Which Conditions are Indicators for HIV testing across Europe?:Results from the HIDES II Study

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HIDES (HIV Indicator Diseases Across Europe Study)
A project under the HIV in Europe initiative

HIDES II study - Background

- Around 1 in 3 of the estimated 2.2 million people living with HIV across the European region are unaware of their HIV status[1]

- Approximately 50% of those diagnosed are late presenters (CD4 < 350)[2]

- Client-initiated testing strategies are not sufficient to identify people with HIV early enough to reduce the number of people presenting late for care

- Provider-initiated evidence based testing strategies are needed

[1]European Centre for Disease Prevention and Control/WHO Regional Office for Europe, 2013.
[2]A Mocroft, PLoS Med, September 2013

What is indicator condition guided HIV testing?

- An approach using certain conditions, linked with an excess risk of being HIV positive, as indication for health providers to routinely offer an HIV test[3,4,5]

- Studies suggest that routine HIV testing remains cost-effective, when the undiagnosed HIV prevalence in a specific group, is > 0.1%[6]

- The concept of indicator condition guided HIV testing is an approach by which health care practitioners can be encouraged to test more patients based on indicator conditions rather than risk behaviour or group[3,4,5]

[3]AK Sullivan, PLoS ONE, January 2013, Volume 8
[4]European Centre for Disease Prevention and Control (2010) ECDC guidance.
HIV testing: increasing uptake and effectiveness in the European Union.
[5]HIV in Europe Initiative. HIV Indicator Conditions:
Guidance for Implementing HIV Testing in Adults in Health Care Settings. Copenhagen,2012.
[6]Y Yazdanpanah, PLoS One October 2010; 5(10)

Three categories of indicator conditions

1. Conditions which are AIDS defining

2.a Conditions associated with an undiagnosed HIV prevalence above 0.1%

2.b Other conditions which by expert opinion are considered likely to have an undiagnosed HIV prevalence of more than 0.1%.

3. Conditions, where not identifying the presence of HIV infection, may have significant adverse implications for the individual's clinical management.

→ Guidance for Implementing HIV Testing in Adults in Health Care Settings (2012)

hides
HIV indicator diseases
across Europe study

HIV in Europe Initiative. HIV Indicator Conditions: Guidance for Implementing HIV Testing in Adults in Health Care Settings. Copenhagen,, 2012.

Study Objective

Implement surveys to assess HIV prevalence for one or more diseases or conditions within a specific segment of the population not yet diagnosed with HIV and that present for care with the specific disease or condition.

The purpose is to further refine the evidence base for which conditions to classify as indicator conditions, i.e. moving conditions from group 2b to group 2a of indicator conditions

2a) Conditions associated with an undiagnosed HIV prevalence above 0.1%

2b) other conditions which by expert opinion are considered likely to have an undiagnosed HIV prevalence of more than 0.1%

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Indicator conditions surveyed

