

# HIV and cancer in children

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# National Study of HIV in Pregnancy and Childhood (UK)

Cancer	Observed	Expected
Kaposi's sarcoma	2	<0.00002
NHL	7	0.003
Ewing's sarcoma	1	0.0004
Rhabdoid	1	0.01

# AIDS-Cancer Match Study (USA)

Cancer	Observed	Expected
Kaposi's sarcoma	4	0.01
NHL		
Burkitt's	9	0.01
Immunoblastic	6	0.01
Cerebral	5	<0.01
Hodgkin's	1	0.02
Leiomyosarcoma	2	<0.01



# HIV and Kaposi's sarcoma among children in Africa

	% HIV seropositive		OR
	case	control	
Uganda	81% (29/36)	6% (11/190)	94.9 (28.5 - 315.3)
Malawi	77% (24/31)	4% (6/164)	93.5 (26.9 - 324.4)
RSA	100% (10/10)	1% (8/740)	$\infty$

# HIV and Non-Hodgkin (non-Burkitt) lymphoma among children in Africa

% HIV seropositive

	case	control	OR
Uganda	0% (0/3)	6% (11/190)	-
Malawi	15% (5/36)	4% (6/164)	4.4 (1.1 – 17.9)
RSA	5% (2/39)	1% (8/740)	5.0 (0.9 – 27.0)

# HIV and Acute Lymphoblastic Leukaemia

% HIV seropositive

case

Control

OR

Uganda	15% (2/13)	6% (11/190)	3.5 (0.6 - 19.6)
Malawi	0% (0/2)	3% (4/139)	-
RSA	0.6% (1/172)	1% (8/740)	0.4 (0.04 - 2.9)

# HIV and Burkitt lymphoma

% HIV seropositive

case

Control

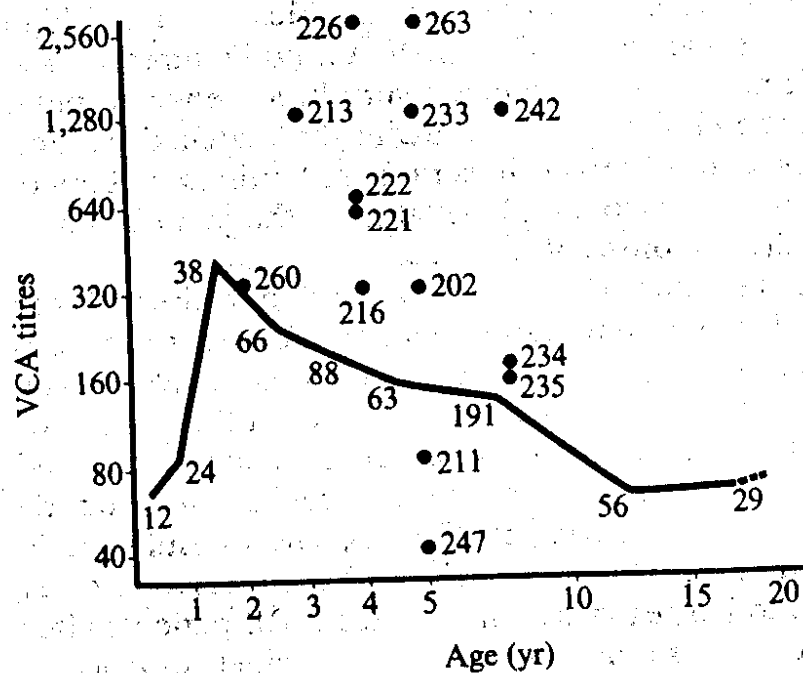
OR

Uganda	30% (10/33)	6% (11/190)	7.5 (2.8 – 20.1)
Malawi	7% (17/244)	3% (4/139)	2.5 (0.8 – 8.1)
RSA	39% (13/33)	1% (8/740)	46.2 (16.4 – 130.3)

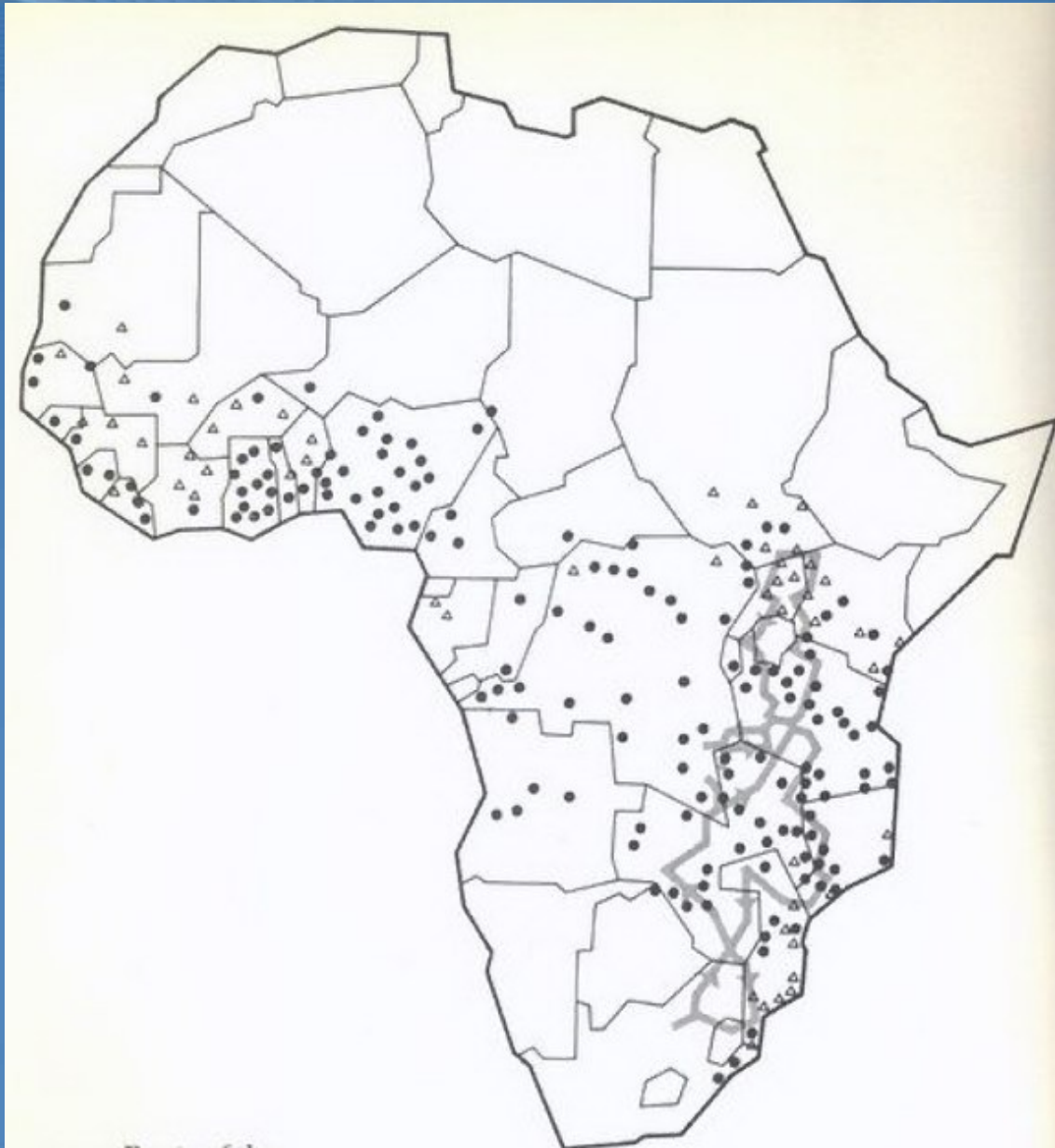




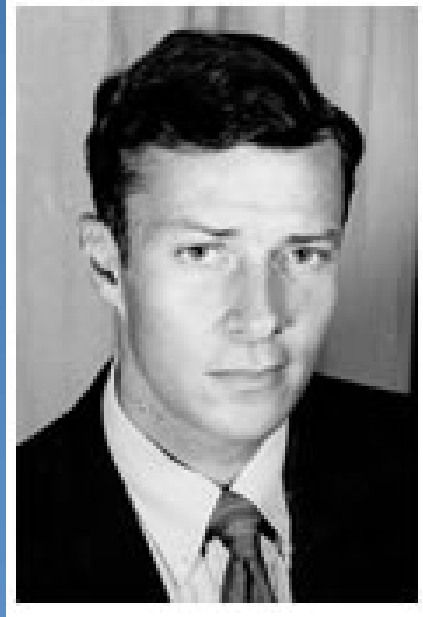
**Fig. 4** VCA antibody titres in sera collected from BL cases (●) before tumour manifestation compared with antibody titres in a random sample of the population of the study area (—). Numbers against solid line indicate number of sera tested at these ages in the random sample.



