
Impact of Covid-19 on incidence, survival and mortality of gallbladder cancer in Northern Ireland

(A comparison between April-December of 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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The incidence, prevalence and survival statistics in this publication are designated as official statistics signifying that they comply with the Code of Practice for Official Statistics.



INCIDENCE

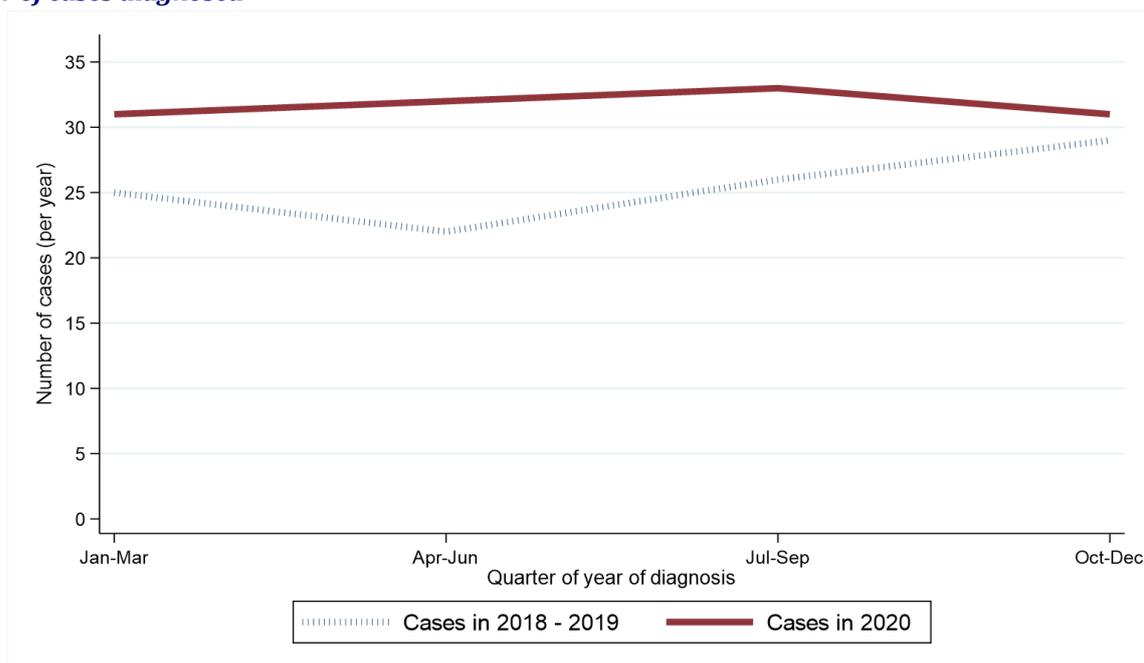
During the April-December period when Covid-19 was present the number of cases of gallbladder cancer diagnosed increased by 24.7% (19 patients) from 77 per year in 2018 - 2019 to 96 in 2020.

Table 1: Number of gallbladder cancer cases diagnosed in 2018-2020 by quarter and year of diagnosis

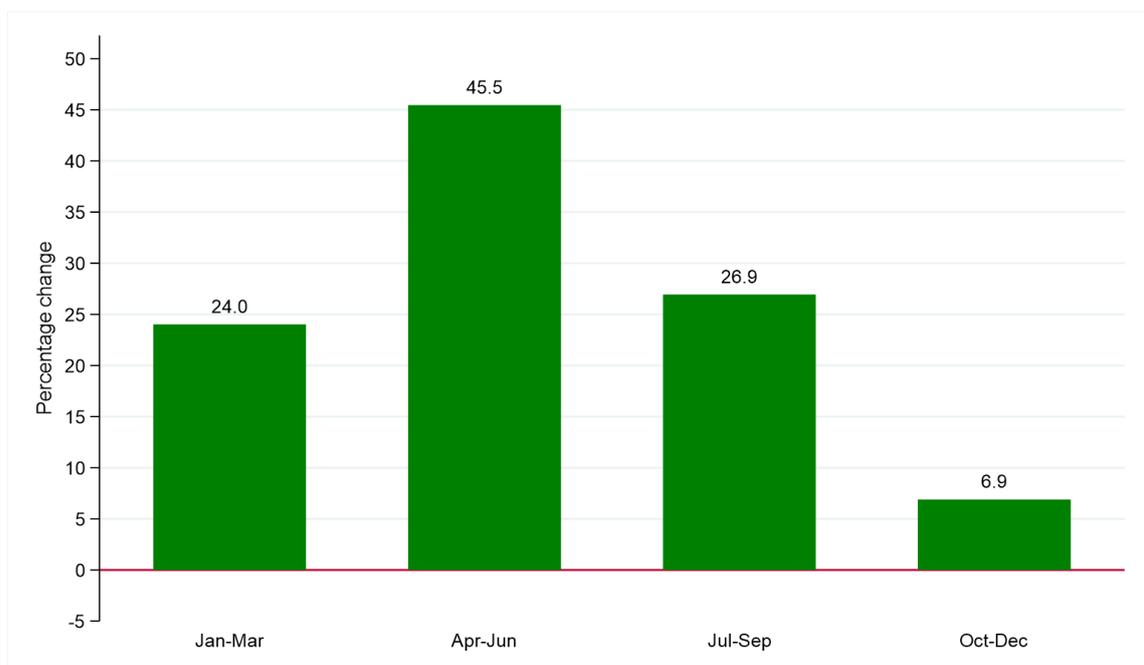
Period of diagnosis	Annual total	Quarter of year diagnosed			
		Jan-Mar	Apr-Jun	Jul-Sept	Oct-Dec
2018-2019*	101	25	22	26	29
2020	127	31	32	33	31

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

Figure 1: Number of gallbladder cancer cases diagnosed in 2018-2020 by quarter and year of diagnosis
(a) Number of cases diagnosed



(b) Percentage change from 2018-2019 to 2020 in number of gallbladder cancer cases by quarter of year of diagnosis



