Impact of Covid-19 on incidence, survival and mortality of lymphoma 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 lymphoma diagnosed decreased by 12.5% (40 patients) from 320 per year in 2018 - 2019 to 280 in 2020.

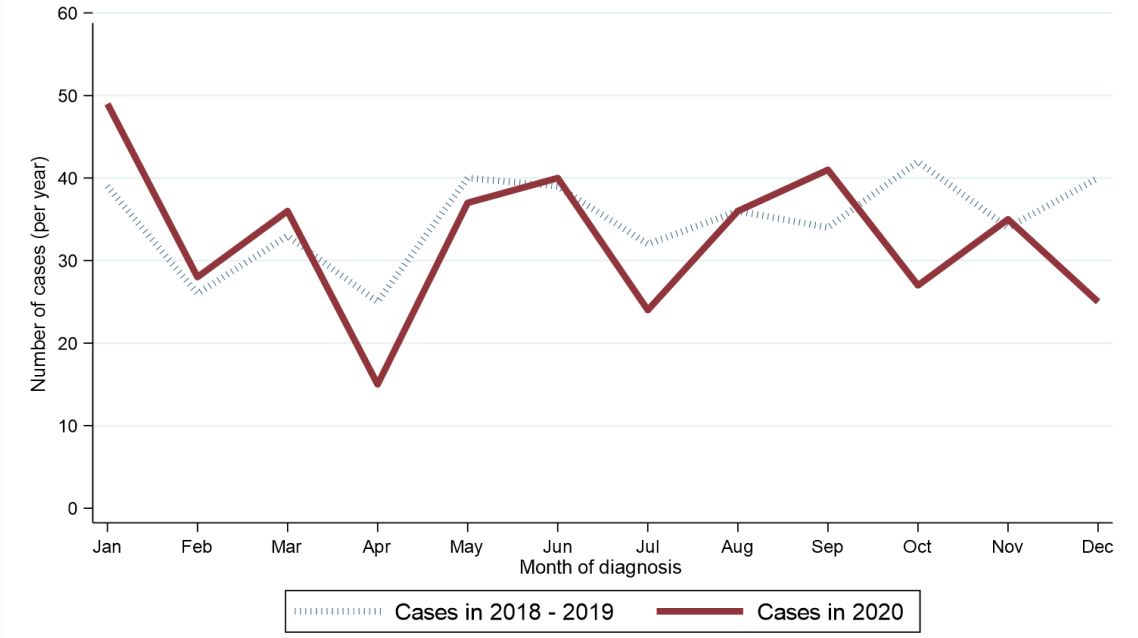
Table 1: Number of lymphoma cases diagnosed in 2018-2020 by month and year of diagnosis

Period of diagnosis	Annual total	Month diagnosed											
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
2018-2019*	418	39	26	33	25	40	39	32	36	34	42	34	40
2020	393	49	28	36	15	37	40	24	36	41	27	35	25

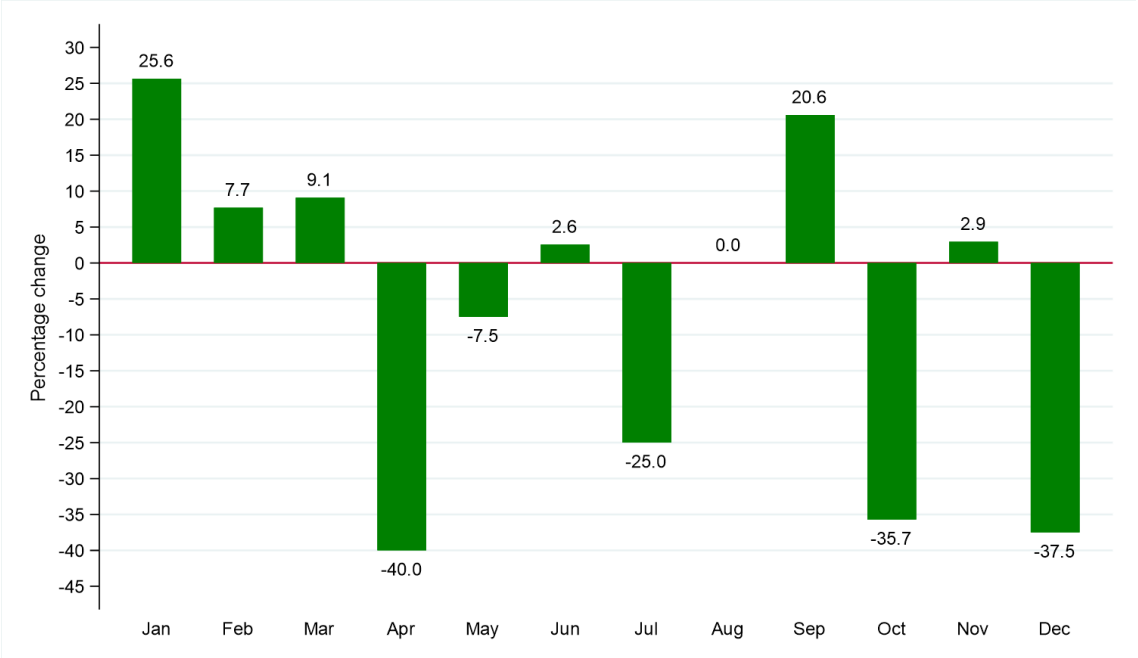
** Average cases per year rounded to the nearest integer. Row sums may thus differ slightly from the total.*

Figure 1: Number of lymphoma 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 lymphoma cases by month of diagnosis



GENDER

Excluding the first quarter of each year among males the number of cases of lymphoma diagnosed decreased by 8.4% from 179 per year in 2018 - 2019 to 164 in 2020. Between the same two time periods the number of cases among females decreased by 17.7% from 141 per year to 116. The change in case distribution by gender between 2018 - 2019 and 2020 was not statistically significant.