Source: de-Thé et al, Nature 1978







## John L Zeigler

Albert Lasker Award for Clinical Medical Research, 1972

For his outstanding contribution in increasing the cure rate of Burkitt's tumor  
by chemotherapy

# Associations with serological test results for Epstein-Barr virus and malaria antibodies: Uganda

	Cases/Controls	Adjusted OR (95% CI) $\chi^2$ for difference
<b><i>Epstein-Barr virus antibodies:</i></b>		
Low	33/49	1.0
Medium	85/40	3.6 (2.3 to 5.6)
High	55/13	4.5 (2.3 to 8.7)
		$\chi^2$ for trend = 15.7, P<0.0001
<b><i>Malaria antibodies:</i></b>		
Negative	12/16	1.0
Low	72/38	2.5 (1.6 to 3.6)
High	42/16	3.4 (1.7 to 6.7)
		$\chi^2$ for trend = 3.9, P=0.05

# Joint effects of EBV and malaria serology on odds of Burkitt lymphoma: Uganda

<b>Level of EBV</b>	<b>Level of Malaria</b>	<b>Cases/Controls</b>	<b>Adjusted OR (95% CI)</b>
Low	Negative or very low	12/17	1.0 (0.4 to 2.4)
	Positive	15/16	1.1 (0.5 to 2.4)
Medium/High	Negative or very low	22/19	1.0 (0.5 to 2.2)
	Positive	77/18	5.0 (2.8 to 8.9)

# Prevention of Burkitt lymphoma

Use of insecticides in the home (Uganda)

OR=0.2 (0.1-0.3)

$p < 0.0001$

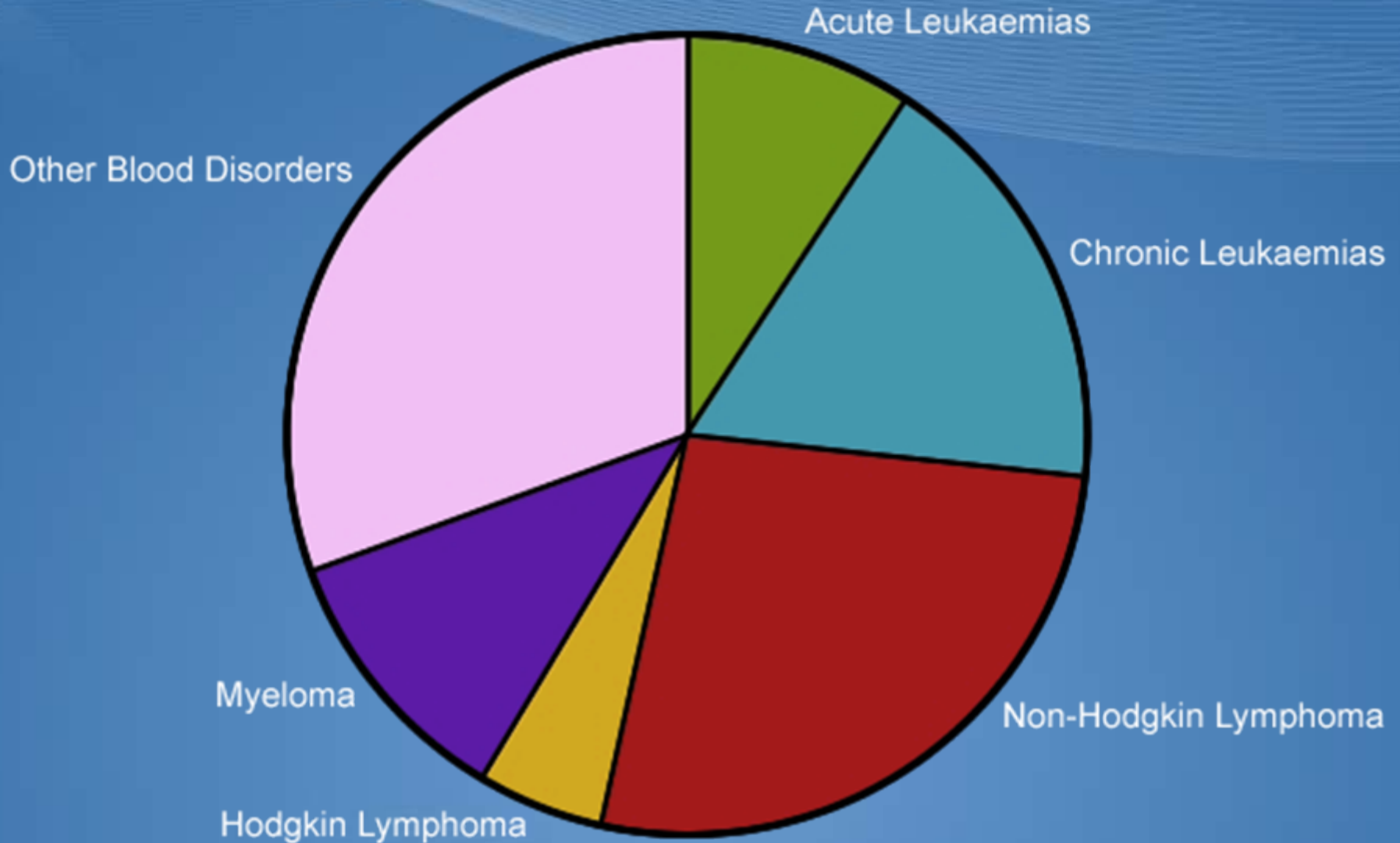
Use of bed nets (Malawi)

OR=0.2 (0.03-0.9)