A pilot phase of the HIDES study, found a <u>HIV</u> prevalence of 4.06 (95% CI: 2.78 – 5.71) in STIs and 2.89 (95%CI: 1.07 – 6.21) in Herpes zoster.
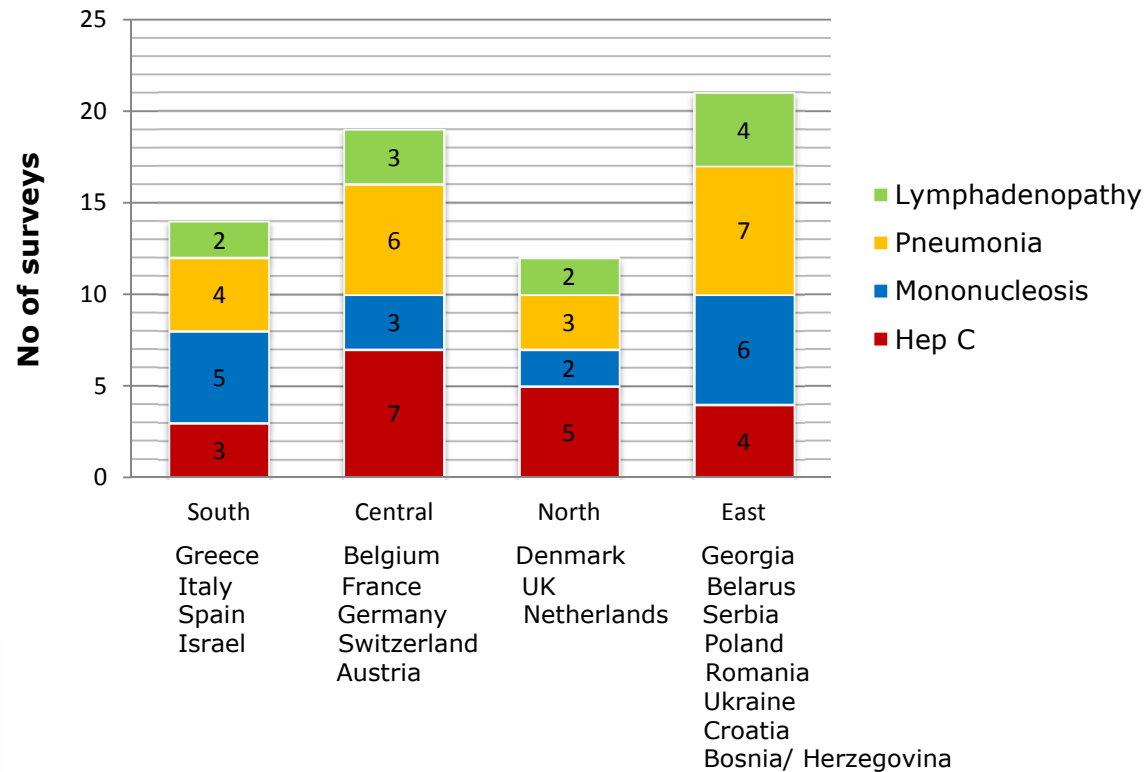
Indicator conditions surveyed:

- Malignant lymphoma, irrespective of type
- Cervical dysplasia or cancer (cervical CIN II and above)
- Anal dysplasia or cancer
- Hepatitis B viral infection (acute or chronic)
- Hepatitis C viral infection (acute or chronic)
- Hepatitis B & C
- Ongoing mononucleosis-like illness
- Unexplained leukocytopenia and/or thrombocytopenia, (lasting at least 4 weeks)
- Seborrheic dermatitis/ exanthema
- Pneumonia, admitted to hospital for at least 24 hours
- Unexplained lymphadenopathy
- Peripheral neuropathy of unknown cause
- Primary lung cancer
- Severe or recalcitrant psoriasis, newly diagnosed

Prevalence HIDES I:

0.29 (0.006 – 1.61)

0.37 (0.04 – 1.32)

0.36 (0.10 – 0.93)

3.85 (2.26 – 6.10)

3.19 (0.66 – 9.04)

2.06 (0.25 – 7.24)

Enrolment

- 10139 patients were enrolled; of unknown HIV status and presenting for care with one of the surveyed conditions in one of the clinics.
- Excluded participants: 98 due to missing data; 569 due to age criteria <18 or >65, **N=9471** (93.4% of original)
- 42 clinics participated in 20 countries across 4 regions of Europe
- A total of 150 surveys were performed, 66/150 in 4 top recruiting conditions:

