
Recent trends in incidence and survival of Hodgkin's lymphoma in Northern Ireland

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

Further information

Further information is available at: www.qub.ac.uk/research-centres/nicr

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INCIDENCE

During the April-December period the number of cases of Hodgkin's lymphoma diagnosed decreased between 2018-2019 and 2021 by 7.1% from 56 cases per year to 52 cases.

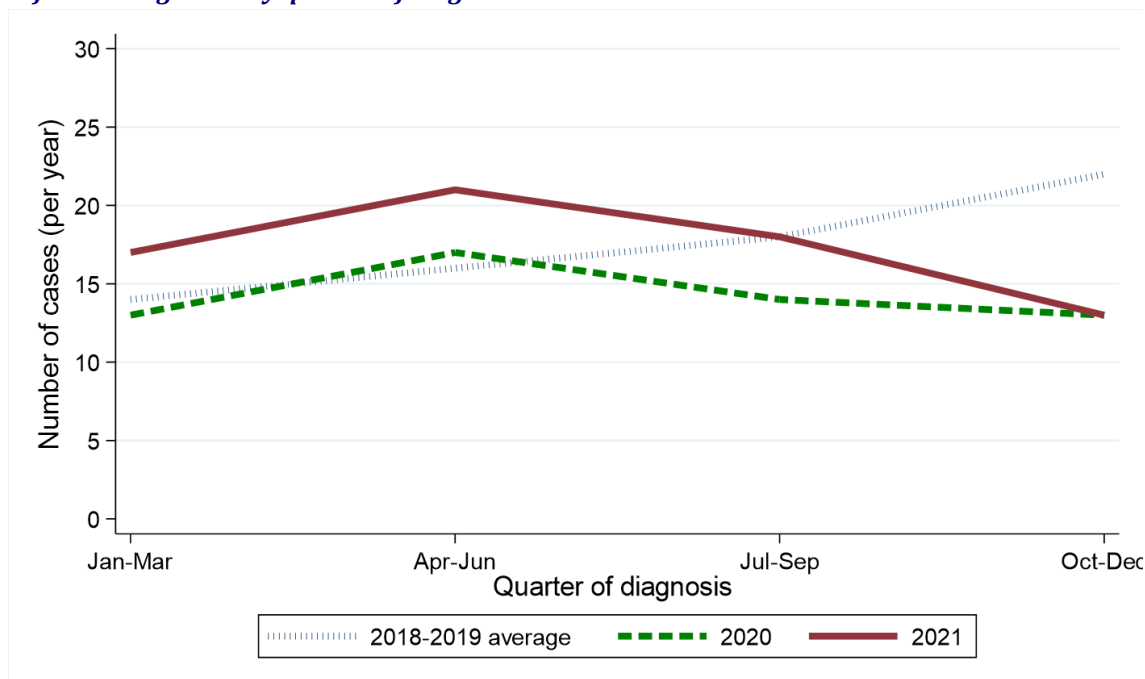
Table 1: Number of Hodgkin's lymphoma cases diagnosed in 2018-2021 by quarter and year of diagnosis

| Period of diagnosis | Annual total | Quarter diagnosed | | | |
|---------------------|--------------|-------------------|---------|----------|---------|
| | | Jan-Mar | Apr-Jun | Jul-Sept | Oct-Dec |
| 2018-2019* | 69 | 14 | 16 | 18 | 22 |
| 2020 | 57 | 13 | 17 | 14 | 13 |
| 2021 | 69 | 17 | 21 | 18 | 13 |

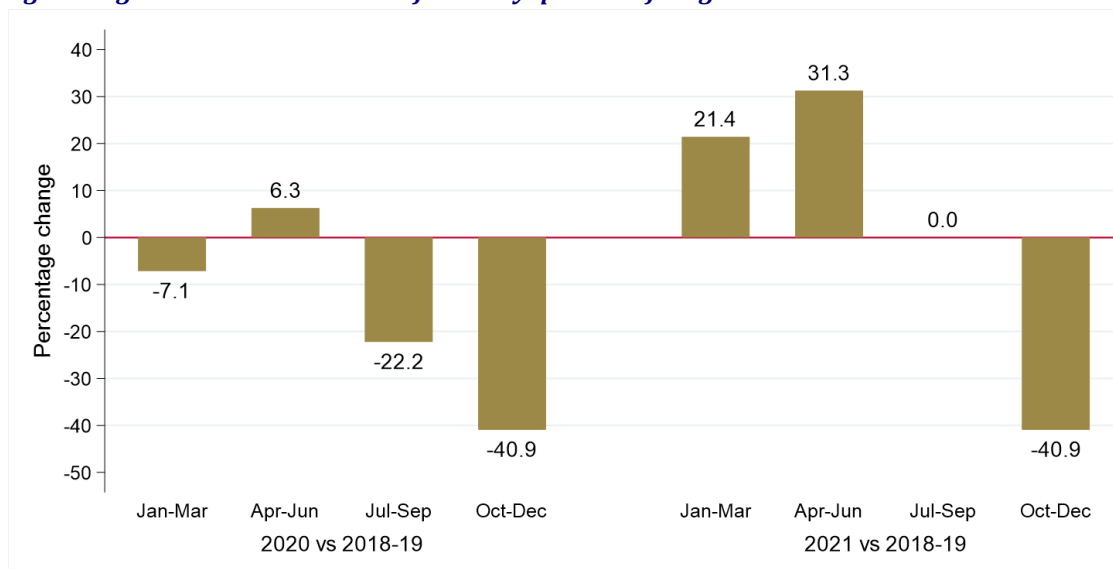
* Average cases per year rounded to the nearest integer. Row sums may thus differ slightly from the total.

