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

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

Further information

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INCIDENCE

During the April-December period the number of cases of pancreatic cancer diagnosed increased between 2018-2019 and 2021 by 2.0% from 202 cases per year to 206 cases.

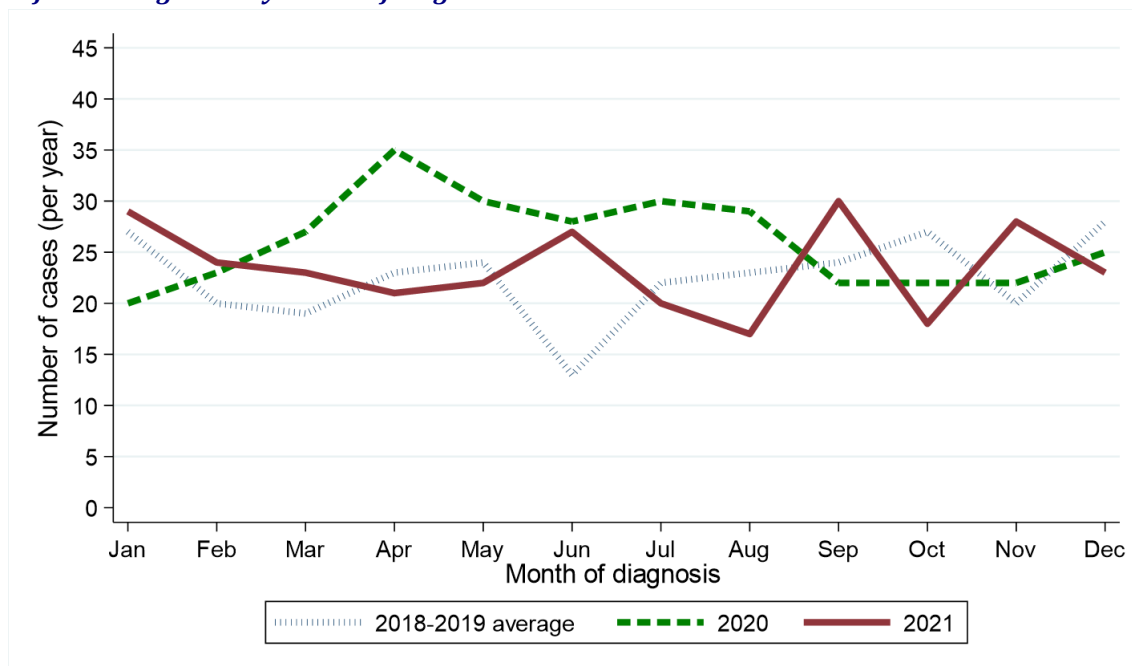
Table 1: Number of pancreatic cancer cases diagnosed in 2018-2021 by month and year of diagnosis

Period of diagnosis	Annual total	Month diagnosed											
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
2018-2019*	267	27	20	19	23	24	13	22	23	24	27	20	28
2020	313	20	23	27	35	30	28	30	29	22	22	22	25
2021	282	29	24	23	21	22	27	20	17	30	18	28	23

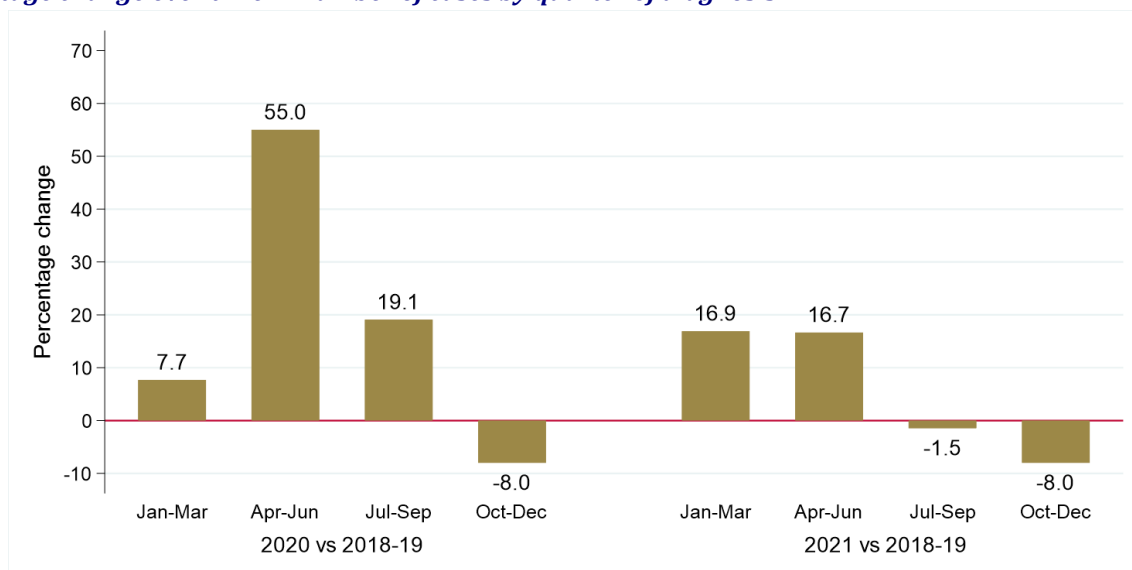
* Average cases per year rounded to the nearest integer. Row sums may thus differ slightly from the total.

Figure 1: Number of pancreatic 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 pancreatic cancer cases diagnosed increased by 0.9% from 108 per year in 2018-2019 to 109 in 2021. Between the same two time periods the number of female pancreatic cancer cases diagnosed increased by 2.1% from 95 per year in 2018-2019 to 97 in 2021. The change in case distribution by gender between 2018-2019 and 2021 was not statistically significant.

