Impact of Covid-19 on incidence, survival and mortality of ovarian 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.

N. Ireland Cancer Registry

Queen's University Belfast

HSC Public Health Agency

INCIDENCE

During the April-December period when Covid-19 was present the number of cases of ovarian cancer diagnosed among females decreased by 23.9% (39 patients) from 163 per year in 2018 - 2019 to 124 in 2020.

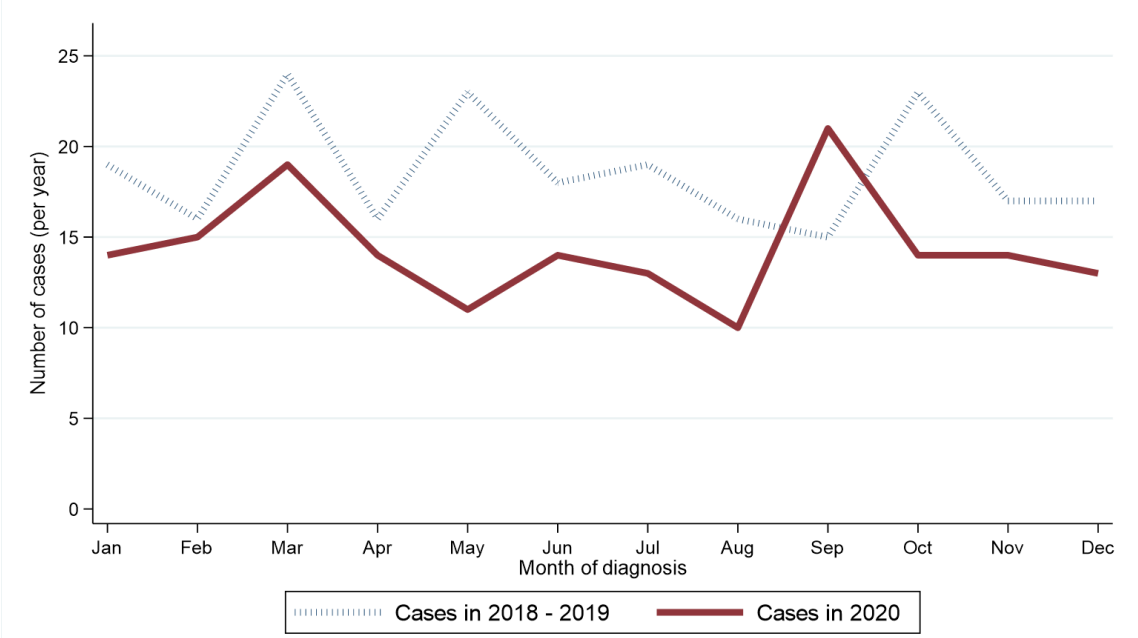
Table 1: Number of ovarian cancer cases diagnosed in 2018-2020 by month and year of diagnosis

Period of diagnosis	Annual total	Month diagnosed											
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
2018-2019*	221	19	16	24	16	23	18	19	16	15	23	17	17
2020	172	14	15	19	14	11	14	13	10	21	14	14	13

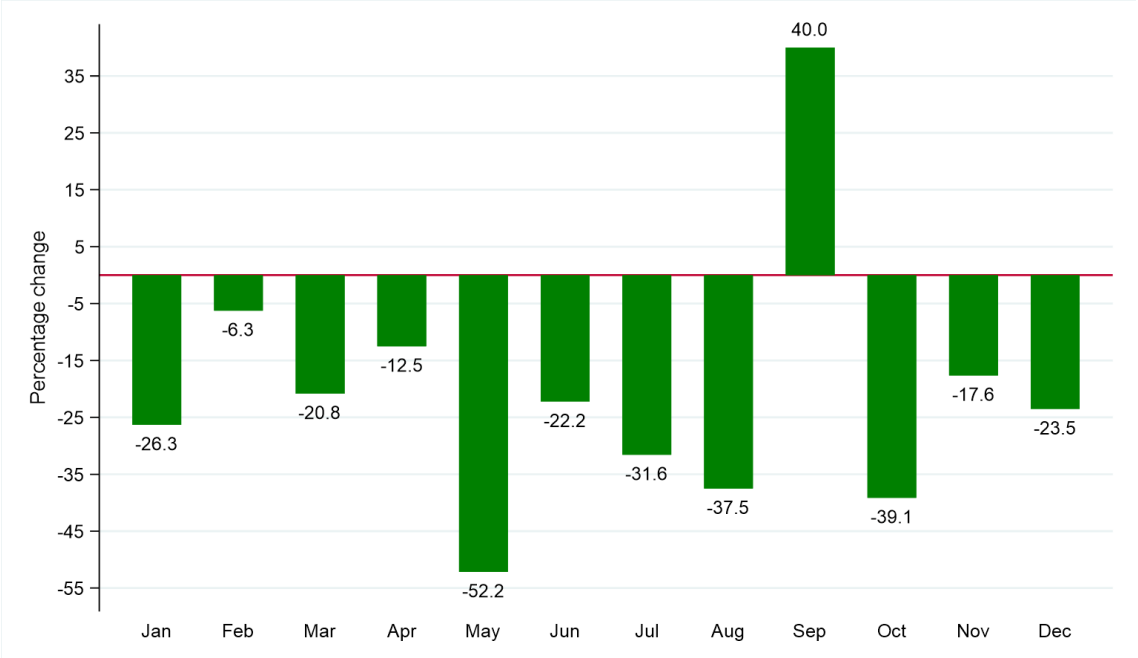
** Average cases per year rounded to the nearest integer. Row sums may thus differ slightly from the total.*

Figure 1: Number of ovarian 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 ovarian cancer cases by month of diagnosis



AGE

Excluding the first quarter of each year among people aged 0 to 54 the number of cases of ovarian cancer diagnosed decreased by 32.6% from 46 per year in 2018 - 2019 to 31 in 2020. Between the same two time periods, the number of cases among people aged 65 to 74 decreased by 5.9% from 34 per year to 32. The change in case distribution by age between 2018 - 2019 and 2020 was not statistically significant.