GENDER

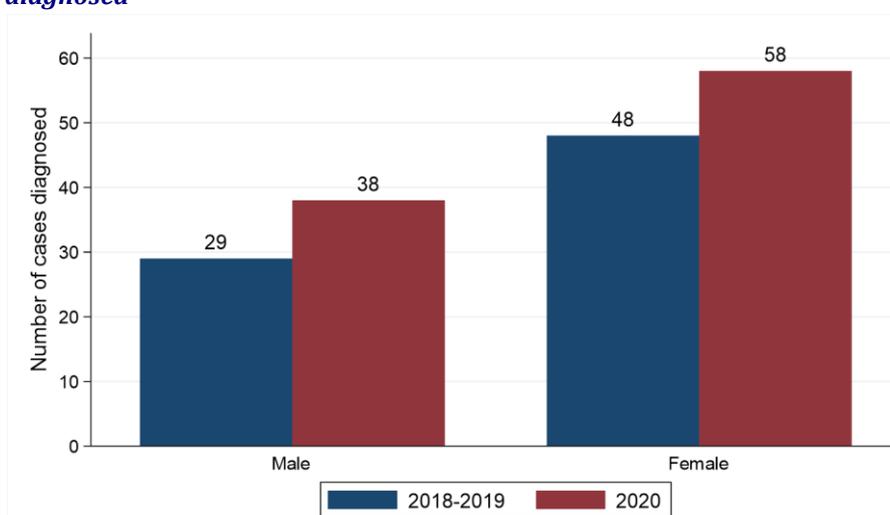
Excluding the first quarter of each year among males the number of cases of gallbladder cancer diagnosed increased by 31.0% from 29 per year in 2018 - 2019 to 38 in 2020. Between the same two time periods the number of cases among females increased by 20.8% from 48 per year to 58. The change in case distribution by gender between 2018 - 2019 and 2020 was not statistically significant.

Table 2: Number and proportion of gallbladder cancer cases diagnosed in April-December of 2018-2020 by gender and period of diagnosis

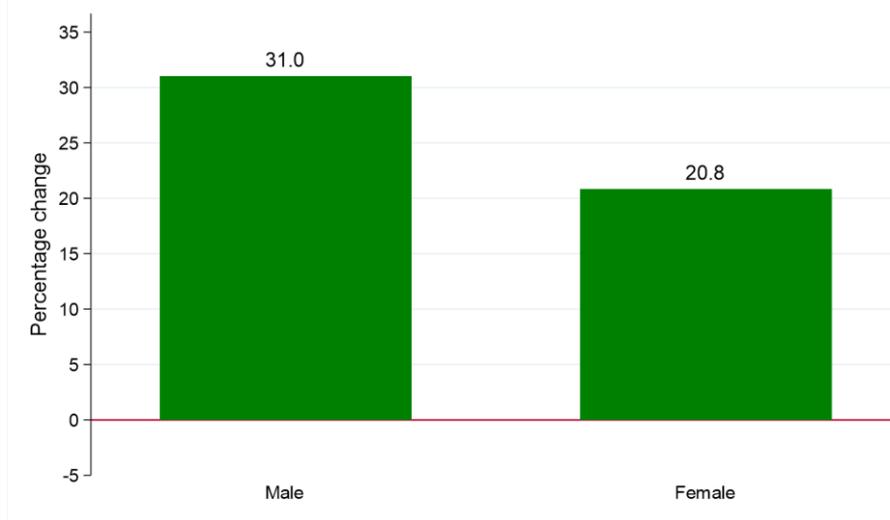
Gender	Period of diagnosis (Apr-Dec)		Percentage change
	2018-2019*	2020	
Male	29 (37.7%)	38 (39.6%)	+31.0% (9 patients)
Female	48 (62.3%)	58 (60.4%)	+20.8% (10 patients)
All persons	77	96	+24.7% (19 patients)

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

Figure 2: Gallbladder cancer cases diagnosed in April-December of 2018-2020 by gender and period of diagnosis
(a) Number of cases diagnosed



(b) Percentage change from 2018-2019 to 2020 in number of gallbladder cancer cases by gender



AGE

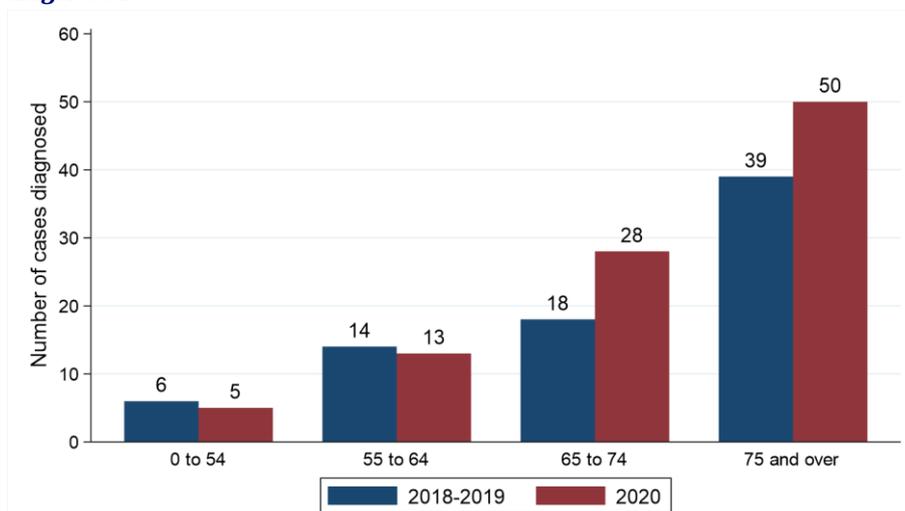
Excluding the first quarter of each year among people aged 0 to 54 the number of cases of gallbladder cancer diagnosed decreased by 16.7% from 6 per year in 2018 - 2019 to 5 in 2020. Between the same two time periods, the number of cases among people aged 65 to 74 increased by 55.6% from 18 per year to 28. The change in case distribution by age between 2018 - 2019 and 2020 was not statistically significant.

