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

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

Further information

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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 colon cancer diagnosed decreased by 14.5% (89 patients) from 614 per year in 2018 - 2019 to 525 in 2020.

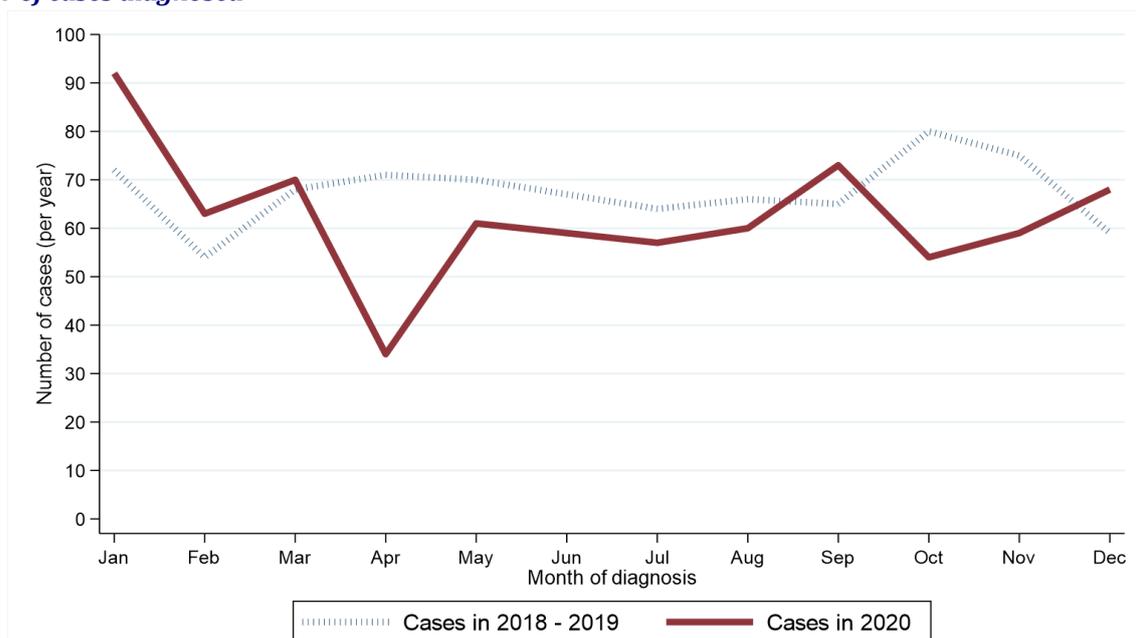
Table 1: Number of colon cancer cases diagnosed in 2018-2020 by month and year of diagnosis

Period of diagnosis	Annual total	Month diagnosed											
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
2018-2019*	808	72	54	68	71	70	67	64	66	65	80	75	59
2020	750	92	63	70	34	61	59	57	60	73	54	59	68

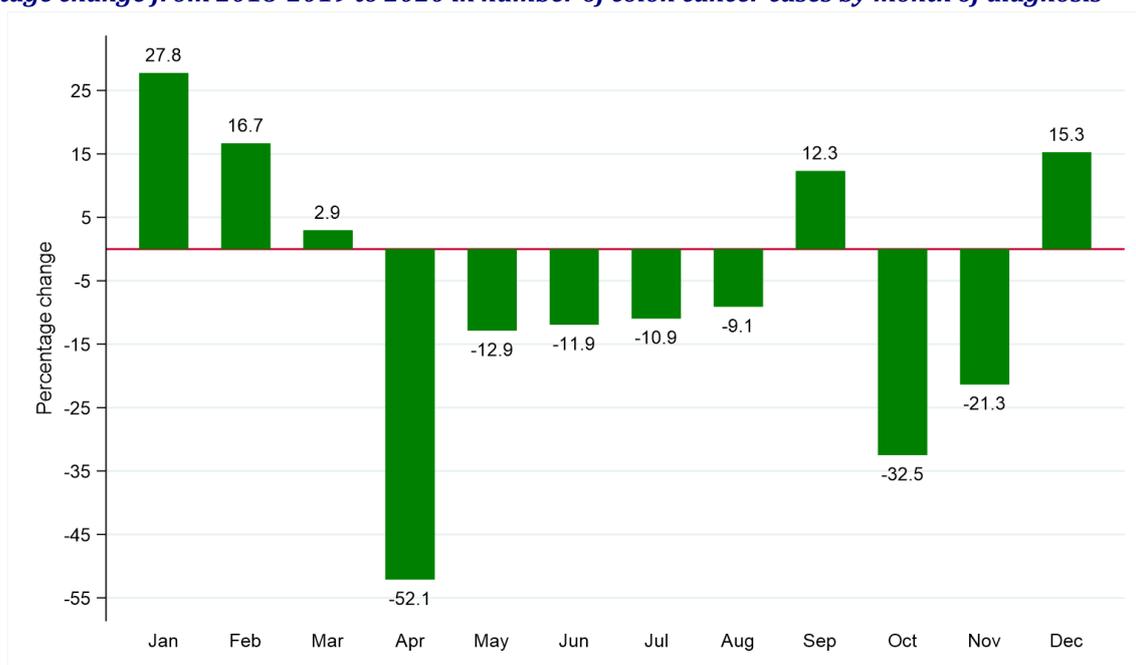
* Average cases per year rounded to the nearest integer. Row sums may thus differ slightly from the total.