Figure 1: Number of Hodgkin's lymphoma cases diagnosed in 2018-2021 by quarter and year of diagnosis

(a) Number of cases diagnosed by quarter 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 Hodgkin's lymphoma cases diagnosed increased by 3.2% from 31 per year in 2018-2019 to 32 in 2021. Between the same two time periods the number of female Hodgkin's lymphoma cases diagnosed decreased by 20.0% from 25 per year in 2018-2019 to 20 in 2021. The change in case distribution by gender between 2018-2019 and 2021 was not statistically significant.

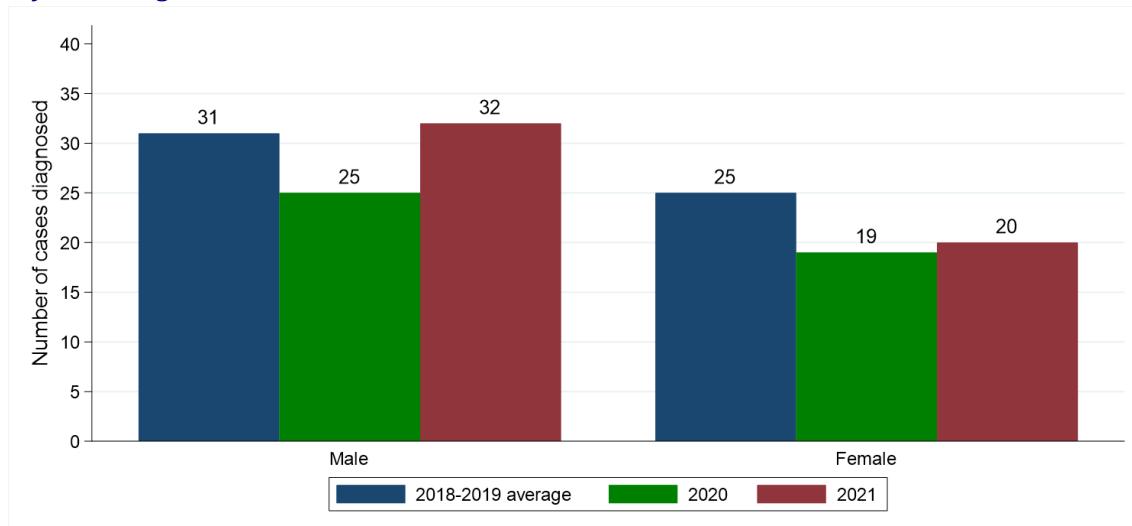
Table 2: Number and proportion of Hodgkin's lymphoma cases diagnosed in April-December of 2018-2021 by gender and period of diagnosis

| Gender | Period of diagnosis (Apr-Dec) | | | Percentage change | |
|--------------------|-------------------------------|------------|------------|-------------------|-------------------|
| | 2018-2019* | 2020 | 2021 | 2020 vs 2018-2019 | 2021 vs 2018-2019 |
| All persons | 56 | 44 | 52 | -21.4% | -7.1% |
| Male | 31 (55.4%) | 25 (56.8%) | 32 (61.5%) | -19.4% | +3.2% |
| Female | 25 (44.6%) | 19 (43.2%) | 20 (38.5%) | -24.0% | -20.0% |

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

Figure 2: Number of Hodgkin's lymphoma 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 Hodgkin's lymphoma diagnosed among those aged 55 to 64 decreased by 25.0% from 8 per year in 2018-2019 to 6 in 2021. Between the same two time periods the number of cases of Hodgkin's lymphoma diagnosed among those aged 65 to 74 did not change between 2018-2019 and 2021 with an average of 9 diagnosed each year. The change in case distribution by age between 2018-2019 and 2021 was not statistically significant.