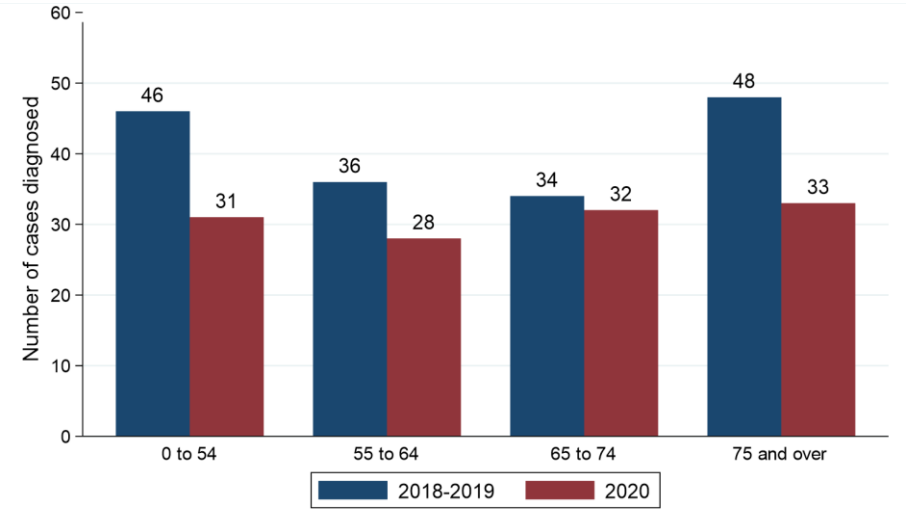
Table 2: Number and proportion of ovarian cancer cases diagnosed in April-December of 2018-2020 by age and period of diagnosis

Age group	Period of diagnosis (Apr-Dec)		Percentage change
	2018-2019*	2020	
0 to 54	46 (28.2%)	31 (25.0%)	-32.6% (15 patients)
55 to 64	36 (22.1%)	28 (22.6%)	-22.2% (8 patients)
65 to 74	34 (20.9%)	32 (25.8%)	-5.9% (2 patients)
75 and over	48 (29.4%)	33 (26.6%)	-31.3% (15 patients)
All ages	163	124	-23.9% (39 patients)

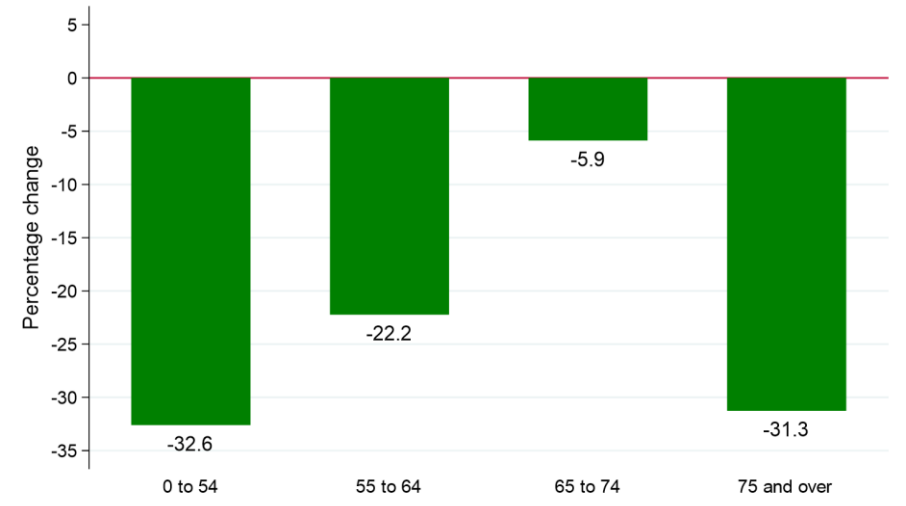
** Average cases per year rounded to the nearest integer. Column sums may thus differ slightly from the total.*

Figure 2: Ovarian 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 ovarian 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 ovarian cancer diagnosed decreased by 55.9% from 34 per year in 2018 - 2019 to 15 in 2020. Between the same two time periods the number of cases among residents of Western HSCT increased by 14.3% from 21 per year to 24. The change in case distribution by HSCT between 2018 - 2019 and 2020 was not statistically significant.

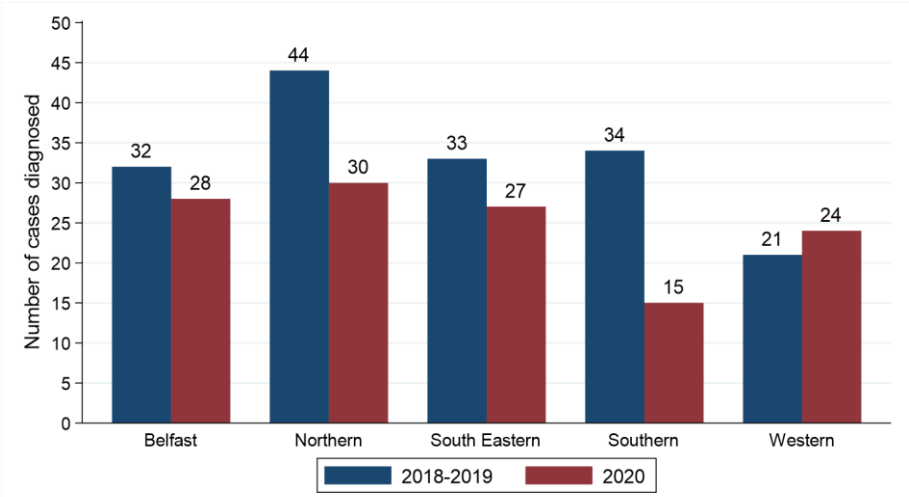
Table 3: Number and proportion of ovarian cancer cases diagnosed in April-December of 2018-2020 by Health and Social Care Trust and period of diagnosis

