# **Supplementary Material**

Figure S1 Sociodemographic data collected from questioning participants

1.	Education: evaluated according to The Education classification of Ministry of Education and Science of the Republic of Lithuania				
2.	Employment before disease:				
l	Employed Unemployed due to:				
	a. Unemployment				
	b. Retirement				
	c. Student				
	d. Other				
3.	Marital status:				
	☐ Married ☐ Separated ☐ Widow ☐ Single ☐ Other				
4.	. Anamnesis of oncological diseases among 1st order relatives:				
	☐ Yes: ☐ No				
	Haematologic malignancies				
	Other oncologic diseases				
5.	Anxiety and depression: evaluated according to HADS scale validated in Lithuania				

Figure S2 Questions about symptom evaluation, reasons for delay and other patientrelated factors (gathered while questioning patients)

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1.	Did you have any symptoms	s (connected with haematologic malignancy)?			
	☐ YES:	☐ NO (skip to question <b>14</b> )			
	1. T	Temperature >38°C			
	2. V	Weight loss:			
	a	a. How many kilograms per specific time interval?			
	3. N	Night sweats			
	4. F	Fatigue			
	5. L	Lymphadenopathy			
	6. F	Pruritus			
	7. [	Discomfort in abdomen			
	8. E	Easily occurring bleeding or bruises			
	9. F	Pain in bones			
	10. (	Other			
2.	When did you noticed first o	disease symptoms?			
3.	When did you first registere	ed for a medical consultation due to these symptoms?			
4.	When was the first medical	consultation?			
11.	Sometimes people put off g	going to see the doctor, could you say if any of these stop you from going to see the doctor?			
	1. Iw	was too embarrassed:			
	2. Iw	was too scared:			
	3. Iw	was worried about wasting the doctor's time:			
		ly doctor is difficult to talk to:			
		is difficult to make an appointment with my doctor:			
		was too busy to make an appointment with my doctor:			
		nad too many other things to worry about:			
		was difficult for me to arrange transport to see the doctor:			
		was worried about what the doctor might find:			
		didn't feel confident talking about my symptoms with the doctor:  YES NO  YES NO  YES NO			
		rhought that symptoms will disappear on their own: ☐ YES ☐ NO  Thought that symptoms are occurring because of other disease (for example fatigue due to cold): ☐ YES ☐ YES ☐ ☐	1		
	13. TU NO	_	, 1		
		o Libought tha ymptoms are du p non-medical condition (for example fatigue due to stress): YES			
	NC				
	15. Ot				
12.		biggest impact on delaying registration for a doctor visit?			
13.	What do you think had the biggest influence on the time interval from registration to a first medical consultation?				
14.	What do you think had the l	biggest influence on the time interval between first medical consultation and correct diagnosis?	]		
15. 16	•	biggest impact on the time interval between correct diagnosis and treatment initiation?			

Figure S3 Questions about health system related factors (gathered while questioning

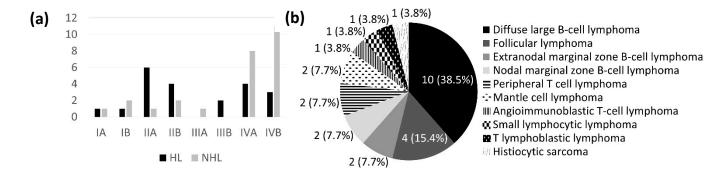
patients)						
17. Which doctor you saw first due to haematologic malignancy symptoms? (if patient chose 2, 3, 4 or answer 5 go to guestion 19)						
1. General practitioner						
2. Emergency department doctor						
3. Specialist, but not haematologist						
4. Haematologist						
5. Other						
18. Which specialist general practitioner referred you in the first place?						
1. Haematologist						
A few specialists – haematologist and another specialty doctor						
3. Non haematologist						
19. Diagnosis suspected after first medical consultation?						
Oncologic diagnosis						
<ol><li>Other, non-malignant disease (for example infection)</li></ol>						
<ol><li>Symptoms administered to other disease diagnosed previously</li></ol>						
4. Other						
20. Did the first doctor you consulted prescribe medicine for your condition?						
YES: NO						
Symptomatic treatment						
<ol><li>Treatment for another, non-malignant, disease</li></ol>						
3. Other						

## Figure S4 Data gathered from medical records

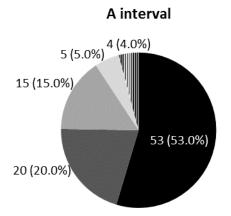
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1.	. When was haematologic malignancy diagnosis confirmed?						
2.	. When was haematologic malignancy treatment started?						
3.		☐ LYMPHOMA:		☐ MULTIPLE MYELOMA:			
		1. Hodgkin:	1.	ISS stage			
		Ann-Arbor stage	2.	Durie-Salmon stage			
		2. Non-Hodgkin: aggressive or indolent (underline):					
		Ann-Arbor stage					
		Exact type					
4.	Multiple myeloma o	complications at the time of diagnosis:					
		☐ YES:		□ NO			
		1. Hypercalcemia – serum calcium >0,25mmol/l (>1mg/dl) over upper normal value limit or >2,75mmol/l (>11mg/dl)					
		<ol> <li>Kidney insufficiency – creatinine clearance &lt;40ml per min, serum creatinine &gt;177mikromol/l (&gt;2mg/dl)</li> </ol>					
		3. Bone lesions – one or more osteolytic bone lesion in rentgenography, CT, PET-CT					
		4. Anemia – haemoglobin >20 g/l lower than normal value or < 100g/l					
		5. Infectious diseases – 2 or more bacterial infections in 12 months					
5.	Gender:	☐ Male		☐ Female			
6.	Age at the time of d	liagnosis:					
7.	Place of residence:	☐ City		☐ Smaller village			
		1. The biggest cities in Lithuania – Vilnius, Kaunas					
		2. Other cities					
8.	CIRS value:	_					

<sup>21.</sup> How many specialists you visited before correct diagnosis?