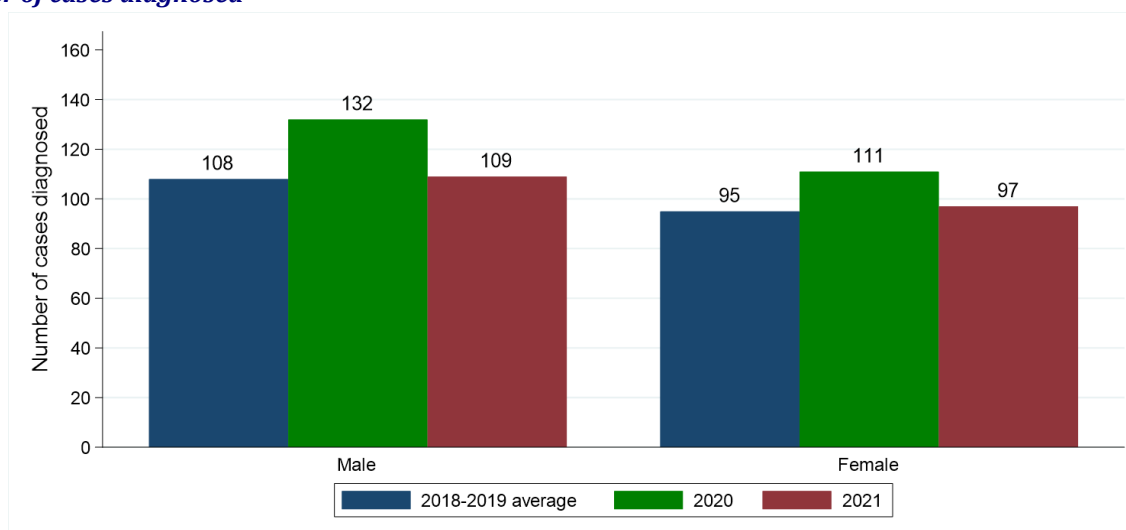
Table 2: Number and proportion of pancreatic cancer cases diagnosed in April-December of 2018-2021 by gender and period of diagnosis

Gender	Period of diagnosis (Apr-Dec)			Percentage change	
	2018-2019*	2020	2021	2020 vs 2018-2019	2021 vs 2018-2019
All persons	202	243	206	+20.3%	+2.0%
Male	108 (53.5%)	132 (54.3%)	109 (52.9%)	+22.2%	+0.9%
Female	95 (47.0%)	111 (45.7%)	97 (47.1%)	+16.8%	+2.1%

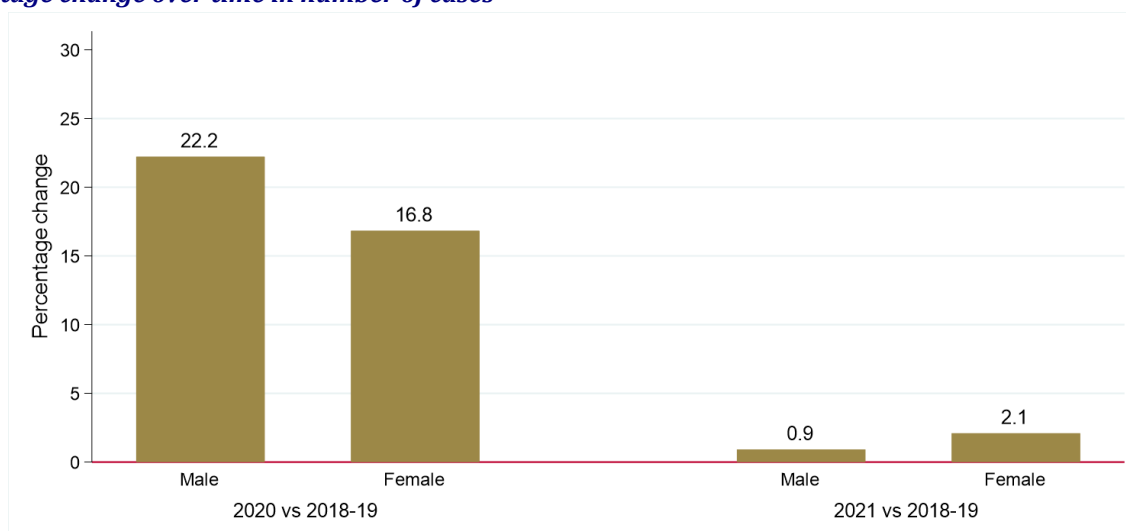
* Average cases per year rounded to the nearest integer. Column sums may thus differ slightly from the total.

Figure 2: Number of pancreatic 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 pancreatic cancer diagnosed among those aged 75 and over decreased by 6.4% from 94 per year in 2018-2019 to 88 in 2021. Between the same two time periods the number of cases of pancreatic cancer diagnosed among those aged 0 to 54 increased by 11.8% from 17 per year in 2018-2019 to 19 in 2021. The change in case distribution by age between 2018-2019 and 2021 was not statistically significant.

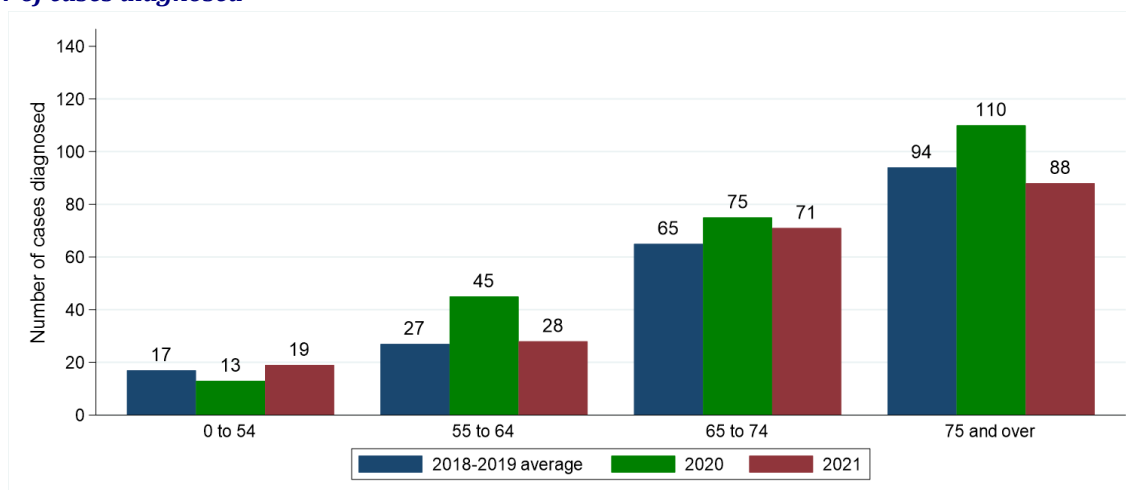
Table 3: Number and proportion of pancreatic cancer cases diagnosed in April-December of 2018-2021 by age and period of diagnosis