Health and Social Care Trust	Period of diagnosis (Apr-Dec)		Percentage change
	2018-2019*	2020	
Belfast HSCT	32 (19.6%)	28 (22.6%)	-12.5% (4 patients)
Northern HSCT	44 (27.0%)	30 (24.2%)	-31.8% (14 patients)
South Eastern HSCT	33 (20.2%)	27 (21.8%)	-18.2% (6 patients)
Southern HSCT	34 (20.9%)	15 (12.1%)	-55.9% (19 patients)
Western HSCT	21 (12.9%)	24 (19.4%)	+14.3% (3 patients)
Northern Ireland	163	124	-23.9% (39 patients)

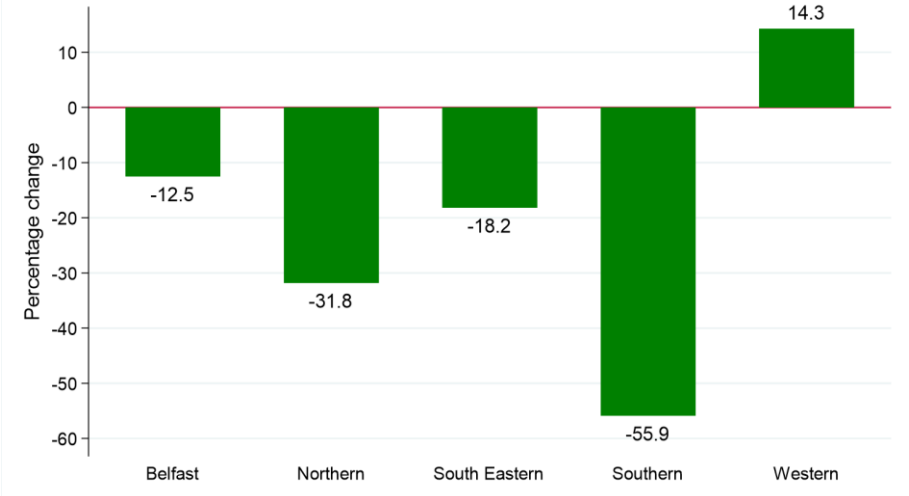
** Average cases per year rounded to the nearest integer. Column sums may thus differ slightly from the total.*
Note: Cases with unknown Health and Social Care Trust are included in totals

Figure 3: Ovarian 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 ovarian 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 ovarian cancer diagnosed decreased by 3.7% from 27 per year in 2018 - 2019 to 26 in 2020. Between the same two time periods the number of cases among residents of the least deprived areas decreased by 34.3% from 35 per year to 23. The change in case distribution by deprivation quintile between 2018 - 2019 and 2020 was not statistically significant.

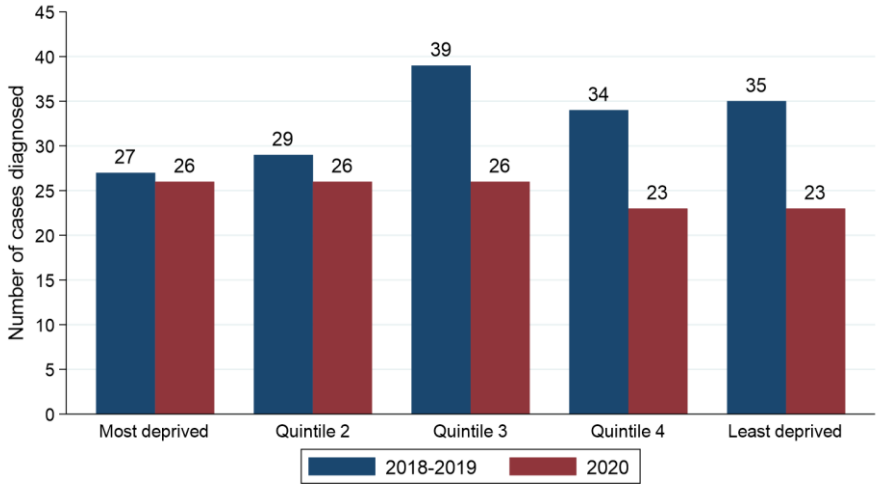
Table 4: Number and proportion of ovarian cancer cases diagnosed in April-December of 2018-2020 by deprivation quintile and period of diagnosis

Deprivation quintile	Period of diagnosis (Apr-Dec)		Percentage change
	2018-2019*	2020	
Most deprived	27 (16.6%)	26 (21.0%)	-3.7% (1 patients)
Quintile 2	29 (17.8%)	26 (21.0%)	-10.3% (3 patients)
Quintile 3	39 (23.9%)	26 (21.0%)	-33.3% (13 patients)
Quintile 4	34 (20.9%)	23 (18.5%)	-32.4% (11 patients)
Least deprived	35 (21.5%)	23 (18.5%)	-34.3% (12 patients)
Northern Ireland	163	124	-23.9% (39 patients)