Figure 1: Number of colon cancer cases diagnosed in 2018-2020 by month and year of diagnosis

(a) Number of cases diagnosed



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



GENDER

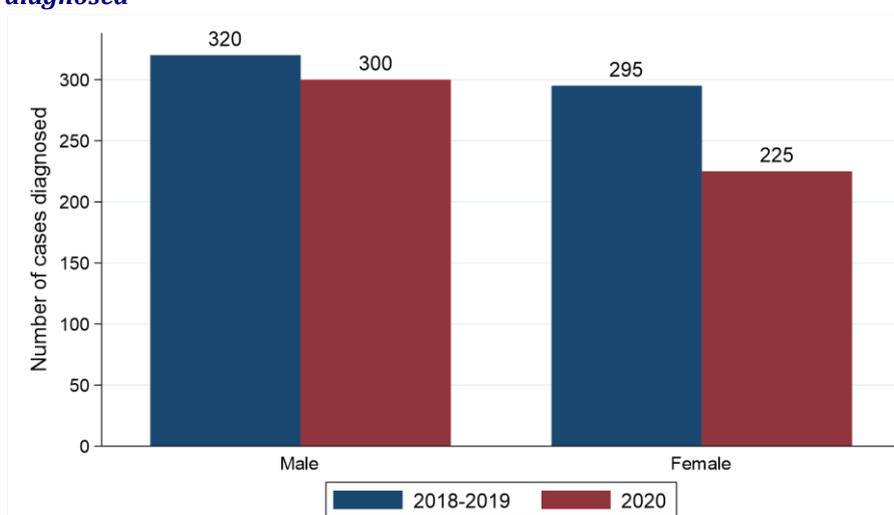
Excluding the first quarter of each year among males the number of cases of colon cancer diagnosed decreased by 6.3% from 320 per year in 2018 - 2019 to 300 in 2020. Between the same two time periods the number of cases among females decreased by 23.7% from 295 per year to 225. The change in case distribution by gender between 2018 - 2019 and 2020 was statistically significant ($p = 0.050$).

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

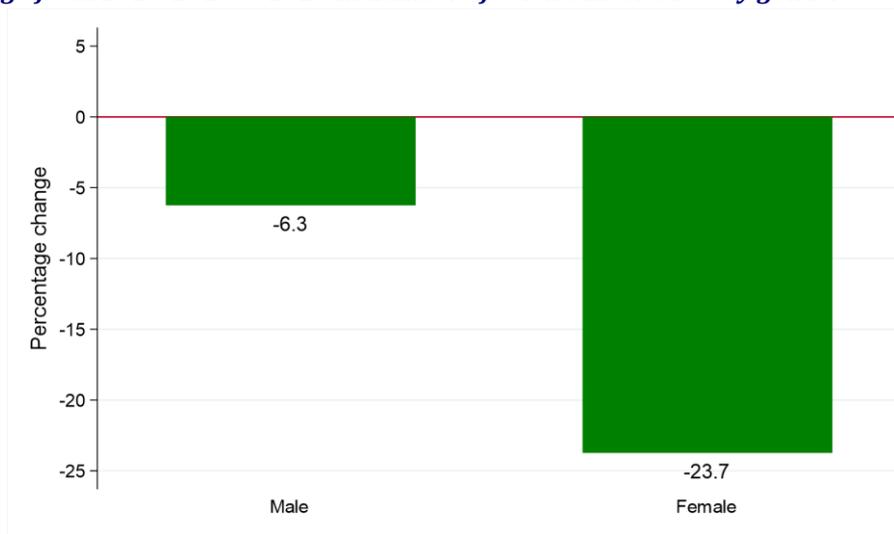
Gender	Period of diagnosis (Apr-Dec)		Percentage change
	2018-2019*	2020	
Male	320 (52.1%)	300 (57.1%)	-6.3% (20 patients)
Female	295 (48.0%)	225 (42.9%)	-23.7% (70 patients)
All persons	614	525	-14.5% (89 patients)

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

Figure 2: Colon 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 colon cancer cases by gender



AGE

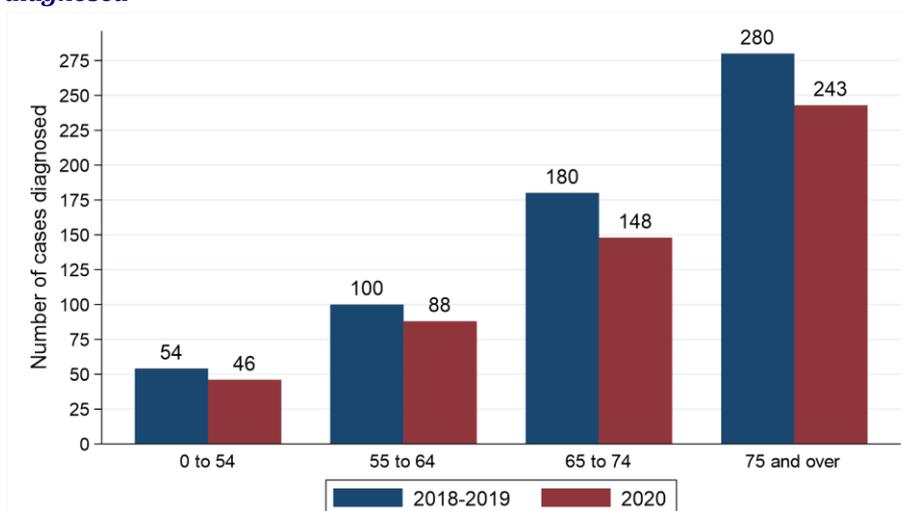
Excluding the first quarter of each year among people aged 65 to 74 the number of cases of colon cancer diagnosed decreased by 17.8% from 180 per year in 2018 - 2019 to 148 in 2020. Between the same two time periods, the number of cases among people aged 55 to 64 decreased by 12.0% from 100 per year to 88. The change in case distribution by age between 2018 - 2019 and 2020 was not statistically significant.