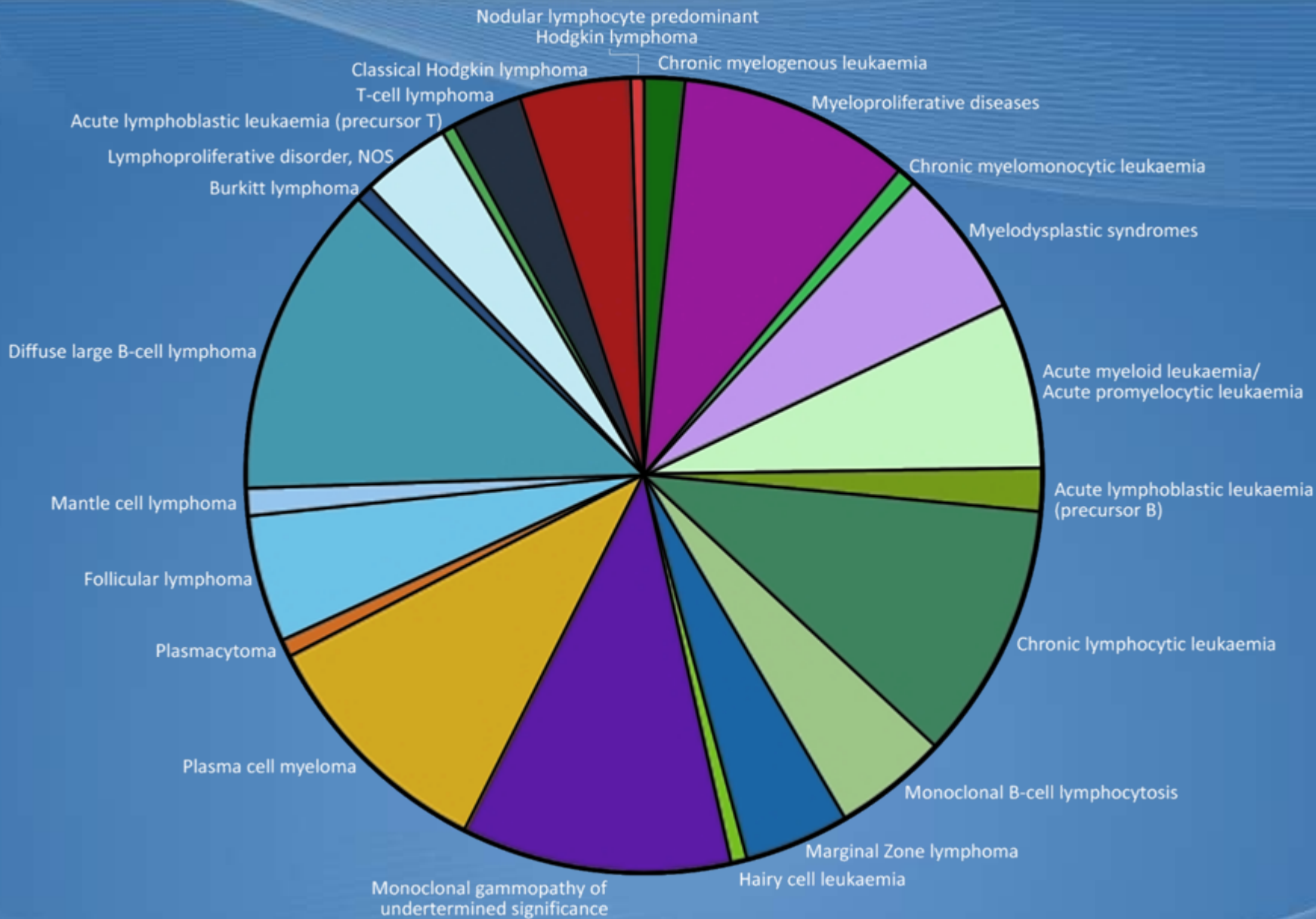
$p = 0.04$



# Traditional Disease Classification

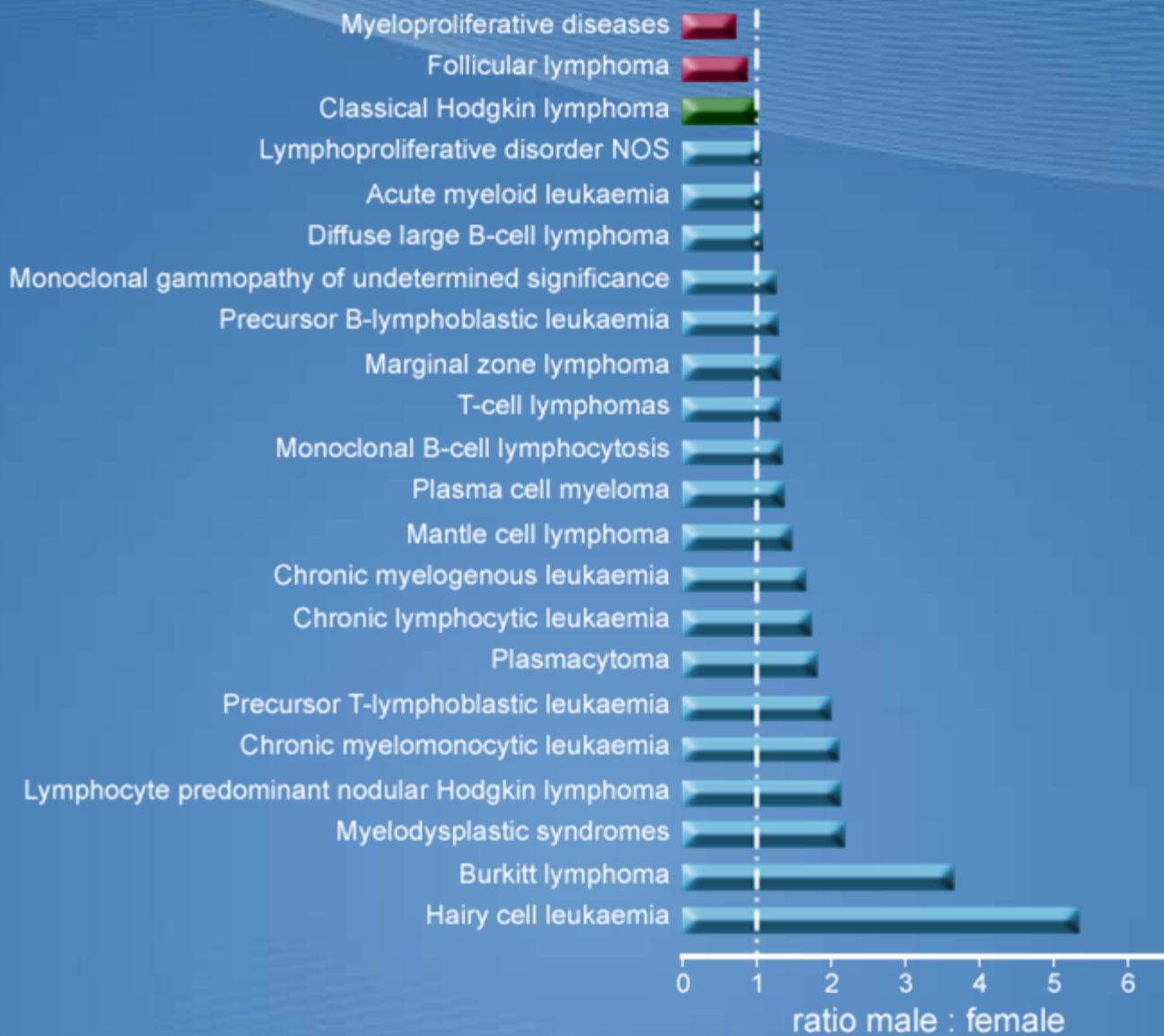


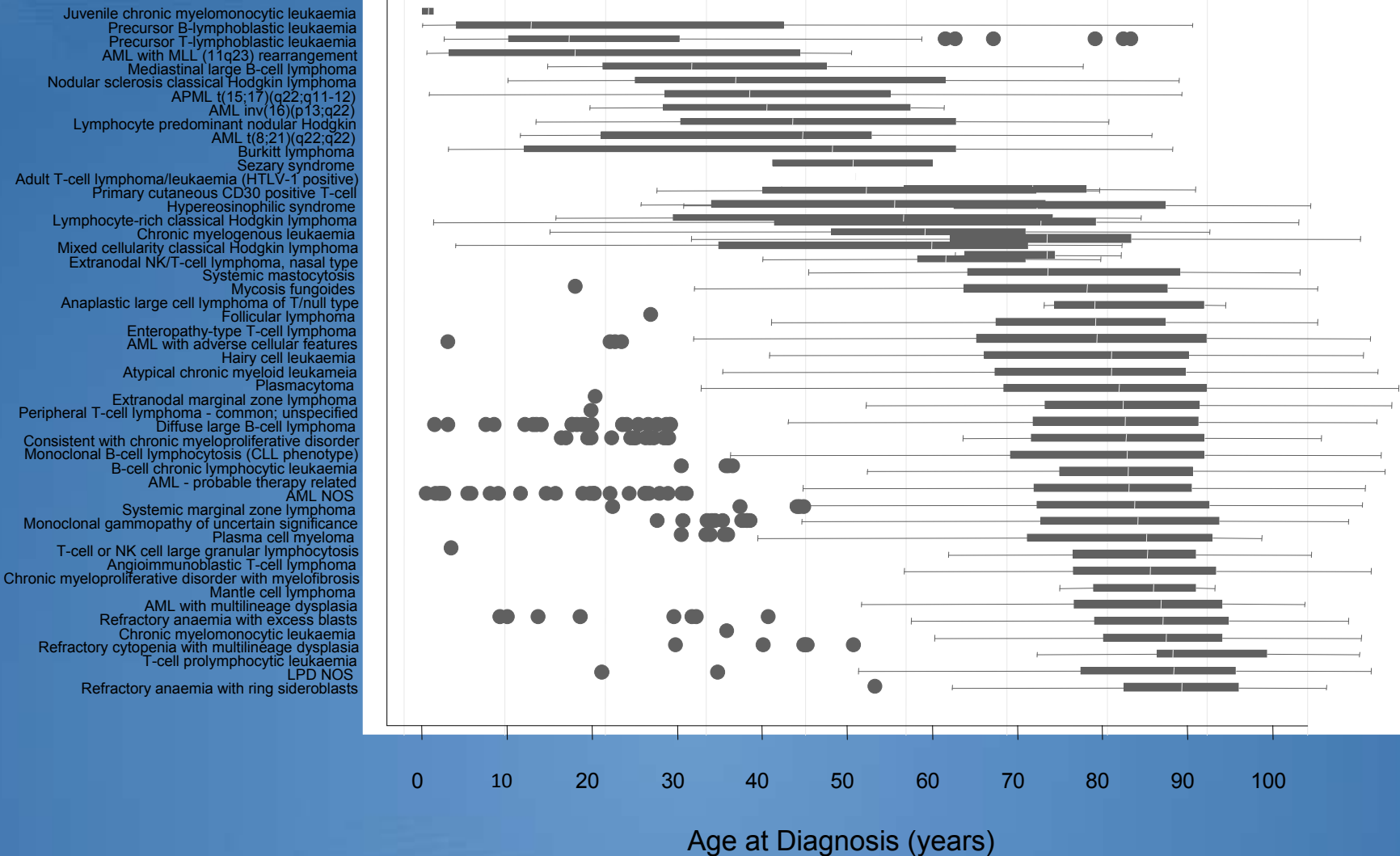
HMRN: 1<sup>st</sup> September, 2004 to 31<sup>st</sup> August 2007 (n=5957)