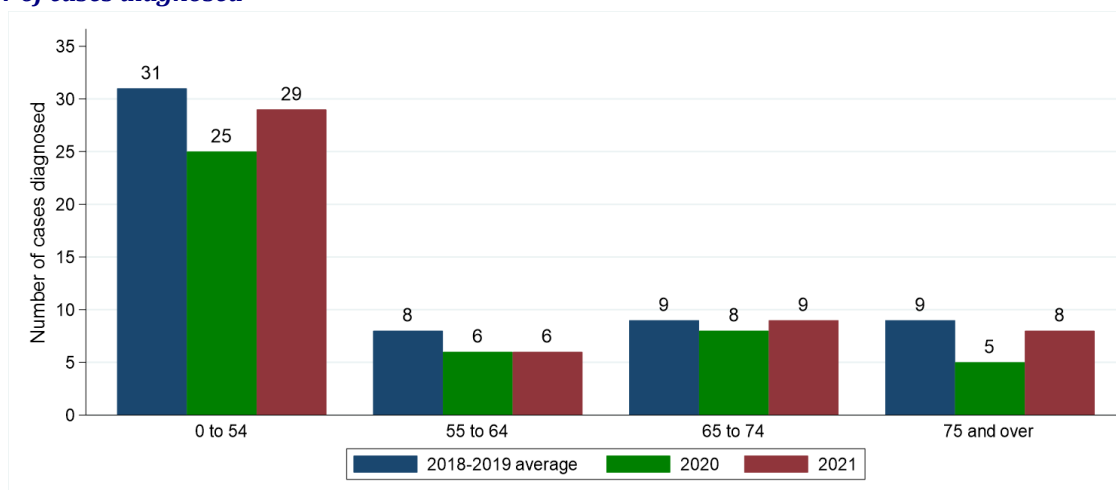
Table 3: Number and proportion of Hodgkin's lymphoma cases diagnosed in April-December of 2018-2021 by age and period of diagnosis

| Age | Period of diagnosis (Apr-Dec) | | | Percentage change | |
|-------------|-------------------------------|------------|------------|-------------------|-------------------|
| | 2018-2019* | 2020 | 2021 | 2020 vs 2018-2019 | 2021 vs 2018-2019 |
| All ages | 56 | 44 | 52 | -21.4% | -7.1% |
| 0 to 54 | 31 (55.4%) | 25 (56.8%) | 29 (55.8%) | -19.4% | -6.5% |
| 55 to 64 | 8 (14.3%) | 6 (13.6%) | 6 (11.5%) | -25.0% | -25.0% |
| 65 to 74 | 9 (16.1%) | 8 (18.2%) | 9 (17.3%) | -11.1% | 0.0% |
| 75 and over | 9 (16.1%) | 5 (11.4%) | 8 (15.4%) | -44.4% | -11.1% |

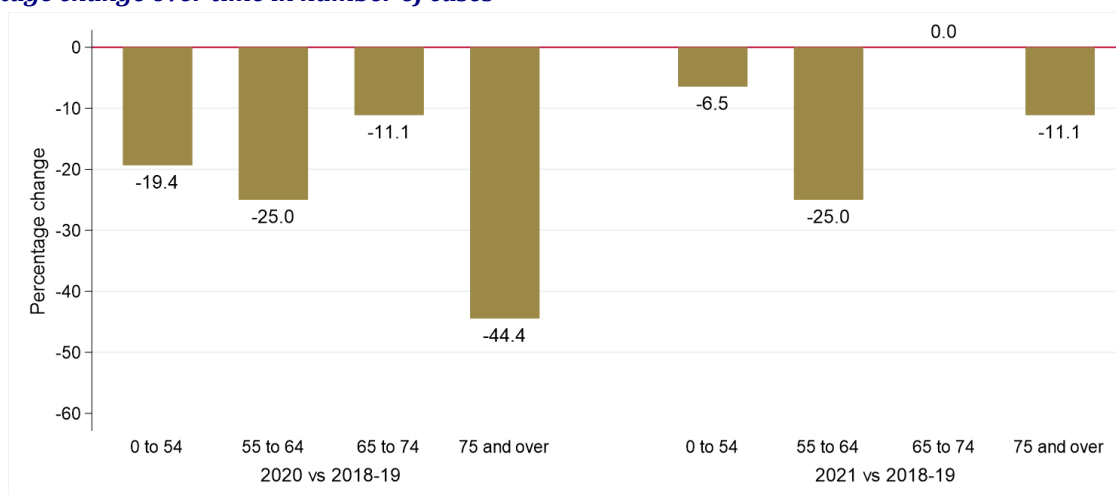
* Average cases per year rounded to the nearest integer. Column sums may thus differ slightly from the total.