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

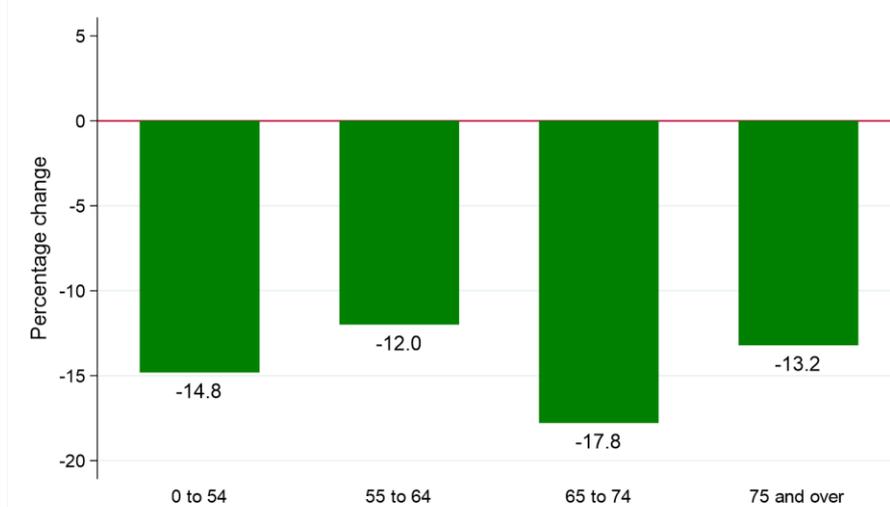
Age group	Period of diagnosis (Apr-Dec)		Percentage change
	2018-2019*	2020	
0 to 54	54 (8.8%)	46 (8.8%)	-14.8% (8 patients)
55 to 64	100 (16.3%)	88 (16.8%)	-12.0% (12 patients)
65 to 74	180 (29.3%)	148 (28.2%)	-17.8% (32 patients)
75 and over	280 (45.6%)	243 (46.3%)	-13.2% (37 patients)
All ages	614	525	-14.5% (89 patients)

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

Figure 3: Colon 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 colon 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 colon cancer diagnosed decreased by 26.5% from 113 per year in 2018 - 2019 to 83 in 2020. Between the same two time periods the number of cases among residents of Western HSCT increased by 15.3% from 85 per year to 98. The change in case distribution by HSCT between 2018 - 2019 and 2020 was not statistically significant.

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

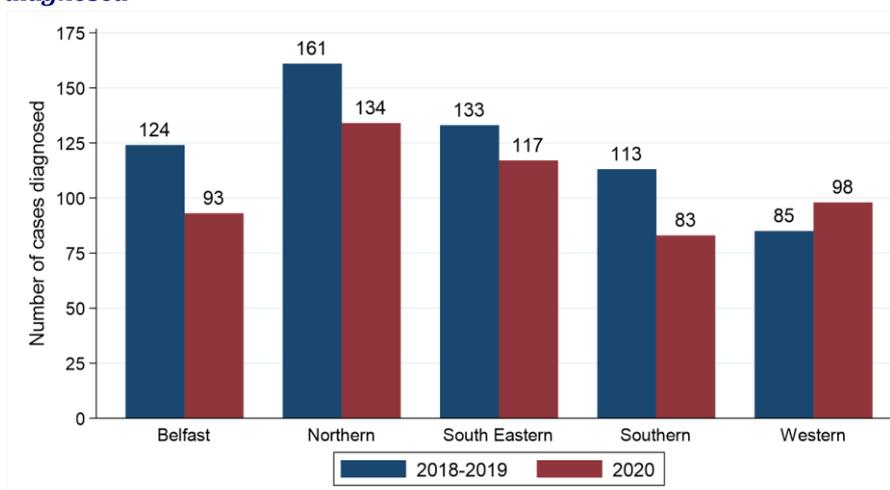
Health and Social Care Trust	Period of diagnosis (Apr-Dec)		Percentage change
	2018-2019*	2020	
Belfast HSCT	124 (20.2%)	93 (17.7%)	-25.0% (31 patients)
Northern HSCT	161 (26.2%)	134 (25.5%)	-16.8% (27 patients)
South Eastern HSCT	133 (21.7%)	117 (22.3%)	-12.0% (16 patients)
Southern HSCT	113 (18.4%)	83 (15.8%)	-26.5% (30 patients)
Western HSCT	85 (13.8%)	98 (18.7%)	+15.3% (13 patients)
Northern Ireland	614	525	-14.5% (89 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: Colon 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 colon 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 colon cancer diagnosed decreased by 16.2% from 105 per year in 2018 - 2019 to 88 in 2020. Between the same two time periods the number of cases among residents of the least deprived areas decreased by 33.1% from 145 per year to 97. The change in case distribution by deprivation quintile between 2018 - 2019 and 2020 was not statistically significant.