Age	Period of diagnosis (Apr-Dec)			Percentage change	
	2018-2019*	2020	2021	2020 vs 2018-2019	2021 vs 2018-2019
All ages	202	243	206	+20.3%	+2.0%
0 to 54	17 (8.4%)	13 (5.3%)	19 (9.2%)	-23.5%	+11.8%
55 to 64	27 (13.4%)	45 (18.5%)	28 (13.6%)	+66.7%	+3.7%
65 to 74	65 (32.2%)	75 (30.9%)	71 (34.5%)	+15.4%	+9.2%
75 and over	94 (46.5%)	110 (45.3%)	88 (42.7%)	+17.0%	-6.4%

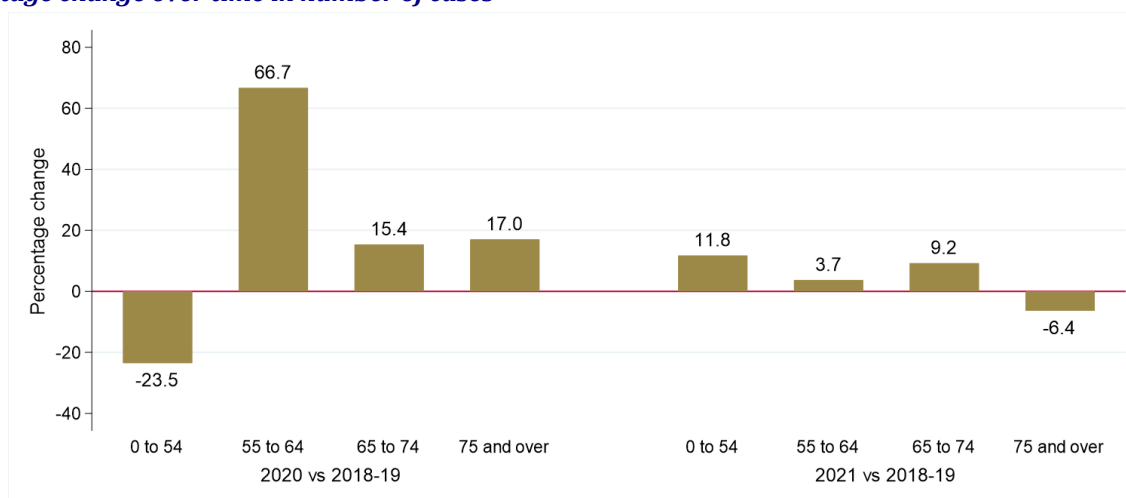
* Average cases per year rounded to the nearest integer. Column sums may thus differ slightly from the total.

Figure 3: Number of pancreatic 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 pancreatic cancer diagnosed among those resident in South Eastern HSCT decreased by 11.8% from 51 per year in 2018-2019 to 45 in 2021. Between the same two time periods the number of cases of pancreatic cancer diagnosed among those resident in Belfast HSCT increased by 34.5% from 29 per year in 2018-2019 to 39 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 pancreatic cancer cases diagnosed in April-December of 2018-2021 by Health and Social Care Trust and period of diagnosis

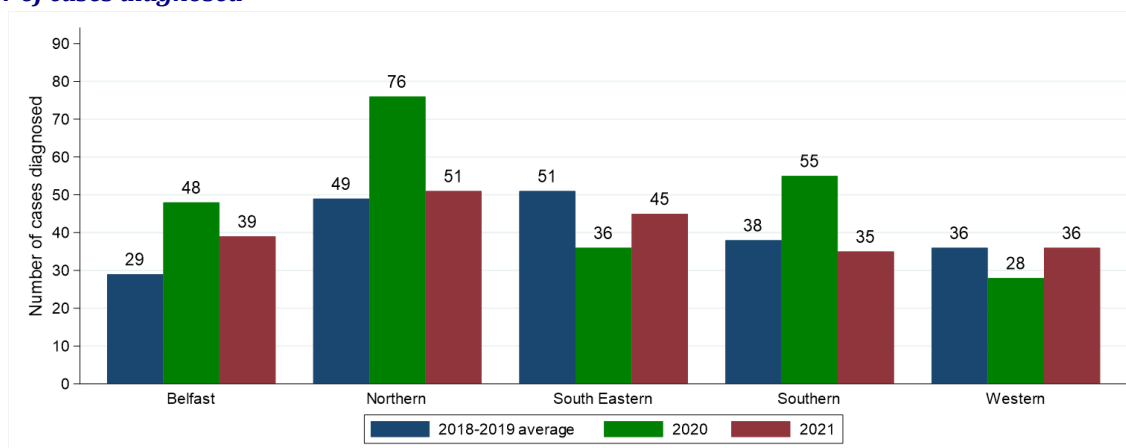
Health and Social Care Trust	Period of diagnosis (Apr-Dec)			Percentage change	
	2018-2019*	2020	2021	2020 vs 2018-2019	2021 vs 2018-2019
Northern Ireland	202	243	206	+20.3%	+2.0%
Belfast	29 (14.4%)	48 (19.8%)	39 (18.9%)	+65.5%	+34.5%
Northern	49 (24.3%)	76 (31.3%)	51 (24.8%)	+55.1%	+4.1%
South Eastern	51 (25.2%)	36 (14.8%)	45 (21.8%)	-29.4%	-11.8%
Southern	38 (18.8%)	55 (22.6%)	35 (17.0%)	+44.7%	-7.9%
Western	36 (17.8%)	28 (11.5%)	36 (17.5%)	-22.2%	0.0%