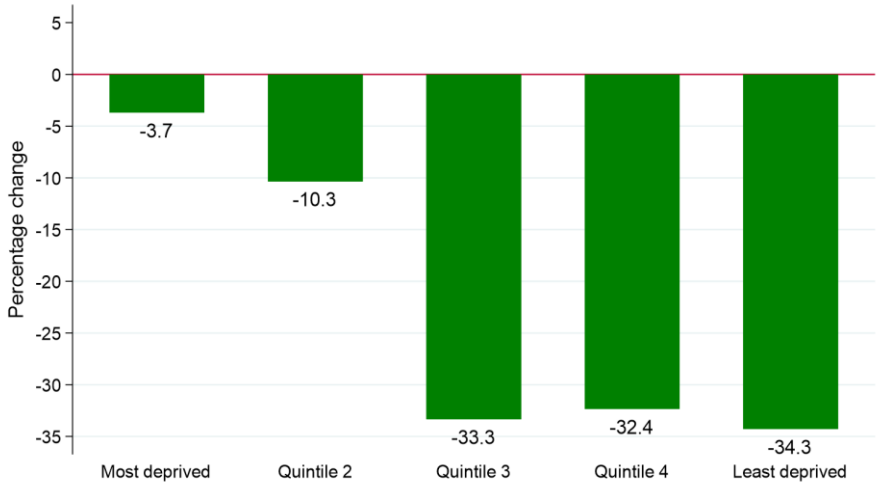
** Average cases per year rounded to the nearest integer. Column sums may thus differ slightly from the total.*
Note: Cases with unknown deprivation quintile are included in totals

Figure 4: Ovarian 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 ovarian cancer cases by deprivation quintile



BASIS OF DIAGNOSIS

Excluding the first quarter of each year the number of ovarian cancer cases diagnosed pathologically decreased by 23.6% from 148 per year in 2018 - 2019 to 113 in 2020, while the number of cases diagnosed clinically decreased by 26.7% from 15 per year to 11. The change in case distribution by basis of diagnosis between 2018 - 2019 and 2020 was not statistically significant.

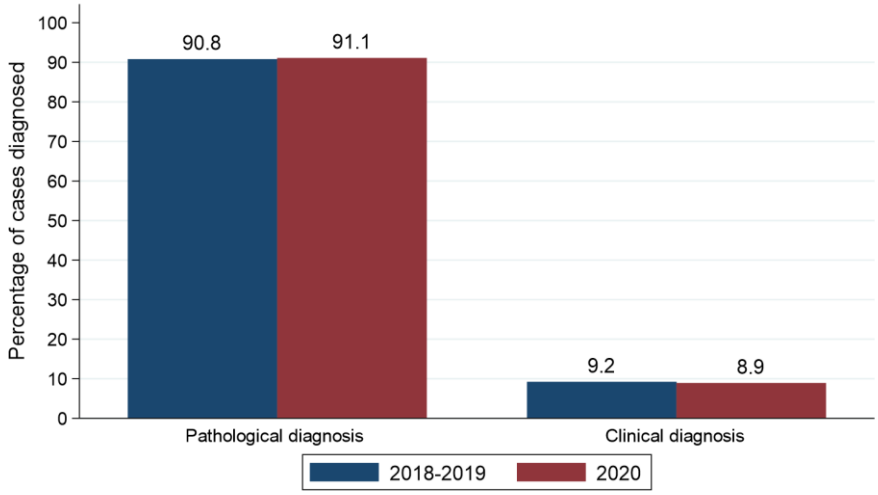
Table 5: Number and proportion of ovarian cancer cases diagnosed in April-December of 2018-2020 by basis and period of diagnosis

Basis of diagnosis	Period of diagnosis (Apr-Dec)		Percentage change
	2018-2019*	2020	
Pathological diagnosis	148 (90.8%)	113 (91.1%)	-23.6% (35 patients)
Clinical diagnosis	15 (9.2%)	11 (8.9%)	-26.7% (4 patients)
All groups	163	124	-23.9% (39 patients)

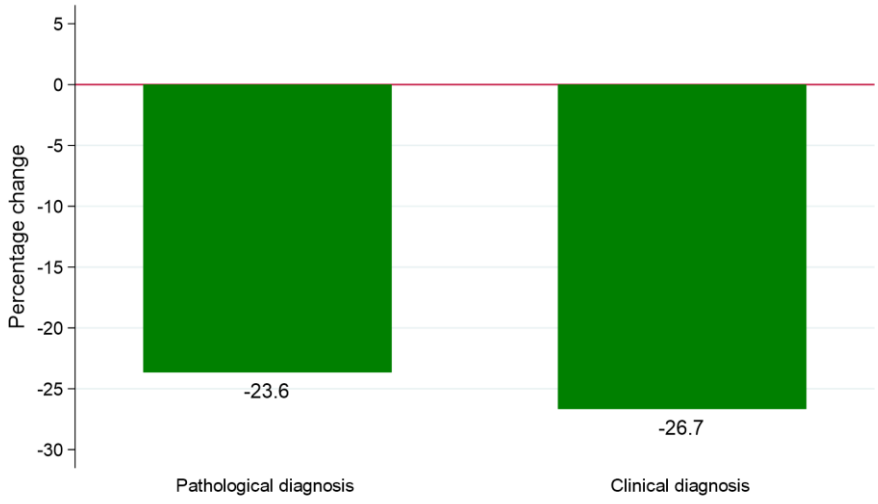
** Average cases per year rounded to the nearest integer. Column sums may thus differ slightly from the total.*

Figure 5: Ovarian 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 ovarian cancer cases by basis of diagnosis



STAGE

Excluding the first quarter of each year the number of ovarian cancer cases diagnosed at Stage I decreased by 32.0% from 50 per year in 2018 - 2019 to 34 in 2020. Between the same two time periods the number of cases diagnosed at Stage IV decreased by 25.0% from 28 per year to 21. The change in case distribution by stage at diagnosis between 2018 - 2019 and 2020 was not statistically significant.