Figure 3: Number of Hodgkin's lymphoma 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 Hodgkin's lymphoma diagnosed among those resident in Belfast HSCT decreased by 38.5% from 13 per year in 2018-2019 to 8 in 2021. Between the same two time periods the number of cases of Hodgkin's lymphoma diagnosed among those resident in Western HSCT increased by 71.4% from 7 per year in 2018-2019 to 12 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 Hodgkin's lymphoma cases diagnosed in April-December of 2018-2021 by Health and Social Care Trust and period of diagnosis

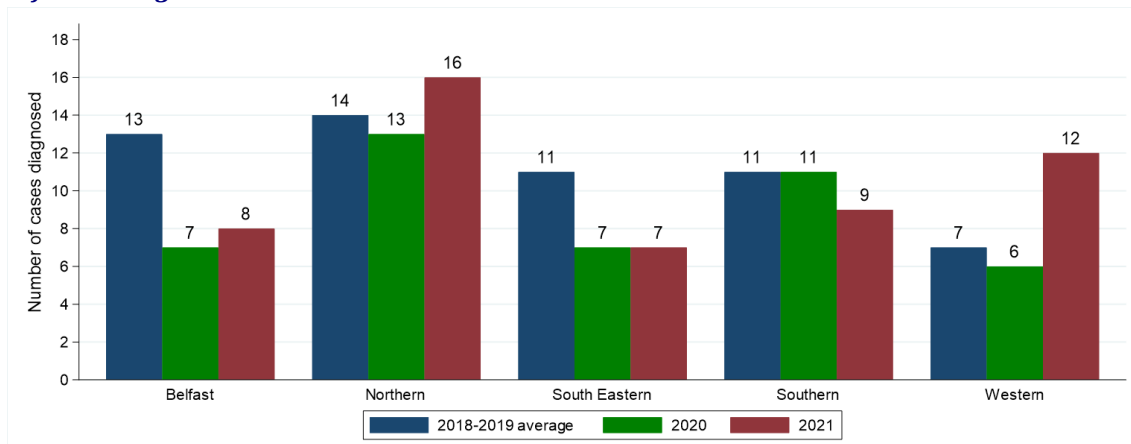
| Health and Social Care Trust | Period of diagnosis (Apr-Dec) | | | Percentage change | |
|------------------------------|-------------------------------|------------|------------|-------------------|-------------------|
| | 2018-2019* | 2020 | 2021 | 2020 vs 2018-2019 | 2021 vs 2018-2019 |
| Northern Ireland | 56 | 44 | 52 | -21.4% | -7.1% |
| Belfast | 13 (23.2%) | 7 (15.9%) | 8 (15.4%) | -46.2% | -38.5% |
| Northern | 14 (25.0%) | 13 (29.5%) | 16 (30.8%) | -7.1% | +14.3% |
| South Eastern | 11 (19.6%) | 7 (15.9%) | 7 (13.5%) | -36.4% | -36.4% |
| Southern | 11 (19.6%) | 11 (25.0%) | 9 (17.3%) | 0.0% | -18.2% |
| Western | 7 (12.5%) | 6 (13.6%) | 12 (23.1%) | -14.3% | +71.4% |

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

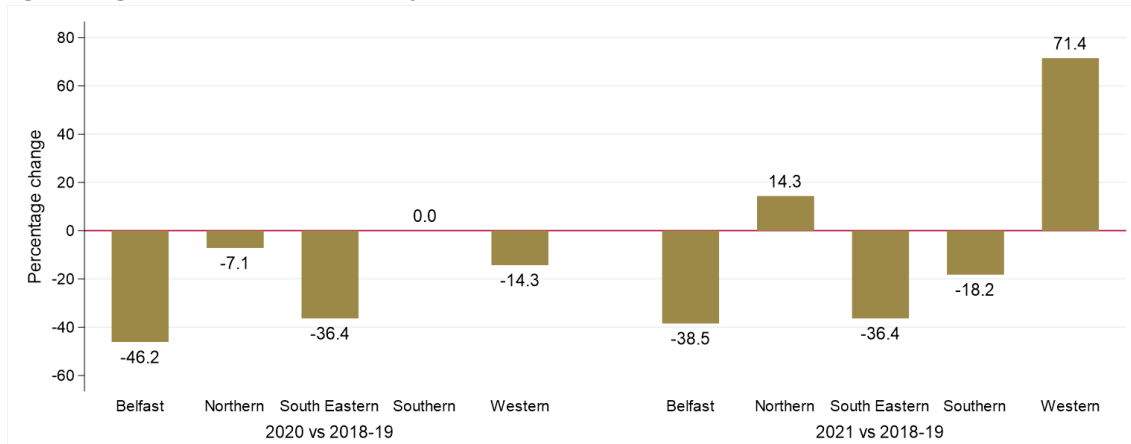
Note: Cases with unknown Health and Social Care Trust are included in totals.