* 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 pancreatic 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 pancreatic cancer diagnosed among those resident in the most deprived quintile decreased by 7.7% from 39 per year in 2018-2019 to 36 in 2021. Between the same two time periods the number of cases of pancreatic cancer diagnosed among those resident in the least deprived quintile increased by 9.8% from 41 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 pancreatic cancer cases diagnosed in April-December of 2018-2021 by deprivation quintile and period of diagnosis

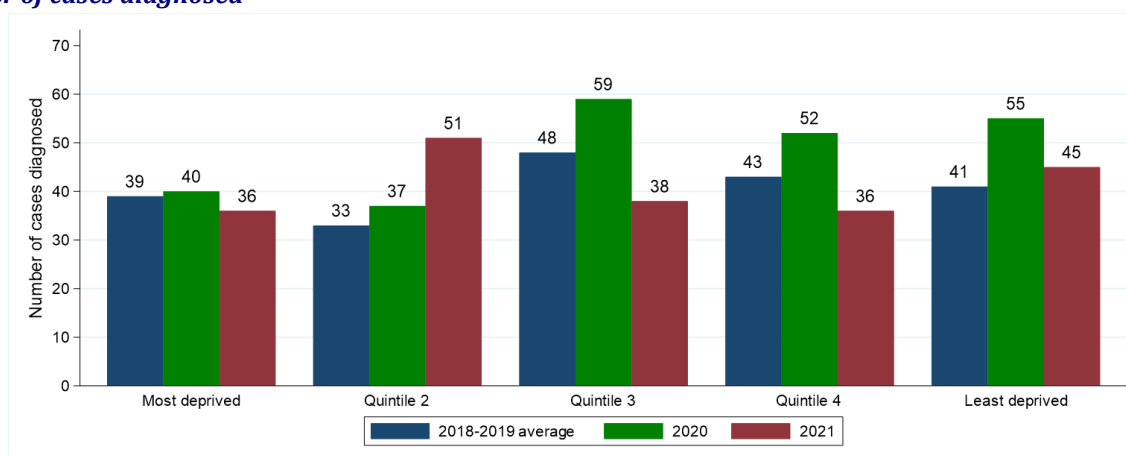
Deprivation quintile	Period of diagnosis (Apr-Dec)			Percentage change	
	2018-2019*	2020	2021	2020 vs 2018-2019	2021 vs 2018-2019
Northern Ireland	202	243	206	+20.3%	+2.0%
Most deprived	39 (19.3%)	40 (16.5%)	36 (17.5%)	+2.6%	-7.7%
Quintile 2	33 (16.3%)	37 (15.2%)	51 (24.8%)	+12.1%	+54.5%
Quintile 3	48 (23.8%)	59 (24.3%)	38 (18.4%)	+22.9%	-20.8%
Quintile 4	43 (21.3%)	52 (21.4%)	36 (17.5%)	+20.9%	-16.3%
Least deprived	41 (20.3%)	55 (22.6%)	45 (21.8%)	+34.1%	+9.8%

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

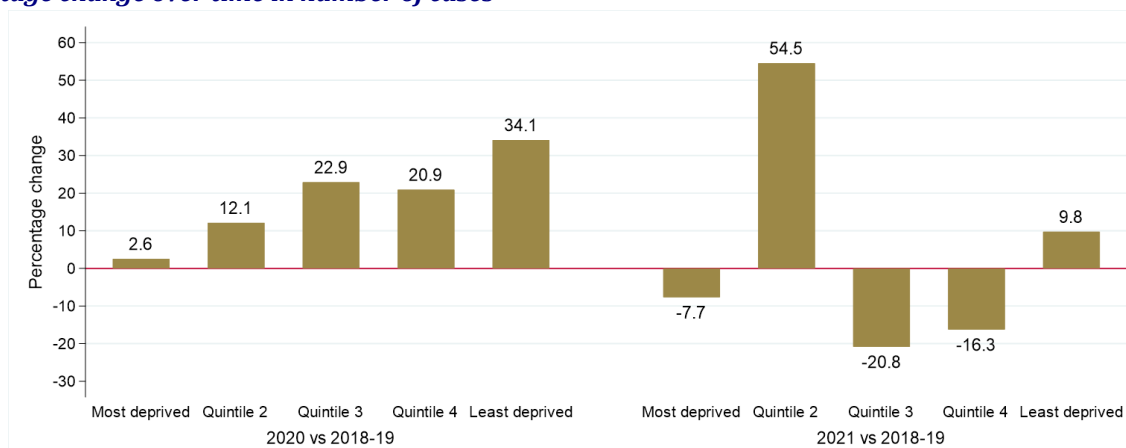
Note: Cases with unknown deprivation quintile are included in totals.

Figure 5: Number of pancreatic 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 pancreatic cancer diagnosed via histology/cytology increased by 0.7% from 134 per year in 2018-2019 to 135 in 2021. As a proportion of all cases, histology/cytology diagnosis decreased from 66.3% in 2018-2019 to 65.5% in 2021. The change in case distribution by basis of diagnosis between 2018-2019 and 2021 was not statistically significant.

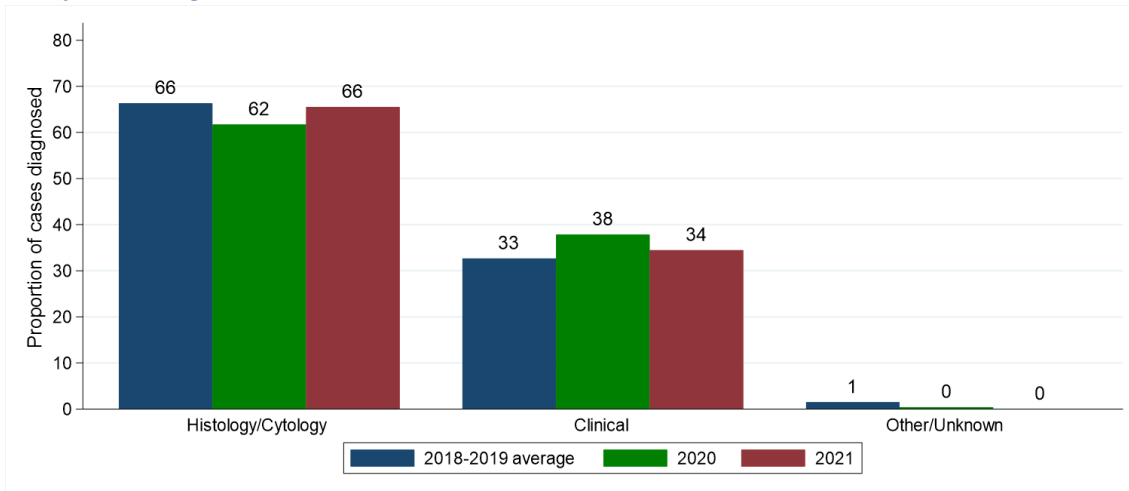
Table 6: Number and proportion of pancreatic cancer cases diagnosed in April-December of 2018-2021 by basis and period of diagnosis

