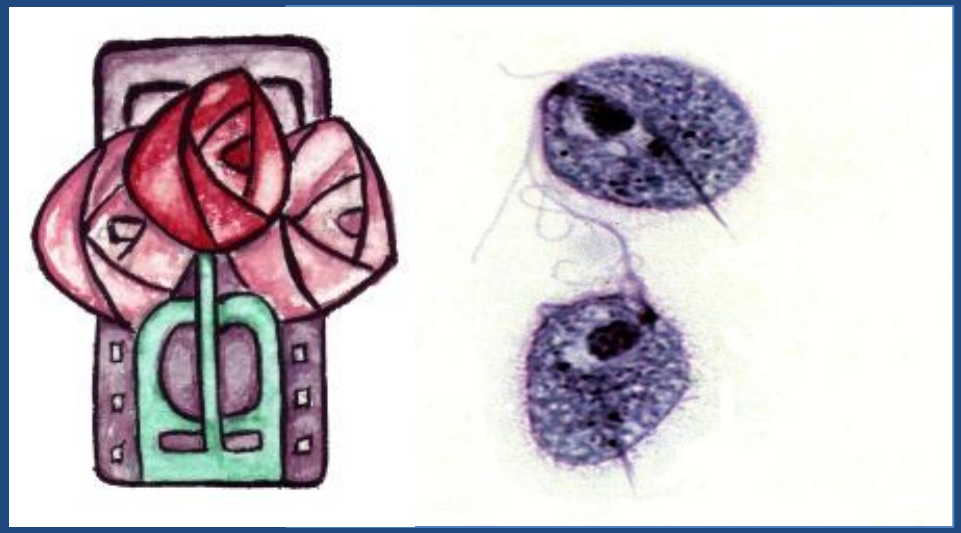
Trichomonas Vaginalis (TV)

Is there more out there than we think?



Aptima TV NAAT Study

Jane Nicholls & Katy Turner

BASHH Glasgow 2015

Public Health England

University of BRISTOL

NHS National Institute for Health Research

Sexual Health Bristol

Trichomonas Vaginalis (TV)

Is it common?

UK Cases TV (2013)[1]	6475
UK cases Chlamydia	101,179 (16x)

Is it clinically important?

✓ Premature labour

✓ Increased susceptibility to HIV

?? Pelvic inflammatory disease

?? Infertility

1. PHE Table 5 ALL STI diagnoses 2009-13

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TV in Primary Care

- Rarely tested for in GP
- Highest rates found in BME population
- Presumed 'negligible' in white population

Bristol situation: what we knew…

- 3% in symptomatic women (Bristol Sexual Health Centre)
- ~0.3% in primary care (local sample 2010)
- Bristol has large Caribbean population 16 % BME[1]

Prevalence too low for testing to be cost effective?

1. Black Minority Ethnic, source Census 2011, Office for National Statistics

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Bristol TV study: 4 Groups

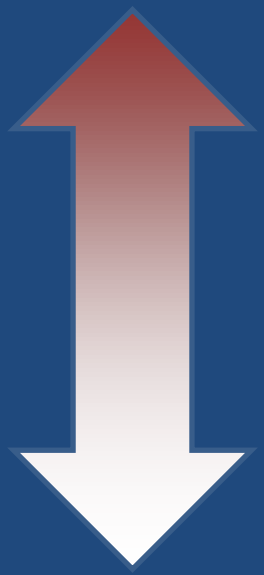
Highest Risk

Symptomatic GUM

Asymptomatic GUM

Symptomatic GP

Asymptomatic GP



Lowest Risk

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Q1: Who should we test for TV?

?? True TV Prevalence in Clinic & GP

using leftover samples from dual NAAT tests

?? Aptima® TVNAAT, vs wet prep and culture

(92%, 38% and 88% sensitivity respectively[1])

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1. Nathan et al International Journal STD&AIDs 26(4) March 2015

Q2: Is it worth it?