Table 3: Number and proportion of gallbladder cancer cases diagnosed in April-December of 2018-2020 by age and period of diagnosis

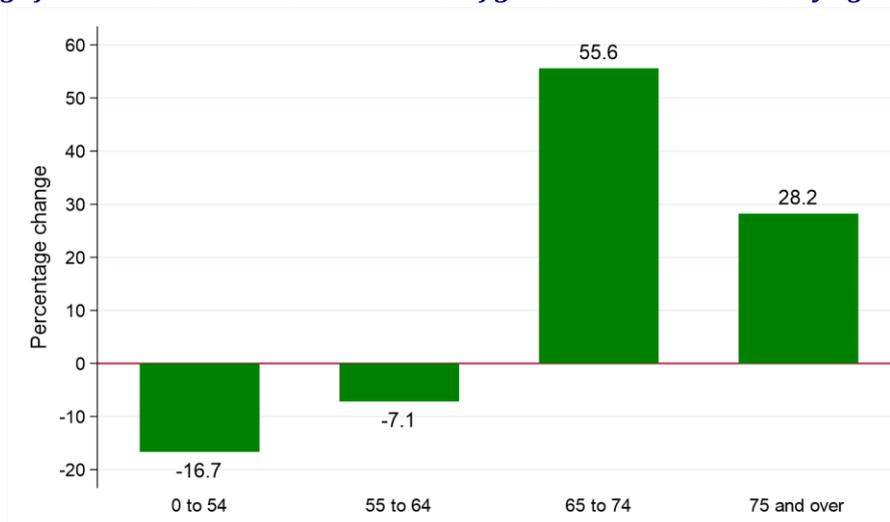
Age group	Period of diagnosis (Apr-Dec)		Percentage change
	2018-2019*	2020	
0 to 54	6 (7.8%)	5 (5.2%)	-16.7% (1 patients)
55 to 64	14 (18.2%)	13 (13.5%)	-7.1% (1 patients)
65 to 74	18 (23.4%)	28 (29.2%)	+55.6% (10 patients)
75 and over	39 (50.6%)	50 (52.1%)	+28.2% (11 patients)
All ages	77	96	+24.7% (19 patients)

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

Figure 3: Gallbladder cancer cases diagnosed in April-December of 2018-2020 by age and period of diagnosis
(a) Number of cases diagnosed



(b) Percentage change from 2018-2019 to 2020 in number of gallbladder cancer cases by age at diagnosis



HEALTH AND SOCIAL CARE TRUST

Excluding the first quarter of each year among residents of Southern HSCT the number of cases of gallbladder cancer diagnosed decreased by 11.1% from 18 per year in 2018 - 2019 to 16 in 2020. Between the same two time periods the number of cases among residents of Belfast HSCT increased by 73.3% from 15 per year to 26. The change in case distribution by HSCT between 2018 - 2019 and 2020 was not statistically significant.

Table 4: Number and proportion of gallbladder cancer cases diagnosed in April-December of 2018-2020 by Health and Social Care Trust and period of diagnosis

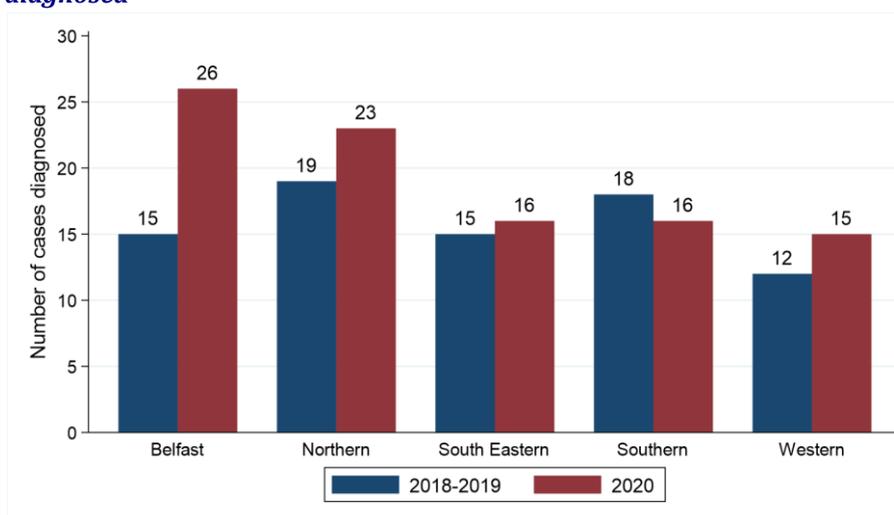
Health and Social Care Trust	Period of diagnosis (Apr-Dec)		Percentage change
	2018-2019*	2020	
Belfast HSCT	15 (19.5%)	26 (27.1%)	+73.3% (11 patients)
Northern HSCT	19 (24.7%)	23 (24.0%)	+21.1% (4 patients)
South Eastern HSCT	15 (19.5%)	16 (16.7%)	+6.7% (1 patients)
Southern HSCT	18 (23.4%)	16 (16.7%)	-11.1% (2 patients)
Western HSCT	12 (15.6%)	15 (15.6%)	+25.0% (3 patients)
Northern Ireland	77	96	+24.7% (19 patients)

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

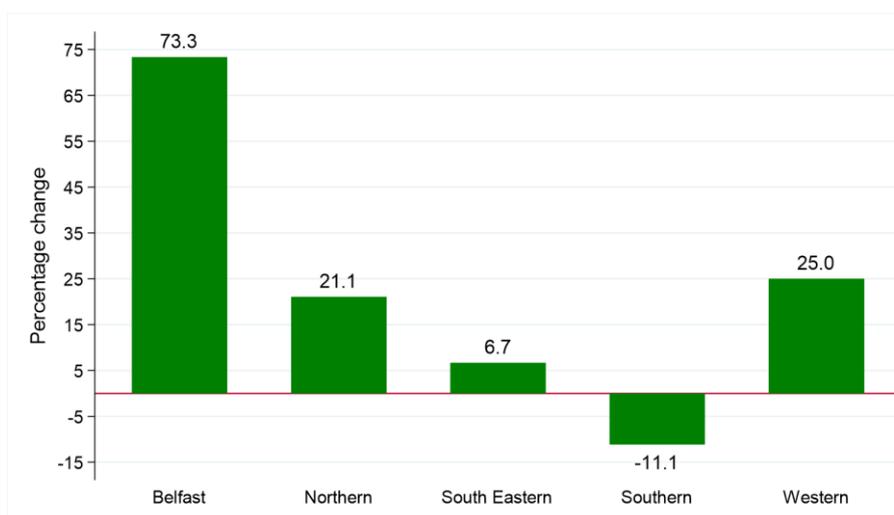
Note: Cases with unknown Health and Social Care Trust are included in totals

Figure 4: Gallbladder cancer cases diagnosed in April-December of 2018-2020 by Health and Social Care Trust and period of diagnosis

(a) Number of cases diagnosed



(b) Percentage change from 2018-2019 to 2020 in number of gallbladder cancer cases by Health and Social Care Trust



DEPRIVATION

Excluding the first quarter of each year among residents of the most deprived areas the number of cases of gallbladder cancer diagnosed increased by 16.7% from 18 per year in 2018 - 2019 to 21 in 2020. Between the same two time periods the number of cases among residents of the least deprived areas increased by 30.8% from 13 per year to 17. The change in case distribution by deprivation quintile between 2018 - 2019 and 2020 was not statistically significant.

