



# Christie Clinical Outcomes

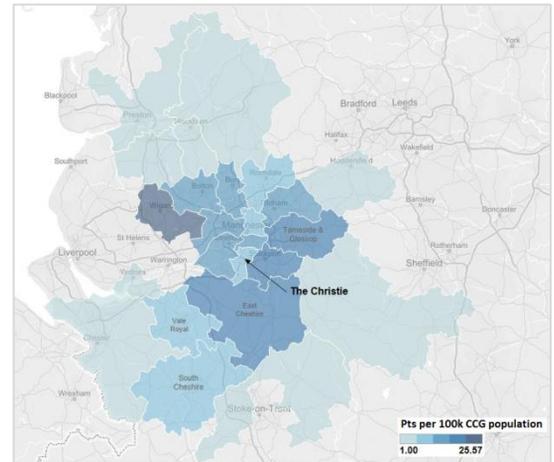
## Lymphoma

### North West England Incidence and Christie Patients

Approximately 1500 new cases of lymphoma are diagnosed each year in the North West of England<sup>1</sup> which represents approximately 24 new diagnoses per year per 100,000 population. The majority of lymphomas (87%) are non-Hodgkin lymphomas.

### Referrals to The Christie

Since January 2014, 614 lymphoma patients have been newly referred to The Christie for treatment. The majority of Christie patients are residents of the North West of England and in particular around the Greater Manchester region. A small number of patients travel from outside the NW for treatment. Referral rates within Greater Manchester range from 11 per 100,000 population in Heywood, Middleton and Rochdale CCG to 27 per 100,000 in Wigan CCG (Map 1). Median age of patients referred to The Christie is 61 years (Fig 1).



Map 1. Number of new Christie patients (2014-2015) with Lymphoma from each clinical commissioning group (CCG) per 100,000 population. Depth of colour is relative to the rate of referral for each CCG.

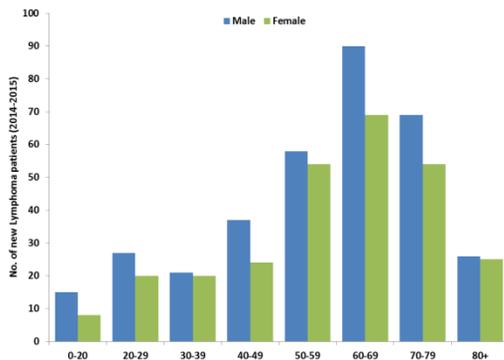


Fig. 1. Age distribution of Lymphoma patients (2014-2015 new presentations).

Just over half of all lymphoma patients referred to The Christie are referred for primary treatment. The remainder are referred following treatment elsewhere either for adjuvant treatment or after disease progression. Two-thirds of patients referred to The Christie are treated with curative intent (Fig 2). Of these 59% have early or locally advanced disease (stage I or II). Among patients referred to The Christie for palliative treatment, 58% have advanced stage disease (stage III or IV).

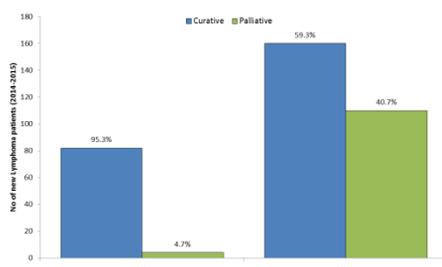


Fig 2. Treatment intent for new lymphoma patients (2014-2015). HL: Hodgkin lymphoma, NHL: Non-Hodgkin lymphoma. Numbers above bars are percentage of cases in each group.

### Lymphoma subtypes

Lymphomas are broadly categorised as Hodgkin lymphoma (HL) and non-Hodgkin lymphoma (NHL). 19% of lymphoma patients referred to the Christie have HL and 79% have NHL (Table 1). There are six subtypes of HL and more than 60 subtypes of NHL. The most common subtype of NHL among Christie patients is diffuse large B-cell lymphoma (DLBCL). Subtypes differ by cellular and molecular features, growth patterns, treatment and outcomes.

Table 1. Histological subtypes of new lymphoma patients referred to The Christie (2014-2015).

Histological description	Number	%
<b>Hodgkin lymphoma (HL)</b>		
Classical	96	15.6
Nodular lymphocyte-predominant	22	3.6
<b>Non-Hodgkin lymphoma (NHL)</b>		
Diffuse large B-cell lymphoma (DLBCL)	239	38.9
Follicular lymphoma (FL)	93	15.1
Other high grade B-cell	17	2.8
Other low grade B-cell	53	8.6
Mantle Cell lymphoma (MCL)	23	3.7
Peripheral T-cell Lymphoma	31	5.0
Cutaneous T cell	14	2.3
Chronic lymphocytic leukaemia (CLL)	12	2.0
Other	14	2.3
<b>Total</b>	<b>614</b>	

<sup>1</sup> From Office for National Statistics 2012

## Performance Status and Comorbidities

All Christie patients are assessed for performance status (ECOG) using a scale of 0 (patient is fully active) to 4 (completely disabled by poor health). Patients are also assessed for their comorbidity status. Comorbidities are diseases that a patient has, other than cancer, that can impact on treatment and outcome. Comorbidity status is measured on a scale of 1 (no comorbidity) to 4 (severe comorbidity). Among Lymphoma patients for whom data have been captured in this way, the majority have performance status of 0 or 1 (Fig 3) and either no comorbidity or mild/moderate comorbidity (Fig 4).