No of patients: 280   350   703   3543

South: Greece, Italy, Spain, Israel
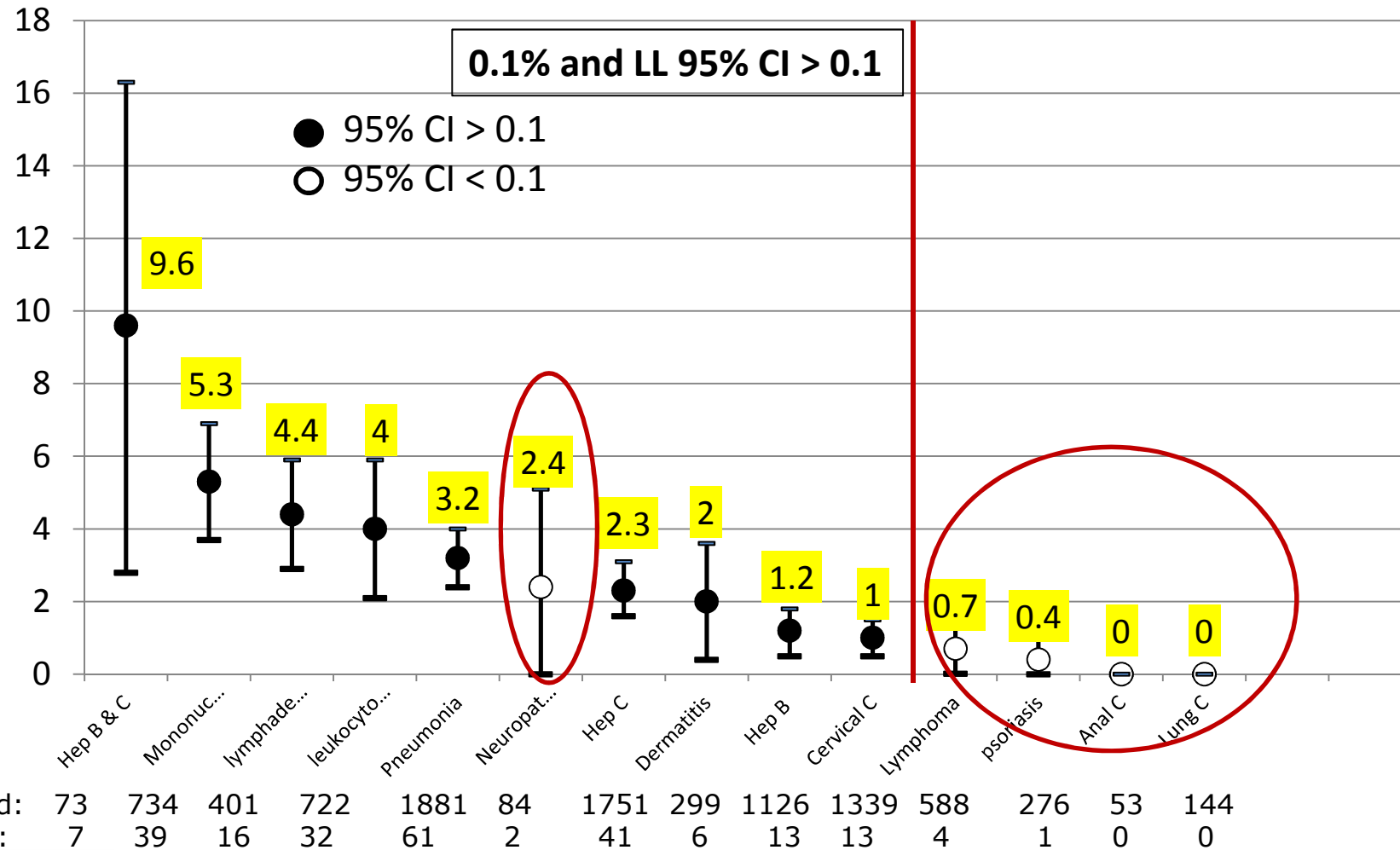Central: Belgium, France, Germany, Switzerland, Austria
North: Denmark, UK, Netherlands
East: Georgia, Belarus, Serbia, Poland, Romania, Ukraine, Croatia, Bosnia/ Herzegovina