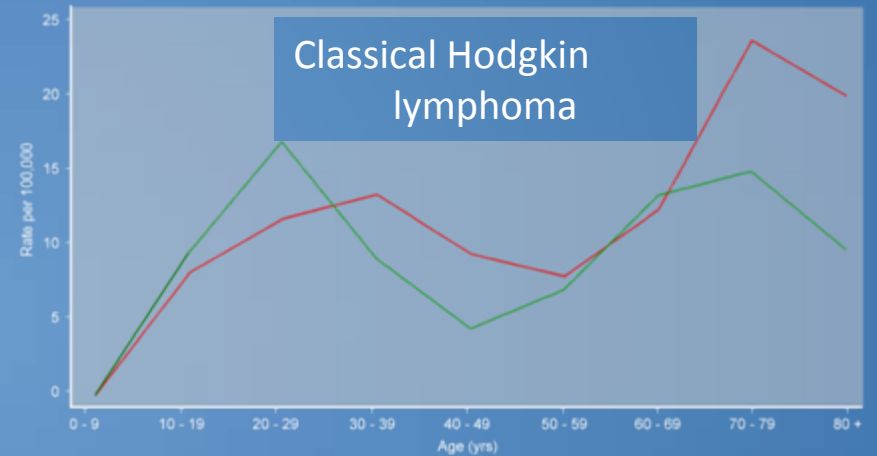
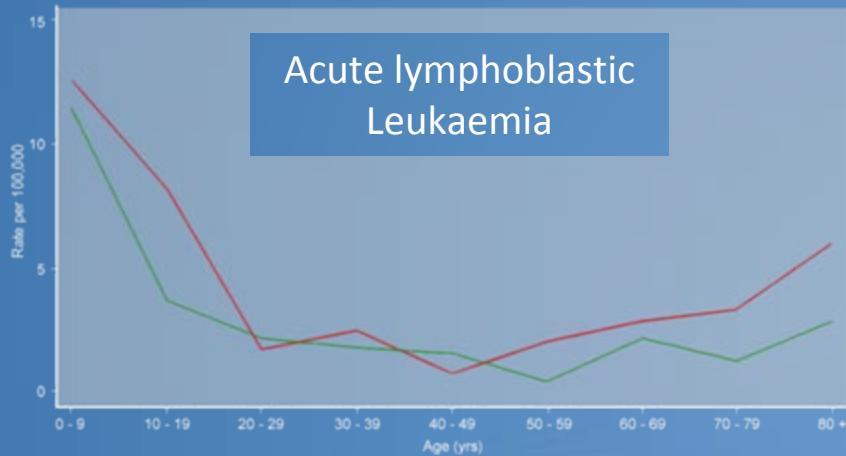
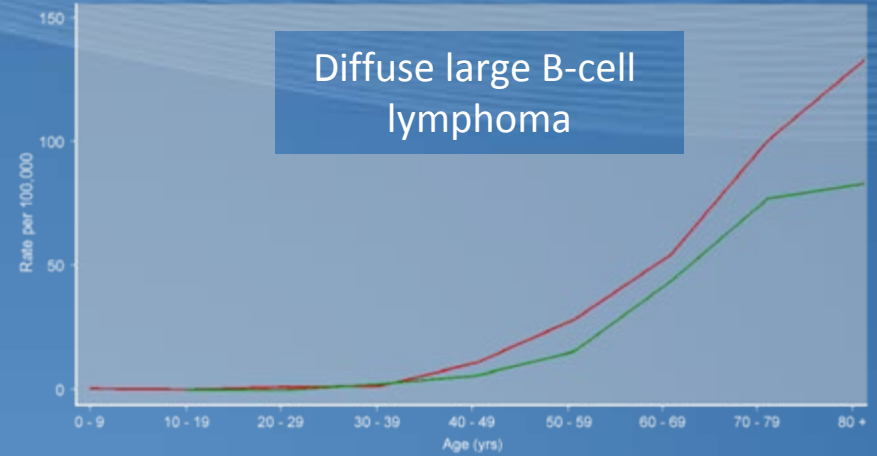
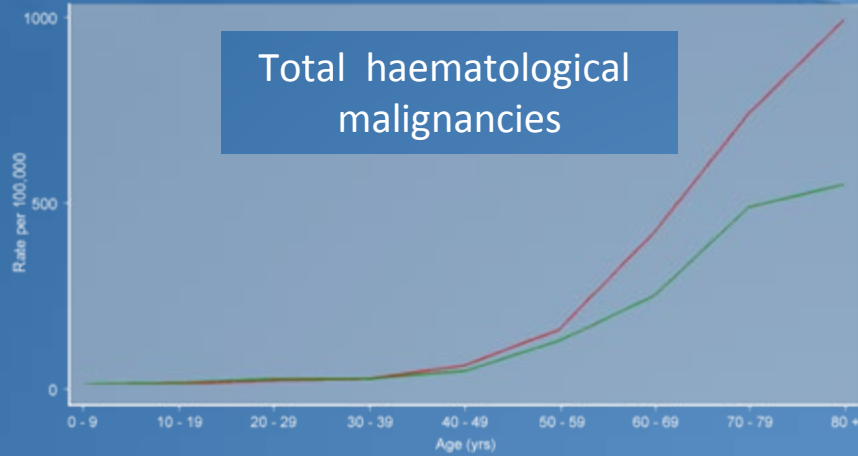
HMRN: 1<sup>st</sup> September, 2004 to 31<sup>st</sup> August 2007 (n=5957)