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

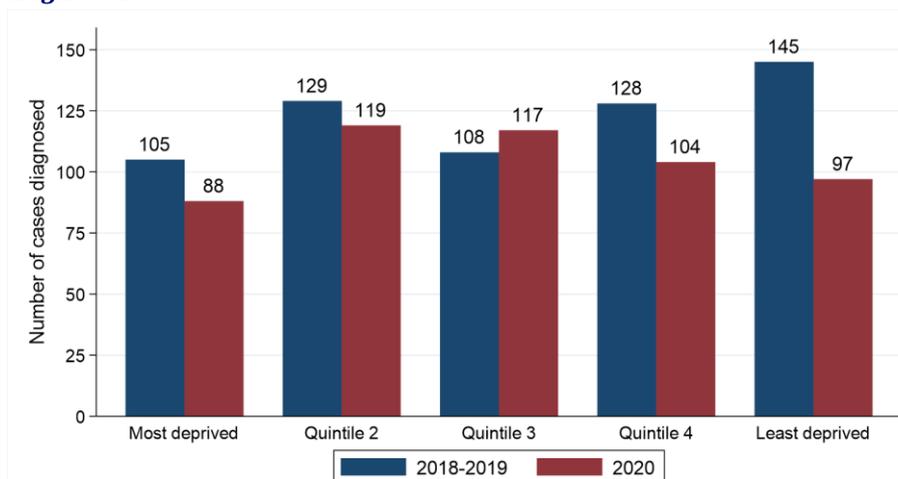
Deprivation quintile	Period of diagnosis (Apr-Dec)		Percentage change
	2018-2019*	2020	
Most deprived	105 (17.1%)	88 (16.8%)	-16.2% (17 patients)
Quintile 2	129 (21.0%)	119 (22.7%)	-7.8% (10 patients)
Quintile 3	108 (17.6%)	117 (22.3%)	+8.3% (9 patients)
Quintile 4	128 (20.8%)	104 (19.8%)	-18.8% (24 patients)
Least deprived	145 (23.6%)	97 (18.5%)	-33.1% (48 patients)
Northern Ireland	614	525	-14.5% (89 patients)

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

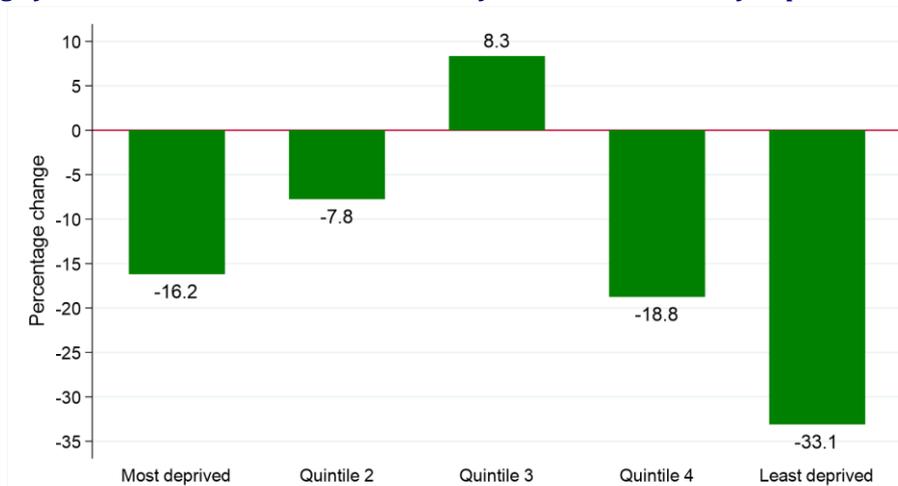
Note: Cases with unknown deprivation quintile are included in totals

Figure 5: Colon 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 colon cancer cases by deprivation quintile



STAGE

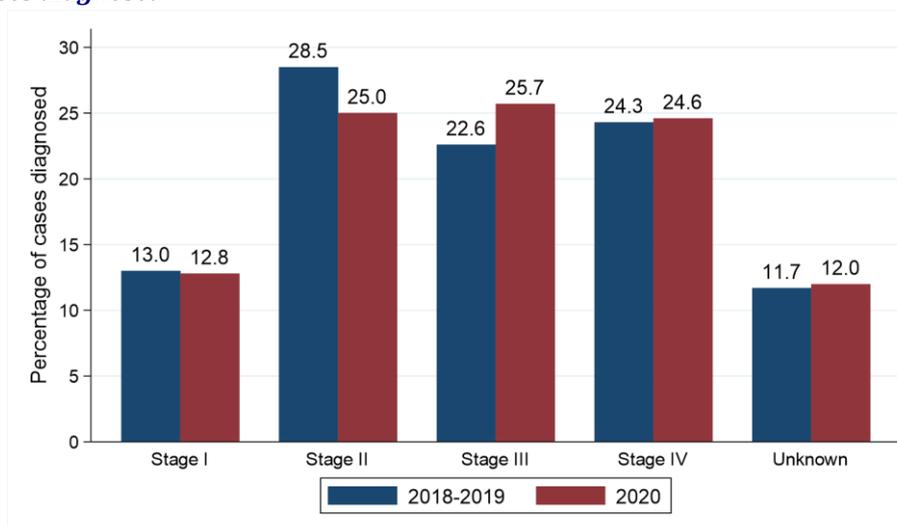
Excluding the first quarter of each year the number of colon cancer cases diagnosed at Stage I decreased by 16.3% from 80 per year in 2018 - 2019 to 67 in 2020. Between the same two time periods the number of cases diagnosed at Stage IV decreased by 13.4% from 149 per year to 129. The change in case distribution by stage at diagnosis between 2018 - 2019 and 2020 was not statistically significant.