**Figure S5** Lymphomas distribution according to disease stage (a) and NHL type (b). HL – Hodgkin lymphoma; NHL – non Hodgkin lymphoma



**Figure S6** The most important reasons for delay in A, B, C, D intervals according to participants



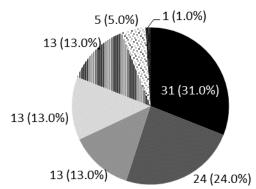
- Symptom evaluation (e.g. thinking it will resolve on its own)
- Registered instantly
- Practical reasons (e.g. being busy)
- Deny any reasons for delay, although A interval >30 days
- Emotional reasons (e.g. fear of cancer diagnosis)

# 8 (8.0%) <sup>2</sup> (2.0%) 39 (39.0%) <sup>51</sup> (51.0%)

**B** interval

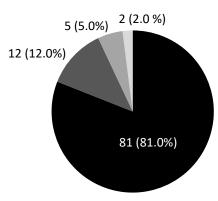
- Did not wait long (< 3 days)
- Waiting time was around 7 days
- Visited doctor for other health issues
- GP canceled registration





- According to patient diagnosis was established very quickly
- Other specialists (not GP) treated another disease
- GP did not take patients condition seriously
- Technical difficulties, e.g. waiting time to see specialists
- **III** GP treated another disease
- Visited many specialists without correct diagnosis suspected
- Patient did not come to a follow up visit for over a year

## D interval



- Treatment started immediately
- Had to wait a little for treatment initiation
- Patient delayed treatment
- Treatment delayed due to IVF appointment

#### Second medical consultation:

- Haematologist, n=11
- Oncologist, n=4
- Hospitalized, n=4
- Surgeon, n=2
- Nephrologist, n=1
- ENT, n=1
- Urologist, n=1

## Oncologic diagnosis suspected, n=24 (MM=10.

lymphoma=14)

Firs consulted doctor -GP, n=86

Oncologic diagnosis not suspected, n=62

## First consulted doctor – non GP, n=14:

All participants, n = 100(MM = 53, lymphoma = 47)

- Hospitalized, n=8
- Surgeon, n=2 Payed for first
- laboratory tests, n=2
- Neurologist, n=1

Oncologic diagnosis

not suspected, n=7

Oncologic diagnosis Second medical consultation: Haematologist, n=5 suspected, n=7 (MM=6,

Neurologist, n=1 Hospitalized, n=1

Received symptomatic (n=3) treatment

#### MM (n=34) misdiagnosed for:

- Radiculitis, n=11
- Osteoporosis/osteochondritis/arthrosis, n=4
- Pneumonia, n=3
- Did not have preliminary diagnosis, n=3
- Anemia, n=2
- Kidney disease, n=2
- Traumatic injury, n=2
- GI/unspecified bleeding, n=2
- Narrowing of head vessels, n=1
- Unspecified infection, n=1
- Hernia, n=1
- Intercostal neuralgia, n=1
- Psychiatric disorder, n=1

Received symptomatic (n=14) or misleading (n=12) treatment

#### Lymphoma (n=28) misdiagnosed for:

- Throat infection, n=4
- GI bleeding, n=4
- Anemia, n=3
- Pneumonia, n=3
- Bronchitis, n=2
- Dermatitis, n=2
- Did not have a preliminary diagnosis, n=2
- Unspecified infection, n=2
- Hernia, n=2
- GERD, n=1
- Thyroid gland dysfunction, n=1
- Radiculitis, n=1
- Psychiatric disorder, n=1

Received symptomatic (n=2) or misleading (n=12) treatment

#### MM (n=3) misdiagnosed for:

- Pneumonia, n=2
- Unspecified infection, n=1

Received misleading (n=3) treatment

lymphoma=1)

## Lymphoma (n=4) misdiagnosed for:

- Bronchitis, n=1
- Unspecified infection, n=1
- Hernia, n=1
- Crohn's disease, n=1

Received symptomatic (n=1) or misleading (n=3) treatment

#### Second medical consultation:

- Hospitalized, n=2
- Haematologist, n=1

#### Second medical consultation:

- Haematologist, n=1
- Surgeon, n=1
- Infectologist, n=1
- Pulmonologist, n=1

#### Second medical consultation:

- Neurologist, n=11
- Hospitalized, n=8
- Surgeon, n=2
- Rheumatologist, n=2
- Gynecologist, n=2
- Infectologist, n=2
- Did not get a referral to any specialist, n=2
- Nephrologist, n=1
- Rehabilitologist, n=1
- Urologist, n=1
- Endocrinologist, n=1 Traumatologist, n=1

### Second medical consultation:

- ENT. n=5
- Hospitalized, n=4
- Surgeon, n=4
- Did not get a referral to any specialist, n=3
- Pulmonologist, n=2
- Gastroenterologist, n=2
- Haematologist, n=2
- Dermatologist, n=1
- Neurologist, n=1
- Gynecologist, n=1 Infectologist, n=1
- Endocrinologist, n=1
- Internal disease doctor, n=1

Figure S7 MM and lymphomas diagnostic pathways

**Figure S8** Number of patients for 1 PCP (primary care physician – including GPs and general pediatricians), in Lithuanian counties and biggest cities