# Sex Rate Ratios



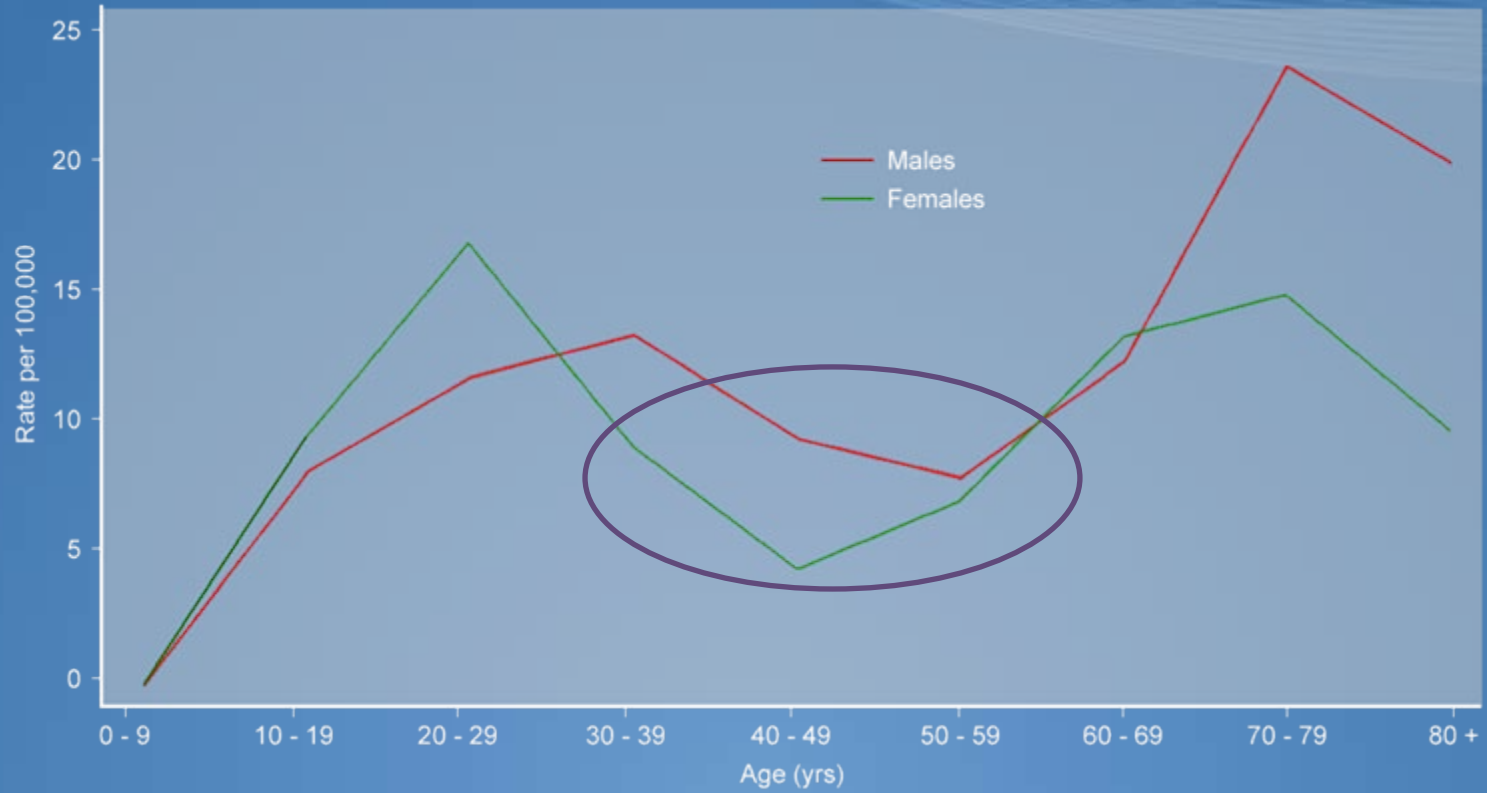


# Hypotheses should fit descriptive patterns



— males — females

# Classical Hodgkin Lymphoma: HMRN









## Infections recorded in GP notes, birth to diagnosis

Age	Infections recorded in GP notes, birth to diagnosis
2 weeks	Severe oral thrush
3 weeks	URTI, oral thrush, thrush nappy rash
6 weeks	Severe oral thrush
7 weeks	Conjunctivitis
8 weeks	Conjunctivitis persists
7 months	Cold
9 months	Otitis media
10 months	Viral infection
11 months	Conjunctivitis
15 months	Ringworm
16 months	Diarrhoea
18 months	Viral encephalitis → hospitalised
19 months	Cough
20 months	Nasal congestion, ?chronic tonsillitis
21 months	Smelly nasal discharge, ?sinusitis
2 years	URTI, conjunctivitis, otitis media
2 years 1 month	Otitis media
2 years 6 months	Otitis media
2 years 8 months	Unwell for 10 days, yellow tinge, blue lips, loose motions, leg pains, won't walk → ALL



Oral thrush

## Infections recalled by mother, birth to diagnosis

Age	
2 weeks	Severe oral thrush*
3 weeks	URTI, <b>oral thrush</b> , thrush nappy rash
6 weeks	Severe oral thrush
7 weeks	<b>Conjunctivitis</b>
8 weeks	Conjunctivitis persists
7 months	<b>Cold</b>
9 months	<b>Otitis media</b>
10 months	Viral infection <b>Cold</b>
11 months	Conjunctivitis
15 months	Ringworm
16 months	<b>Diarrhoea</b>
18 months	<b>Viral encephalitis → hospitalised</b>
19 months	Cough
20 months	Nasal congestion, ?chronic tonsillitis
21 months	Smelly nasal discharge, ?sinusitis
2 years	URTI, conjunctivitis, <b>otitis media</b>
2 years 1 month	Otitis media
2 years 6 months	Otitis media
2 years 8 months	Unwell for 10 days, yellow tinge, blue lips, loose motions, leg pains, won't walk → ALL