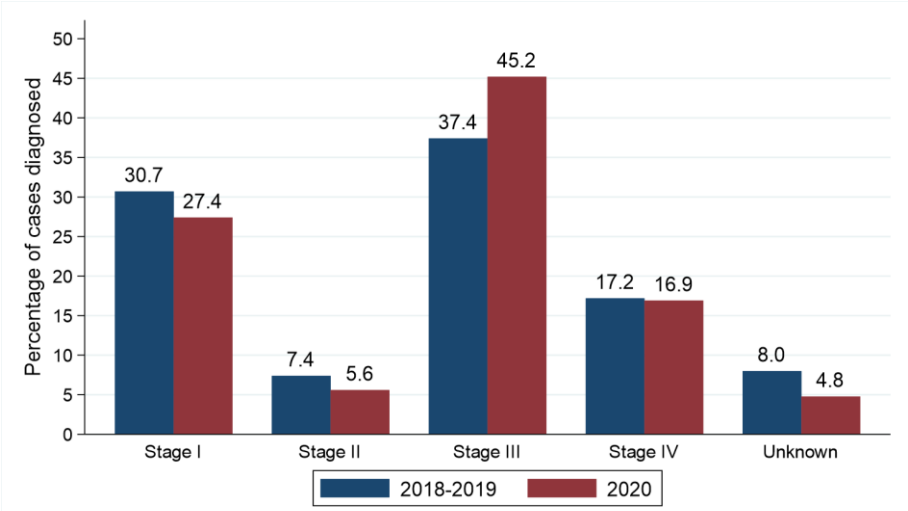
Table 6: Number and proportion of ovarian cancer cases diagnosed in April-December of 2018-2020 by stage at diagnosis and period of diagnosis

Stage at diagnosis	Period of diagnosis (Apr-Dec)		Percentage change
	2018-2019*	2020	
Stage I	50 (30.7%)	34 (27.4%)	-32.0% (16 patients)
Stage II	12 (7.4%)	7 (5.6%)	-41.7% (5 patients)
Stage III	61 (37.4%)	56 (45.2%)	-8.2% (5 patients)
Stage IV	28 (17.2%)	21 (16.9%)	-25.0% (7 patients)
Unknown	13 (8.0%)	6 (4.8%)	-53.8% (7 patients)
All stages	163	124	-23.9% (39 patients)

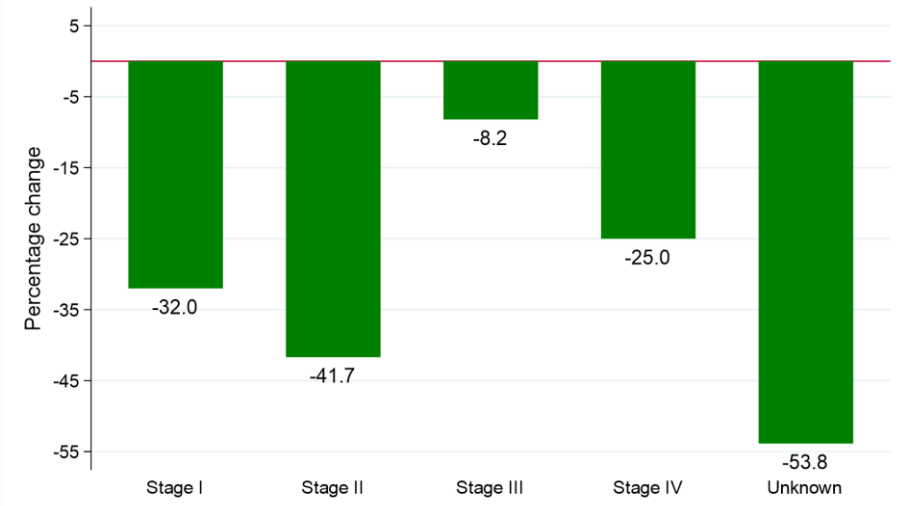
** Average cases per year rounded to the nearest integer. Column sums may thus differ slightly from the total.*

Figure 6: Ovarian 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 ovarian cancer cases by stage at diagnosis



METHOD OF HOSPITAL ADMISSION

Excluding the first quarter of each year the number of cases of ovarian cancer where the patient had an emergency admission recorded as the most recent hospital admission type up to 30 days prior to diagnosis decreased by 5.7% from 35 per year in 2018 - 2019 to 33 in 2020. The change in case distribution by hospital admission type between 2018 - 2019 and 2020 was not statistically significant.

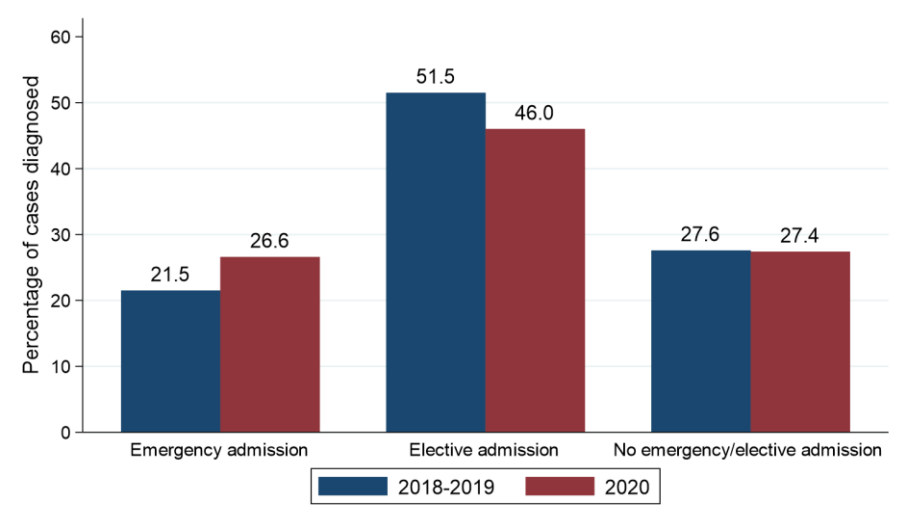
Table 7: Number and proportion of ovarian cancer cases diagnosed in April-December of 2018-2020 by method of admission to hospital and period of diagnosis

