represents what cancer patients experience, however, due to the inclusion of non-cancer deaths (e.g. heart disease), it may not reflect how changes in cancer care impact survival from cancer. Thus changes in age-standardised net survival are also examined. This measure provides an estimate of patient survival which has been adjusted to take account of deaths unrelated to cancer. It also assumes a standard age distribution thereby removing the impact of changes in the age distribution of cancer patients on changes in survival over time. While this measure is hypothetical, as it assumes patients can only die from cancer related factors, it is a better indicator of the impact of changes in cancer care on patient survival.

OBSERVED SURVIVAL

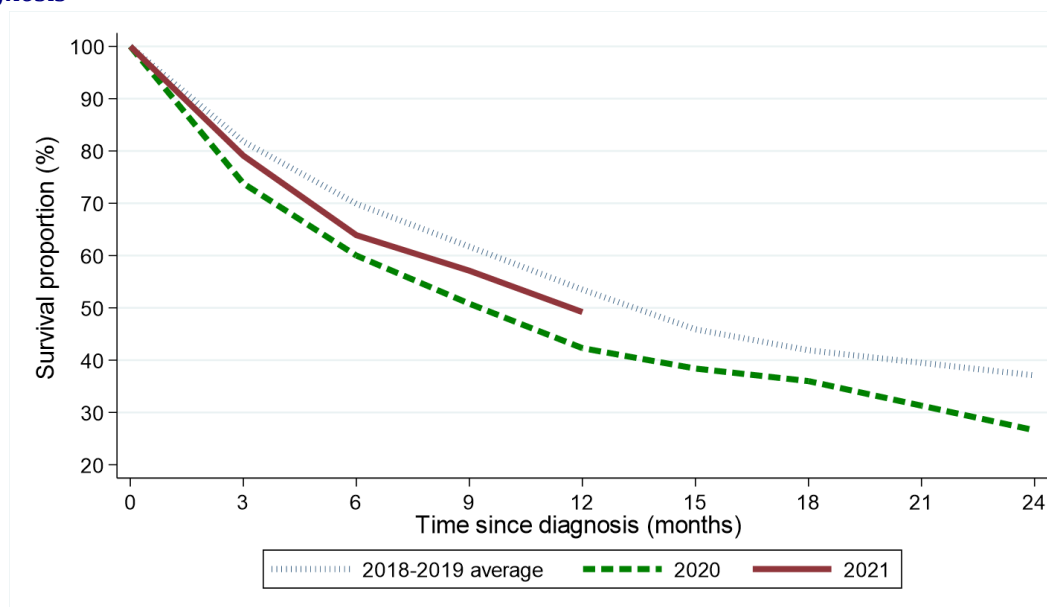
Survival among oesophageal cancer patients six months after diagnosis decreased from 69.9% among those diagnosed in April-December of 2018-2019 to 63.9% among those diagnosed in April-December of 2021. This change was not statistically significant. Between the same two diagnosis periods, one-year survival decreased from 53.5% to 49.2%. This change was not statistically significant. The log-rank test of equality indicates no statistically significant difference between the survival functions for 2018-2019 and 2021 ($p=0.773$).

Table 9: Observed survival for patients with oesophageal cancer diagnosed in April-December of 2018-2021 by period of diagnosis

Survival time	Period of diagnosis (Apr-Dec)		
	2018-2019	2020	2021
Three months	81.8% (77.1% - 85.5%)	73.8% (65.4% - 80.5%)	79.1% (72.6% - 84.2%)
Six months	69.9% (64.6% - 74.6%)	60.0% (51.1% - 67.8%)	63.9% (56.6% - 70.2%)
One year	53.5% (48.0% - 58.7%)	42.3% (33.7% - 50.6%)	49.2% (41.9% - 56.1%)
Two years	37.1% (31.9% - 42.3%)	26.6% (19.3% - 34.5%)	-

No statistically significant reductions compared to 2018-2019

Figure 9: Observed survival for patients with oesophageal cancer diagnosed in April-December of 2018-2021 by period of diagnosis



DEATHS FROM COVID-19

During 2021 there were a total of 8 deaths from Covid-19 among oesophageal cancer patients diagnosed at any point since 1993.

NET SURVIVAL

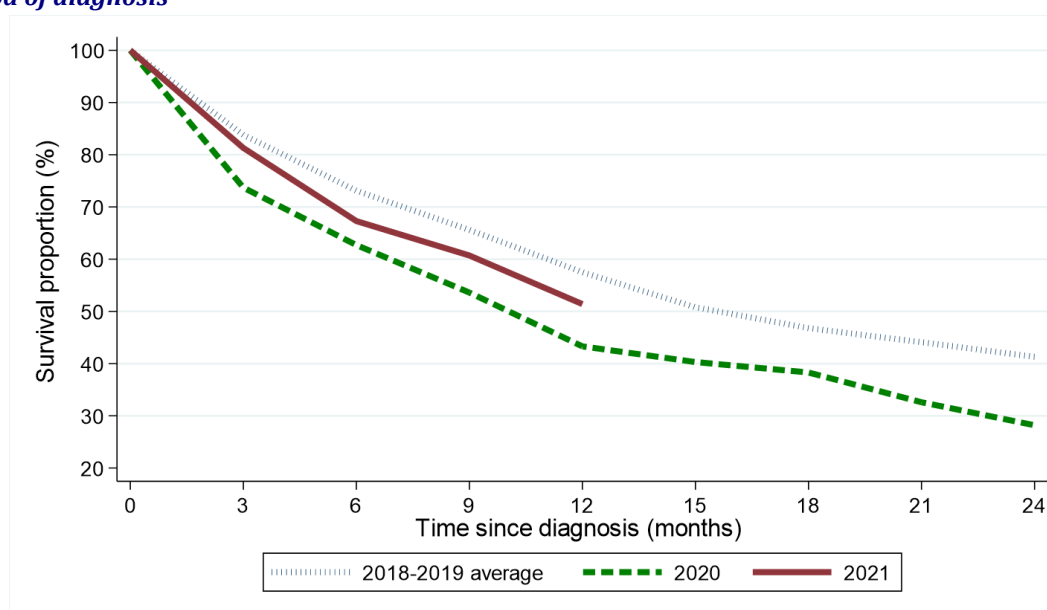
Net survival among oesophageal cancer patients six months after diagnosis decreased from 73.1% among those diagnosed in April-December of 2018-2019 to 67.3% among those diagnosed in April-December of 2021. This change was not statistically significant. Between the same two diagnosis periods, one-year net survival decreased from 57.5% to 51.4%. This change was not statistically significant.