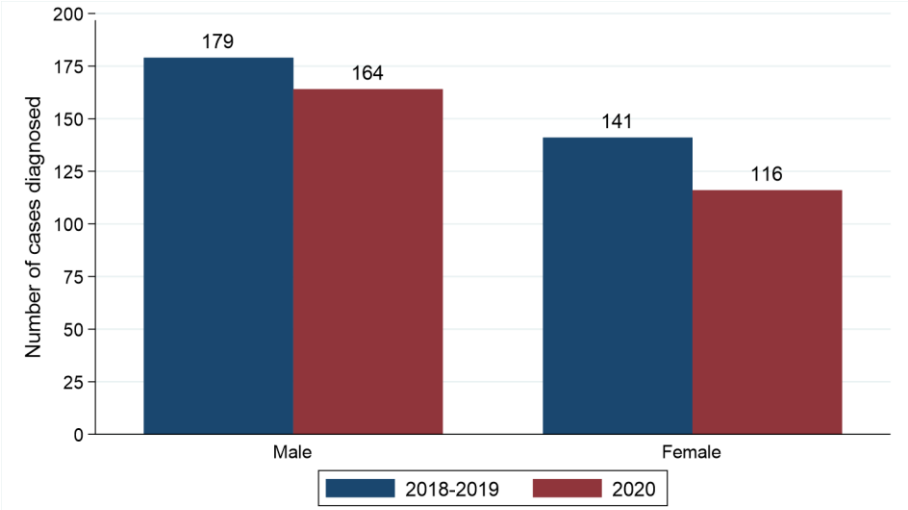
Table 2: Number and proportion of lymphoma cases diagnosed in April-December of 2018-2020 by gender and period of diagnosis

Gender	Period of diagnosis (Apr-Dec)		Percentage change
	2018-2019*	2020	
Male	179 (55.9%)	164 (58.6%)	-8.4% (15 patients)
Female	141 (44.1%)	116 (41.4%)	-17.7% (25 patients)
All persons	320	280	-12.5% (40 patients)

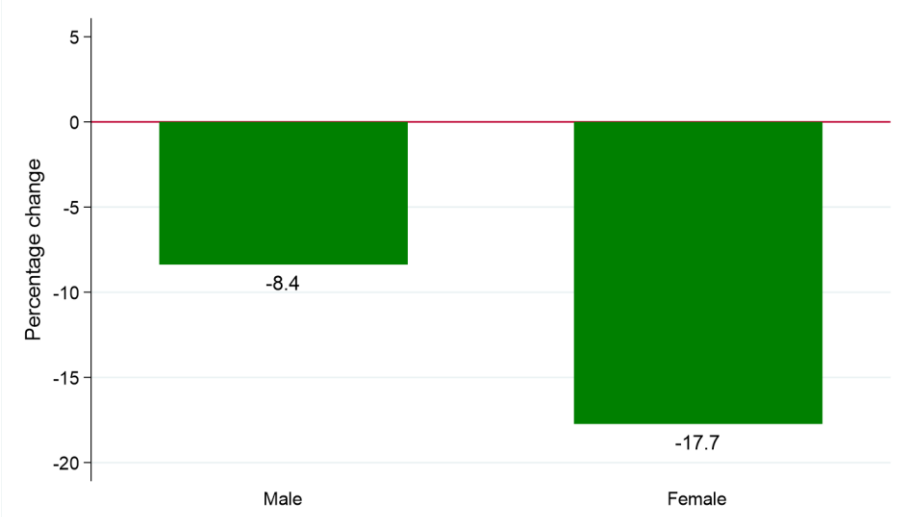
** Average cases per year rounded to the nearest integer. Column sums may thus differ slightly from the total.*

Figure 2: Lymphoma 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 lymphoma cases by gender



AGE

Excluding the first quarter of each year among people aged 55 to 64 the number of cases of lymphoma diagnosed decreased by 27.4% from 62 per year in 2018 - 2019 to 45 in 2020. Between the same two time periods, the number of cases among people aged 75 and over increased by 5.4% from 92 per year to 97. The change in case distribution by age between 2018 - 2019 and 2020 was not statistically significant.

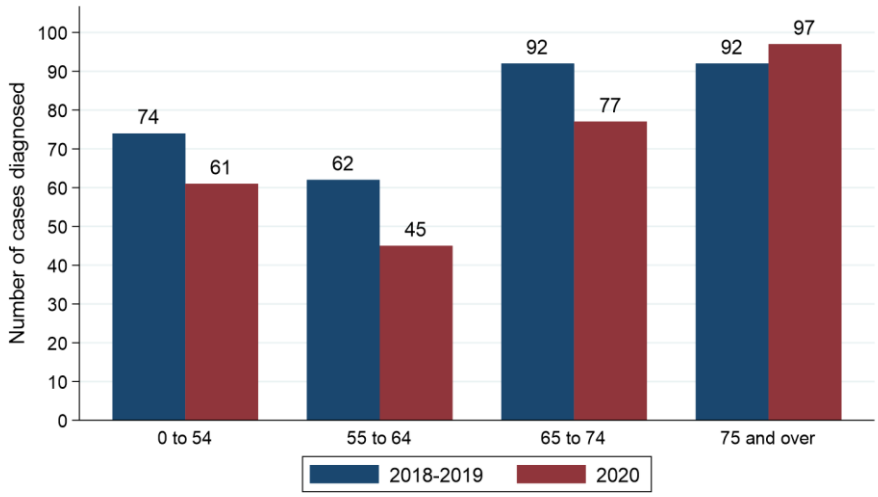
Table 3: Number and proportion of lymphoma cases diagnosed in April-December of 2018-2020 by age and period of diagnosis