Basis of diagnosis	Period of diagnosis (Apr-Dec)			Percentage change	
	2018-2019*	2020	2021	2020 vs 2018-2019	2021 vs 2018-2019
All types	202	243	206	+20.3%	+2.0%
Histology/Cytology	134 (66.3%)	150 (61.7%)	135 (65.5%)	+11.9%	+0.7%
Clinical	66 (32.7%)	92 (37.9%)	71 (34.5%)	+39.4%	+7.6%
Other/Unknown	3 (1.5%)	1 (0.4%)	0 (0.0%)	-	-

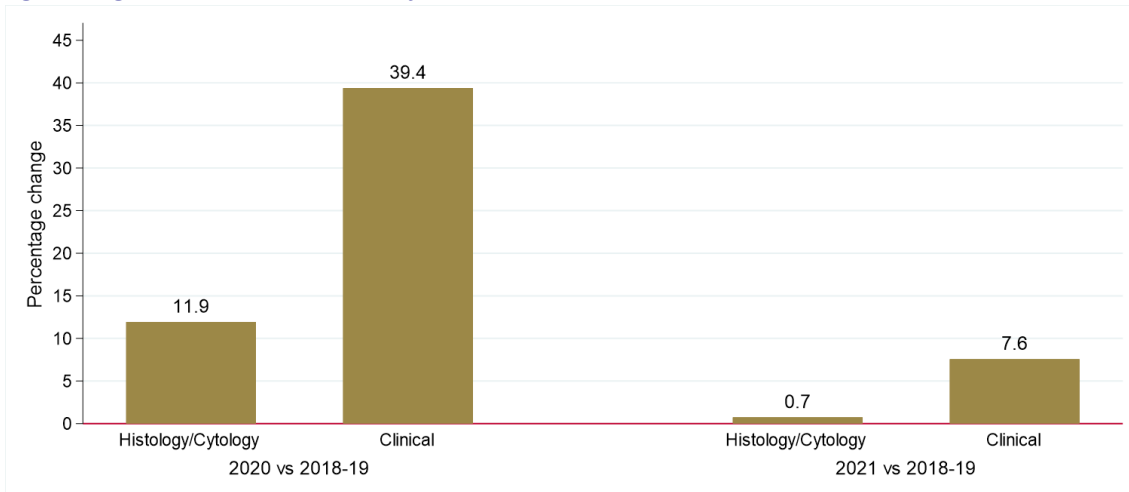
* Average cases per year rounded to the nearest integer. Column sums may thus differ slightly from the total.

Figure 6: Proportion of pancreatic 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 pancreatic cancer cases diagnosed at stage I in April to December of each year increased by 12.1% from 33 per year in 2018-2019 to 37 in 2021. In addition the number of pancreatic cancer cases diagnosed at stage IV decreased by 3.1% from 98 per year in 2018-2019 to 95 in 2021. As a proportion of all cases, stage IV diagnosis decreased from 48.5% in 2018-2019 to 46.1% in 2021. The change in stage distribution between 2018-2019 and 2021 was not statistically significant.

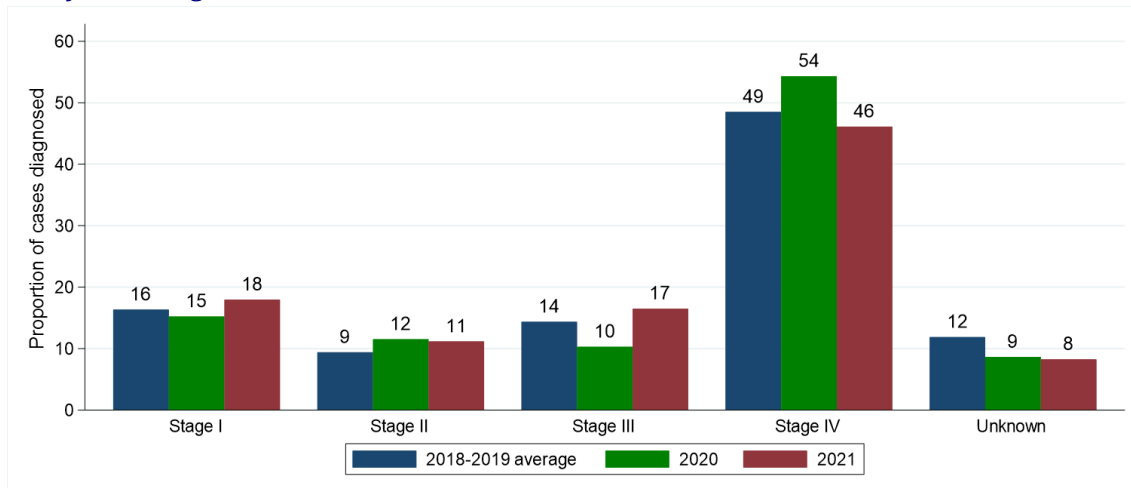
Table 7: Number and proportion of pancreatic cancer cases diagnosed in April-December of 2018-2021 by stage and period of diagnosis