Table 10: Age-standardised net survival for patients with oesophageal cancer diagnosed in April-December of 2018-2021 by period of diagnosis

Survival time	Period of diagnosis (Apr-Dec)		
	2018-2019	2020	2021
Three months	83.8% (79.9% - 87.8%)	73.7% (65.7% - 82.7%)	81.3% (75.9% - 87.1%)
Six months	73.1% (68.3% - 78.3%)	62.7% (54.2% - 72.5%)	67.3% (60.8% - 74.5%)
One year	57.5% (52.0% - 63.5%)	43.3% (34.3% - 54.7%)	51.4% (44.5% - 59.4%)
Two years	41.3% (35.9% - 47.6%)	28.2% (18.1% - 43.8%)	-

No statistically significant reductions compared to 2018-2019

Figure 10: Age-standardised net survival for patients with oesophageal cancer diagnosed in April-December of 2018-2021 by period of diagnosis



Note: All patients are followed up to the end of 2022. This enables calculation of two-year survival for patients diagnosed in 2018-2020, however only survival up to one year from diagnosis can be calculated for patients diagnosed in 2021.

MORTALITY

During the April-December period the number of deaths from oesophageal cancer increased between 2018-2019 and 2021 by 21.4% from 131 deaths per year to 159 deaths.

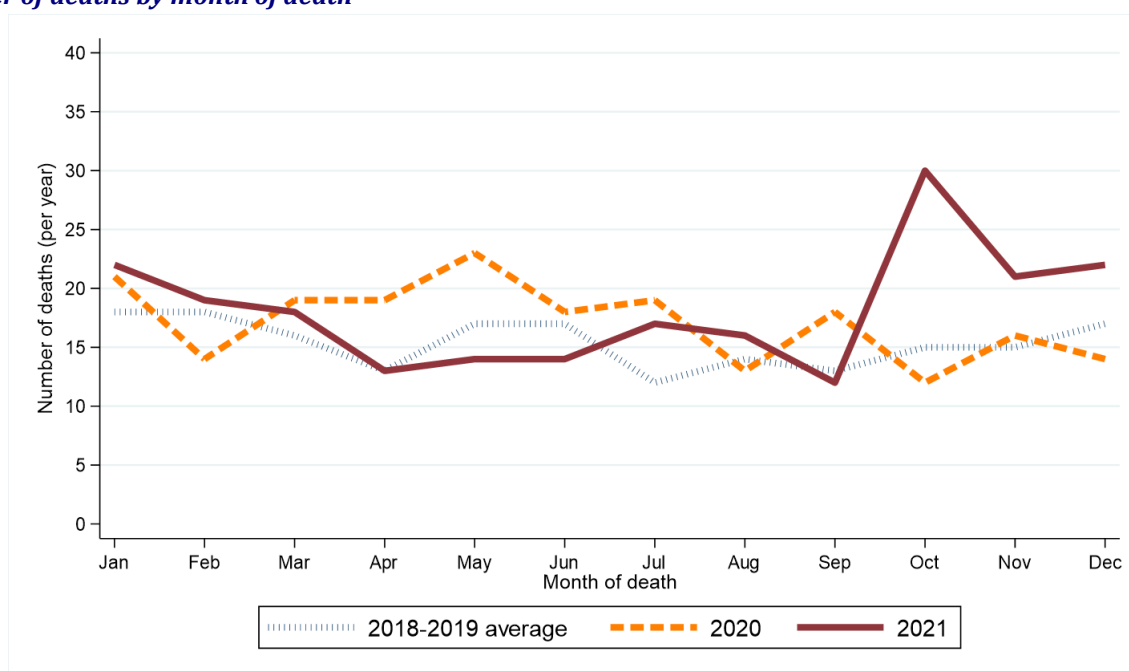
Table 11: Number of oesophageal cancer deaths in 2018-2021 by month and year of death

Period of death	Annual total	Month death occurred											
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
2018-2019*	182	18	18	16	13	17	17	12	14	13	15	15	17
2020	206	21	14	19	19	23	18	19	13	18	12	16	14
2021	218	22	19	18	13	14	14	17	16	12	30	21	22

* Average deaths per year rounded to the nearest integer. Row sums may thus differ slightly from the total.

Figure 11: Number of oesophageal cancer deaths in 2018-2021 by month/quarter and year of death

(a) Number of deaths by month of death



(b) Percentage change over time in number of deaths by quarter of death