Table 5: Number and proportion of gallbladder cancer cases diagnosed in April-December of 2018-2020 by deprivation quintile and period of diagnosis

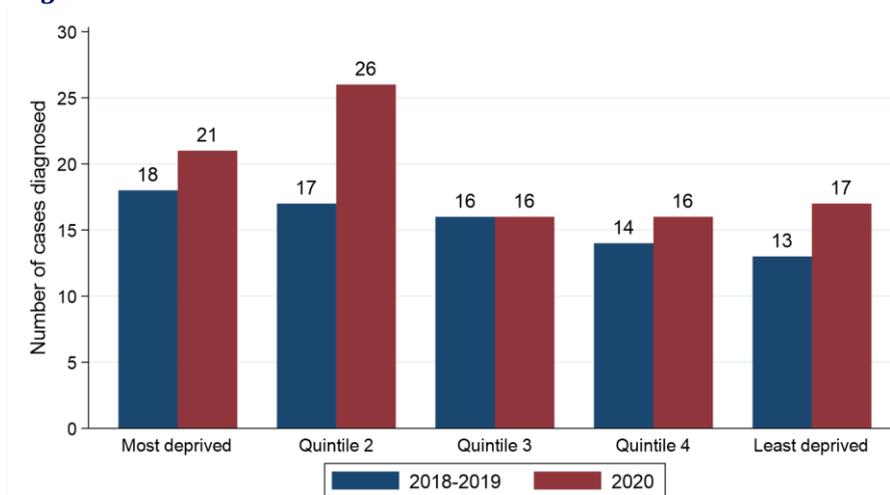
Deprivation quintile	Period of diagnosis (Apr-Dec)		Percentage change
	2018-2019*	2020	
Most deprived	18 (23.4%)	21 (21.9%)	+16.7% (3 patients)
Quintile 2	17 (22.1%)	26 (27.1%)	+52.9% (9 patients)
Quintile 3	16 (20.8%)	16 (16.7%)	0.0% (0 patients)
Quintile 4	14 (18.2%)	16 (16.7%)	+14.3% (2 patients)
Least deprived	13 (16.9%)	17 (17.7%)	+30.8% (4 patients)
Northern Ireland	77	96	+24.7% (19 patients)

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

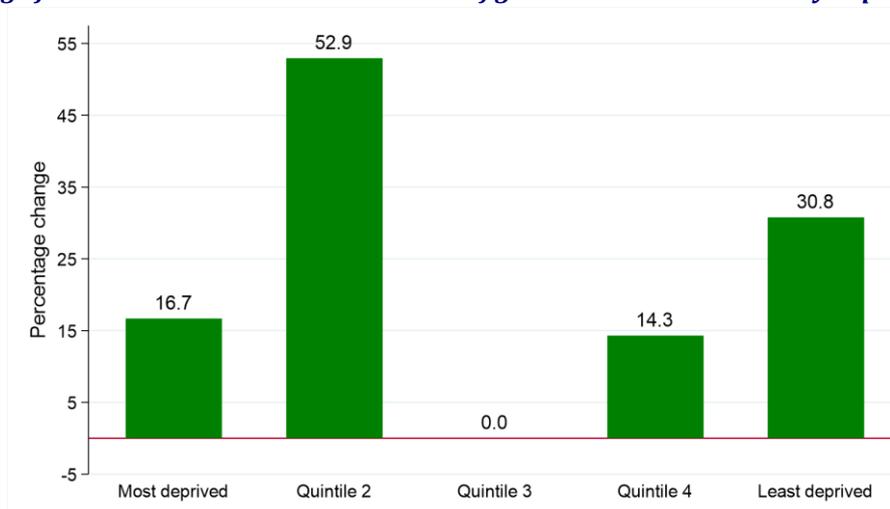
Note: Cases with unknown deprivation quintile are included in totals

Figure 5: Gallbladder cancer cases diagnosed in April-December of 2018-2020 by deprivation quintile and period of diagnosis

(a) Number of cases diagnosed



(b) Percentage change from 2018-2019 to 2020 in number of gallbladder cancer cases by deprivation quintile



BASIS OF DIAGNOSIS

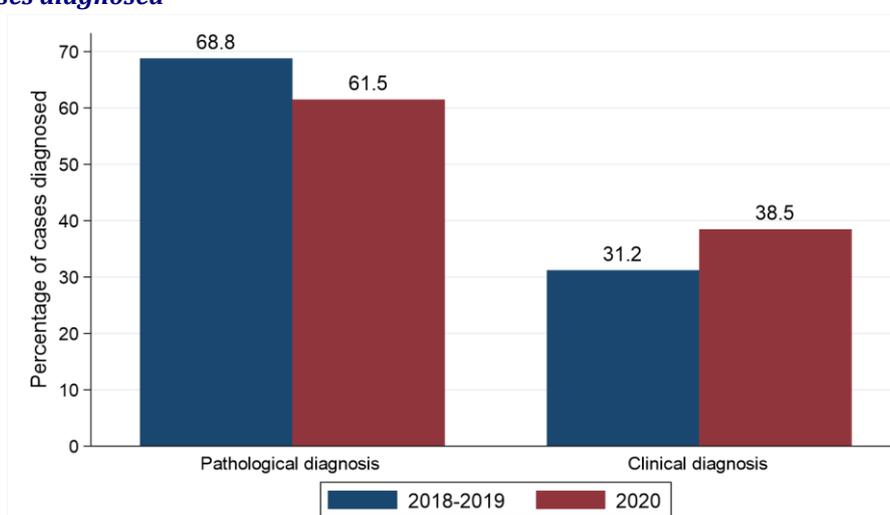
Excluding the first quarter of each year the number of gallbladder cancer cases diagnosed pathologically increased by 11.3% from 53 per year in 2018 - 2019 to 59 in 2020, while the number of cases diagnosed clinically increased by 54.2% from 24 per year to 37. The change in case distribution by basis of diagnosis between 2018 - 2019 and 2020 was not statistically significant.