\*mother's recall: one mouth infection that lasted 5 days

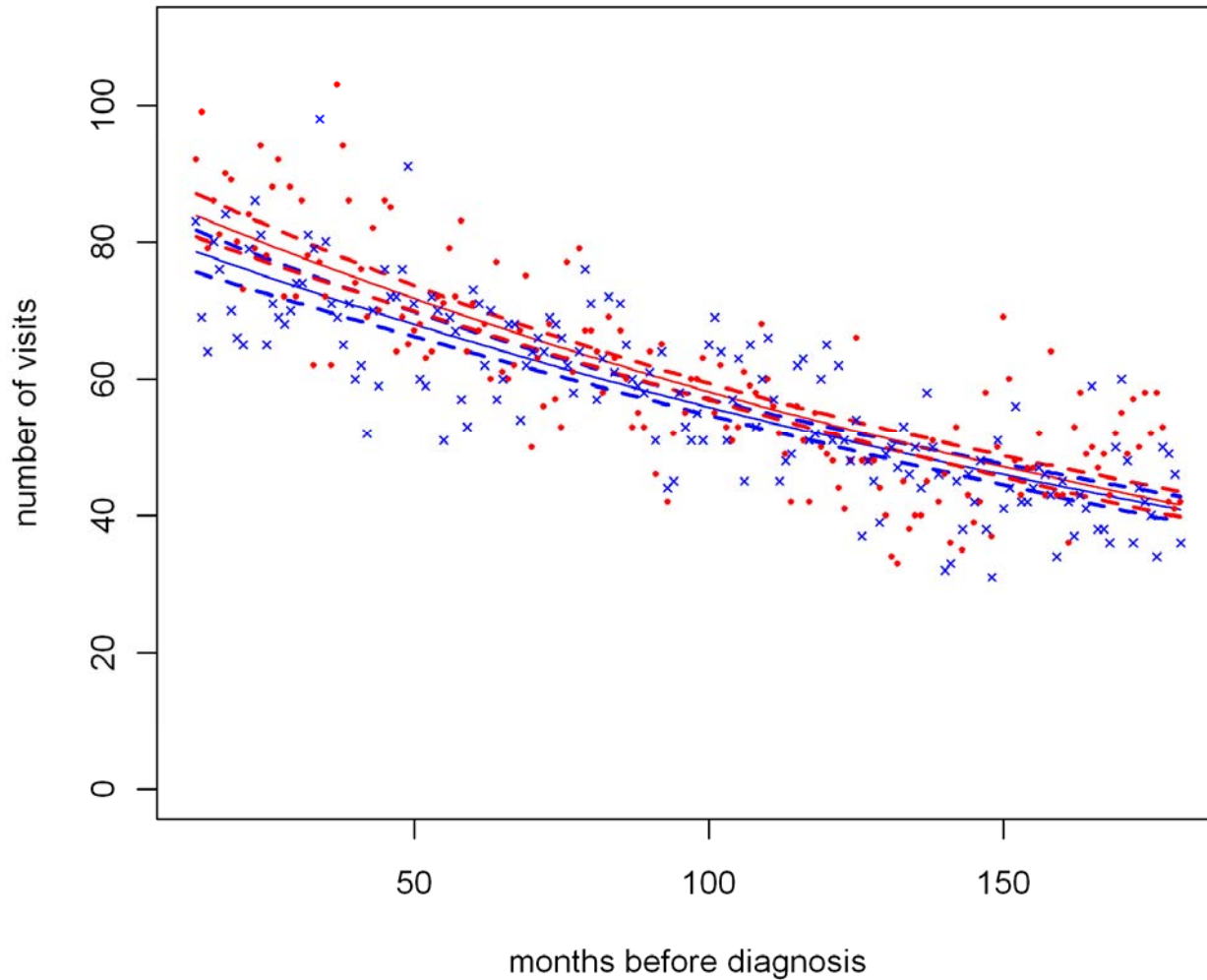
Mother also recalled:-

Otitis media x1, <3 months

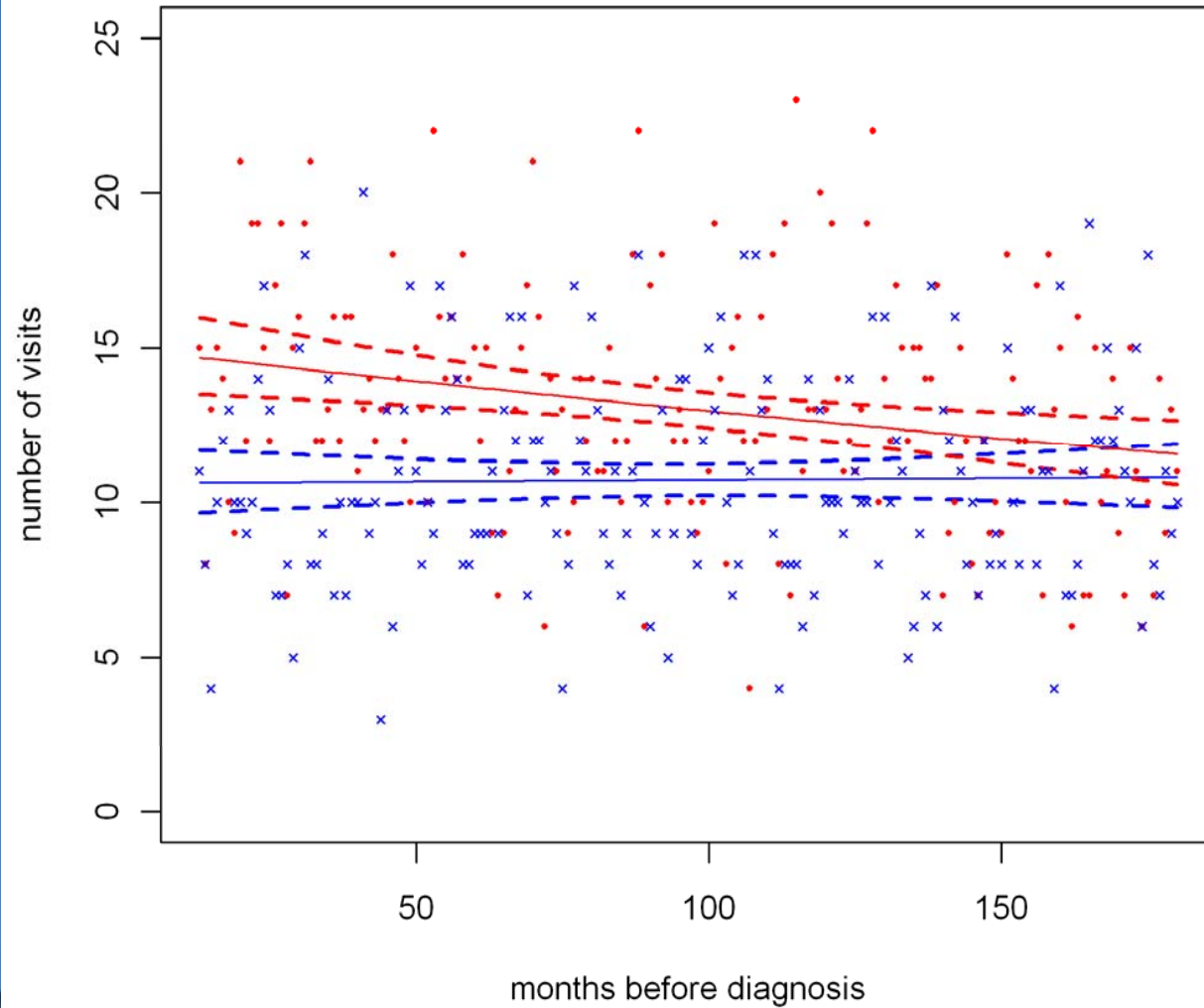
Otitis media x1, 3-5 months

Chest infection x1, 2 years 7 months

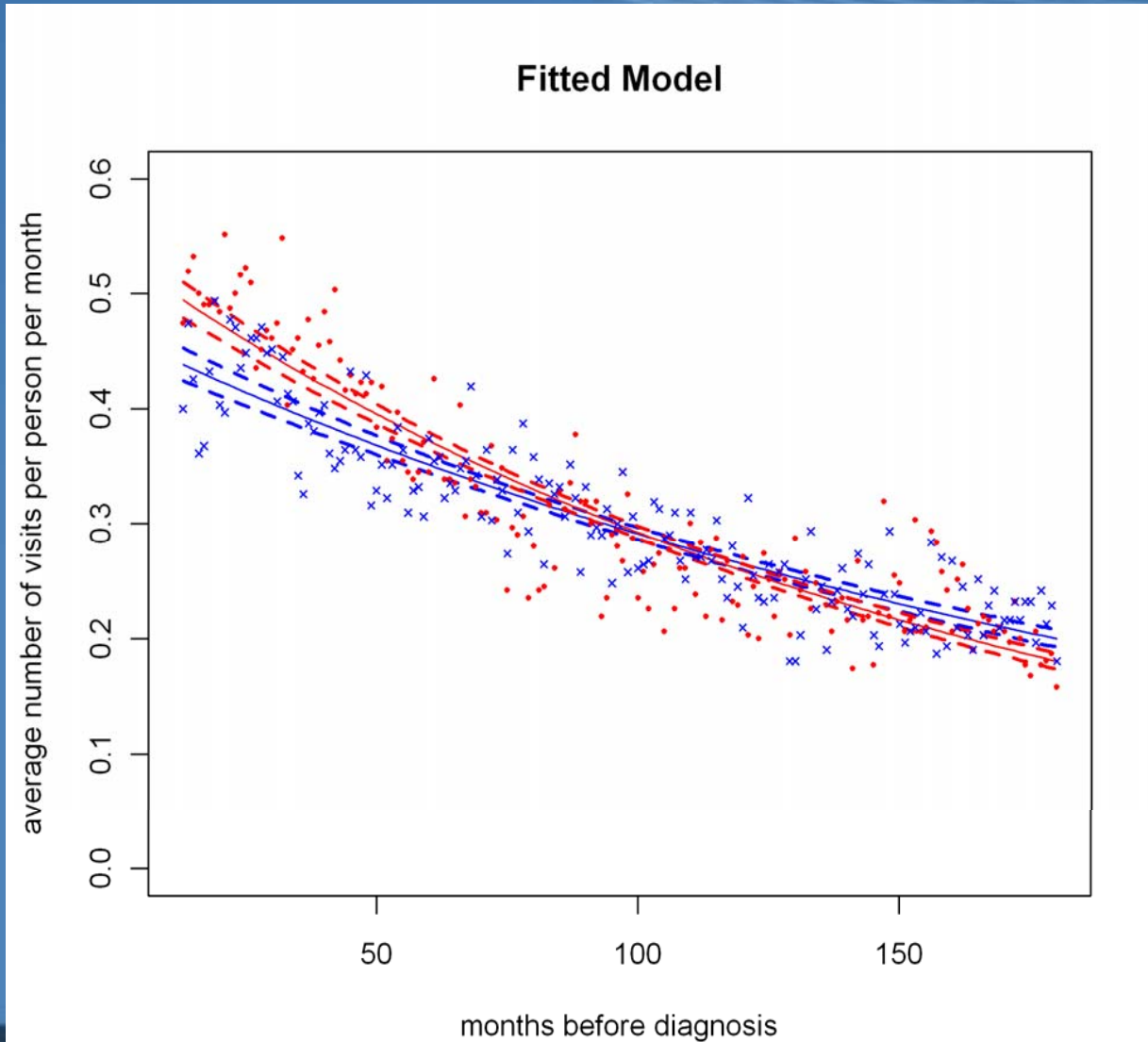
# Hodgkin lymphoma: non-infections



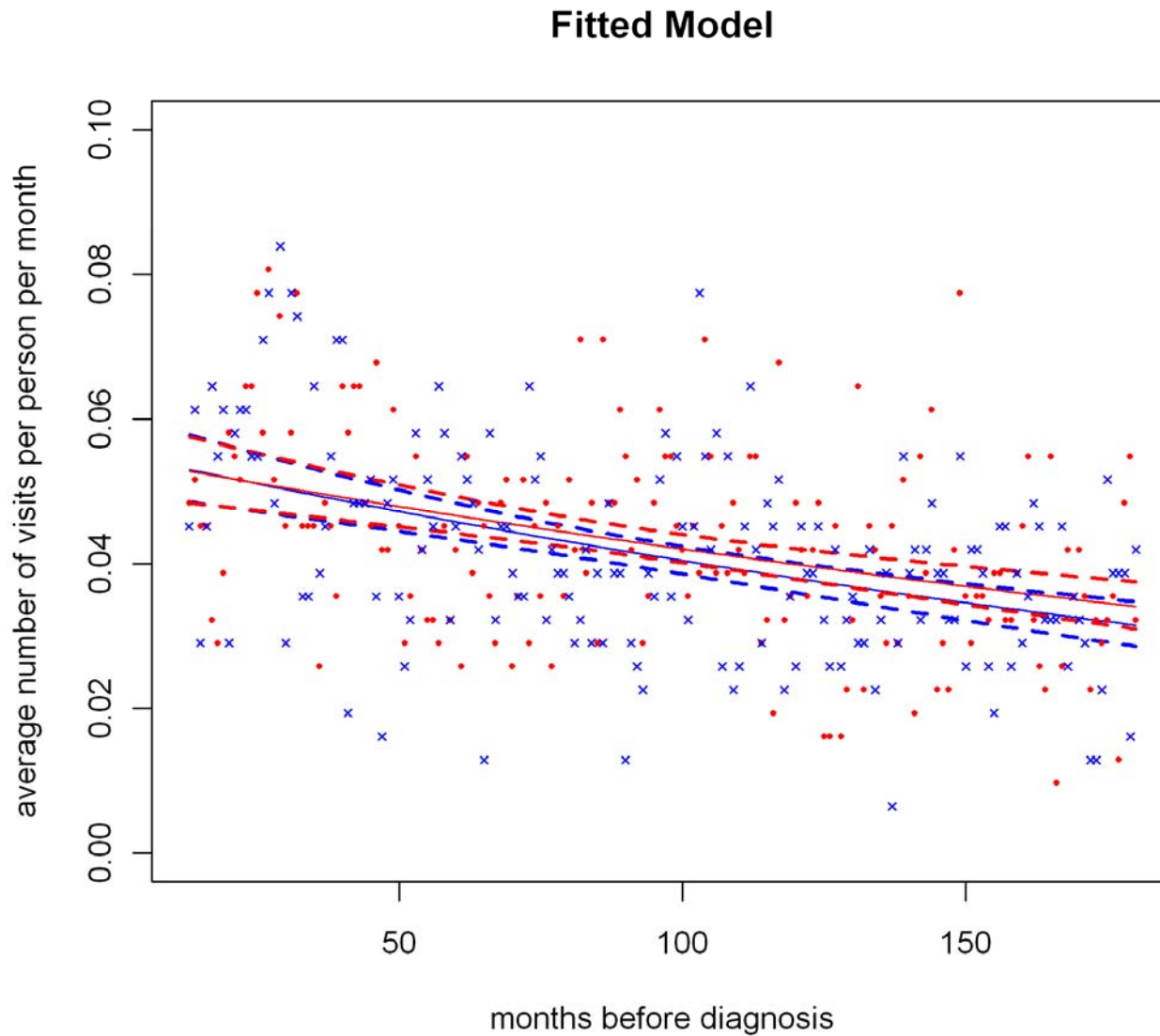
# Hodgkin lymphoma: infections



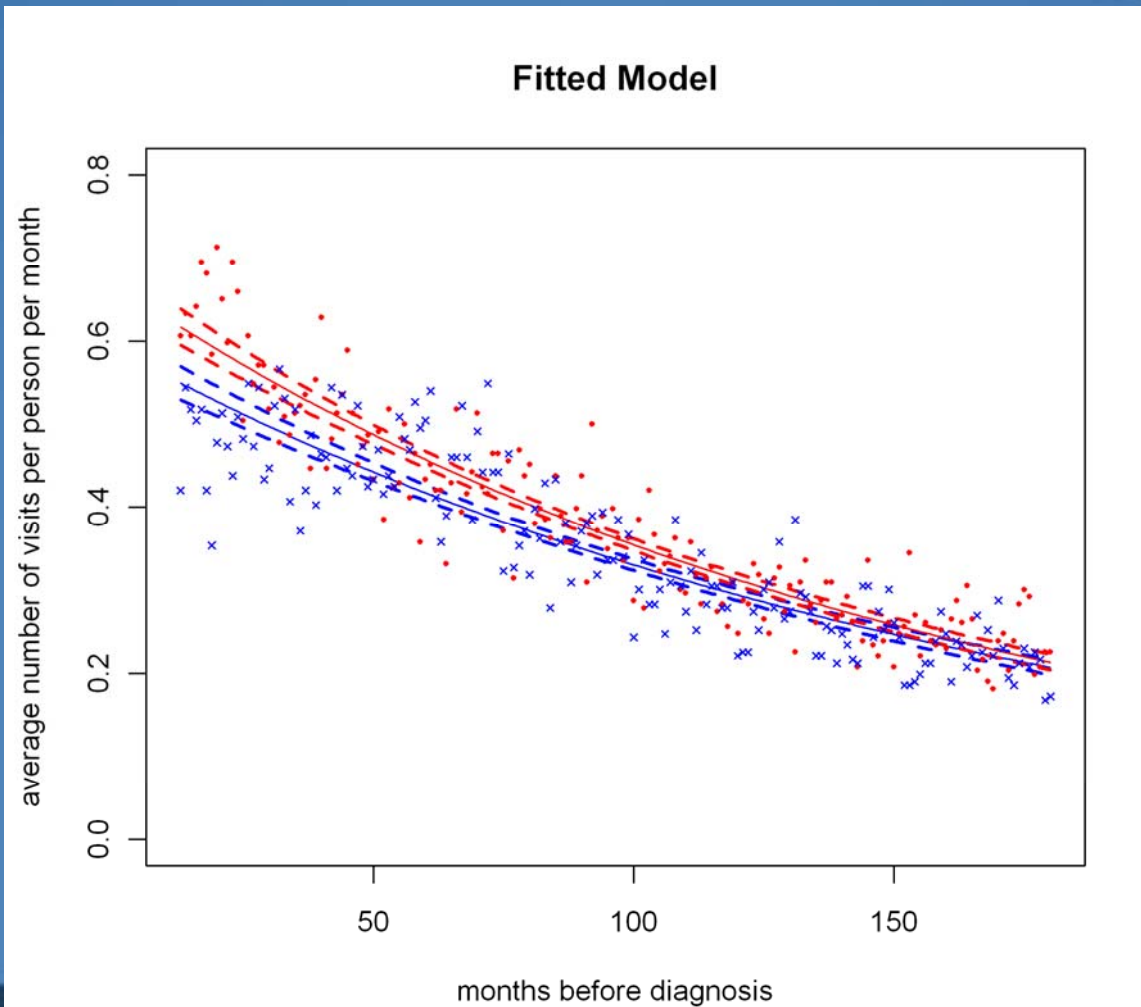
# Diffuse large B cell lymphoma: non-infections



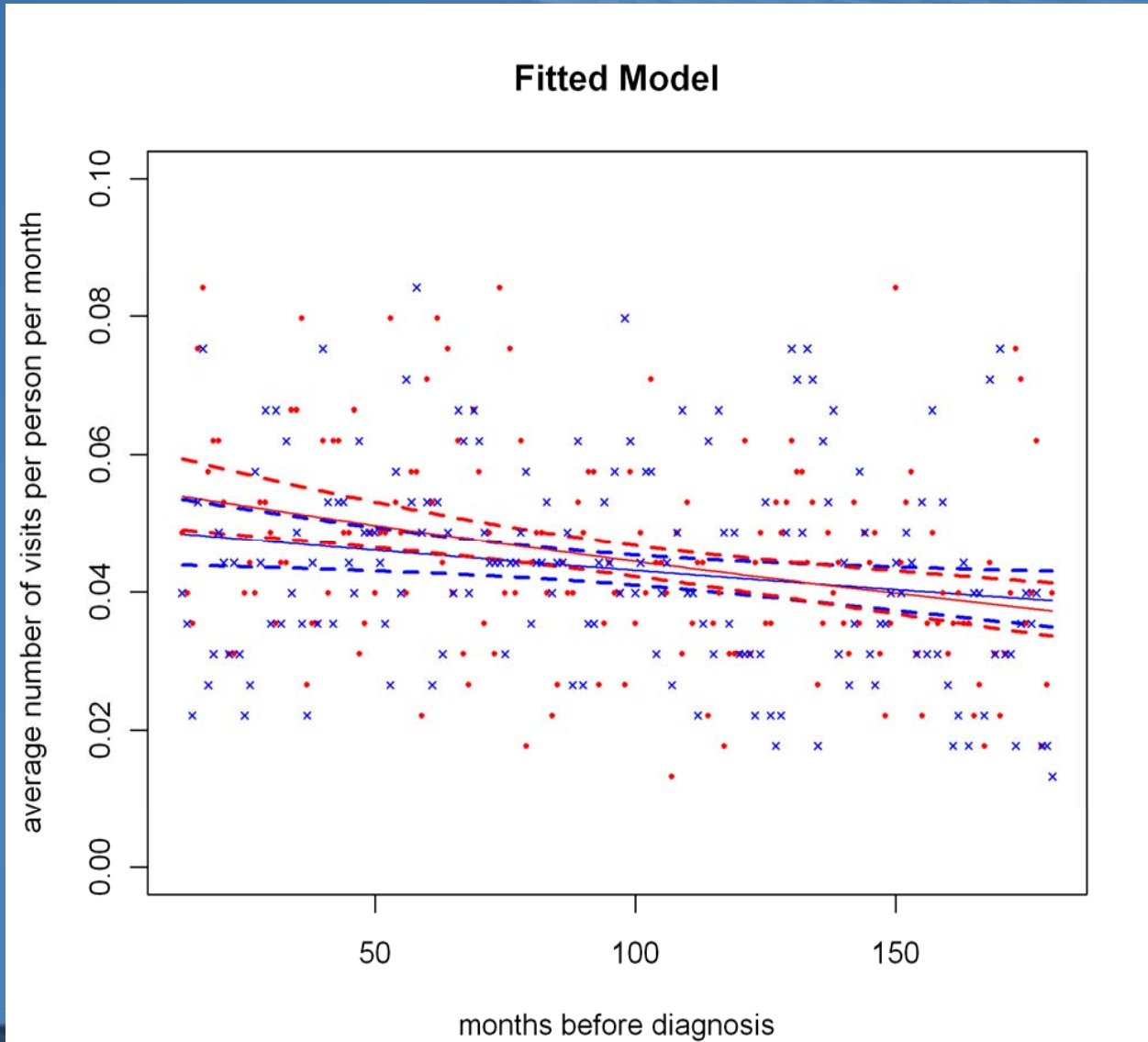
# Diffuse large B cell lymphoma: infections



# Follicular centre cell lymphoma: non-infections



# Follicular centre cell lymphoma: infections





# Website – www.hmrn.org

- 3 sections:
  - Patients, Researchers, HMRN Members