Stage at diagnosis	Period of diagnosis (Apr-Dec)			Percentage change	
	2018-2019*	2020	2021	2020 vs 2018-2019	2021 vs 2018-2019
All stages	202	243	206	+20.3%	+2.0%
Stage I	33 (16.3%)	37 (15.2%)	37 (18.0%)	+12.1%	+12.1%
Stage II	19 (9.4%)	28 (11.5%)	23 (11.2%)	+47.4%	+21.1%
Stage III	29 (14.4%)	25 (10.3%)	34 (16.5%)	-13.8%	+17.2%
Stage IV	98 (48.5%)	132 (54.3%)	95 (46.1%)	+34.7%	-3.1%
Unknown	24 (11.9%)	21 (8.6%)	17 (8.3%)	-12.5%	-29.2%

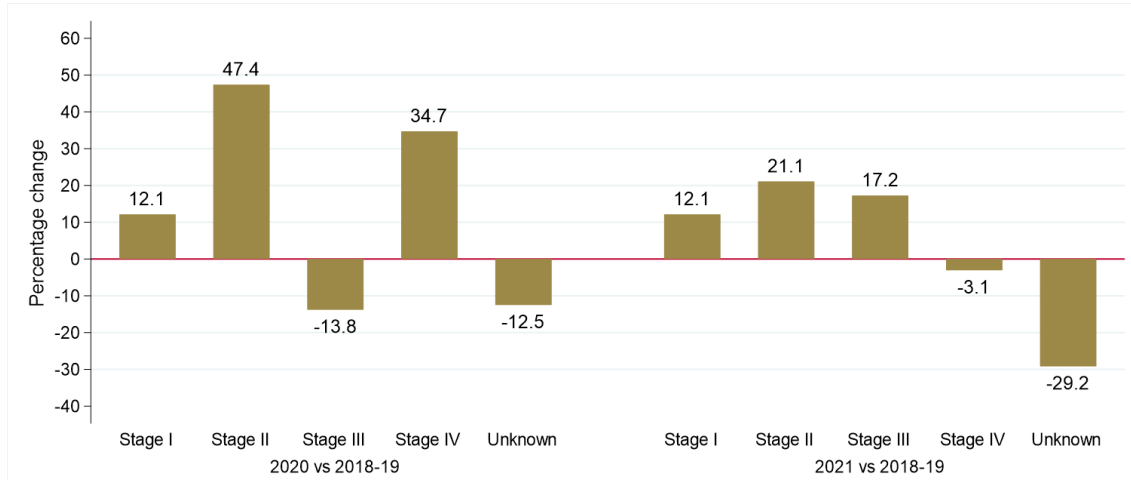
* Average cases per year rounded to the nearest integer. Column sums may thus differ slightly from the total.

Figure 7: Proportion of pancreatic 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 pancreatic cancer cases resulting in treatment by surgery within six months increased by 9.8% from 61 per year in 2018-2019 to 67 in 2021. The resulting increase in the proportion receiving surgery from 30.2% in 2018-2019 to 32.5% in 2021 was not statistically significant.

Between the same two time periods the number of pancreatic cancer cases resulting in treatment by systemic therapy decreased by 1.6% from 63 per year in 2018-2019 to 62 in 2021. The resulting decrease in the proportion receiving systemic therapy from 31.2% in 2018-2019 to 30.1% in 2021 was not statistically significant.

Excluding the first quarter of each year the number of pancreatic cancer cases receiving none of these treatments within six months of diagnosis increased by 3.7% from 107 per year in 2018-2019 to 111 in 2021. The resulting increase in the proportion receiving none of these treatments from 53.0% in 2018-2019 to 53.9% in 2021 was not statistically significant.

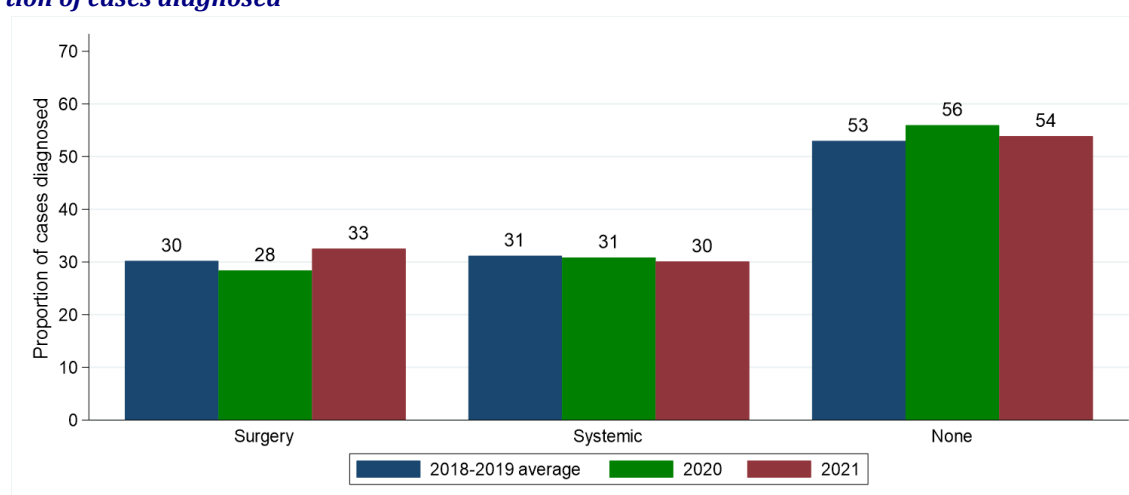
Table 8: Number and proportion of pancreatic cancer cases diagnosed in April-December of 2018-2021 by treatment type (within six months of diagnosis) and period of diagnosis

Treatment type	Period of diagnosis (Apr-Dec)			Percentage change	
	2018-2019*	2020	2021	2020 vs 2018-2019	2021 vs 2018-2019
Surgery	61 (30.2%)	69 (28.4%)	67 (32.5%)	+13.1%	+9.8%
Systemic therapy	63 (31.2%)	75 (30.9%)	62 (30.1%)	+19.0%	-1.6%
None of these treatments	107 (53.0%)	136 (56.0%)	111 (53.9%)	+27.1%	+3.7%