Age group	Period of diagnosis (Apr-Dec)		Percentage change
	2018-2019*	2020	
0 to 54	74 (23.1%)	61 (21.8%)	-17.6% (13 patients)
55 to 64	62 (19.4%)	45 (16.1%)	-27.4% (17 patients)
65 to 74	92 (28.8%)	77 (27.5%)	-16.3% (15 patients)
75 and over	92 (28.8%)	97 (34.6%)	+5.4% (5 patients)
All ages	320	280	-12.5% (40 patients)

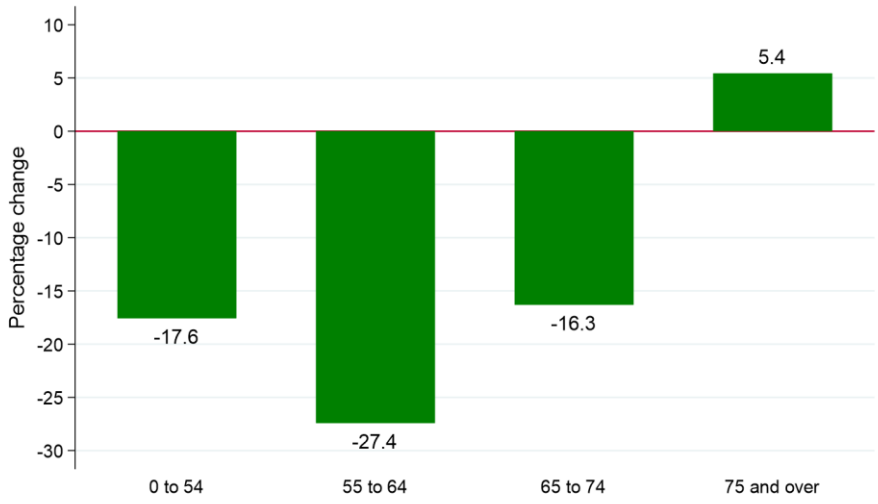
** Average cases per year rounded to the nearest integer. Column sums may thus differ slightly from the total.*

Figure 3: Lymphoma 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 lymphoma cases by age at diagnosis



HEALTH AND SOCIAL CARE TRUST

Excluding the first quarter of each year among residents of Northern HSCT the number of cases of lymphoma diagnosed decreased by 30.4% from 92 per year in 2018 - 2019 to 64 in 2020. Between the same two time periods the number of cases among residents of South Eastern HSCT increased by 9.5% from 63 per year to 69. The change in case distribution by HSCT between 2018 - 2019 and 2020 was not statistically significant.

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

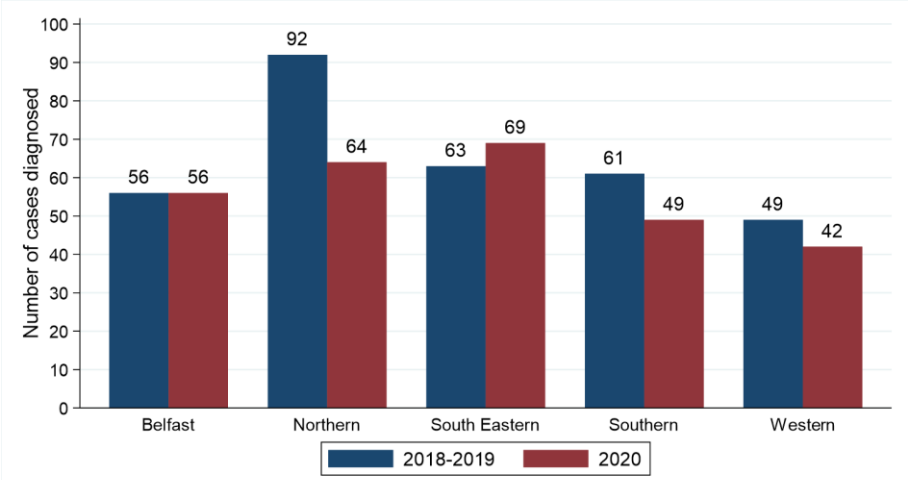
Health and Social Care Trust	Period of diagnosis (Apr-Dec)		Percentage change
	2018-2019*	2020	
Belfast HSCT	56 (17.5%)	56 (20.0%)	0.0% (0 patients)
Northern HSCT	92 (28.8%)	64 (22.9%)	-30.4% (28 patients)
South Eastern HSCT	63 (19.7%)	69 (24.6%)	+9.5% (6 patients)
Southern HSCT	61 (19.1%)	49 (17.5%)	-19.7% (12 patients)
Western HSCT	49 (15.3%)	42 (15.0%)	-14.3% (7 patients)
Northern Ireland	320	280	-12.5% (40 patients)