Legend: Lymphadenopathy, Pneumonia, Mononucleosis, Hep C

Characteristics of participants

		All		South		Central		North		East		P
		N	%	N	%	N	%	N	%	N	%	
All		9471	100	500	5.3	942	10.0	2297	24.3	5732	60.5	
Gender	Male	5119	54.1	266	53.2	558	59.2	1166	50.8	3129	54.6	<0.0001
	Female	4352	45.9	234	46.8	384	40.8	1131	49.2	2603	45.4	
Ethnicity	Caucasian	8200	86.6	405	81.0	634	67.3	1464	63.7	5597	99.4	<0.0001
	Asian	296	3.1	12	2.4	18	1.9	254	11.1	12	0.2	
	African	262	2.8	7	1.4	82	8.7	172	7.5	1	0.0	
	Unknown	713	7.5	76	15.2	208	22.1	407	17.7	22	0.4	
Previous	Yes	1373	14.5	79	15.8	290	30.8	488	21.3	516	9.0	<0.0001
HIV test	No	5991	63.3	352	70.4	283	30.0	807	55.1	4549	79.4	
	Unknown	2107	22.3	69	13.8	369	39.2	1002	43.6	667	11.6	
Setting	Outpatient	4500	47.5	180	36.0	430	45.7	1811	78.8	2079	36.3	<0.0001
	In patient	3564	37.6	232	46.4	232	24.6	414	18.0	2686	46.9	