?? Extra Cost:

cost per additional positive

?? Cost Effectiveness:

targeted or universal TV testing strategy

4 Study Groups – female patients

	Group 1 GUM Symptomatic **S-GUM**	Group 2 GUM Asymptomatic **A-GUM**	Group 3 GP Symptomatic **S-GP**	Group 4 GP Asymptomatic **A-GP**
Symptoms	Discharge, irritation, pain	Nil or Nil revealed	*Vaginal discharge selected on ICE*	*STI risk selected on ICE*
Eligibility	All women attending GUM		All women for whom GP requested chlamydia/gonorrhoea test	
Consent	Written	Posters	Opt-out consent using ICE + Posters	
Samples	Self- & physician-Remnant sample	collected swabs No extra needed	**4 clicks!**	
Exclusions	<18, pregnant			
Patient data	Age, ethnicity, postcode		Age, GP practice location	
Timeframe	21 months, May 2013 - Jan 2015		Total Sample **n=9240**	

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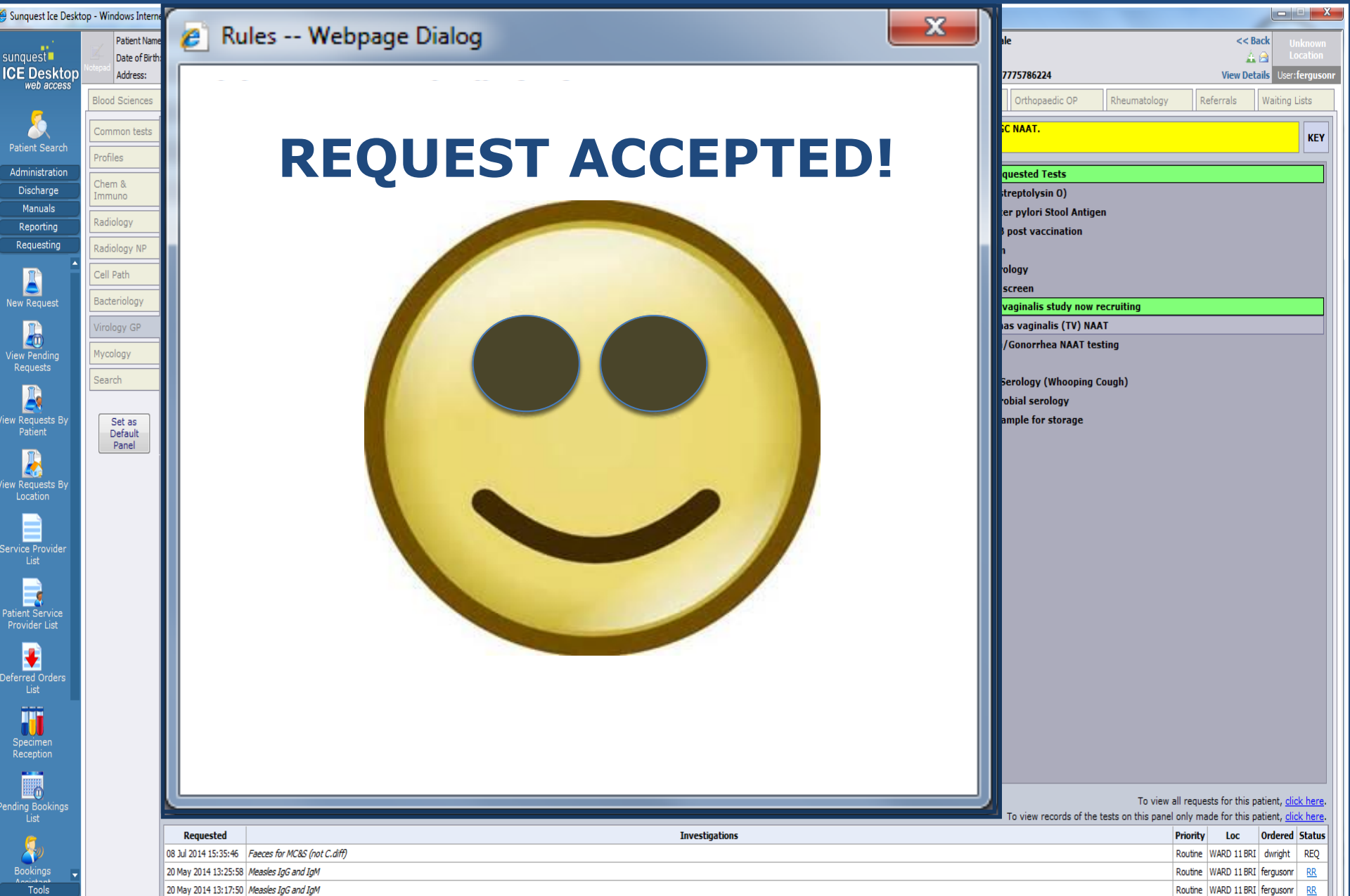
Opt out consent request (ICE)