Table 6: Number and proportion of colon cancer cases diagnosed in April-December of 2018-2020 by stage at diagnosis and period of diagnosis

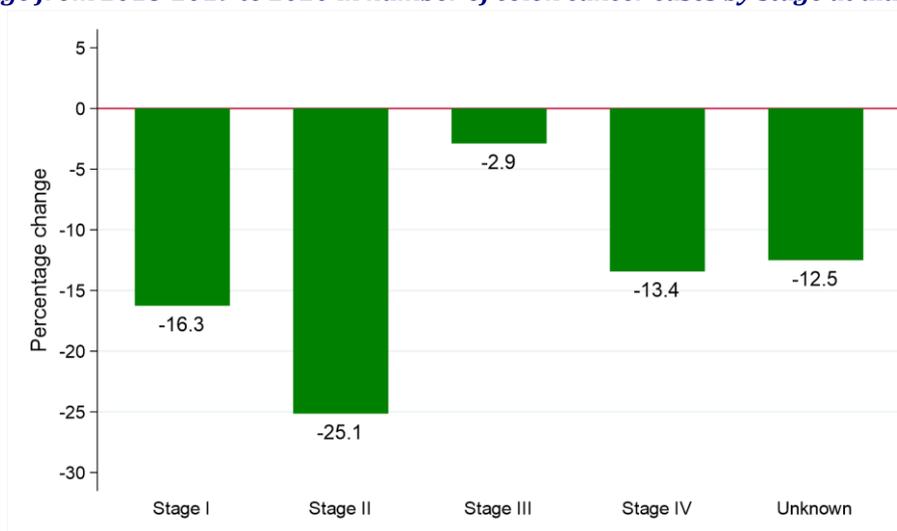
Stage at diagnosis	Period of diagnosis (Apr-Dec)		Percentage change
	2018-2019*	2020	
Stage I	80 (13.0%)	67 (12.8%)	-16.3% (13 patients)
Stage II	175 (28.5%)	131 (25.0%)	-25.1% (44 patients)
Stage III	139 (22.6%)	135 (25.7%)	-2.9% (4 patients)
Stage IV	149 (24.3%)	129 (24.6%)	-13.4% (20 patients)
Unknown	72 (11.7%)	63 (12.0%)	-12.5% (9 patients)
All stages	614	525	-14.5% (89 patients)

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

Figure 6: Colon 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 colon cancer cases by stage at diagnosis



METHOD OF HOSPITAL ADMISSION

Excluding the first quarter of each year the number of cases of colon 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 16.7% from 144 per year in 2018 - 2019 to 168 in 2020. The change in case distribution by hospital admission type between 2018 - 2019 and 2020 was statistically significant ($p < 0.001$).

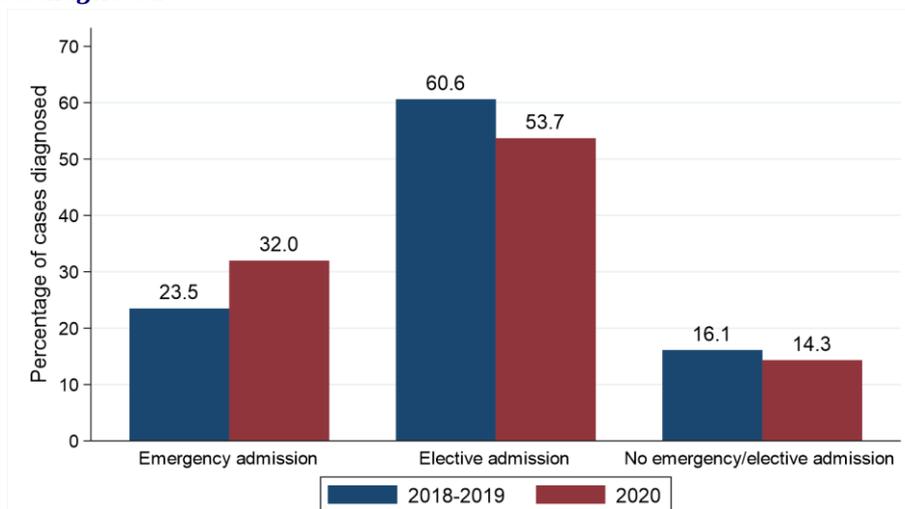
Table 7: Number and proportion of colon cancer cases diagnosed in April-December of 2018-2020 by method of admission to hospital and period of diagnosis

Method of admission to hospital	Period of diagnosis (Apr-Dec)		Percentage change
	2018-2019*	2020	
Emergency admission	144 (23.5%)	168 (32.0%)	+16.7% (24 patients)
Elective admission	372 (60.6%)	282 (53.7%)	-24.2% (90 patients)
No emergency/elective admission recorded	99 (16.1%)	75 (14.3%)	-24.2% (24 patients)
All persons	614	525	-14.5% (89 patients)

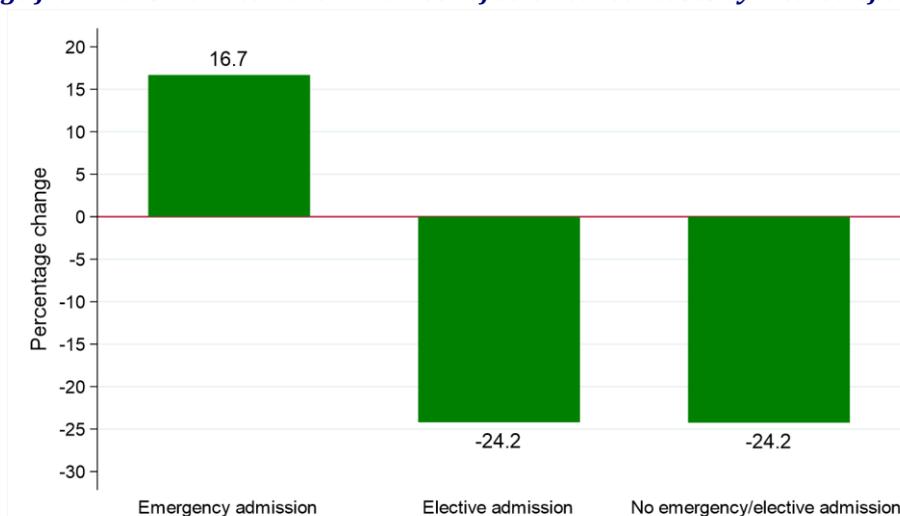
* Average cases per year rounded to the nearest integer. Column sums may thus differ slightly from the total.