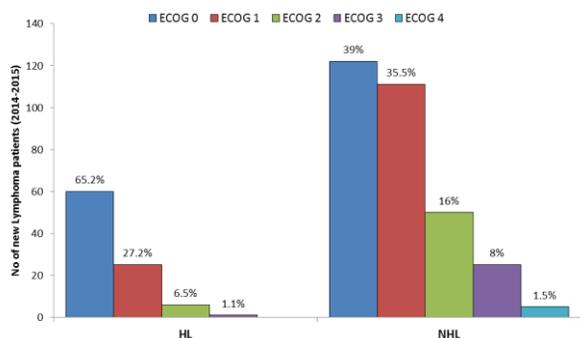


Fig. 3. Performance status for new lymphoma patients at time of referral (2014-2015). HL: Hodgkin lymphoma, NHL: Non-Hodgkin lymphoma. Numbers above bars are percentage of cases in each group. Data are for patients with diagnosing and stage (DS) forms only.

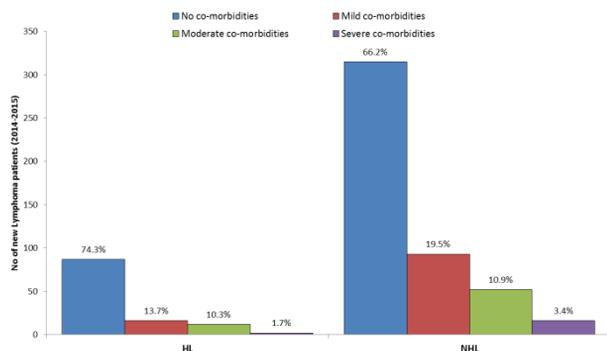


Fig. 4. Comorbidity status for new lymphoma patients at time of referral (2014-2015). HL: Hodgkin lymphoma, NHL: Non-Hodgkin lymphoma. Numbers above bars are percentage of cases in each group. Data are for patients with diagnosing and stage (DS) forms only.

## Survival Outcomes

One year survival for Hodgkin lymphoma in UK is estimated to be 91%. Five year survival is estimated to be 85% (CRUK 2015). For all non-Hodgkin lymphoma subtypes one year survival is estimated to be 76% for males and 79% for females. Survival varies considerably by subtype; one year survival estimates range from 96% for follicular lymphoma to 65% for DLBCL (HMRN).

Survival is also dependent on stage of disease at diagnosis, age at diagnosis, and the patient's performance status (their general health and fitness). These factors should be taken into account when interpreting outcomes.

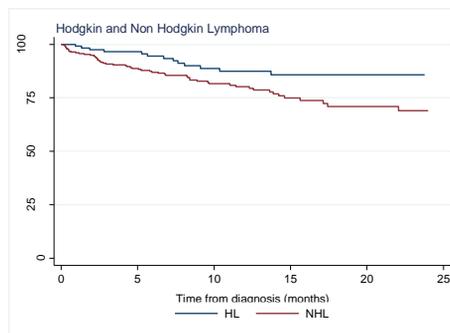


Fig. 5. Survival estimates for Hodgkin and non-Hodgkin lymphoma patients referred to The Christie with no previous treatment 2013-2014.

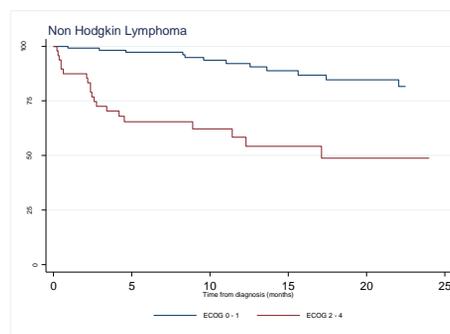


Fig. 6. Survival estimates for Non-Hodgkin lymphoma patients referred to The Christie with no previous treatment 2013-2014 by performance status.

One year survival for patients referred to The Christie for primary treatment (no previous treatment) is estimated to be 80% (95% confidence intervals 74%-85%) for NHL and 87% (95% confidence intervals 79% to 93%) for HL (Fig 5). One year survival ranges from 92% for NHL patients with performance status ECOG 0 or 1 to 58% for patients with performance status ECOG 2 to 4 (Fig 6). Similarly one year survival ranges from 91% for NHL patients with early stage disease (stage I or II) to 73% for those with late stage (stage III or IV) (Fig 7). The number of HL patients is too small to undertake these analyses.

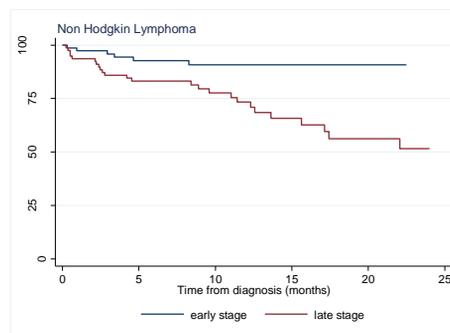


Fig. 7. Survival estimates for Non-Hodgkin lymphoma patients referred to The Christie with no previous treatment 2013-2014 by stage of disease.