Table 6: Number and proportion of gallbladder cancer cases diagnosed in April-December of 2018-2020 by basis and period of diagnosis

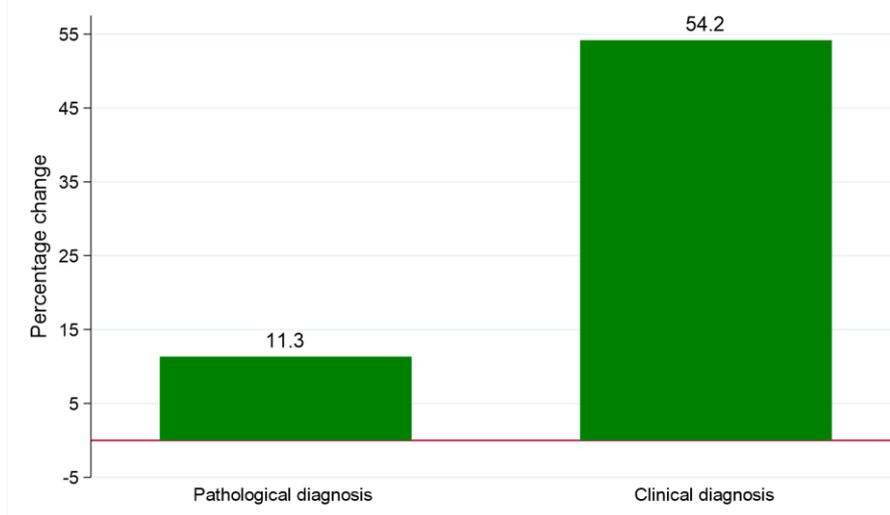
Basis of diagnosis	Period of diagnosis (Apr-Dec)		Percentage change
	2018-2019*	2020	
Pathological diagnosis	53 (68.8%)	59 (61.5%)	+11.3% (6 patients)
Clinical diagnosis	24 (31.2%)	37 (38.5%)	+54.2% (13 patients)
All groups	77	96	+24.7% (19 patients)

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

Figure 6: Gallbladder cancer cases diagnosed in April-December of 2018-2020 by basis and period of diagnosis
(a) Proportion of cases diagnosed



(b) Percentage change from 2018-2019 to 2020 in number of gallbladder cancer cases by basis of diagnosis



STAGE

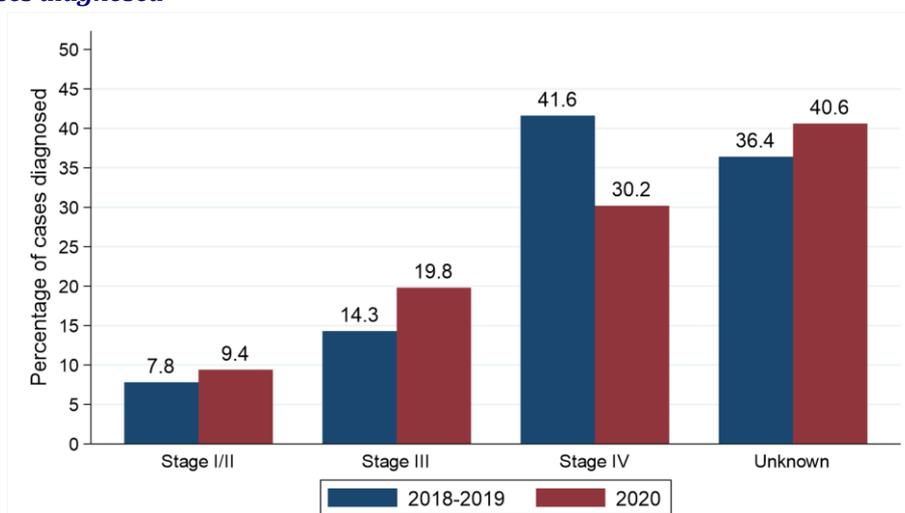
Excluding the first quarter of each year the number of gallbladder cancer cases diagnosed at Stage I/II increased by 50.0% from 6 per year in 2018 - 2019 to 9 in 2020. Between the same two time periods the number of cases diagnosed at Stage IV decreased by 9.4% from 32 per year to 29. The change in case distribution by stage at diagnosis between 2018 - 2019 and 2020 was not statistically significant.

Table 7: Number and proportion of gallbladder cancer cases diagnosed in April-December of 2018-2020 by stage at diagnosis and period of diagnosis

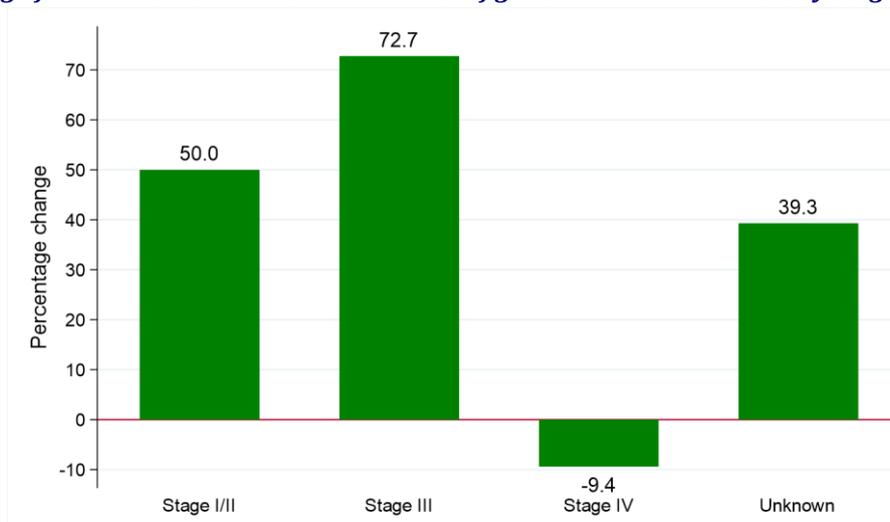
Stage at diagnosis	Period of diagnosis (Apr-Dec)		Percentage change
	2018-2019*	2020	
Stage I/II	6 (7.8%)	9 (9.4%)	+50.0% (3 patients)
Stage III	11 (14.3%)	19 (19.8%)	+72.7% (8 patients)
Stage IV	32 (41.6%)	29 (30.2%)	-9.4% (3 patients)
Unknown	28 (36.4%)	39 (40.6%)	+39.3% (11 patients)
All stages	77	96	+24.7% (19 patients)

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

Figure 7: Gallbladder cancer cases diagnosed in April-December of 2018-2020 by stage and period of diagnosis
(a) Proportion of cases diagnosed



(b) Percentage change from 2018-2019 to 2020 in number of gallbladder cancer cases by stage at diagnosis



METHOD OF HOSPITAL ADMISSION

Excluding the first quarter of each year the number of cases of gallbladder cancer where the patient had an emergency admission recorded as the most recent hospital admission type up to 30 days prior to diagnosis increased by 67.7% from 31 per year in 2018 - 2019 to 52 in 2020. The change in case distribution by hospital admission type between 2018 - 2019 and 2020 was not statistically significant.