The screenshot shows the homepage of the Haematological Malignancy Research Network (HMRN). At the top left is the HMRN logo, a circular emblem with the text 'HAEMATOLOGICAL MALIGNANCY RESEARCH NETWORK' and 'HMRN' in the center. To the right of the logo is the text 'HMRN Haematological Malignancy Research Network'. Further right is a search bar with the text 'Google™ Custom Search' and a 'Search' button. Below the header is a navigation menu with links: 'Home', 'Patients', 'Researchers', 'Members', 'Contact Us', 'Links', and 'Glossary'. The main content area is titled 'Home' and contains the following text: 'Choose your route through the site by clicking on the relevant part of the signpost on the right.' Below this are three sections: 'Patients' (This information is written with patients in mind), 'Researchers' (This link provides information that may be useful for researchers), and 'HMRN Members' (This link is for HMRN members only). A link to 'contact us' is provided for comments. To the right of this text is an image of a signpost with three blue signs: 'Patients', 'HMRN Members', and 'Researchers'. At the bottom of the page is a disclaimer: 'Disclaimer: We have tried to ensure that the information provided on this site is accurate and up-to-date, but it should not be relied upon. If you are concerned about your health you should consult your doctor. HMRN cannot accept liability for any loss or damage resulting from any inaccuracy in our information or in third-party information on web-sites to which we link.' The footer contains the text: 'This site is designed and maintained by the EGU at the University of York © EGU, Department of Health Sciences, University of York. University of York legal statements'.