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

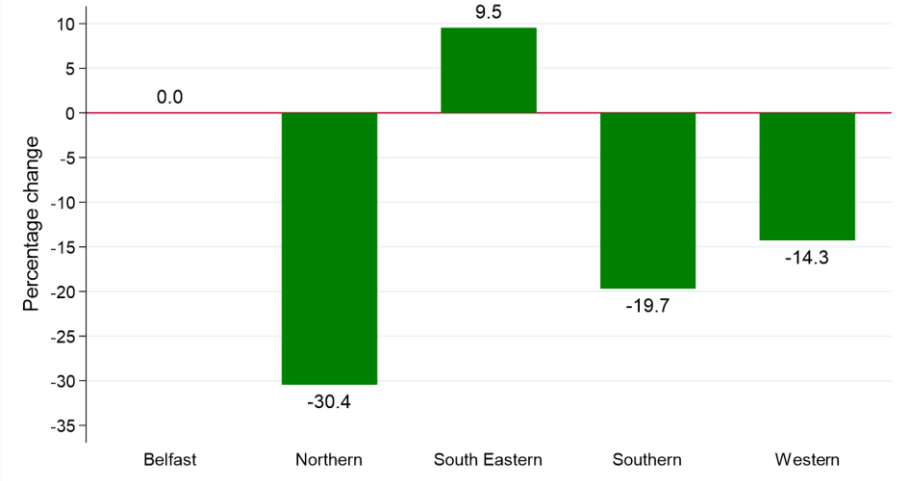
Note: Cases with unknown Health and Social Care Trust are included in totals

Figure 4: Lymphoma 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 lymphoma 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 lymphoma diagnosed decreased by 10.2% from 49 per year in 2018 - 2019 to 44 in 2020. Between the same two time periods the number of cases among residents of the least deprived areas decreased by 10.0% from 70 per year to 63. The change in case distribution by deprivation quintile between 2018 - 2019 and 2020 was not statistically significant.

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

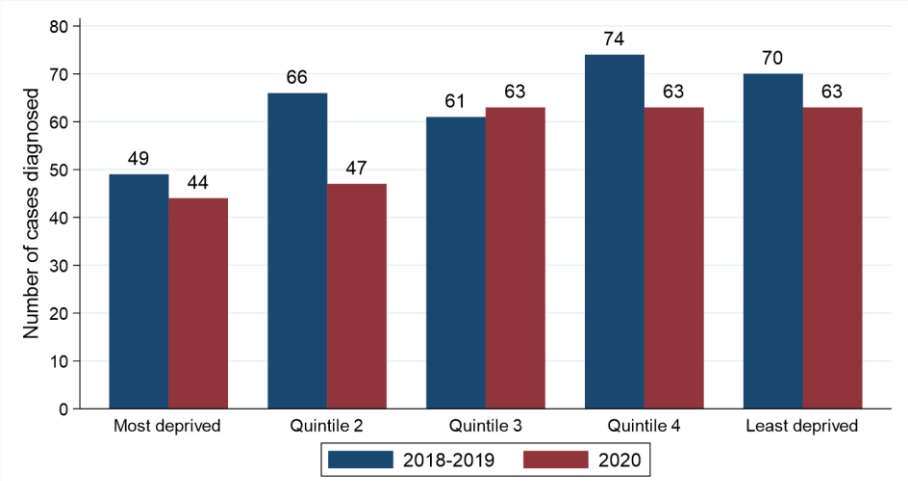
Deprivation quintile	Period of diagnosis (Apr-Dec)		Percentage change
	2018-2019*	2020	
Most deprived	49 (15.3%)	44 (15.7%)	-10.2% (5 patients)
Quintile 2	66 (20.6%)	47 (16.8%)	-28.8% (19 patients)
Quintile 3	61 (19.1%)	63 (22.5%)	+3.3% (2 patients)
Quintile 4	74 (23.1%)	63 (22.5%)	-14.9% (11 patients)
Least deprived	70 (21.9%)	63 (22.5%)	-10.0% (7 patients)
Northern Ireland	320	280	-12.5% (40 patients)

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

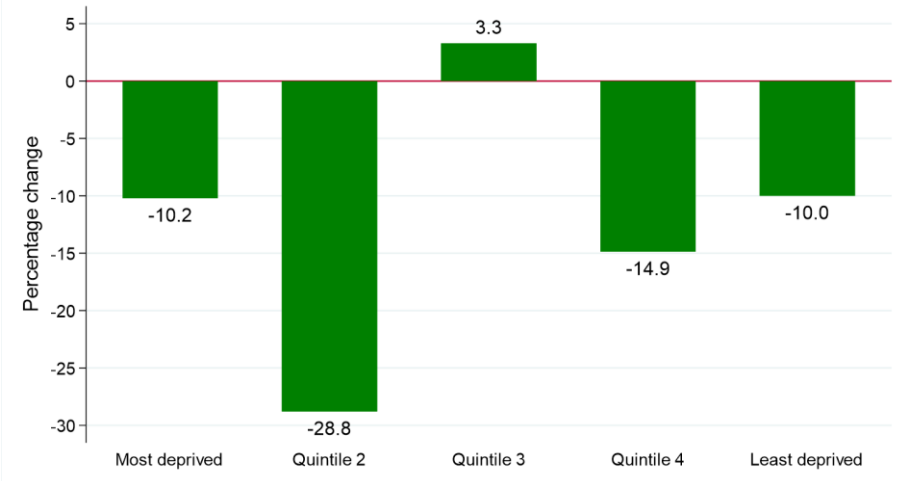
Note: Cases with unknown deprivation quintile are included in totals

Figure 5: Lymphoma 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 lymphoma cases by deprivation quintile



BASIS OF DIAGNOSIS

Excluding the first quarter of each year the number of lymphoma cases diagnosed pathologically decreased by 13.4% from 306 per year in 2018 - 2019 to 265 in 2020, while there was no change in the number of lymphoma cases diagnosed clinically each year between 2018 - 2019 and 2020, with an average of 10 cases each year. The change in case distribution by basis of diagnosis between 2018 - 2019 and 2020 was not statistically significant.

