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Tests of recent infection, RITA programme in the UK

Coverage
Representativeness
Findings
Future work

The Recent Infection Testing Algorithm

AIM *Incorporate TRI as part of the routine public health monitoring of all newly diagnosed HIV infections in the UK*

Public Health Benefits

- Calculate incidence estimates (at relatively low cost using a single sample)
- Identify groups most at risk of acquiring HIV in the UK
- Target public health interventions
- Evaluate the impact of HIV prevention measures
- Identify populations for recruitment into clinical trials of interventions to prevent infection or treat early infection

We are the only country to return results to the patient

Potential Clinical benefit

- Better understand how infection was acquired
- Tailor behavioural intervention
- Used to prioritise contact tracing (public health benefit)

Health Protection Agency

Avidity test

UK AxSYM avidity - guanidine based test

Low avidity index (AI) <0.8 = 'recently infected' within 4-6 months

Suligoi et al 2009–mean time to cross 0.8 threshold =6 months (95% 5-8)

Approx 90% will cross 0.8 within 12 months

False Recency rate – persons misclassified as 'recent' = 4.5%

(Based on 1287 persons avidity tested >1 year after diagnosis in UK)

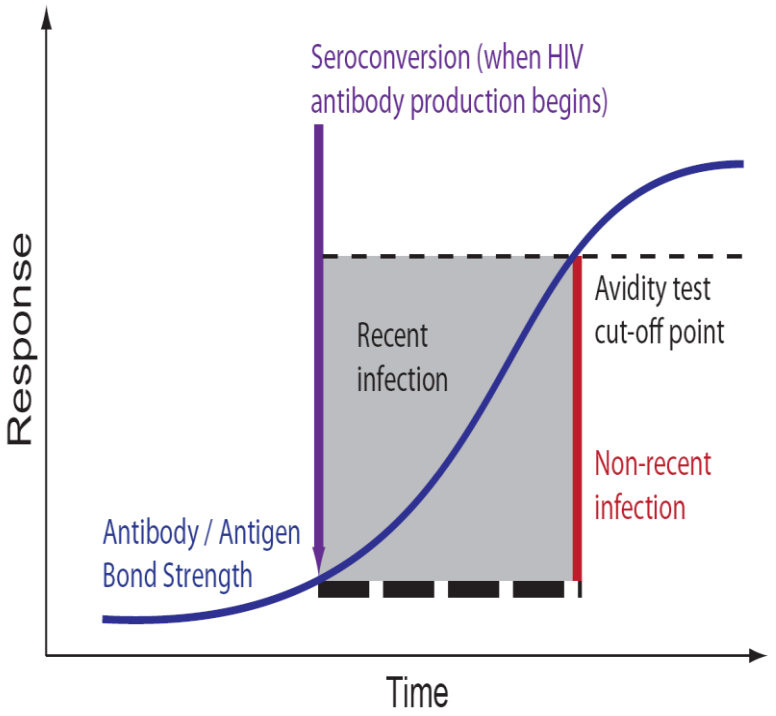
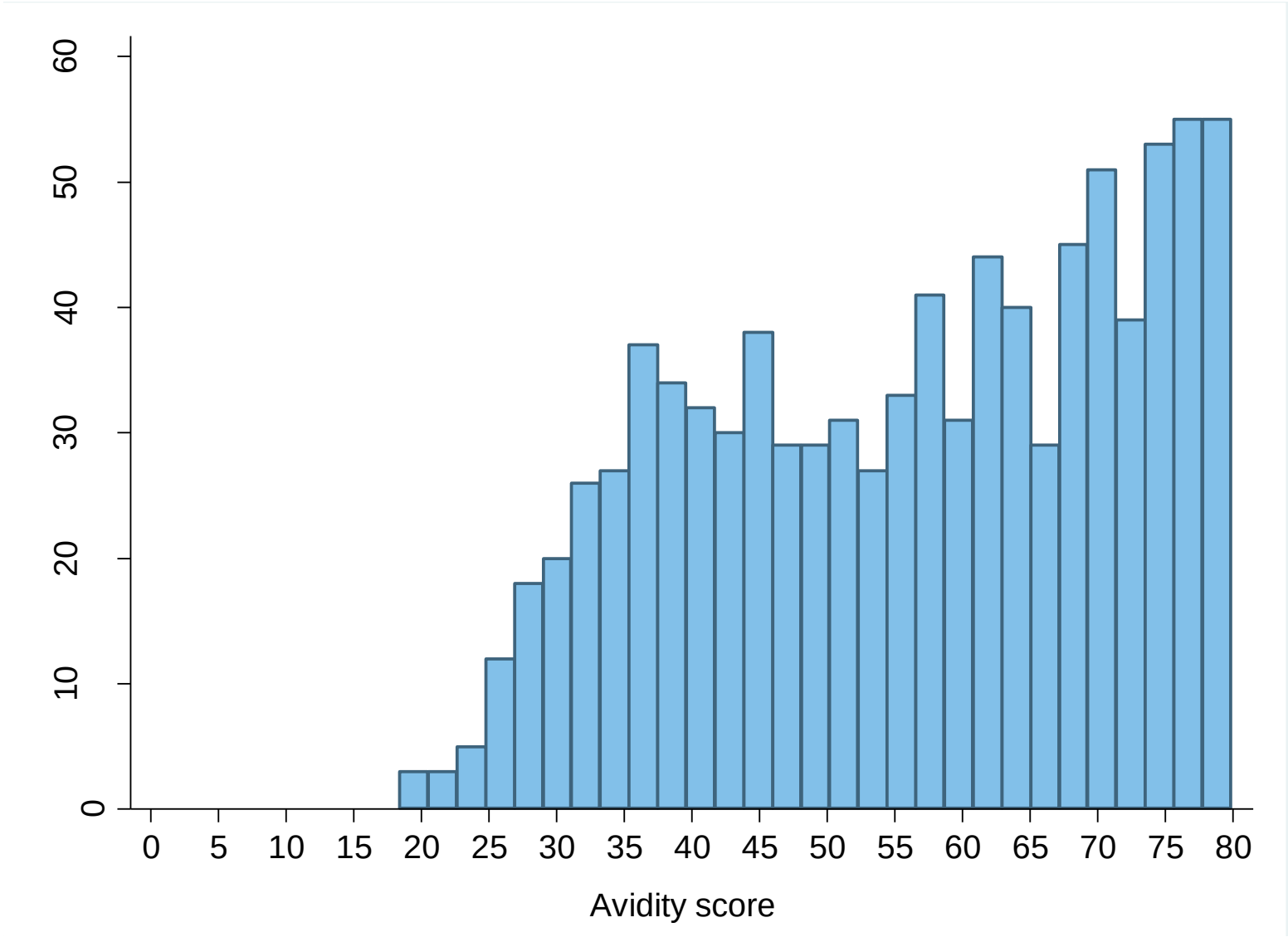