Summary results – All groups

	S-GUM	A-GUM	S-GP	A-GP
N =	543	1593	3512	3592

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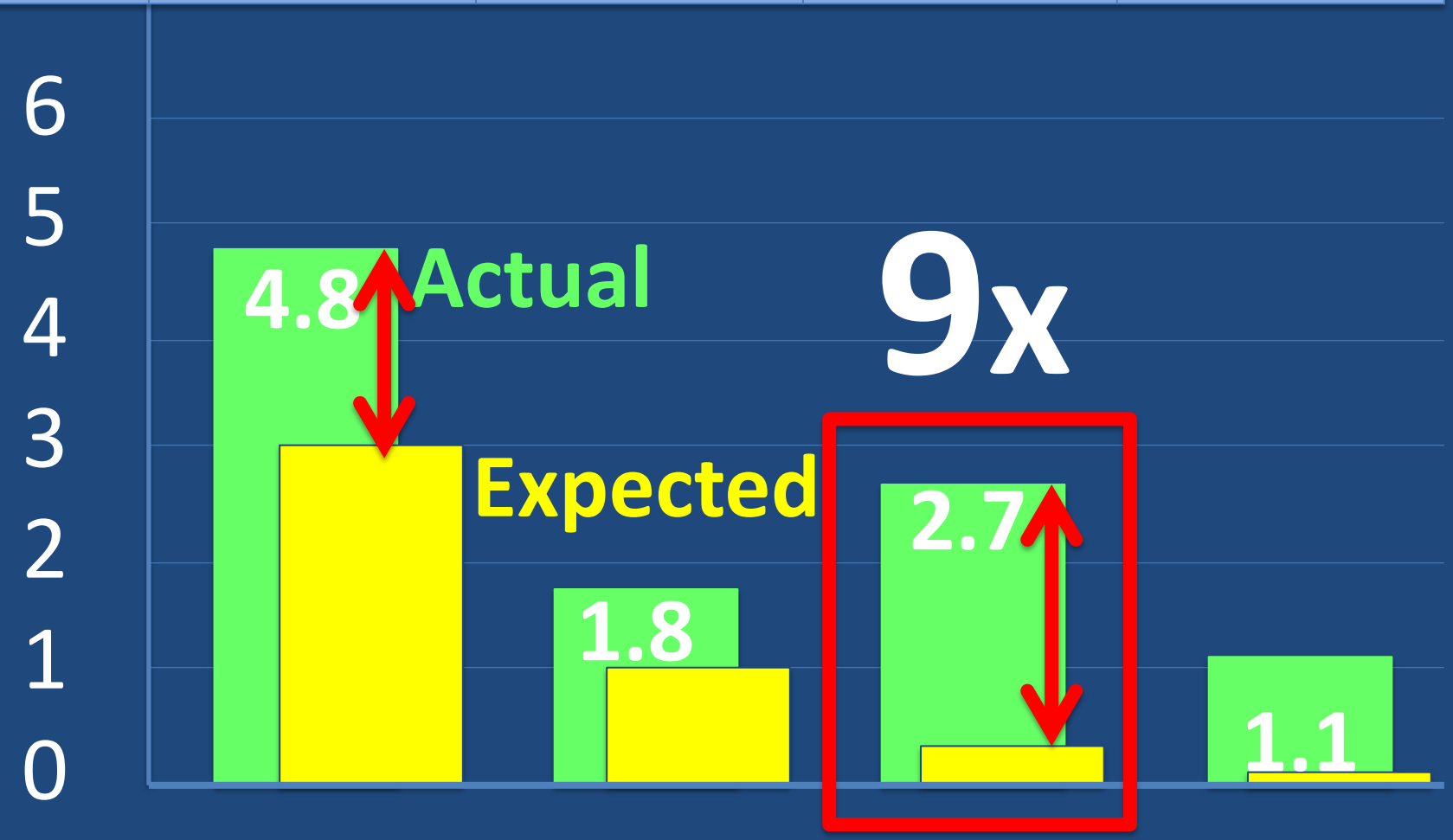
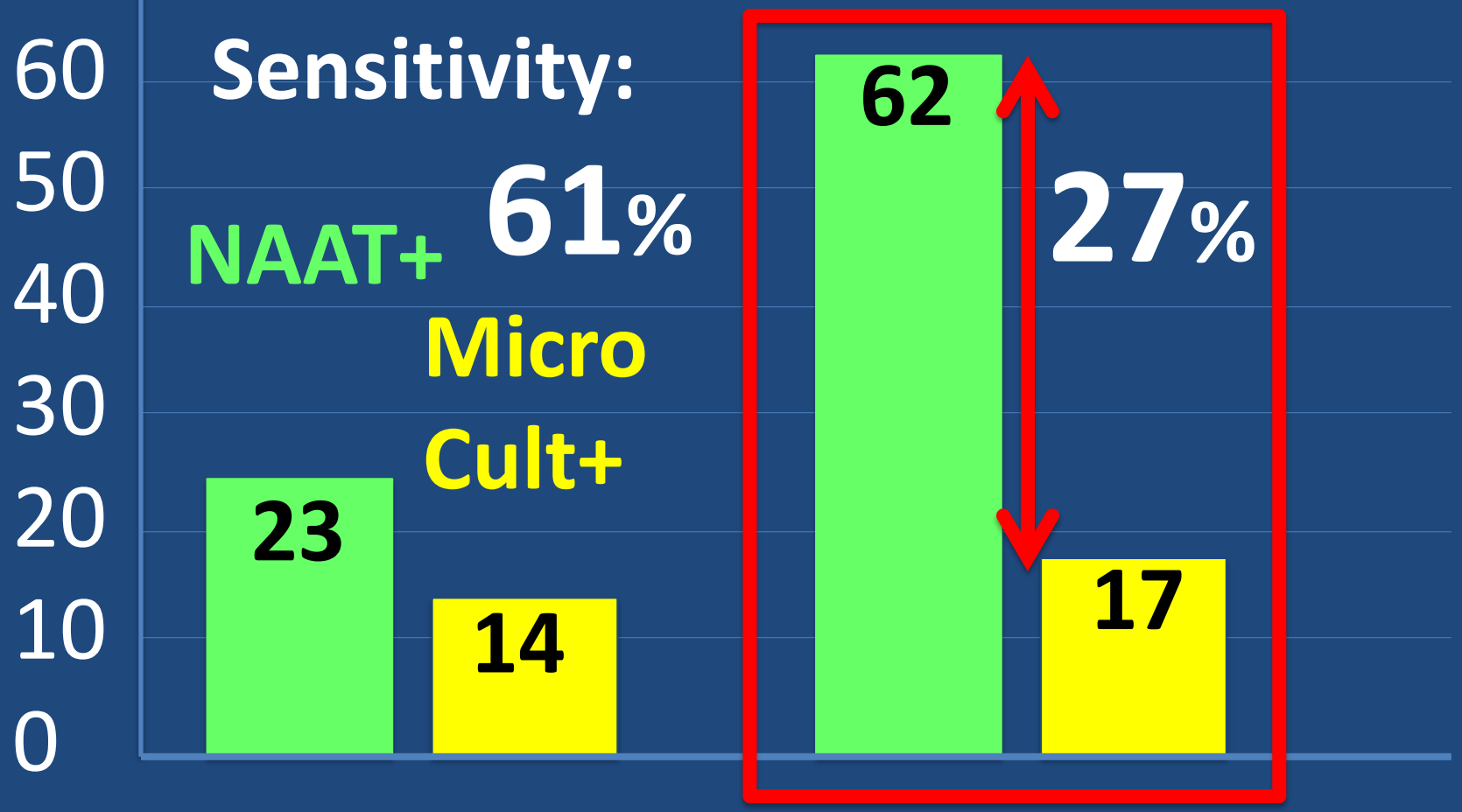
TV NAAT Positivity Rate %