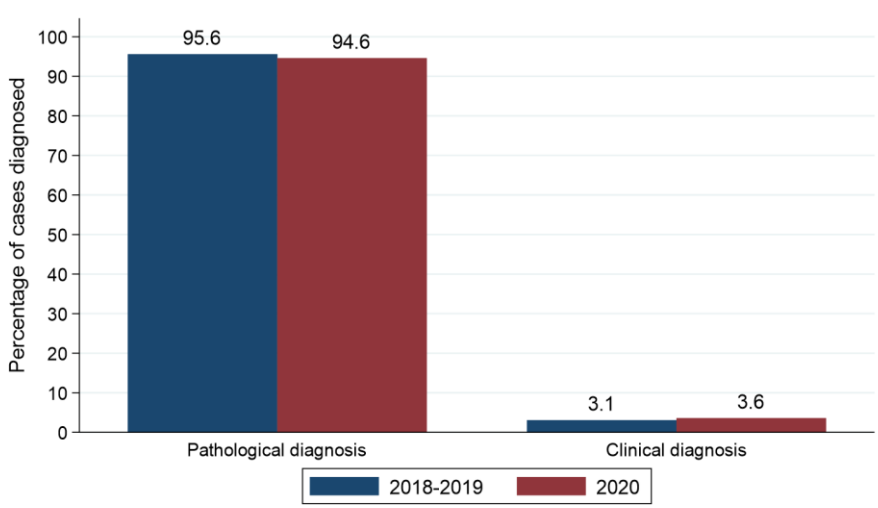
Table 6: Number and proportion of lymphoma cases diagnosed in April-December of 2018-2020 by basis and period of diagnosis

Basis of diagnosis	Period of diagnosis (Apr-Dec)		Percentage change
	2018-2019*	2020	
Pathological diagnosis	306 (95.6%)	265 (94.6%)	-13.4% (41 patients)
Clinical diagnosis	10 (3.1%)	10 (3.6%)	0.0% (0 patients)
Death certificate only/Unknown	5 (1.6%)	5 (1.8%)	0.0% (0 patients)
All groups	320	280	-12.5% (40 patients)

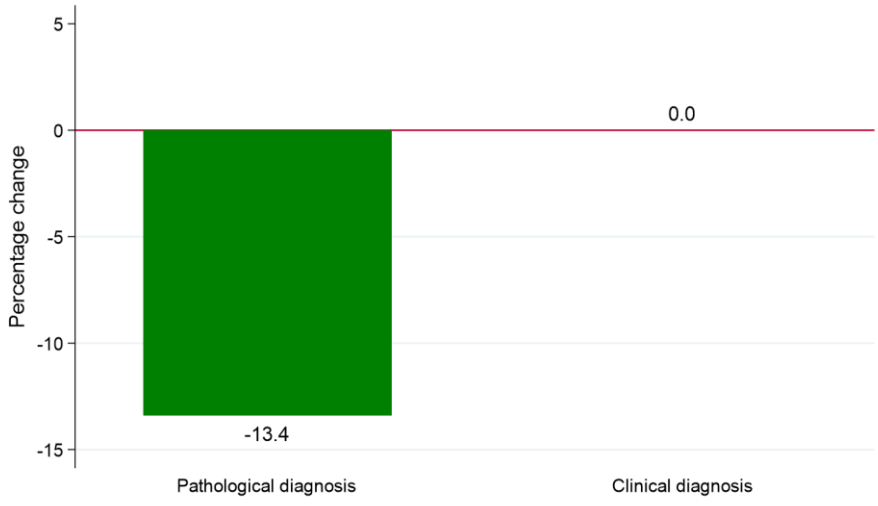
** Average cases per year rounded to the nearest integer. Column sums may thus differ slightly from the total.*

Figure 6: Lymphoma 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 lymphoma cases by basis of diagnosis



STAGE

Excluding the first quarter of each year the number of lymphoma cases diagnosed at Stage I decreased by 35.6% from 45 per year in 2018 - 2019 to 29 in 2020. Between the same two time periods the number of cases diagnosed at Stage IV increased by 6.1% from 114 per year to 121. The change in case distribution by stage at diagnosis between 2018 - 2019 and 2020 was not statistically significant.

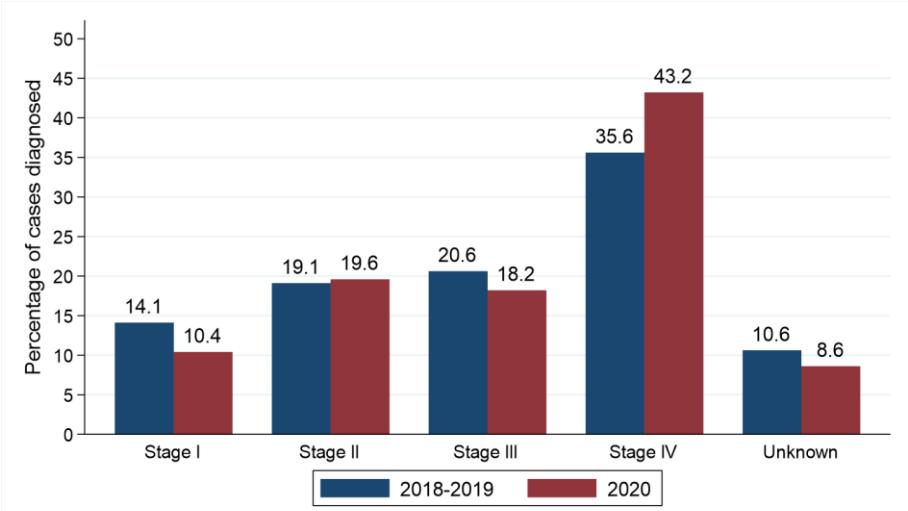
Table 7: Number and proportion of lymphoma cases diagnosed in April-December of 2018-2020 by stage at diagnosis and period of diagnosis