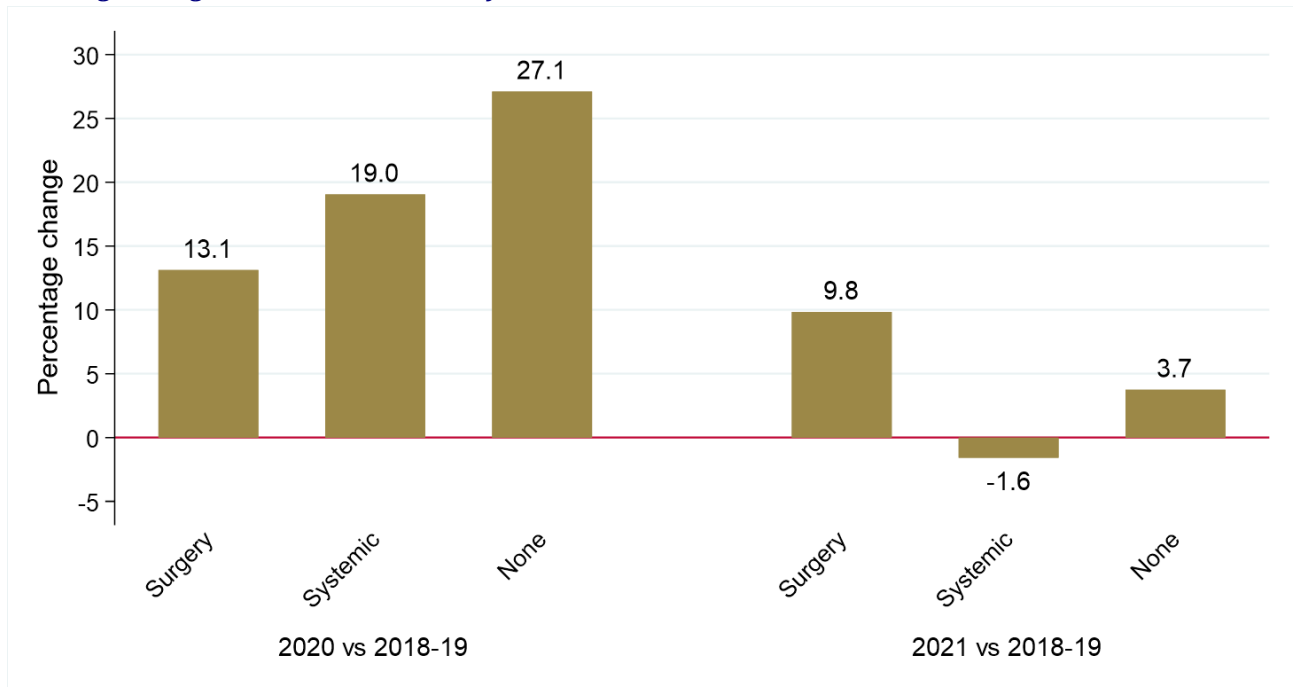
No statistically significant change compared to 2018-2019

Figure 8: Proportion of pancreatic 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

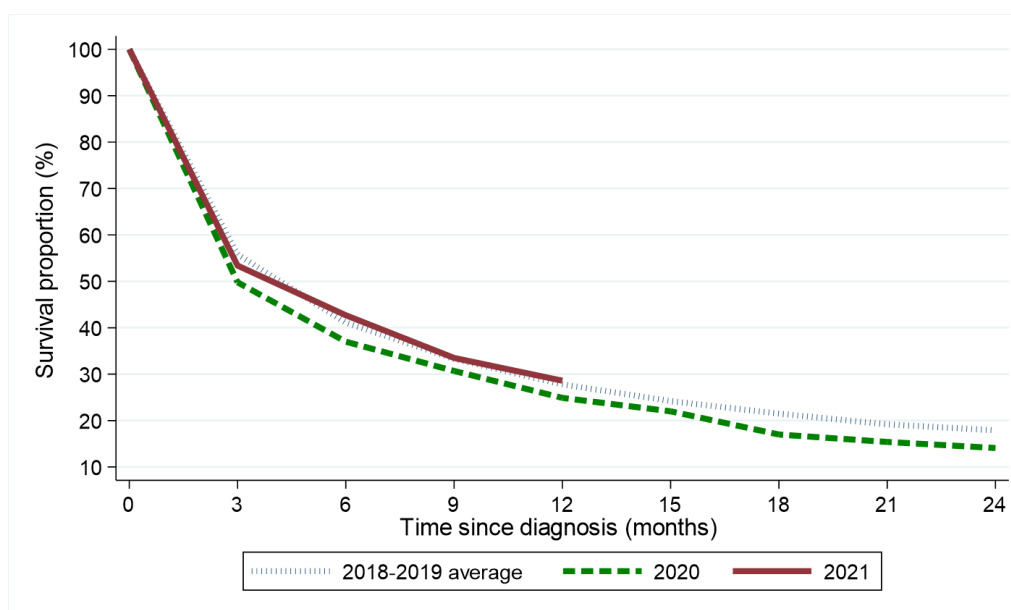
Survival among pancreatic cancer patients six months after diagnosis increased from 41.1% among those diagnosed in April-December of 2018-2019 to 42.7% among those diagnosed in April-December of 2021. This change was not statistically significant. Between the same two diagnosis periods, one-year survival increased from 27.8% to 28.6%. 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 ($p=0.815$).

Table 9: Observed survival for patients with pancreatic 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	55.8% (50.8% - 60.5%)	49.8% (43.4% - 56.0%)	53.4% (46.4% - 59.9%)
Six months	41.1% (36.3% - 45.9%)	37.0% (30.9% - 43.0%)	42.7% (35.9% - 49.3%)
One year	27.8% (23.4% - 32.2%)	24.9% (19.7% - 30.5%)	28.6% (22.6% - 34.9%)
Two years	17.9% (14.3% - 21.9%)	14.1% (10.1% - 18.8%)	-

No statistically significant reductions compared to 2018-2019

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



DEATHS FROM COVID-19

During 2021 there were a total of 4 deaths from Covid-19 among pancreatic cancer patients diagnosed at any point since 1993.