	S-GUM	A-GUM	S-GP	A-GP
%	N = 543	1593	3512	3592



TV Detection NAAT vs Traditional

	S-GUM	S-GP
Subset	N = 491	2149



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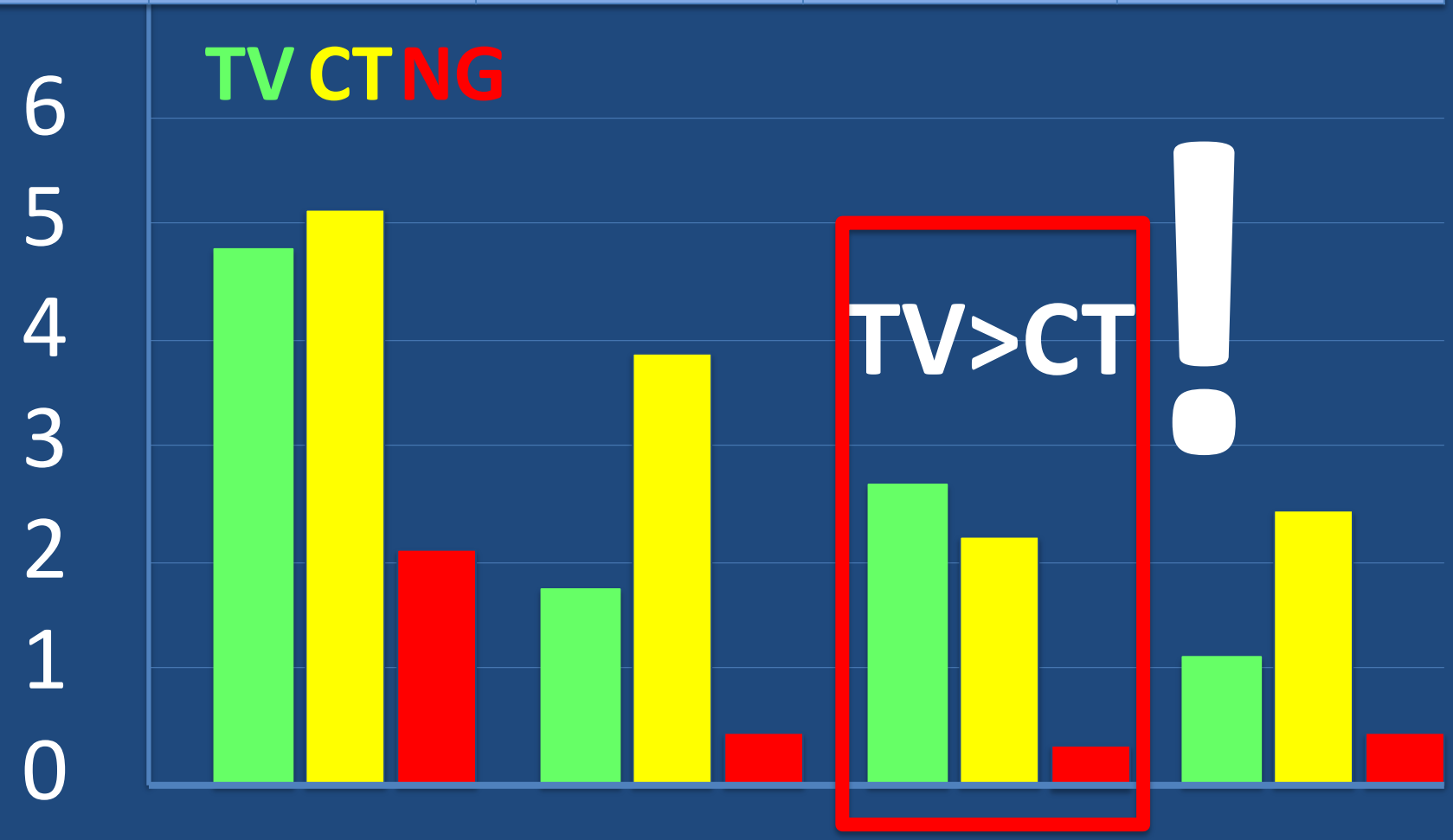
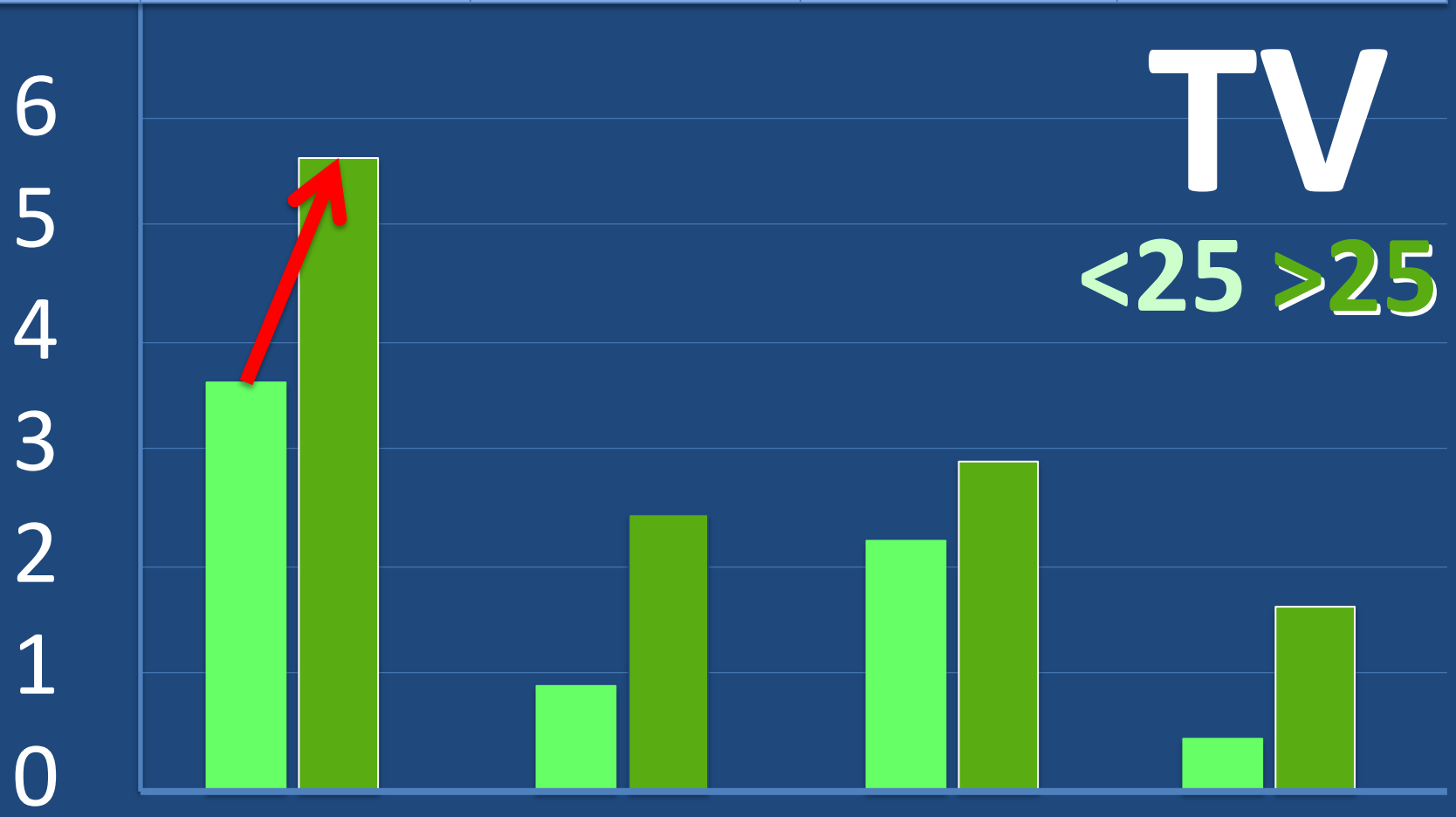
STI Positivity Rate %