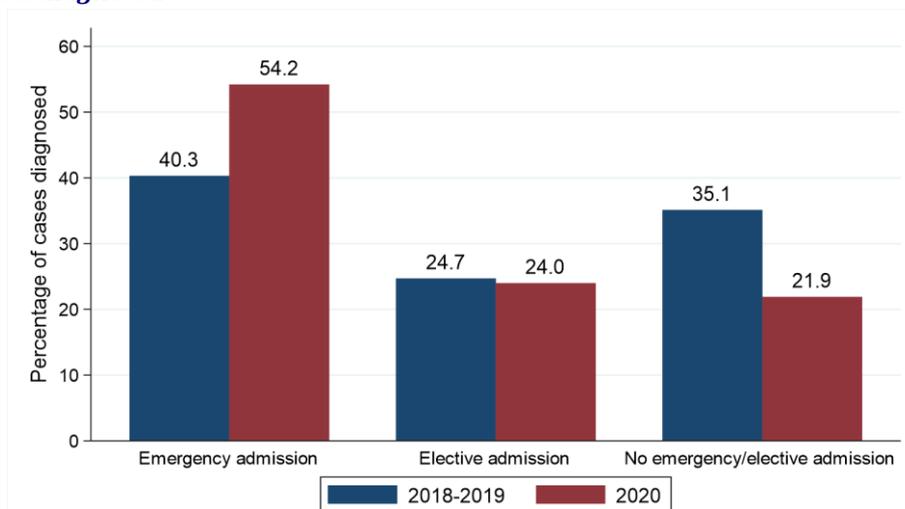
Table 8: Number and proportion of gallbladder cancer cases diagnosed in April-December of 2018-2020 by method of admission to hospital and period of diagnosis

Method of admission to hospital	Period of diagnosis (Apr-Dec)		Percentage change
	2018-2019*	2020	
Emergency admission	31 (40.3%)	52 (54.2%)	+67.7% (21 patients)
Elective admission	19 (24.7%)	23 (24.0%)	+21.1% (4 patients)
No emergency/elective admission recorded	27 (35.1%)	21 (21.9%)	-22.2% (6 patients)
All persons	77	96	+24.7% (19 patients)

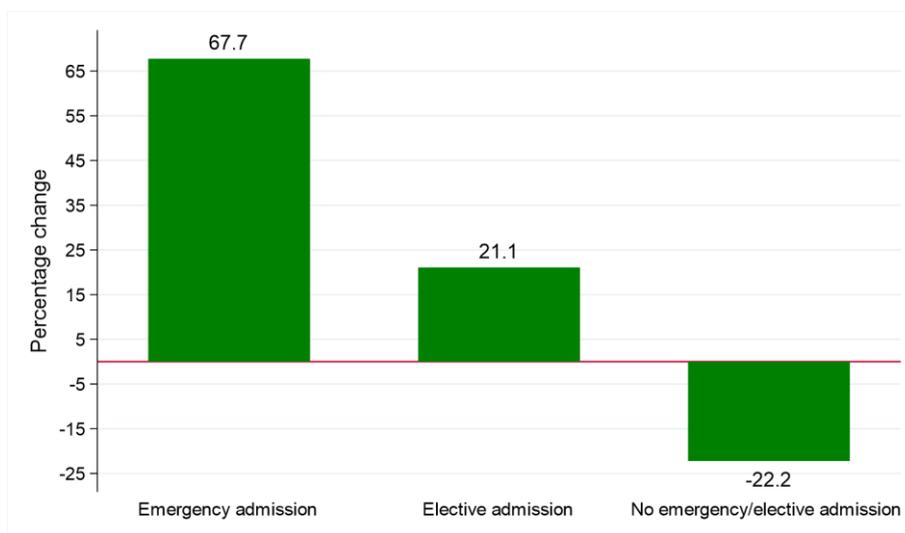
* Average cases per year rounded to the nearest integer. Column sums may thus differ slightly from the total.

Figure 8: Gallbladder cancer cases diagnosed in April-December of 2018-2020 by method of admission to hospital and period of diagnosis

(a) Proportion of cases diagnosed



(b) Percentage change from 2018-2019 to 2020 in number of gallbladder cancer cases by method of admission to hospital



TREATMENT

Excluding the first quarter of each year the number of gallbladder cancer cases where the patient was treated with surgery (within six months of diagnosis) increased by 27.8% from 36 per year for those diagnosed in 2018 - 2019 to 46 for those diagnosed in 2020. The resulting change in the proportion receiving surgery from 46.8% in 2018 - 2019 to 47.9% in 2020 was not statistically significant.

Between the same two time periods the number of cases where the patient was treated with chemotherapy (within six months) increased by 5.3% from 19 per year to 20. The resulting change in the proportion receiving chemotherapy from 24.7% in 2018 - 2019 to 20.8% in 2020 was not statistically significant.

The proportion of patients receiving none of surgery or chemotherapy (within six months of diagnosis) who were diagnosed in April-December 2020 was 44.8%. This compared to 46.8% of those diagnosed in 2018 - 2019. This change was not statistically significant.

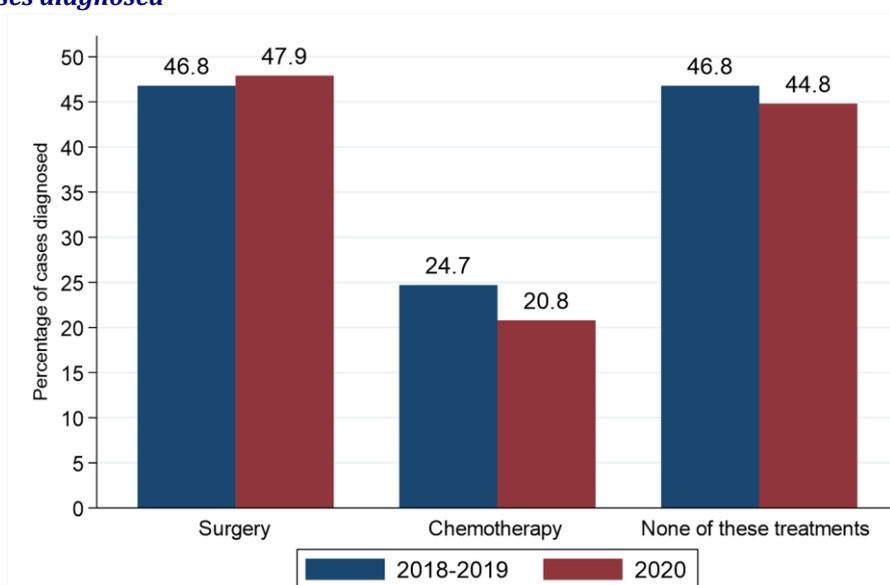
Table 9: Number and proportion of gallbladder cancer cases diagnosed in April-December of 2018-2020 by treatment type and period of diagnosis