	Prim. care	270	2.9	72	14.4	134	14.2	64	2.8	0	0	
	Unknown	1137	12.0	16	3.2	146	15.5	8	0.4	967	16.9	
		Median	IQR	Median	IQR	Median	IQR	Median	IQR	Median	IQR	
Age	Years	37	29 – 49	41	30 – 52	42	32 – 52	41	31 – 54	35	27 – 46	<0.0001
Date	Mm/yy	5/13	1/13 – 11/13	4/13	10/12 – 10/13	7/13	2/13 – 1/14	7/13	2/13 – 12/13	4/13	12/12 – 10/13	<0.0001

HIV Prevalence in the indicator conditions

Comparison of HIV positivity rate East vs West

● Eastern Europe   ○ Western Europe

Prevalence of HIV+ (95% CI)

Hepatitis C (acute and chronic)   Ongoing mono   Pneumonia   Unexplained lymph   All others

	East	West		East	West		East	West		East	West		East	West
Tested:	1139	612		439	295		1325	541		640	82		2189	2189
HIV+:	36	5		14	25		46	15		26	6		47	15
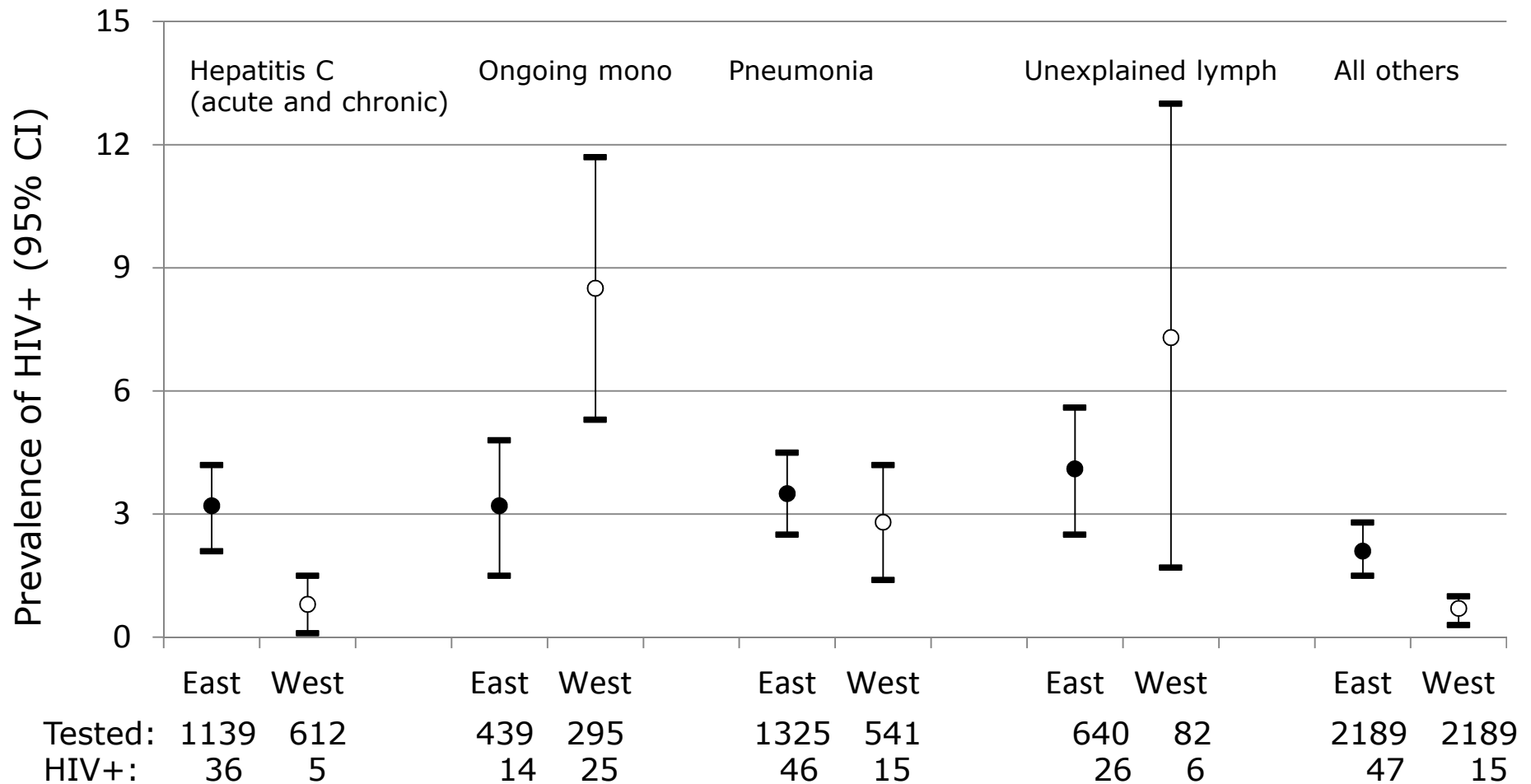
Odds of testing HIV+
A comparison of the indicator conditions