	S-GUM	A-GUM	S-GP	A-GP
%	N = 543	1593	3512	3592



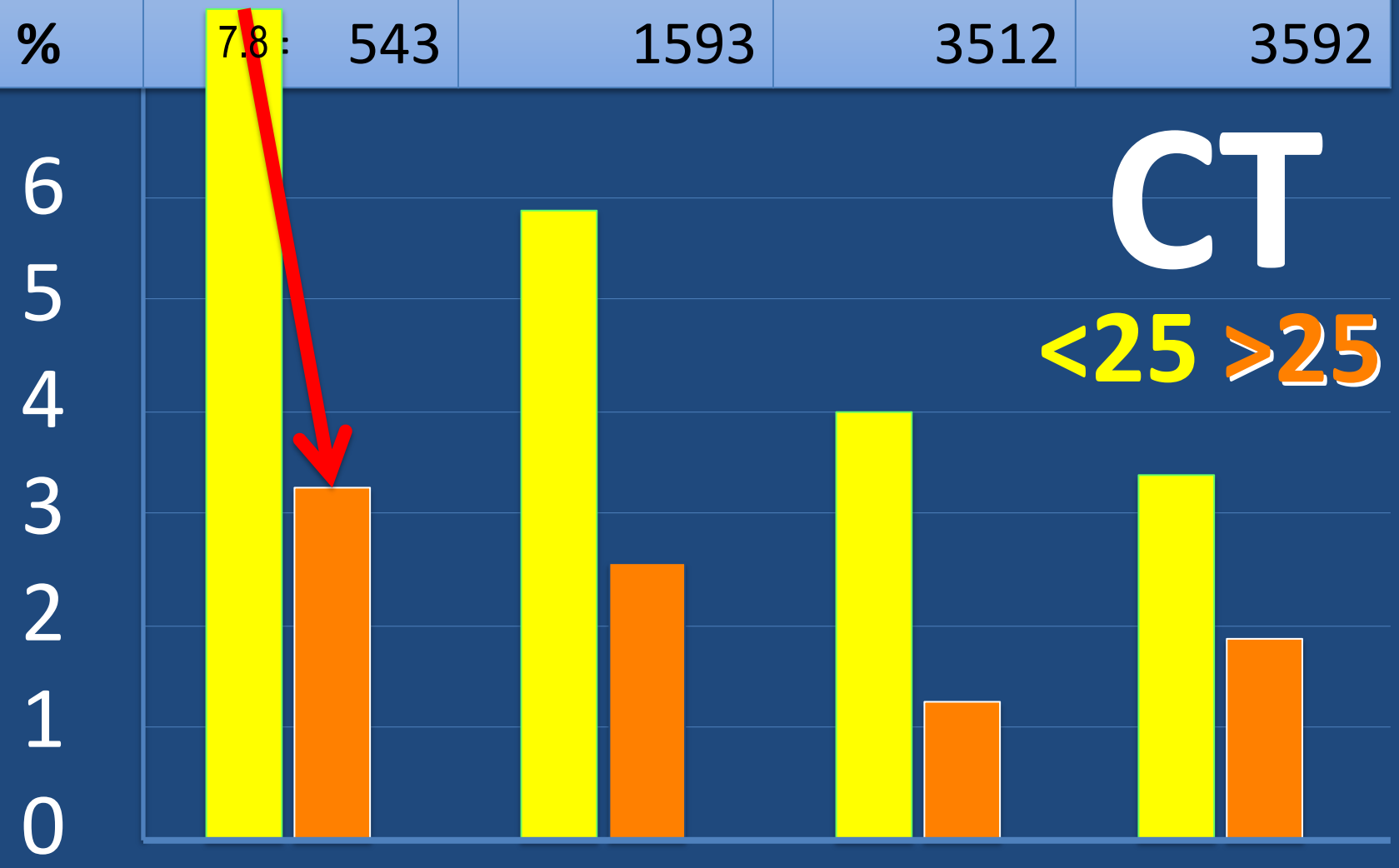
Age + STI Positivity Rate %

	S-GUM	A-GUM	S-GP	A-GP
%	N = 543	1593	3512	3592

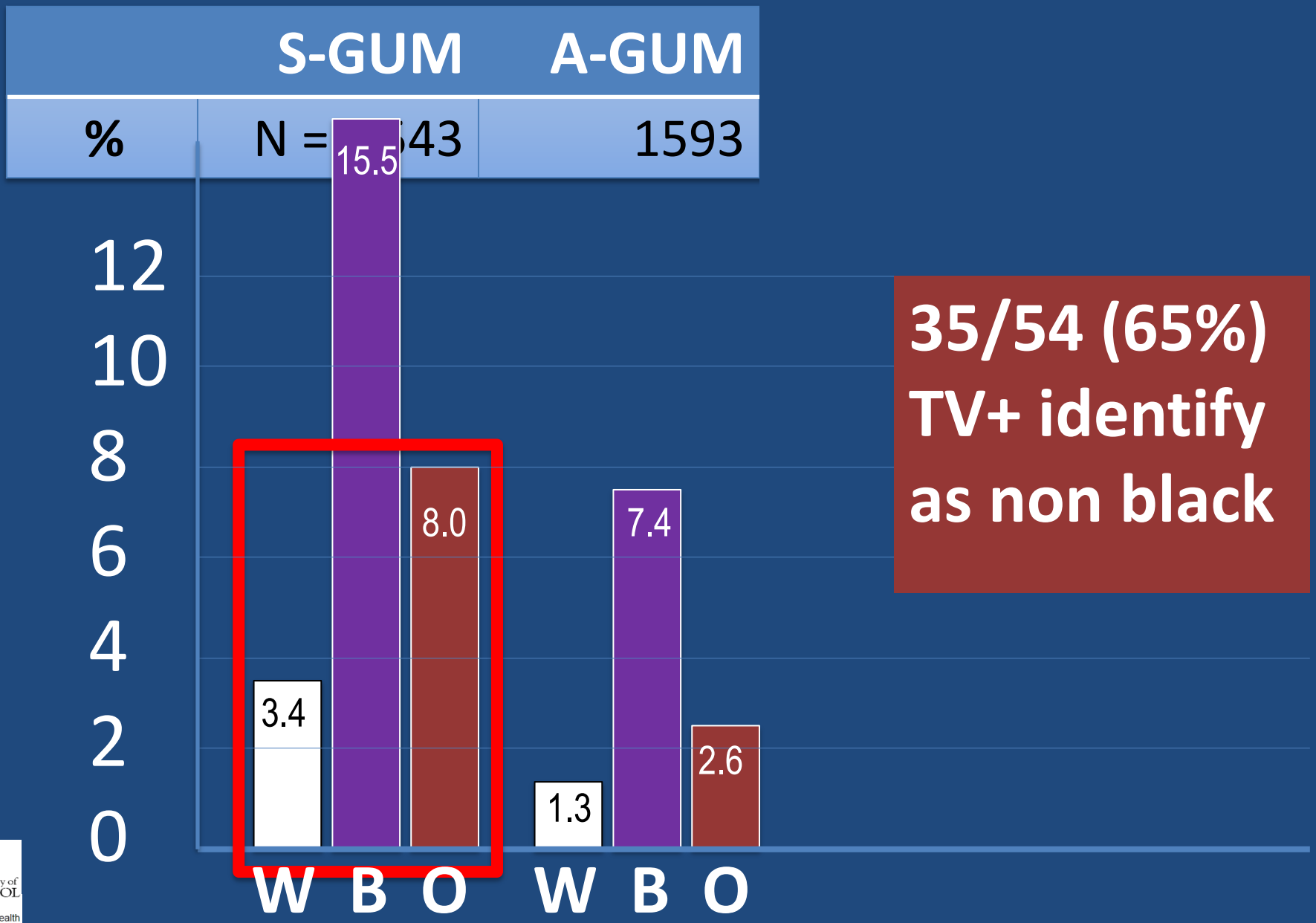


Age + STI Positivity Rate %

	S-GUM	A-GUM	S-GP	A-GP
%	7.8 : 543	1593	3512	3592



Ethnicity + TV Positivity Rate %



35/54 (65%) TV+ identify as non black

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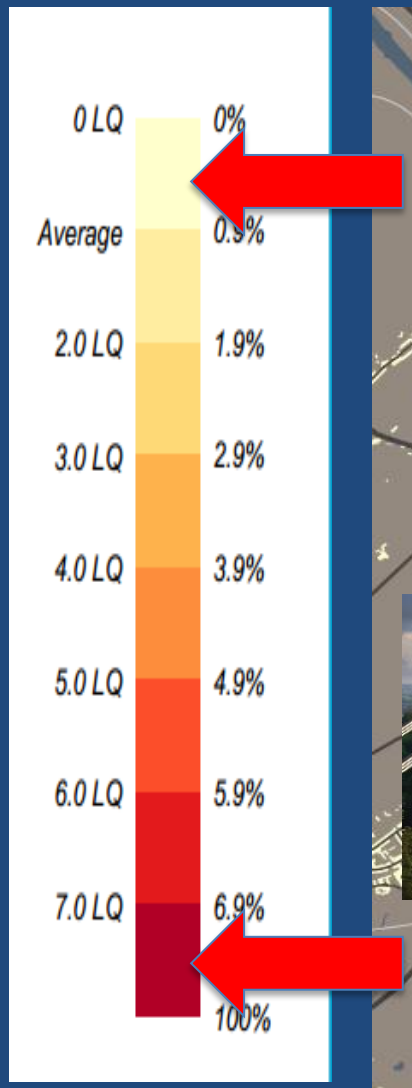