Method of admission to hospital	Period of diagnosis (Apr-Dec)		Percentage change
	2018-2019*	2020	
Emergency admission	35 (21.5%)	33 (26.6%)	-5.7% (2 patients)
Elective admission	84 (51.5%)	57 (46.0%)	-32.1% (27 patients)
No emergency/elective admission recorded	45 (27.6%)	34 (27.4%)	-24.4% (11 patients)
All persons	163	124	-23.9% (39 patients)

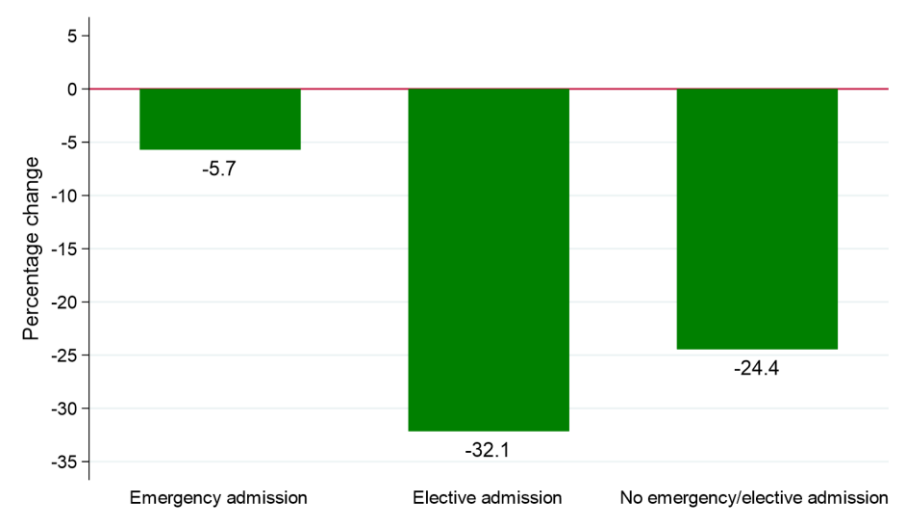
** Average cases per year rounded to the nearest integer. Column sums may thus differ slightly from the total.*

Figure 7: Ovarian 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 ovarian cancer cases by method of admission to hospital



TREATMENT

Excluding the first quarter of each year the number of ovarian cancer cases where the patient was treated with surgery (within six months of diagnosis) decreased by 37.6% from 85 per year for those diagnosed in 2018 - 2019 to 53 for those diagnosed in 2020. The resulting change in the proportion receiving surgery from 52.1% in 2018 - 2019 to 42.7% 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 29.7% from 74 per year to 52. The resulting change in the proportion receiving chemotherapy from 45.4% in 2018 - 2019 to 41.9% in 2020 was not statistically significant.

The number of ovarian cancer cases where the patient was treated with hormone therapy (within six months of diagnosis) increased by 20.0% from 5 per year for those diagnosed in April-December of 2018 - 2019 to 6 for those diagnosed in April-December of 2020. The resulting change in the proportion receiving hormone therapy from 3.1% in 2018 - 2019 to 4.8% in 2020 was not statistically significant.

The proportion of patients receiving none of surgery, chemotherapy or hormone therapy (within six months of diagnosis) who were diagnosed in April-December 2020 was 33.9%. This compared to 26.4% of those diagnosed in 2018 - 2019. This change was not statistically significant.

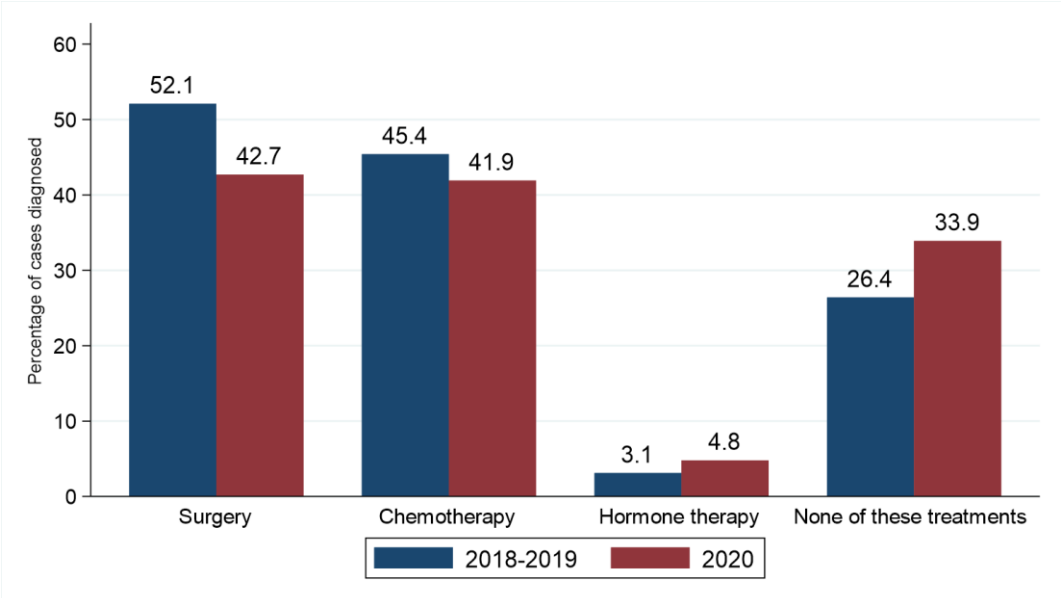
Table 8: Number and proportion of ovarian cancer cases diagnosed in April-December of 2018-2020 by treatment type and period of diagnosis

Treatment type	Period of diagnosis (Apr-Dec)		Percentage change
	2018-2019 average	2020	
Surgery	85 (52.1%)	53 (42.7%)	-37.6% (32 patients)
Chemotherapy	74 (45.4%)	52 (41.9%)	-29.7% (22 patients)
Hormone therapy	5 (3.1%)	6 (4.8%)	+20.0% (1 patients)
None of these treatments	43 (26.4%)	42 (33.9%)	-2.3% (1 patients)