Figure 4: Number of Hodgkin's lymphoma 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 Hodgkin's lymphoma diagnosed among those resident in the least deprived quintile decreased by 40.0% from 10 per year in 2018-2019 to 6 in 2021. Between the same two time periods the number of cases of Hodgkin's lymphoma diagnosed among those resident in the most deprived quintile decreased by 35.7% from 14 per year in 2018-2019 to 9 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 Hodgkin's lymphoma cases diagnosed in April-December of 2018-2021 by deprivation quintile and period of diagnosis

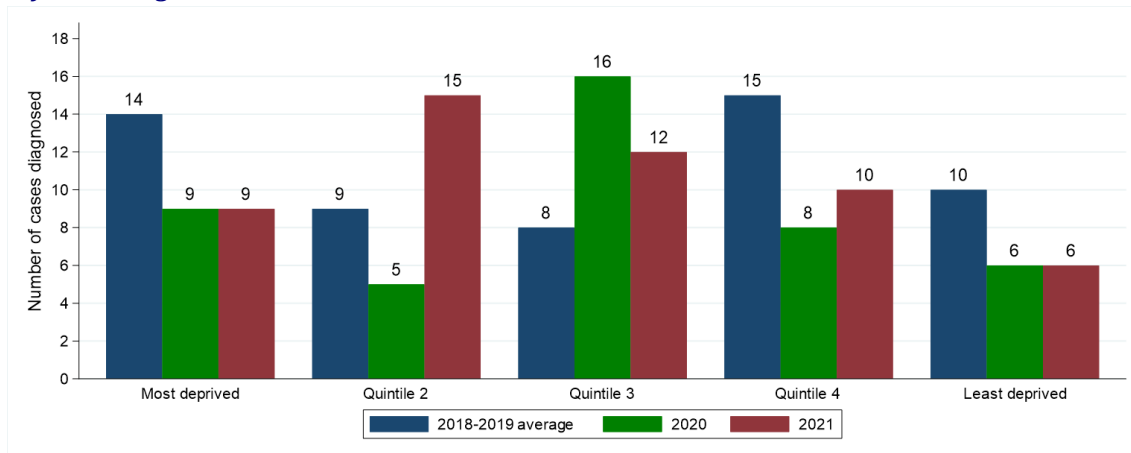
| Deprivation quintile | Period of diagnosis (Apr-Dec) | | | Percentage change | |
|-------------------------|-------------------------------|------------|------------|-------------------|-------------------|
| | 2018-2019* | 2020 | 2021 | 2020 vs 2018-2019 | 2021 vs 2018-2019 |
| Northern Ireland | 56 | 44 | 52 | -21.4% | -7.1% |
| Most deprived | 14 (25.0%) | 9 (20.5%) | 9 (17.3%) | -35.7% | -35.7% |
| Quintile 2 | 9 (16.1%) | 5 (11.4%) | 15 (28.8%) | -44.4% | +66.7% |
| Quintile 3 | 8 (14.3%) | 16 (36.4%) | 12 (23.1%) | +100.0% | +50.0% |
| Quintile 4 | 15 (26.8%) | 8 (18.2%) | 10 (19.2%) | -46.7% | -33.3% |
| Least deprived | 10 (17.9%) | 6 (13.6%) | 6 (11.5%) | -40.0% | -40.0% |

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

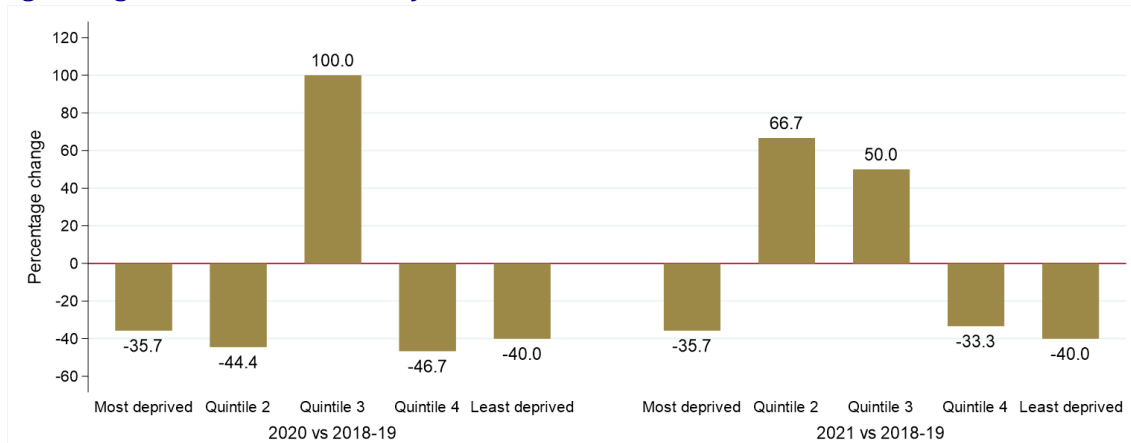
Note: Cases with unknown deprivation quintile are included in totals.

Figure 5: Number of Hodgkin's lymphoma 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



STAGE AT DIAGNOSIS

The number of Hodgkin's lymphoma cases diagnosed at stage I in April to December of each year decreased by 42.9% from 7 per year in 2018-2019 to 4 in 2021. In addition the number of Hodgkin's lymphoma cases diagnosed at stage IV decreased by 12.5% from 16 per year in 2018-2019 to 14 in 2021. As a proportion of all cases, stage IV diagnosis decreased from 28.6% in 2018-2019 to 26.9% in 2021. The change in stage distribution between 2018-2019 and 2021 was not statistically significant.