Figure 7: Colon 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 colon cancer cases by method of admission to hospital



TREATMENT

Excluding the first quarter of each year the number of colon cancer cases where the patient was treated with surgery (within six months of diagnosis) decreased by 17.0% from 446 per year for those diagnosed in 2018 - 2019 to 370 for those diagnosed in 2020. The resulting change in the proportion receiving surgery from 72.6% in 2018 - 2019 to 70.5% 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) decreased by 10.2% from 177 per year to 159. The resulting change in the proportion receiving chemotherapy from 28.8% in 2018 - 2019 to 30.3% in 2020 was not statistically significant.

There was no change in the number of radiotherapy cases per year between 2018 - 2019 and 2020, with an average of 9 cases each year. The resulting change in the proportion receiving radiotherapy from 1.5% in 2018 - 2019 to 1.7% in 2020 was not statistically significant.

The proportion of patients receiving none of surgery, chemotherapy or radiotherapy (within six months of diagnosis) who were diagnosed in April-December 2020 was 24.2%. This compared to 22.8% of those diagnosed in 2018 - 2019. This change was not statistically significant.

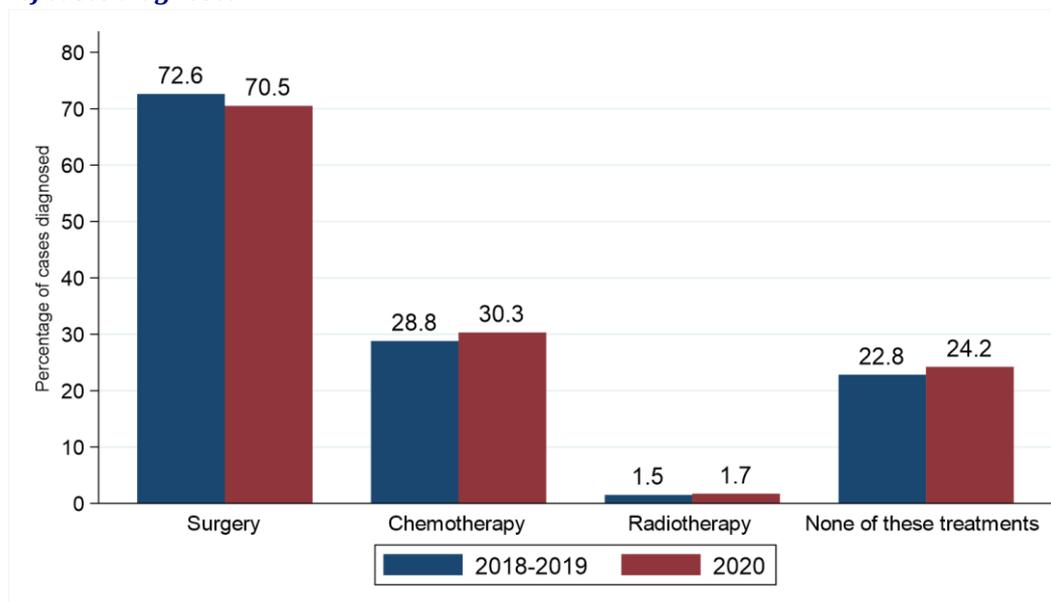
Table 8: Number and proportion of colon cancer cases diagnosed in April-December of 2018-2020 by treatment type and period of diagnosis

Treatment type	Period of diagnosis (Apr-Dec)		Percentage change
	2018-2019 average	2020	
Surgery	446 (72.6%)	370 (70.5%)	-17.0% (76 patients)
Chemotherapy	177 (28.8%)	159 (30.3%)	-10.2% (18 patients)
Radiotherapy	9 (1.5%)	9 (1.7%)	0.0% (0 patients)
None of these treatments	140 (22.8%)	127 (24.2%)	-9.3% (13 patients)