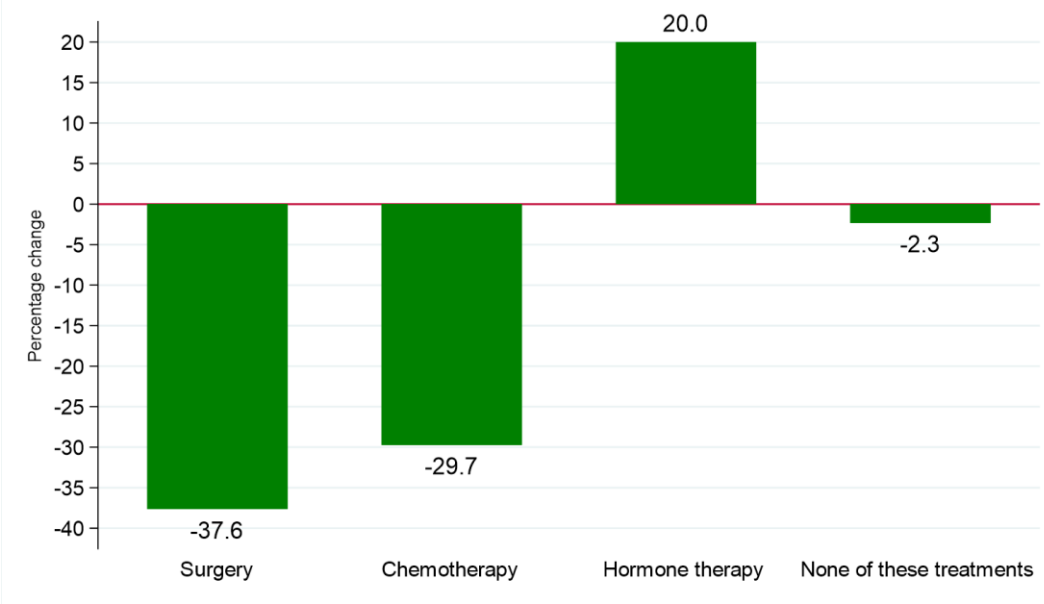
No statistically significant changes

Figure 8: Ovarian 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 ovarian cancer cases by treatment received



⑨ Impact of Covid-19 on incidence, survival and mortality of ovarian cancer

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

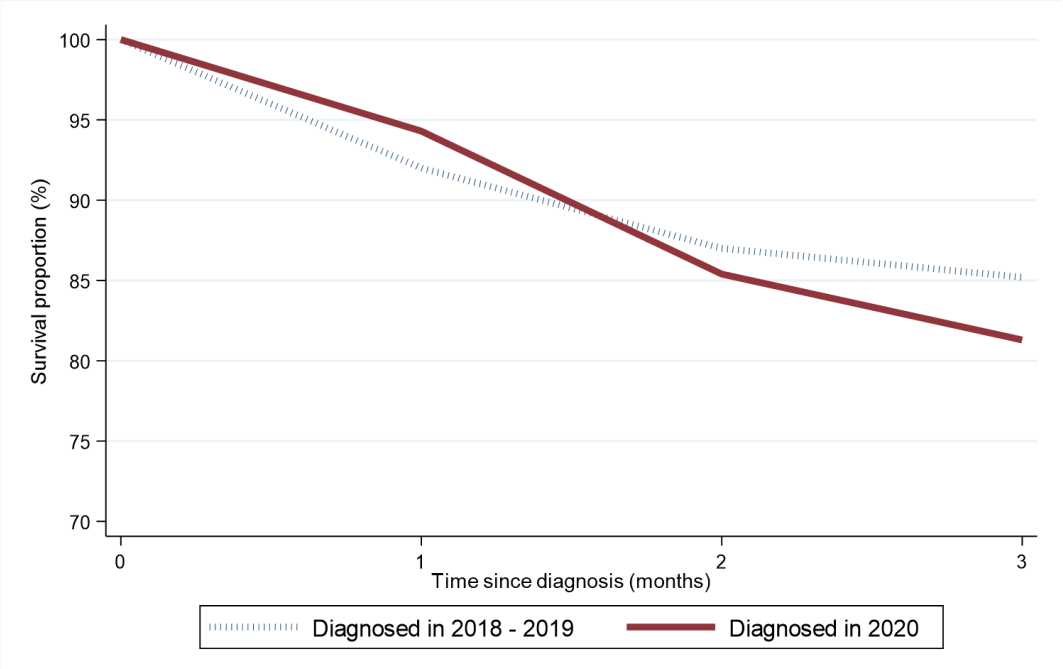
Survival among ovarian cancer patients one month after diagnosis increased from 92.0% among those diagnosed in April-December of 2018 - 2019 to 94.3% among those diagnosed in April-December of 2020. This change was not statistically significant. Between the same two diagnosis periods, three-month survival decreased from 85.2% to 81.3%. This change was not statistically significant.

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

Survival time	Period of diagnosis (Apr-Dec)	
	2018-2019	2020
1 month	92.0% (88.4% - 94.5%)	94.3% (88.4% - 97.2%)
2 months	87.0% (82.9% - 90.3%)	85.4% (77.8% - 90.5%)
3 months	85.2% (80.8% - 88.6%)	81.3% (73.2% - 87.2%)

No statistically significant reductions

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



DEATHS FROM COVID-19

During 2020 there were a total of 2 deaths from Covid-19 among ovarian cancer patients diagnosed at any point since 1993.