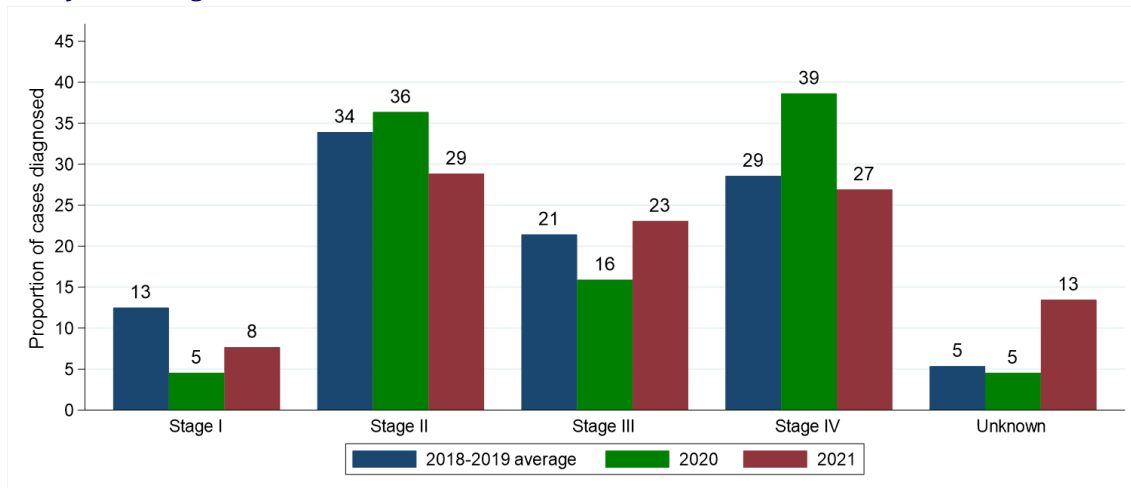
Table 6: Number and proportion of Hodgkin's lymphoma cases diagnosed in April-December of 2018-2021 by stage and period of diagnosis

| Stage at diagnosis | Period of diagnosis (Apr-Dec) | | | Percentage change | |
|--------------------|-------------------------------|------------|------------|-------------------|-------------------|
| | 2018-2019* | 2020 | 2021 | 2020 vs 2018-2019 | 2021 vs 2018-2019 |
| All stages | 56 | 44 | 52 | -21.4% | -7.1% |
| Stage I | 7 (12.5%) | 2 (4.5%) | 4 (7.7%) | -71.4% | -42.9% |
| Stage II | 19 (33.9%) | 16 (36.4%) | 15 (28.8%) | -15.8% | -21.1% |
| Stage III | 12 (21.4%) | 7 (15.9%) | 12 (23.1%) | -41.7% | 0.0% |
| Stage IV | 16 (28.6%) | 17 (38.6%) | 14 (26.9%) | +6.3% | -12.5% |
| Unknown | 3 (5.4%) | 2 (4.5%) | 7 (13.5%) | -33.3% | +133.3% |

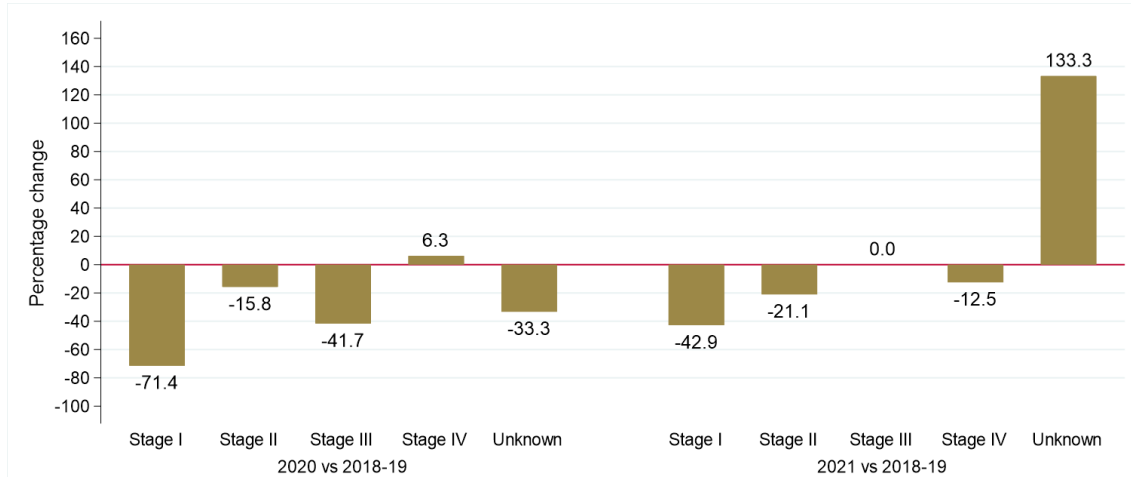
* Average cases per year rounded to the nearest integer. Column sums may thus differ slightly from the total.