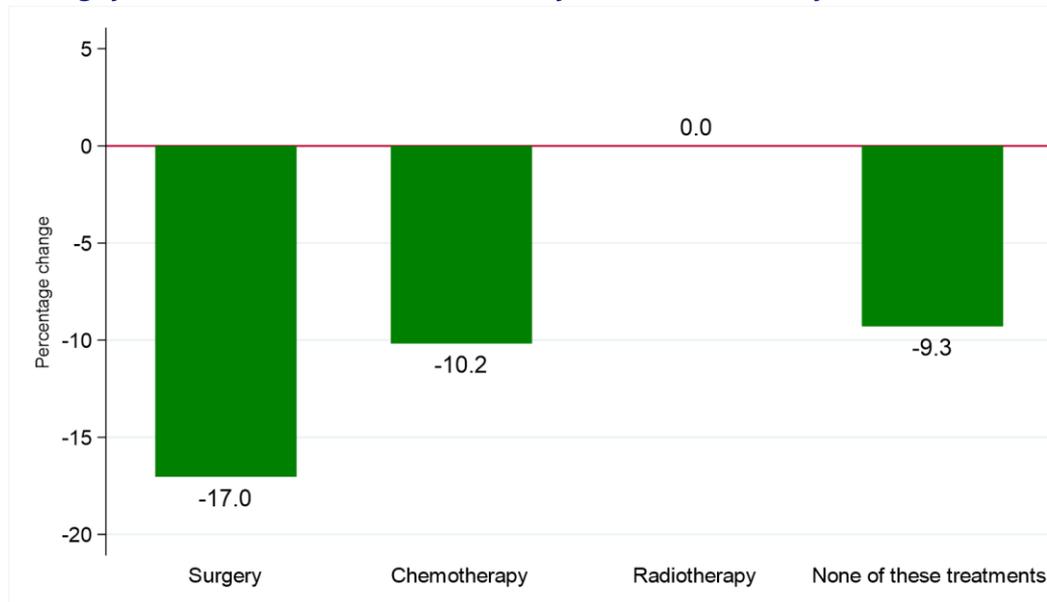
No statistically significant changes

Figure 8: Colon 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 colon 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

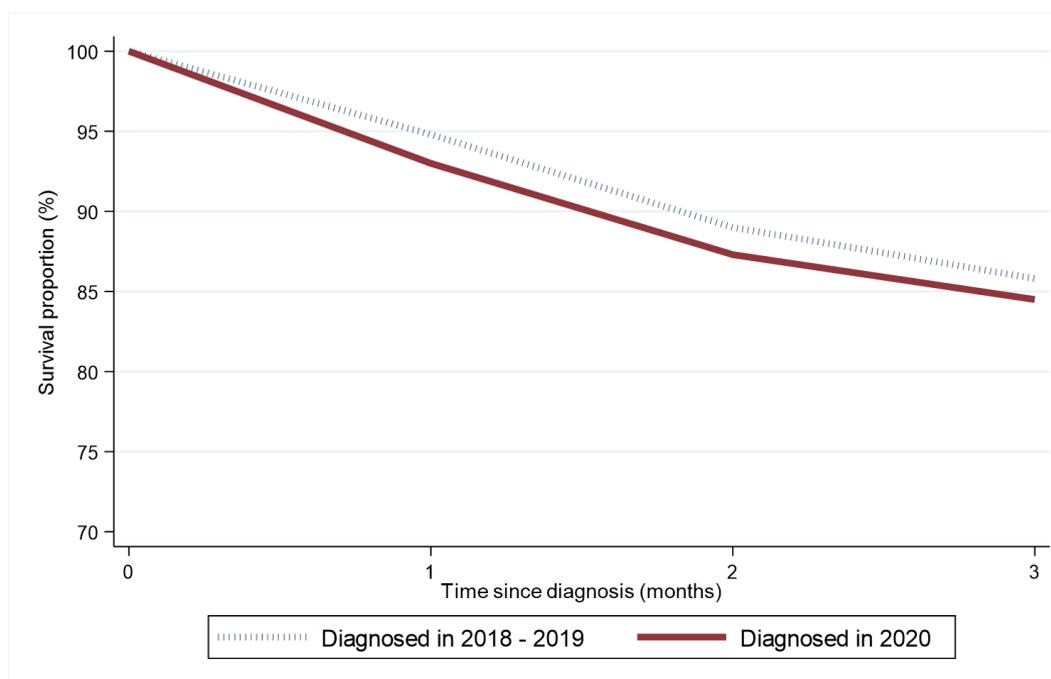
Survival among colon cancer patients one month after diagnosis decreased from 94.8% among those diagnosed in April-December of 2018 - 2019 to 93.0% among those diagnosed in April-December of 2020. This change was not statistically significant. Between the same two diagnosis periods, three-month survival decreased from 85.8% to 84.5%. This change was not statistically significant.

Table 9: Observed survival for patients with colon cancer diagnosed in April-December of 2018-2020 by period of diagnosis

Survival time	Period of diagnosis (Apr-Dec)	
	2018-2019	2020
1 month	94.8% (93.4% - 96.0%)	93.0% (90.3% - 94.9%)
2 months	89.0% (87.1% - 90.7%)	87.3% (84.1% - 90.0%)
3 months	85.8% (83.7% - 87.7%)	84.5% (81.1% - 87.4%)

No statistically significant reductions

Figure 9: Observed survival for patients with colon cancer diagnosed in April-December of 2018-2020 by period of diagnosis



DEATHS FROM COVID-19

During 2020 there were a total of 39 deaths from Covid-19 among colon cancer patients diagnosed at any point since 1993.