NET SURVIVAL

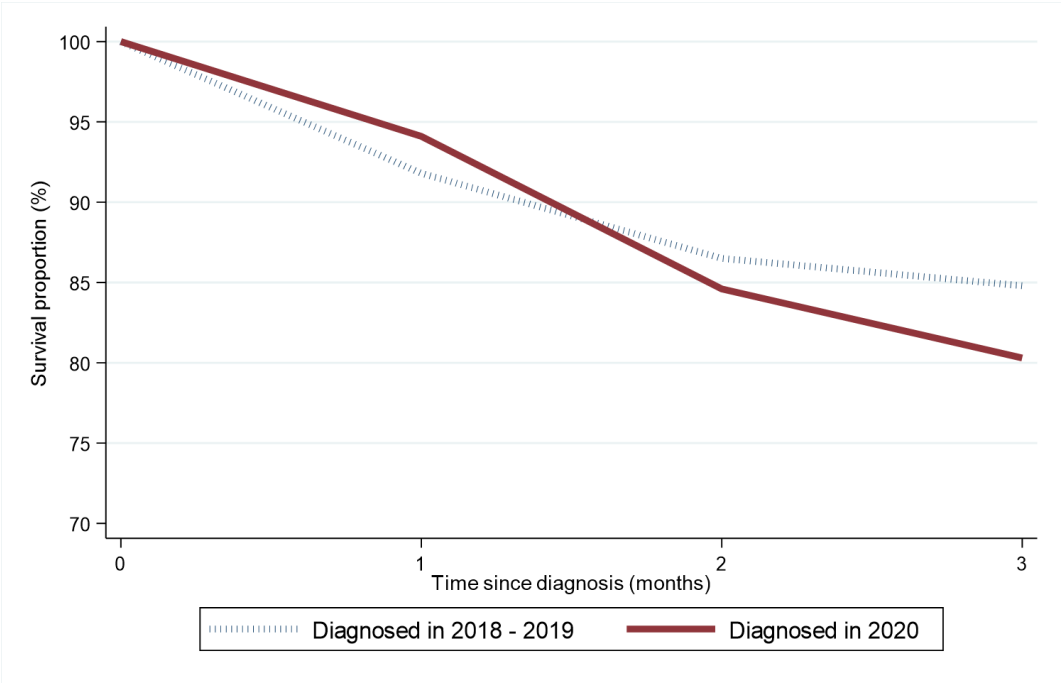
Age-standardised net survival (which takes account of deaths from other causes such as Covid-19) among ovarian cancer patients one month after diagnosis increased from 91.8% among those diagnosed in April-December of 2018 - 2019 to 94.1% among those diagnosed in April-December of 2020. This change was not statistically significant. Between the same two time periods, three-month age-standardised net survival decreased from 84.8% to 80.3%. This change was not statistically significant.

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

Survival time	Period of diagnosis (Apr-Dec)	
	2018-2019	2020
1 month	91.8% (88.6% - 95.1%)	94.1% (89.8% - 98.6%)
2 months	86.5% (82.5% - 90.7%)	84.6% (77.3% - 92.6%)
3 months	84.8% (80.6% - 89.2%)	80.3% (72.1% - 89.4%)

No statistically significant reductions

Figure 10: Age-standardised net survival for patients with ovarian 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 ovarian cancer among females decreased by 1.1% from 95 per year in 2018 - 2019 to 94 in 2020.

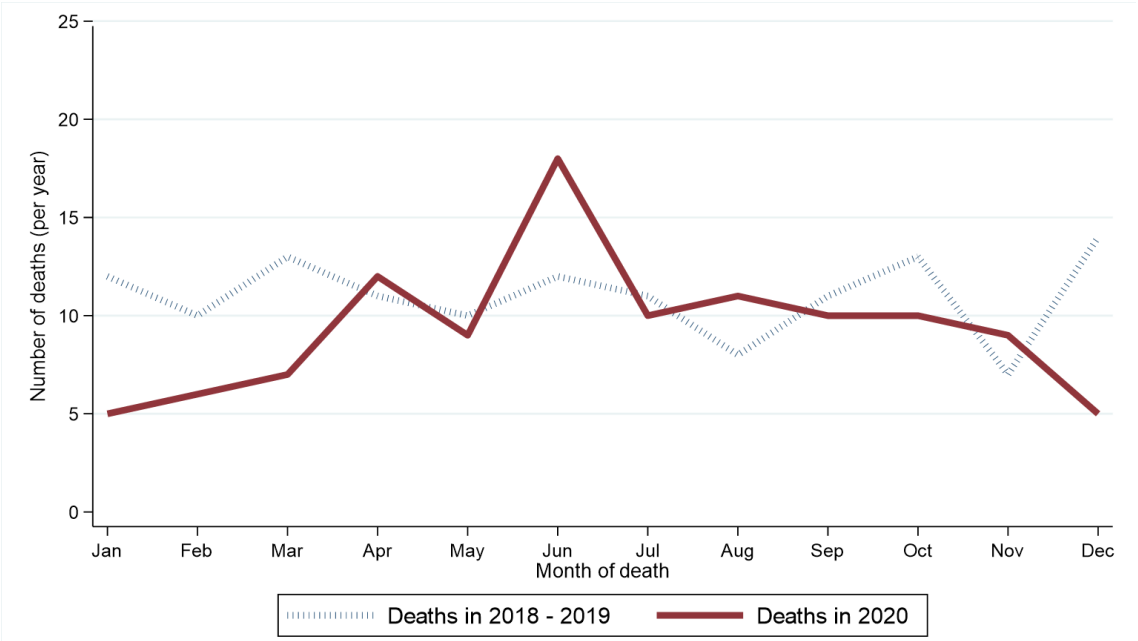
Table 11: Number of ovarian cancer deaths in 2018-2020 by month and year of death

Period of death	Annual total	Month death occurred											
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
2018-2019*	130	12	10	13	11	10	12	11	8	11	13	7	14
2020	112	5	6	7	12	9	18	10	11	10	10	9	5

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

Figure 11: Number of ovarian 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 ovarian cancer deaths by month of death