Treatment type	Period of diagnosis (Apr-Dec)		Percentage change
	2018-2019 average	2020	
Surgery	36 (46.8%)	46 (47.9%)	+27.8% (10 patients)
Chemotherapy	19 (24.7%)	20 (20.8%)	+5.3% (1 patients)
None of these treatments	36 (46.8%)	43 (44.8%)	+19.4% (7 patients)

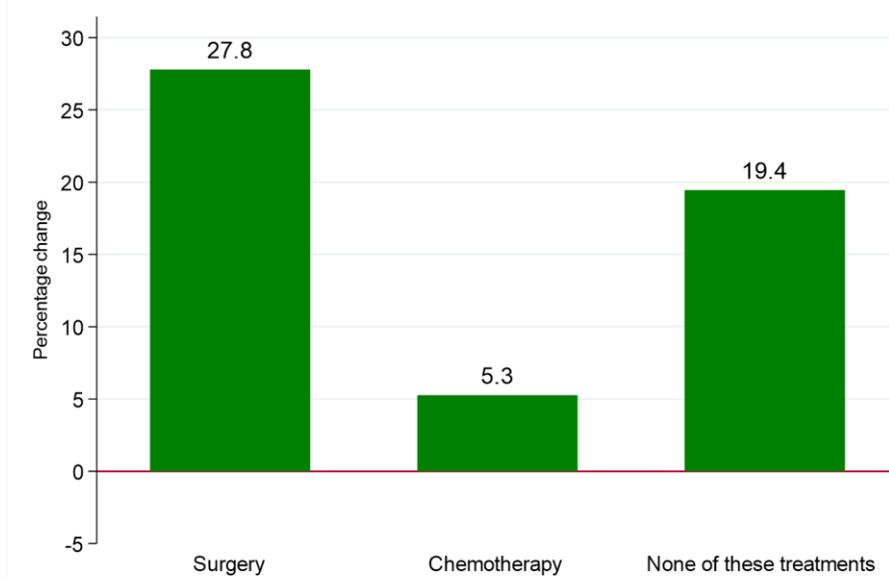
No statistically significant changes

Figure 9: Gallbladder cancer cases diagnosed in April-December of 2018-2020 by treatment received and period of diagnosis

(a) Proportion of cases diagnosed



(b) Percentage change from 2018-2019 to 2020 in number of gallbladder cancer cases by treatment received



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

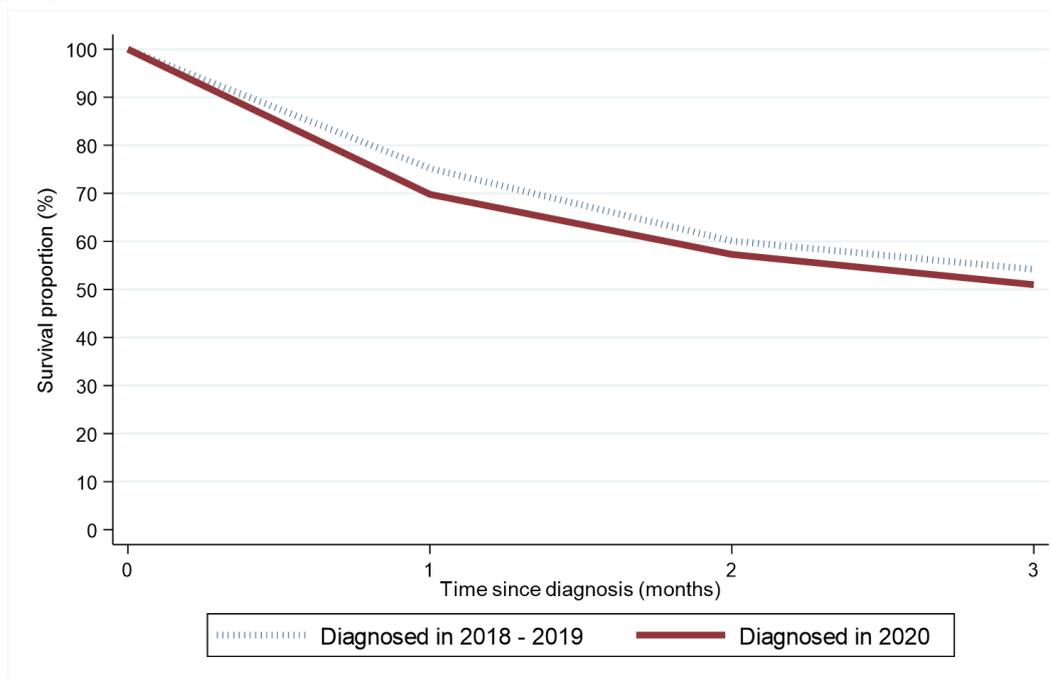
Survival among gallbladder cancer patients one month after diagnosis decreased from 75.2% among those diagnosed in April-December of 2018 - 2019 to 69.8% among those diagnosed in April-December of 2020. This change was not statistically significant. Between the same two diagnosis periods, three-month survival decreased from 54.2% to 51.0%. This change was not statistically significant.