NET SURVIVAL

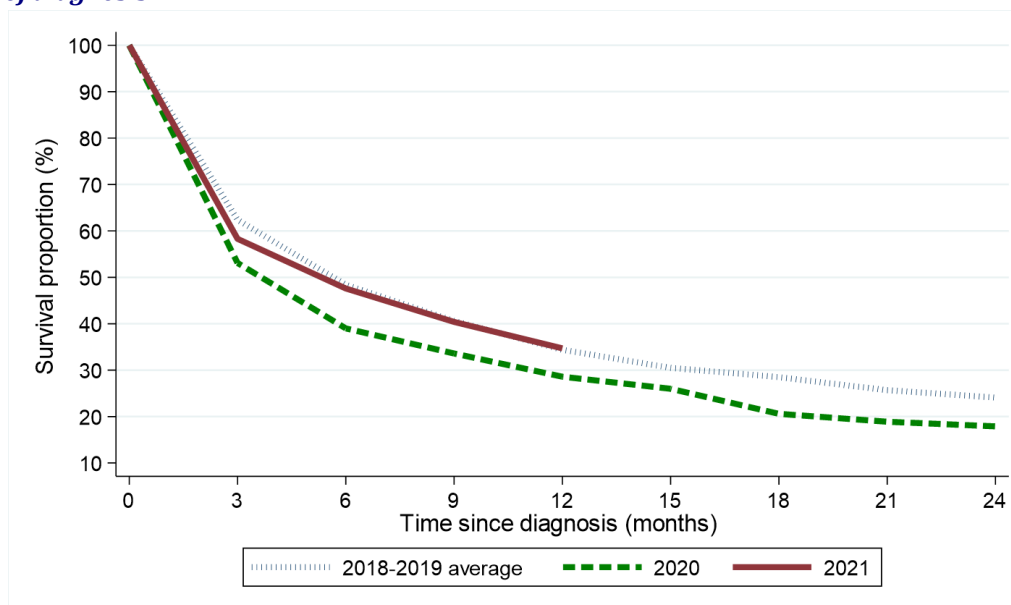
Net survival among pancreatic cancer patients six months after diagnosis decreased from 48.4% among those diagnosed in April-December of 2018-2019 to 47.6% among those diagnosed in April-December of 2021. This change was not statistically significant. Between the same two diagnosis periods, one-year net survival increased from 34.4% to 34.7%. This change was not statistically significant.

Table 10: Age-standardised net survival for patients with pancreatic 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	62.4% (57.6% - 67.6%)	53.1% (46.3% - 60.9%)	58.3% (51.6% - 65.8%)
Six months	48.4% (43.2% - 54.2%)	39.0% (32.3% - 47.1%)	47.6% (40.9% - 55.4%)
One year	34.4% (29.4% - 40.2%)	28.6% (22.7% - 36.0%)	34.7% (28.2% - 42.7%)
Two years	24.1% (18.5% - 31.3%)	17.9% (13.2% - 24.3%)	-

No statistically significant reductions compared to 2018-2019

Figure 10: Age-standardised net survival for patients with pancreatic 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 pancreatic cancer increased between 2018-2019 and 2021 by 10.3% from 175 deaths per year to 193 deaths.

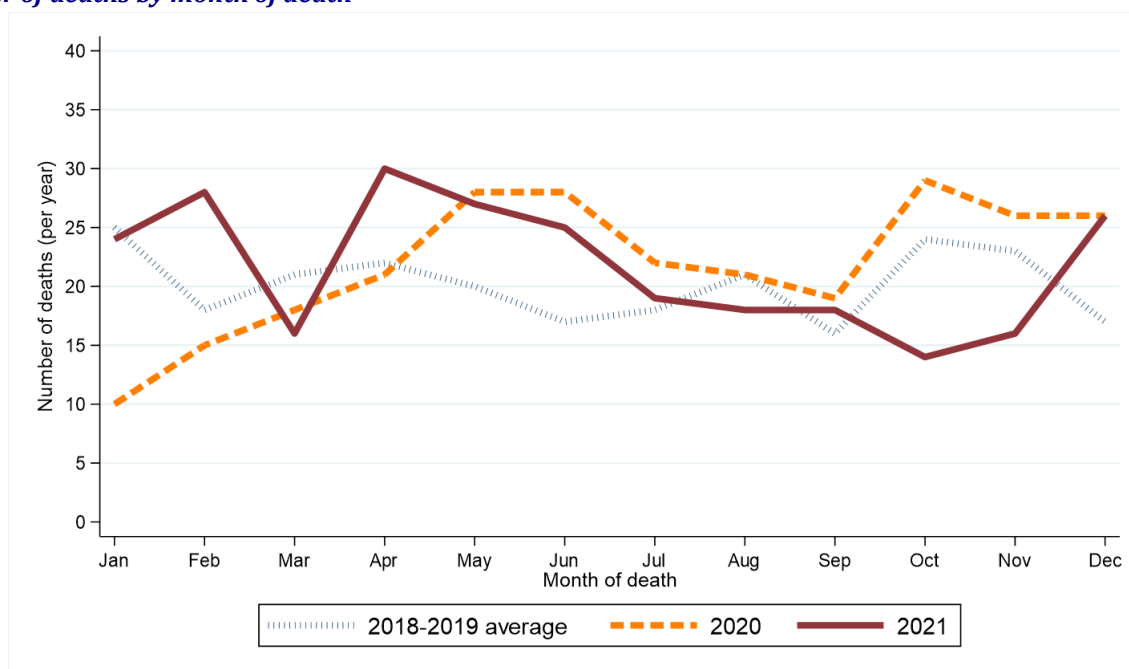
Table 11: Number of pancreatic cancer deaths in 2018-2021 by month and year of death

Period of death	Annual total	Month death occurred											
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
2018-2019*	239	25	18	21	22	20	17	18	21	16	24	23	17
2020	263	10	15	18	21	28	28	22	21	19	29	26	26
2021	261	24	28	16	30	27	25	19	18	18	14	16	26

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

Figure 11: Number of pancreatic 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