Figure 1: How avidity tests can estimate the likelihood of recent infection, adapted from Mastro TD et al.[i]

Distribution of avidity scores of among HIV diagnoses classified as recent infections, 2009-2011



UK Rita Programme

Since 2009

- >90 clinical centres on board
- >50 laboratories
- Good geographical coverage

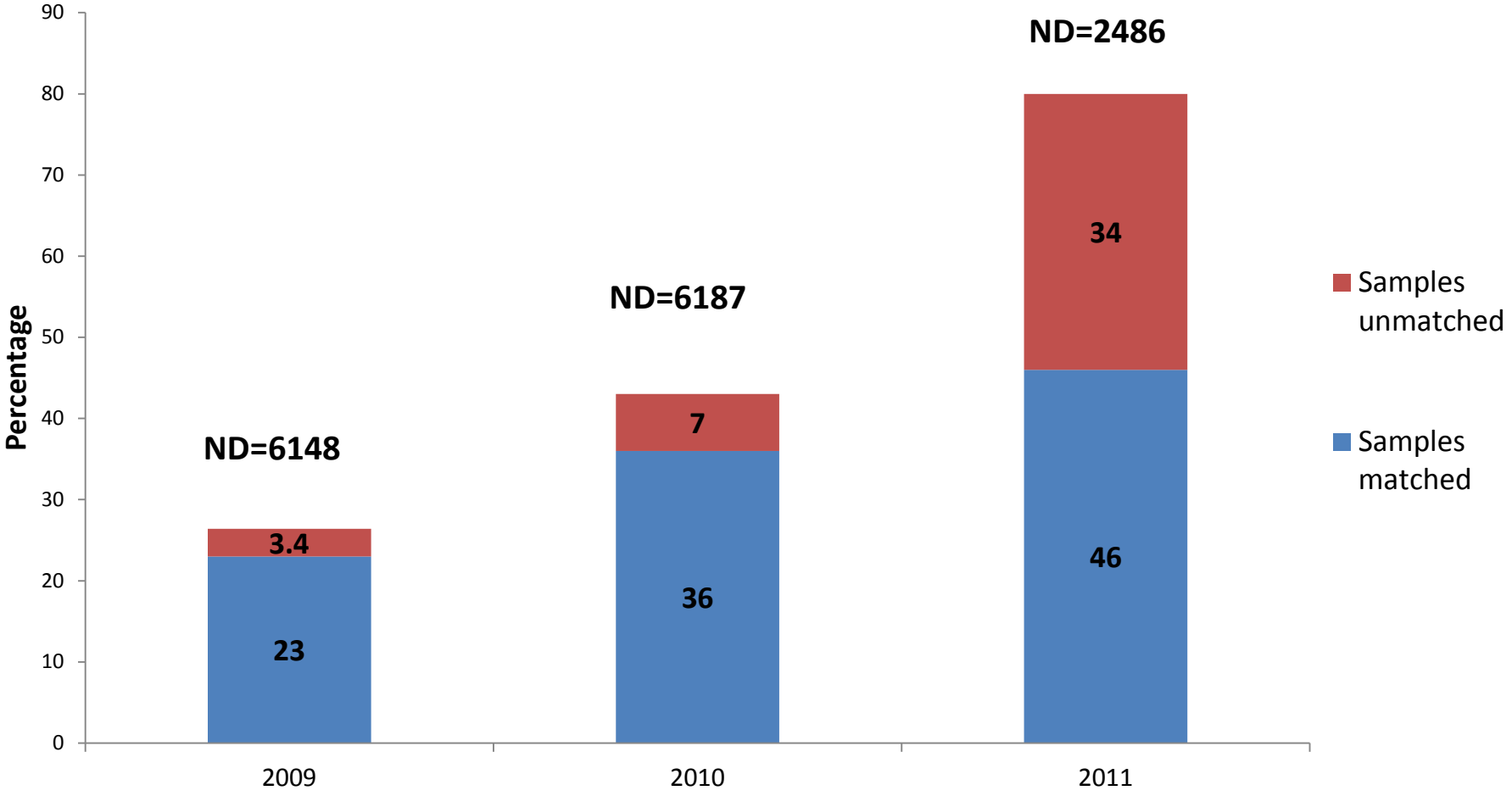
Samples from new diagnosis aliquot sent to Colindale