Table 10: Observed survival for patients with gallbladder cancer diagnosed in April-December of 2018-2020 by period of diagnosis

Survival time	Period of diagnosis (Apr-Dec)	
	2018-2019	2020
1 month	75.2% (67.5% - 81.3%)	69.8% (59.5% - 77.9%)
2 months	60.1% (51.9% - 67.4%)	57.3% (46.8% - 66.5%)
3 months	54.2% (46.0% - 61.7%)	51.0% (40.7% - 60.5%)

No statistically significant reductions

Figure 10: Observed survival for patients with gallbladder cancer diagnosed in April-December of 2018-2020 by period of diagnosis



NET SURVIVAL

Age-standardised net survival (which takes account of deaths from other causes such as Covid-19) among gallbladder cancer patients one month after diagnosis decreased from 81.2% among those diagnosed in April-

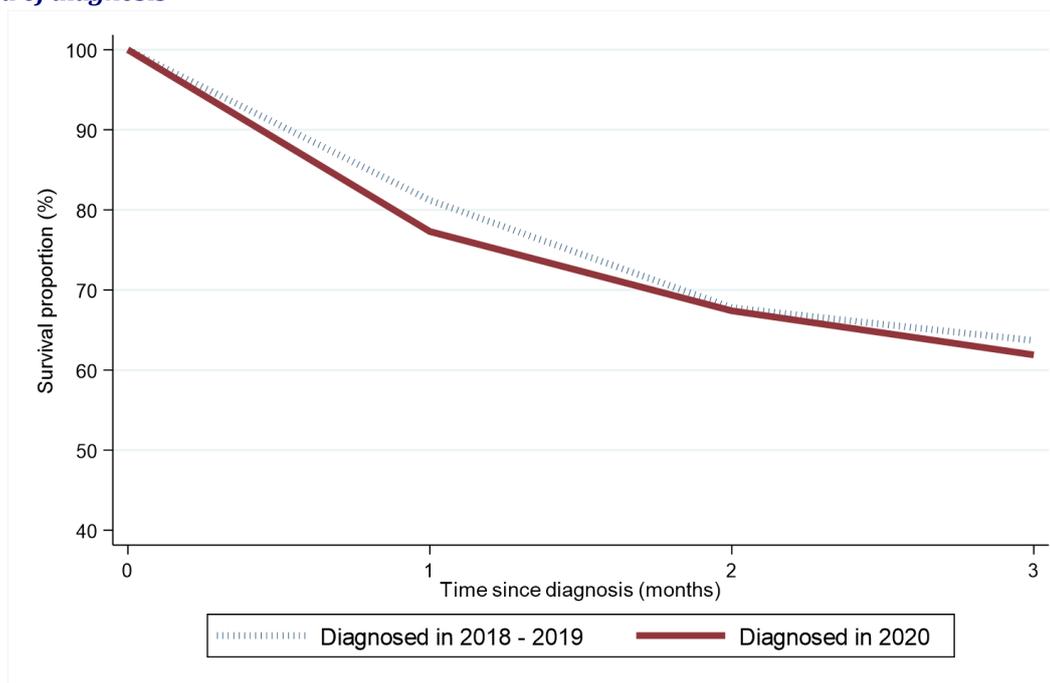
December of 2018 - 2019 to 77.3% among those diagnosed in April-December of 2020. This change was not statistically significant. Between the same two time periods, three-month age-standardised net survival decreased from 63.7% to 61.9%. This change was not statistically significant.

Table 11: Age-standardised net survival for patients with gallbladder cancer diagnosed in April-December of 2018-2020 by period of diagnosis

Survival time	Period of diagnosis (Apr-Dec)	
	2018-2019	2020
1 month	81.2% (75.4% - 87.5%)	77.3% (69.5% - 85.9%)
2 months	67.8% (61.0% - 75.4%)	67.4% (58.5% - 77.6%)
3 months	63.7% (56.5% - 71.8%)	61.9% (52.4% - 73.1%)

No statistically significant reductions

Figure 11: Age-standardised net survival for patients with gallbladder cancer diagnosed in April-December of 2018-2020 by period of diagnosis



CANCER MORTALITY

During the April-December period when Covid-19 was present the number of deaths from gallbladder cancer increased by 24.0% from 25 per year in 2018 - 2019 to 31 in 2020.

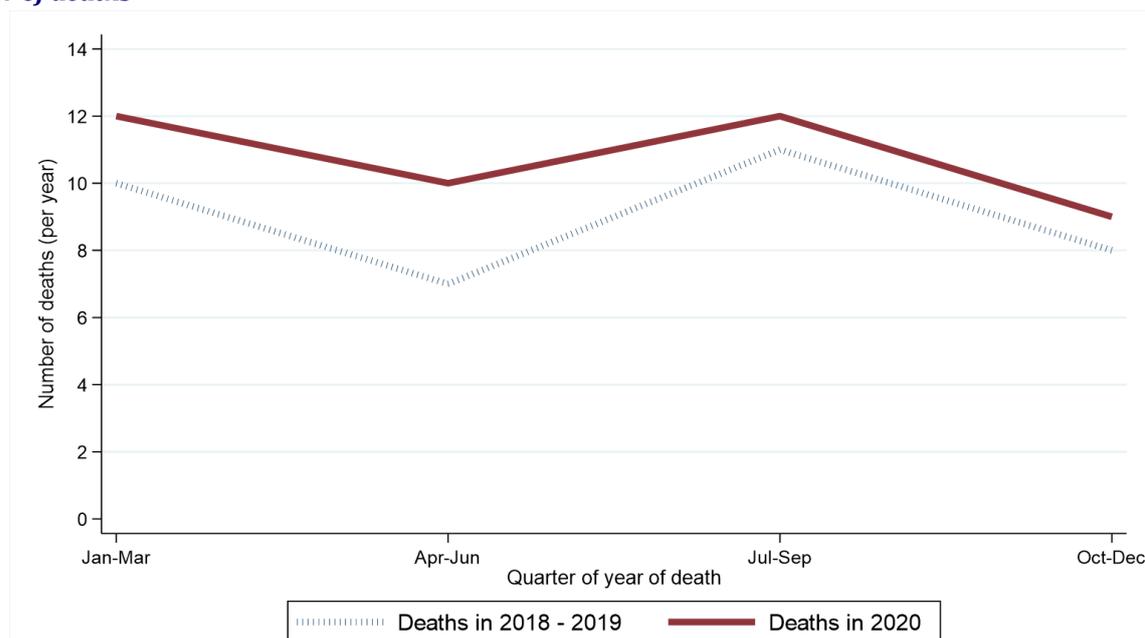
Table 12: Number of gallbladder cancer deaths in 2018-2020 by quarter and year of death

Period of death	Annual total	Quarter of year death occurred			
		Jan-Mar	Apr-Jun	Jul-Sept	Oct-Dec
2018-2019*	35	10	7	11	8
2020	43	12	10	12	9

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

Figure 12: Number of gallbladder cancer deaths in 2018-2020 by quarter and year of death

(a) Number of deaths



(b) Percentage change from 2018-2019 to 2020 in number of gallbladder cancer deaths by quarter of year of death