Stage at diagnosis	Period of diagnosis (Apr-Dec)		Percentage change
	2018-2019*	2020	
Stage I	45 (14.1%)	29 (10.4%)	-35.6% (16 patients)
Stage II	61 (19.1%)	55 (19.6%)	-9.8% (6 patients)
Stage III	66 (20.6%)	51 (18.2%)	-22.7% (15 patients)
Stage IV	114 (35.6%)	121 (43.2%)	+6.1% (7 patients)
Unknown	34 (10.6%)	24 (8.6%)	-29.4% (10 patients)
All stages	320	280	-12.5% (40 patients)

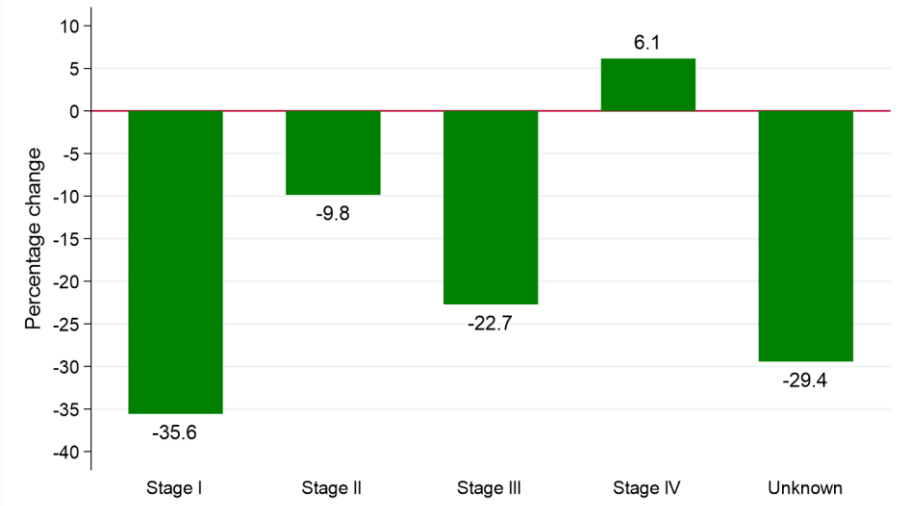
** Average cases per year rounded to the nearest integer. Column sums may thus differ slightly from the total.*

Figure 7: Lymphoma 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 lymphoma cases by stage at diagnosis



METHOD OF HOSPITAL ADMISSION

Excluding the first quarter of each year the number of cases of lymphoma where the patient had an emergency admission recorded as the most recent hospital admission type up to 30 days prior to diagnosis decreased by 11.4% from 70 per year in 2018 - 2019 to 62 in 2020. The change in case distribution by hospital admission type between 2018 - 2019 and 2020 was not statistically significant.

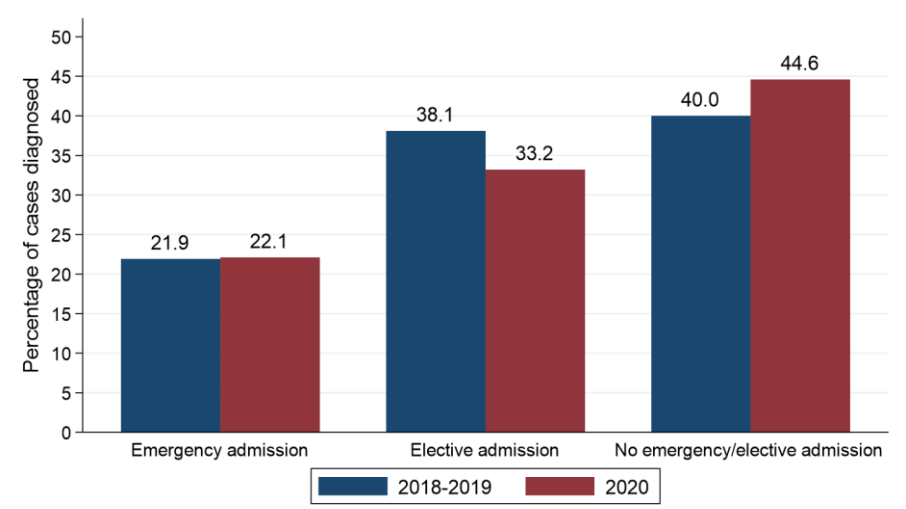
Table 8: Number and proportion of lymphoma cases diagnosed in April-December of 2018-2020 by method of admission to hospital and period of diagnosis

Method of admission to hospital	Period of diagnosis (Apr-Dec)		Percentage change
	2018-2019*	2020	
Emergency admission	70 (21.9%)	62 (22.1%)	-11.4% (8 patients)
Elective admission	122 (38.1%)	93 (33.2%)	-23.8% (29 patients)
No emergency/elective admission recorded	128 (40.0%)	125 (44.6%)	-2.3% (3 patients)
All persons	320	280	-12.5% (40 patients)