NET SURVIVAL

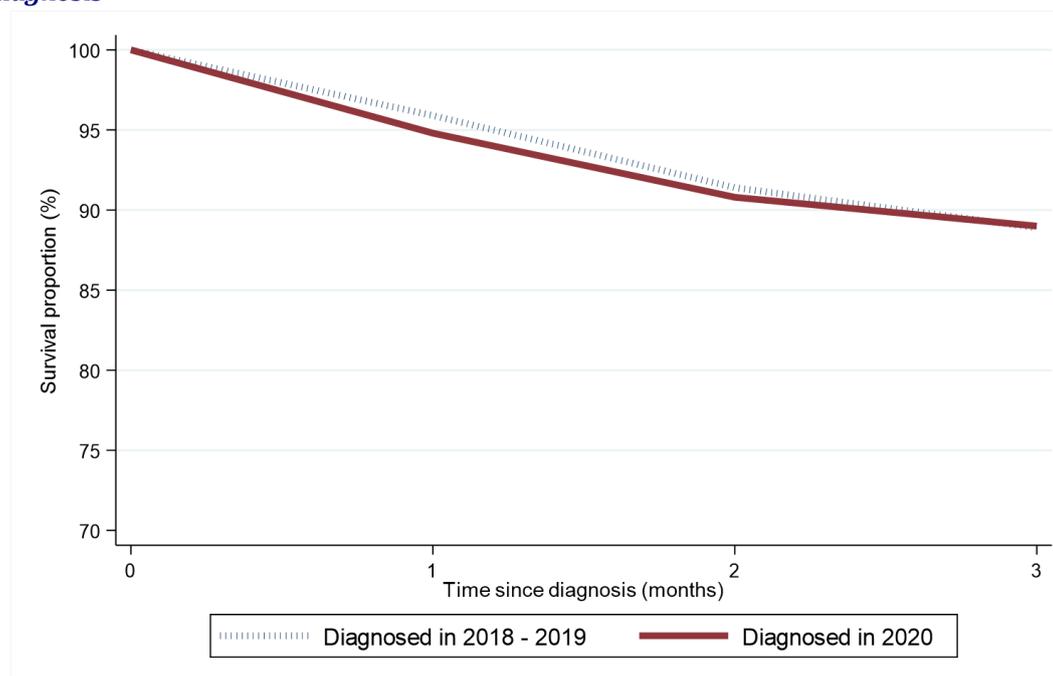
Age-standardised net survival (which takes account of deaths from other causes such as Covid-19) among colon cancer patients one month after diagnosis decreased from 95.9% among those diagnosed in April-December of 2018 - 2019 to 94.8% among those diagnosed in April-December of 2020. This change was not statistically significant. Between the same two time periods, three-month age-standardised net survival increased from 88.9% to 89.0%. This change was not statistically significant.

Table 10: Age-standardised net survival for patients with colon cancer diagnosed in April-December of 2018-2020 by period of diagnosis

Survival time	Period of diagnosis (Apr-Dec)	
	2018-2019	2020
1 month	95.9% (94.8% - 97.0%)	94.8% (93.0% - 96.7%)
2 months	91.4% (89.8% - 93.0%)	90.8% (88.5% - 93.1%)
3 months	88.9% (87.2% - 90.7%)	89.0% (86.4% - 91.7%)

No statistically significant reductions

Figure 10: Age-standardised net survival for patients with colon cancer diagnosed in April-December of 2018-2020 by period of diagnosis



CANCER MORTALITY

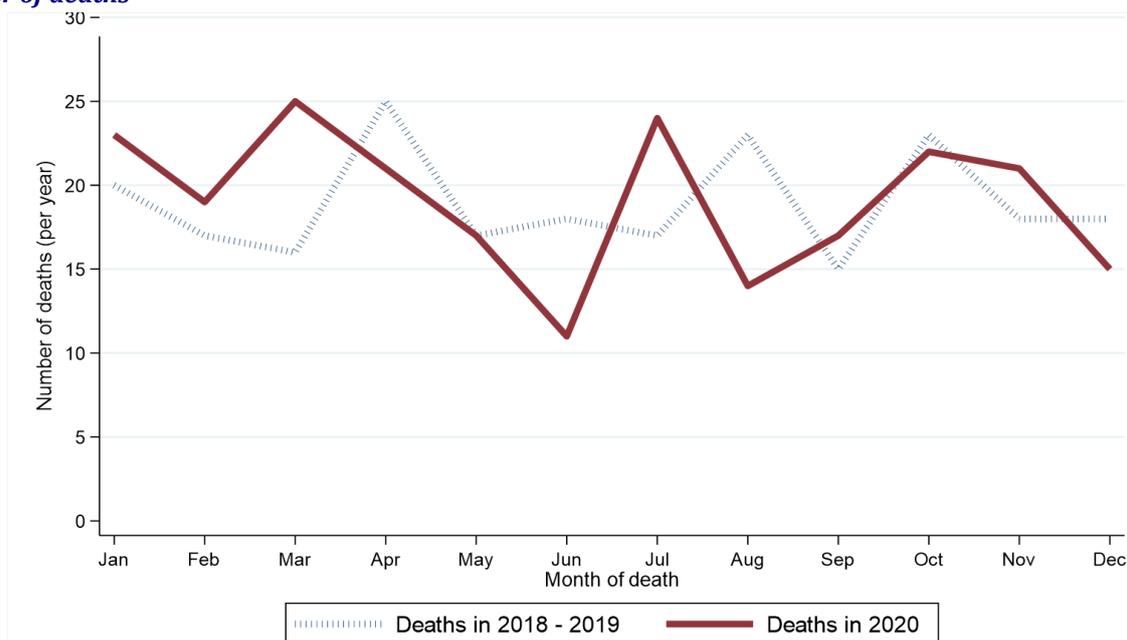
During the April-December period when Covid-19 was present the number of deaths from colon cancer decreased by 5.3% from 171 per year in 2018 - 2019 to 162 in 2020.

Table 11: Number of colon cancer deaths in 2018-2020 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*	223	20	17	16	25	17	18	17	23	15	23	18	18
2020	229	23	19	25	21	17	11	24	14	17	22	21	15

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

Figure 11: Number of colon cancer deaths in 2018-2020 by month and year of death
(a) Number of deaths



(b) Percentage change from 2018-2019 to 2020 in number of colon cancer deaths by month of death