Results matched to HPA HIV datasets
misclassification of recent

- •CD4 count <200
- • AIDS
- •ART

Final results by risk groups

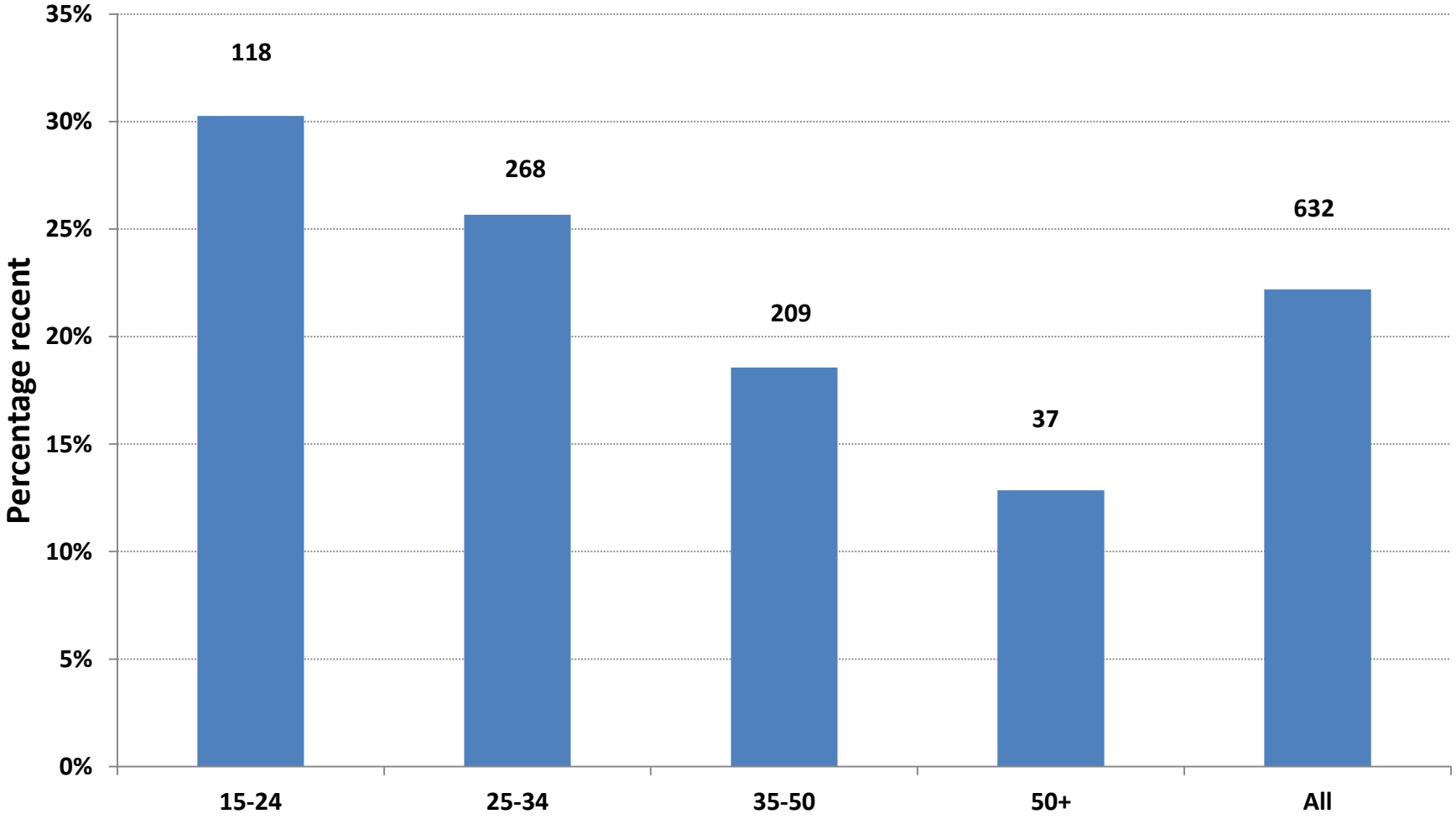
Testing coverage for recent HIV infection, England and NI, 2009- June 2011