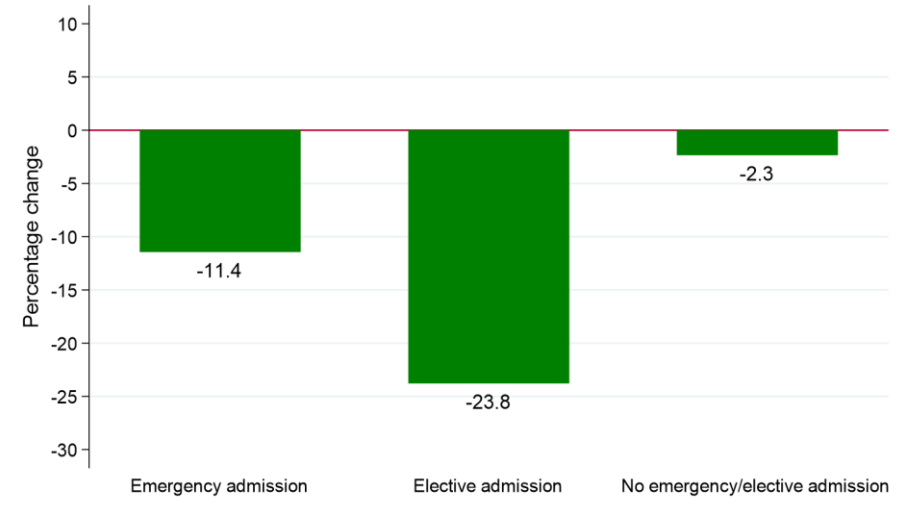
** Average cases per year rounded to the nearest integer. Column sums may thus differ slightly from the total.*

Figure 8: Lymphoma 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 lymphoma cases by method of admission to hospital



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

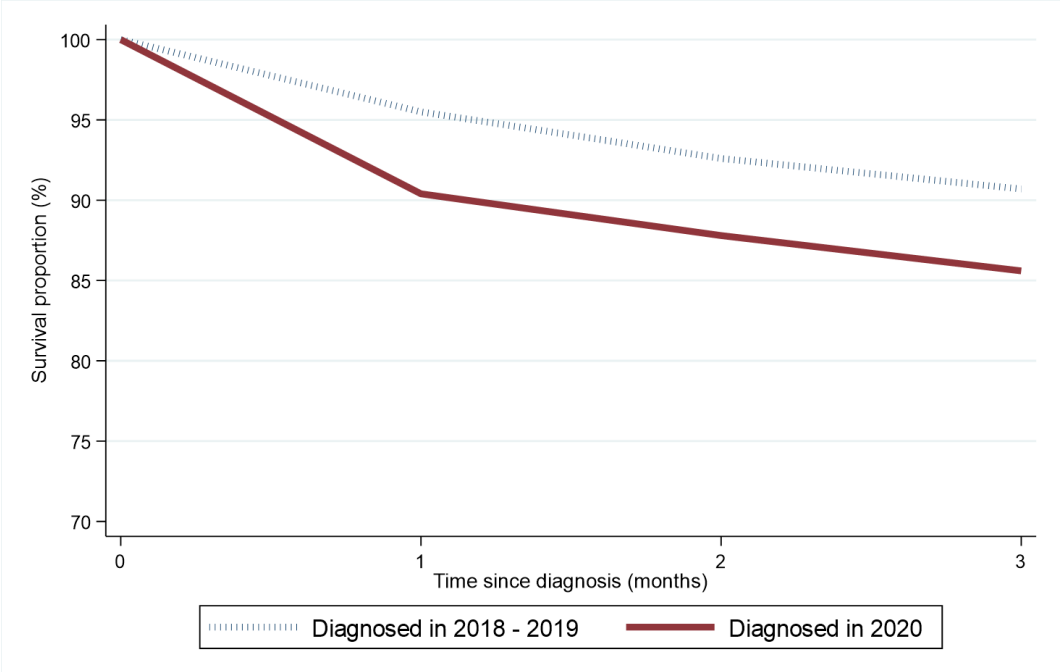
Survival among lymphoma patients one month after diagnosis decreased from 95.5% among those diagnosed in April-December of 2018 - 2019 to 90.4% among those diagnosed in April-December of 2020. This change was statistically significant. Between the same two diagnosis periods, three-month survival decreased from 90.7% to 85.6%. This change was not statistically significant.

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

Survival time	Period of diagnosis (Apr-Dec)	
	2018-2019	2020
1 month	95.5% (93.6% - 96.9%)	90.4% (86.2% - 93.3%)*
2 months	92.6% (90.3% - 94.4%)	87.8% (83.2% - 91.2%)
3 months	90.7% (88.1% - 92.7%)	85.6% (80.8% - 89.2%)

** Statistically significant reduction*

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



DEATHS FROM COVID-19

During 2020 there were a total of 15 deaths from Covid-19 among lymphoma patients diagnosed at any point since 1993.