Prevalence:

Indicator condition

3.2 — Pneumonia (admitted to hospital at least 24h)

1.0 — Cervical dysplasia/cancer (CIN II and above)

1.2 — Hepatitis B (acute or chronic)

2.3 — Hepatitis C (acute or chronic)

5.3 — Ongoing mononucleosis-like illness

4.0 — Unexplained leukocytopenia/thrombocytopenia

4.4 — Unexplained lymphadenopathy,

1.3 — All others indicator illnesses:

Malignant lymphoma; Anal dysplasia/cancer; Hepatitis B+C; Seborrheic dermatitis/exanthema; Peripheral neuropathy of unknown cause; Primary lung cancer; Severe or recalcitrant psoriasis

0.1   1   10

Adjusted odds of testing HIV+ (95% CI)

Model adjusted for gender, ethnicity, previous HIV testing, region of Europe, setting, age, date, and number from centre

Odds of being a late presenter
CD4<350/mm³ N=148, 68.5%
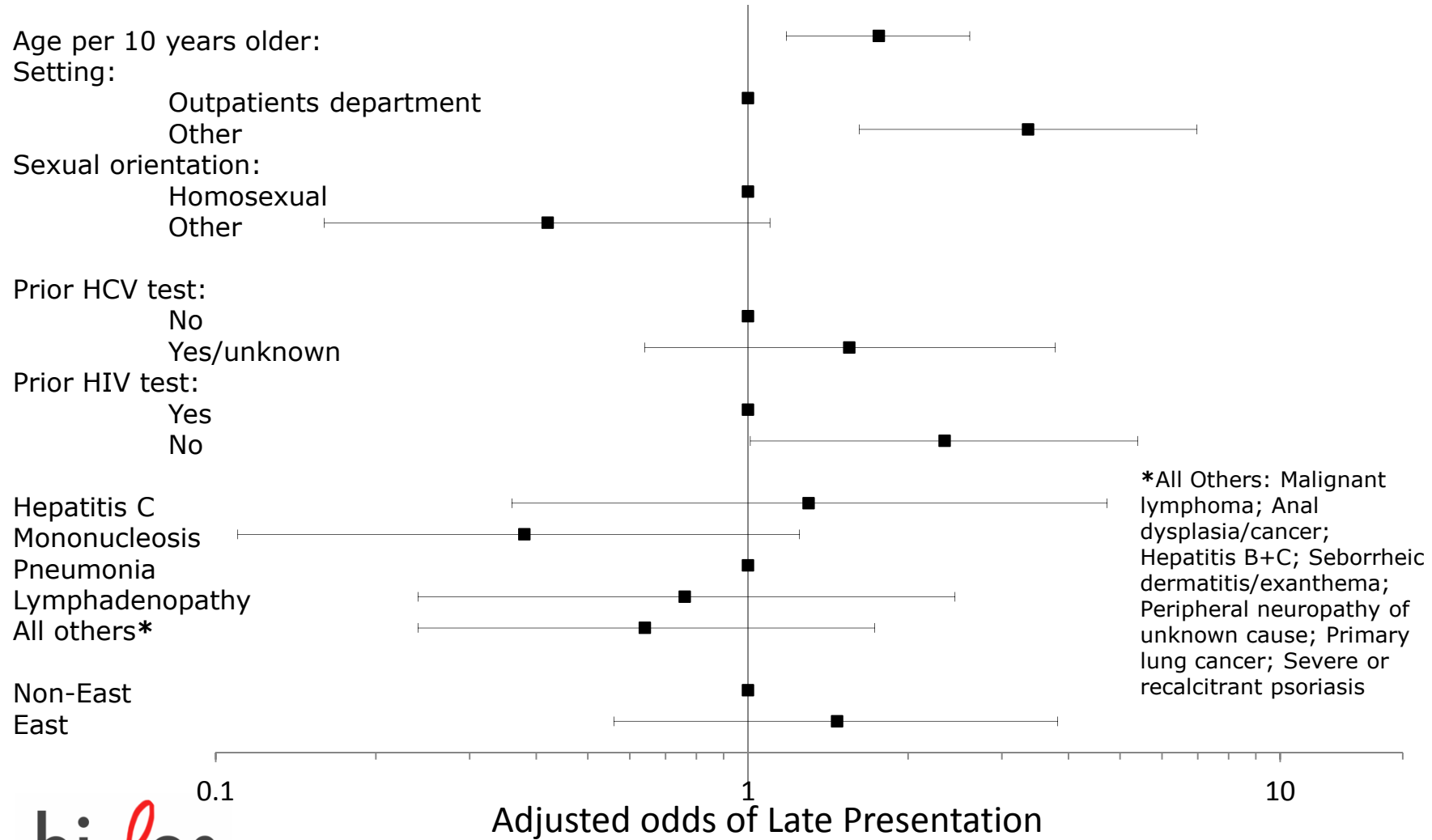
Conclusions

- Cost effectiveness was established for HIV testing at presentation in 9 conditions in which an HIV prevalence of > 0.1% was demonstrated.

- For the remaining conditions relatively low numbers of patients were tested and there were few events. As a consequence we cannot conclude that HIV prevalence is less than 0.1% in these conditions until enrolment targets are met.

- As infectious mononucleosis-like presentation can mimic acute HIV sero-conversion and has the highest positivity rate of 5.3%, this IC in particular affords opportunities for earlier diagnosis.

Achievements

- Some sites have implemented routine HIV testing in their clinics for the conditions they tested during the HIDES II survey, after experiencing the benefits of doing the survey.

- Some sites have successfully advocated for implementation of the HIV indicator conditions into their National HIV testing guidelines based on their experience in the HIDES study.

- The HIDES I article and the guidelines on Indicator Condition Guided HIV testing have been translated into Spanish, Polish and Georgian.

Recommendations and what is next?

- The conditions with a proven HIV prevalence of >0.1% should be adopted into HIV testing and IC specialty guidelines on both national and European level

- Further work is required to expand the list and support implementation of IC driven HIV testing

- Audits of testing performance in confirmed IC should be performed to evaluate the level of implementation

- An extension of the survey in mononucleosis-like illness will continue to enrol participants until end of June 2015

- An EU funded project on "Optimising Testing and Linkage to Care for HIV across Europe" – OptTEST - will build on and develop tools for the implementation of IC guided testing

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