Figure 6: Proportion of Hodgkin's lymphoma 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 Hodgkin's lymphoma cases resulting in treatment by systemic therapy within six months decreased by 11.1% from 45 per year in 2018-2019 to 40 in 2021. The resulting decrease in the proportion receiving systemic therapy from 80.4% in 2018-2019 to 76.9% in 2021 was not statistically significant.

Excluding the first quarter of each year the number of Hodgkin's lymphoma cases receiving none of these treatments within six months of diagnosis increased by 9.1% from 11 per year in 2018-2019 to 12 in 2021. The resulting increase in the proportion receiving none of these treatments from 19.6% in 2018-2019 to 23.1% in 2021 was not statistically significant.

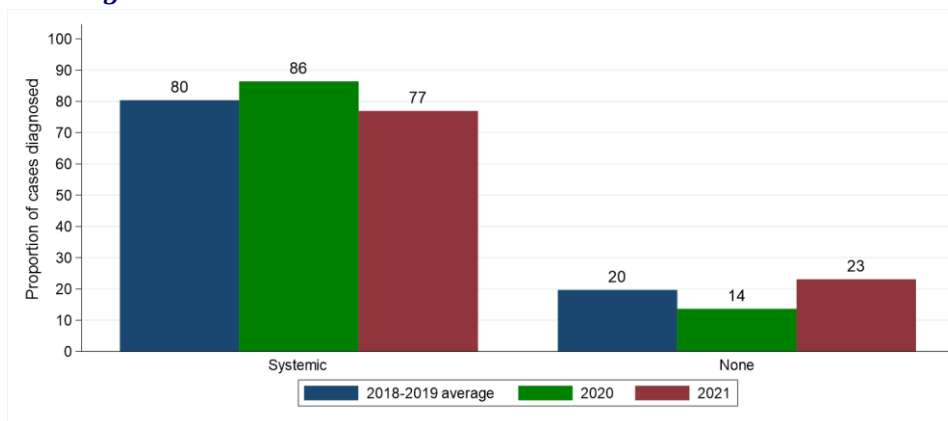
Table 7: Number and proportion of Hodgkin's lymphoma cases diagnosed in April-December of 2018-2021 by treatment type (within six months of diagnosis) and period of diagnosis

| Treatment type | Period of diagnosis (Apr-Dec) | | | Percentage change | |
|--------------------------|-------------------------------|------------|------------|-------------------|-------------------|
| | 2018-2019* | 2020 | 2021 | 2020 vs 2018-2019 | 2021 vs 2018-2019 |
| Systemic therapy | 45 (80.4%) | 38 (86.4%) | 40 (76.9%) | -15.6% | -11.1% |
| None of these treatments | 11 (19.6%) | 6 (13.6%) | 12 (23.1%) | -45.5% | +9.1% |

No statistically significant change compared to 2018-2019

Figure 7: Proportion of Hodgkin's lymphoma 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

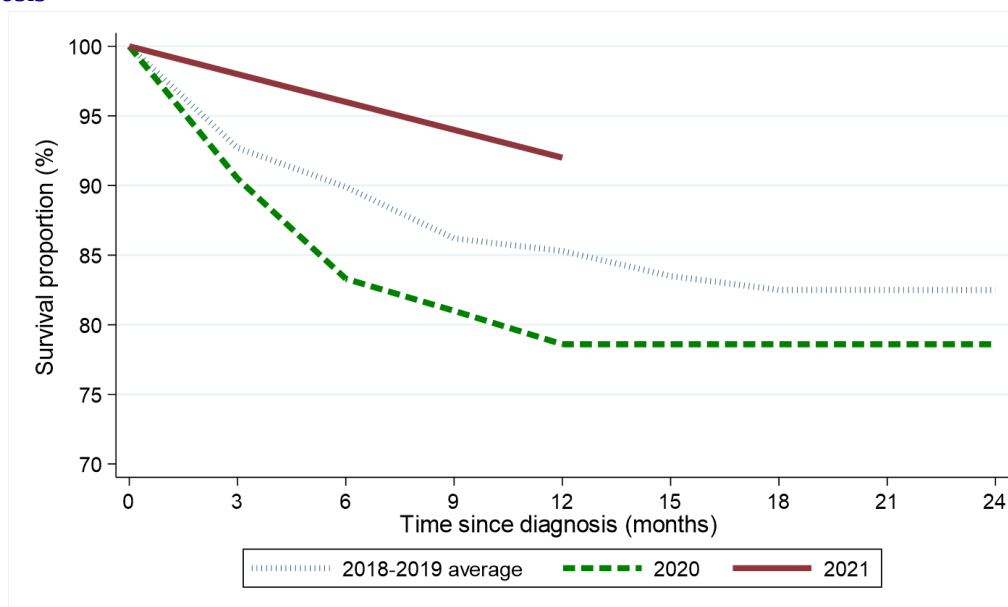
Survival among Hodgkin's lymphoma patients six months after diagnosis increased from 89.9% among those diagnosed in April-December of 2018-2019 to 96.0% among those diagnosed in April-December of 2021. This change was not statistically significant. Between the same two diagnosis periods, one-year survival increased from 85.3% to 92.0%. 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 ($p=0.249$).