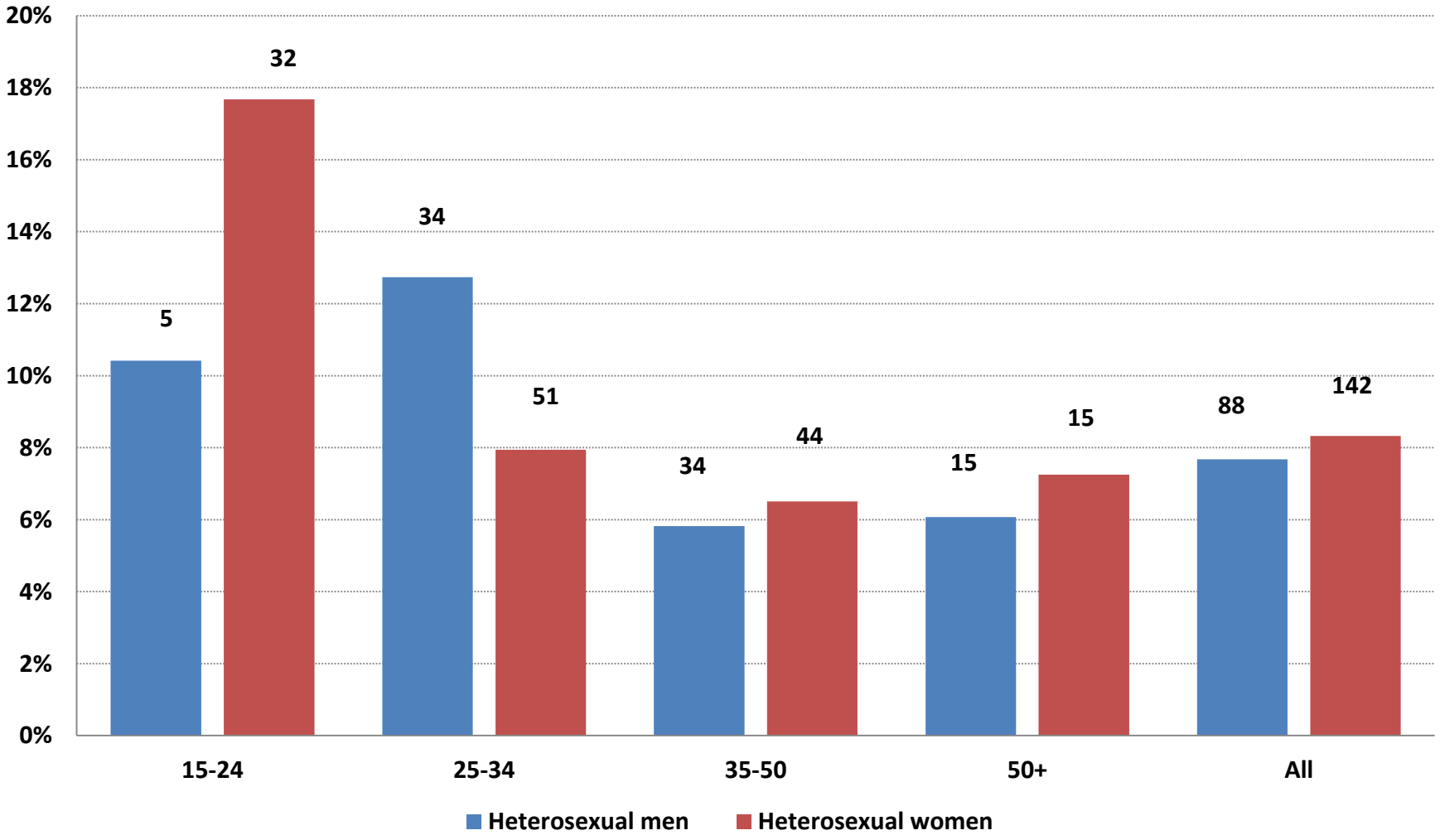
Recently acquired infections among new HIV diagnoses: E & NI, 2009- 2011 (combined)

			No. of RITA results	No. Recent	% Recent (95% CI)
Probable exposure category	Men who have sex with men		2848	632	**22.2%** (20.7-23.8%)
	Heterosexual contact	Men	1146	88	7.7% (6.2-9.4%)
		Women	1706	142	8.3% (7.1-9.7%)
		Total	2852	230	**8.1%** (7.1-9.1%)
	Injecting drug use		93	4	4.3% (1.2-10.6%)
	Other/Not Reported		491	51	10.4% (7.8-13.4%)
Total			6284	917	**14.6%** (13.7-15.5)

Recently acquired infections among new HIV diagnoses by age among MSM: E & NI, 2009-2011



Recently acquired infections among new HIV diagnoses by age among heterosexuals: E & NI, 2009- 2011



Key findings

- Over 1 in 5 MSM diagnosed with HIV between 2009-2011 had a recent infection
- 1 in 3 MSM aged less than 25 years acquired their infection recently compared to 1 in 8 over 50 years
- 1 in 12 heterosexuals diagnosed with HIV between 2009-2011 had a recent infection
- Half of all recent infections diagnosed were in London.
- CAUTION in interpreting results, need for incidence estimates

Achievements

- Coverage now reached >60% new diagnoses

(However we need to improve identifiers from some sites) & high representativeness

- We have reduced testing of invalid samples
- Staff acceptability study completed (HIV medicine Garrett NJ et al. *The Recent Infection Testing Algorithm (RITA) in clinical practice: a survey of HIV clinicians in England and Northern Ireland.* HIV Medicine, 2012

Ongoing and Future activities

- Population incidence estimates
- Patient acceptability study underway
- Understanding the properties of the Avidity Test
- Assess Research Opportunities
  - use in contact tracing activities
  - to match data with phylogenetics/ other datasets

Acknowledgements

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