NET SURVIVAL

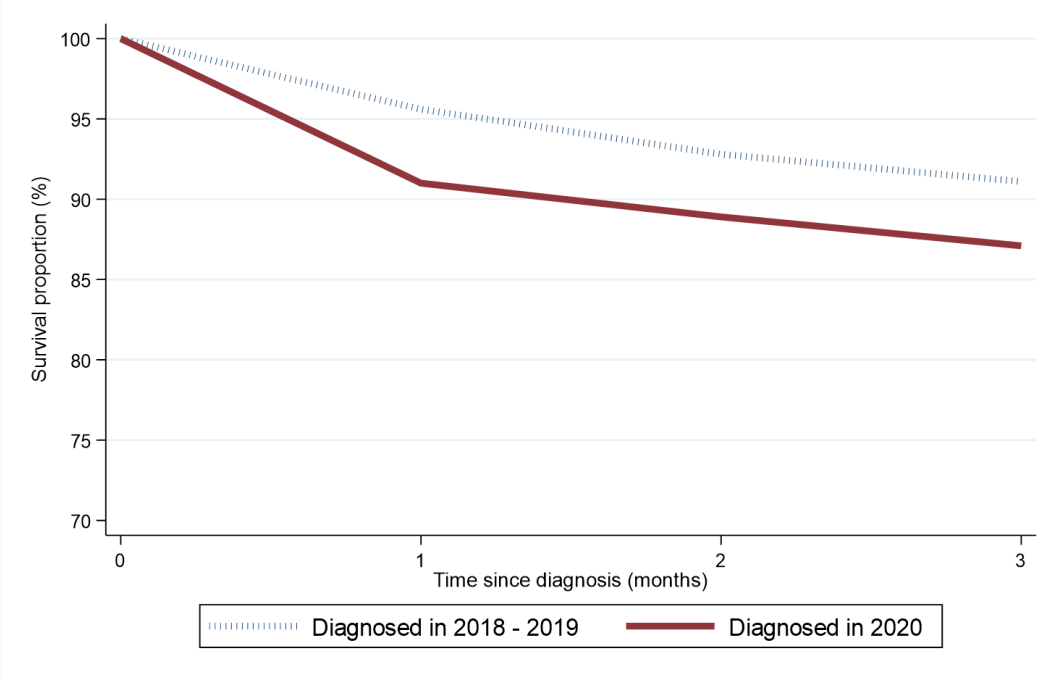
Age-standardised net survival (which takes account of deaths from other causes such as Covid-19) among lymphoma patients one month after diagnosis decreased from 95.6% among those diagnosed in April-December of 2018 - 2019 to 91.0% among those diagnosed in April-December of 2020. This change was not statistically significant. Between the same two time periods, three-month age-standardised net survival decreased from 91.1% to 87.1%. This change was not statistically significant.

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

Survival time	Period of diagnosis (Apr-Dec)	
	2018-2019	2020
1 month	95.6% (93.9% - 97.3%)	91.0% (87.7% - 94.5%)
2 months	92.8% (90.6% - 95.0%)	88.9% (85.1% - 92.8%)
3 months	91.1% (88.8% - 93.5%)	87.1% (83.1% - 91.3%)

No statistically significant reductions

Figure 10: Age-standardised net survival for patients with lymphoma 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 lymphoma increased by 20.9% from 91 per year in 2018 - 2019 to 110 in 2020.

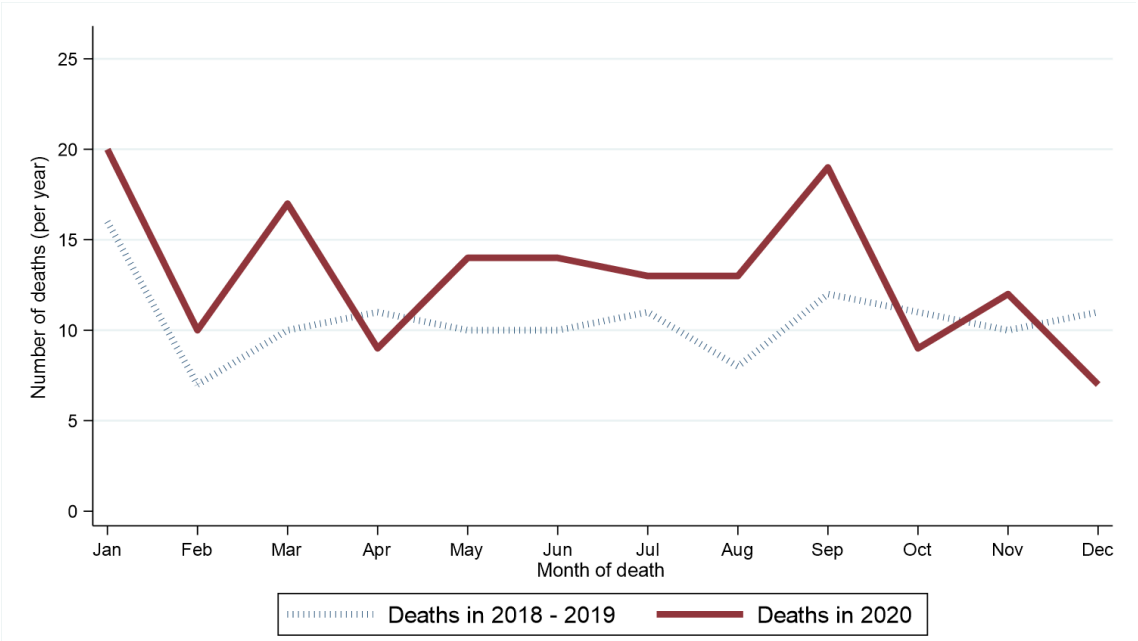
Table 11: Number of lymphoma deaths in 2018-2020 by month and year of death

Period of death	Annual total	Month death occurred											
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
2018-2019*	123	16	7	10	11	10	10	11	8	12	11	10	11
2020	157	20	10	17	9	14	14	13	13	19	9	12	7

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

Figure 11: Number of lymphoma 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 lymphoma deaths by month of death