Table 8: Observed survival for patients with Hodgkin's lymphoma diagnosed in April-December of 2018-2021 by period of diagnosis

| Survival time | Period of diagnosis (Apr-Dec) | | |
|---------------|-------------------------------|-----------------------|-----------------------|
| | 2018-2019 | 2020 | 2021 |
| Three months | 92.7% (85.9% - 96.3%) | 90.5% (76.6% - 96.3%) | 98.0% (86.6% - 99.7%) |
| Six months | 89.9% (82.5% - 94.3%) | 83.3% (68.2% - 91.7%) | 96.0% (84.9% - 99.0%) |
| One year | 85.3% (77.1% - 90.7%) | 78.6% (62.9% - 88.2%) | 92.0% (80.1% - 96.9%) |
| Two years | 82.5% (74.0% - 88.5%) | 78.6% (62.9% - 88.2%) | - |

No statistically significant reductions compared to 2018-2019

Figure 8: Observed survival for patients with Hodgkin's lymphoma diagnosed in April-December of 2018-2021 by period of diagnosis



DEATHS FROM COVID-19

During 2021 there were a total of 3 deaths from Covid-19 among Hodgkin's lymphoma patients diagnosed at any point since 1993.

NET SURVIVAL

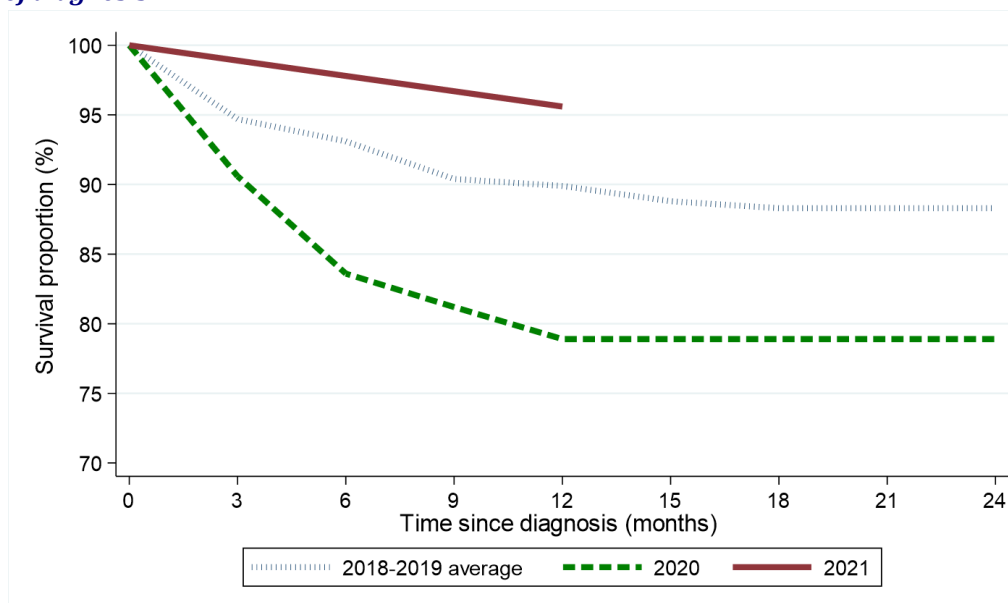
Net survival among Hodgkin's lymphoma patients six months after diagnosis increased from 93.1% among those diagnosed in April-December of 2018-2019 to 97.8% among those diagnosed in April-December of 2021. This change was not statistically significant. Between the same two diagnosis periods, one-year net survival increased from 89.9% to 95.6%. This change was not statistically significant.

Table 9: Age-standardised net survival for patients with Hodgkin's lymphoma diagnosed in April-December of 2018-2021 by period of diagnosis

| Survival time | Period of diagnosis (Apr-Dec) | | |
|---------------------|-------------------------------|-----------------------|------------------------|
| | 2018-2019 | 2020 | 2021 |
| Three months | 94.7% (91.1% - 98.5%) | 90.6% (82.1% - 99.9%) | 98.9% (96.6% - 100.0%) |
| Six months | 93.1% (89.0% - 97.4%) | 83.6% (72.7% - 96.1%) | 97.8% (94.6% - 100.0%) |
| One year | 89.9% (84.8% - 95.3%) | 78.9% (66.8% - 93.2%) | 95.6% (90.9% - 100.0%) |
| Two years | 88.3% (82.6% - 94.4%) | 78.9% (66.8% - 93.2%) | - |

No statistically significant reductions compared to 2018-2019

Figure 9: Age-standardised net survival for patients with Hodgkin's lymphoma 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.