Black Caribbean Ethnicity - Bristol



Census 2011

Montpelier HC

3.9% TV+

Easton FP

3.7% TV+

Lennard Surgery

5.8% TV+

Hartcliffe HC

3.1% TV+

BRISTOL

KINGSWOOD

Hengrove

Hartcliffe

Portway

M32

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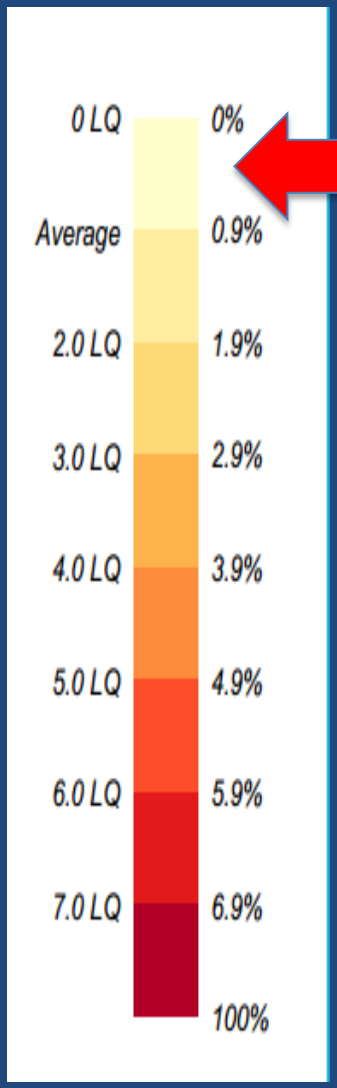
Black Caribbean Ethnicity - Weston



Census 2011

Longton Grove
4.2% TV+

WESTON-SUPER-MARE

Somerset Avenue

Bourneville LP
4.3% TV+

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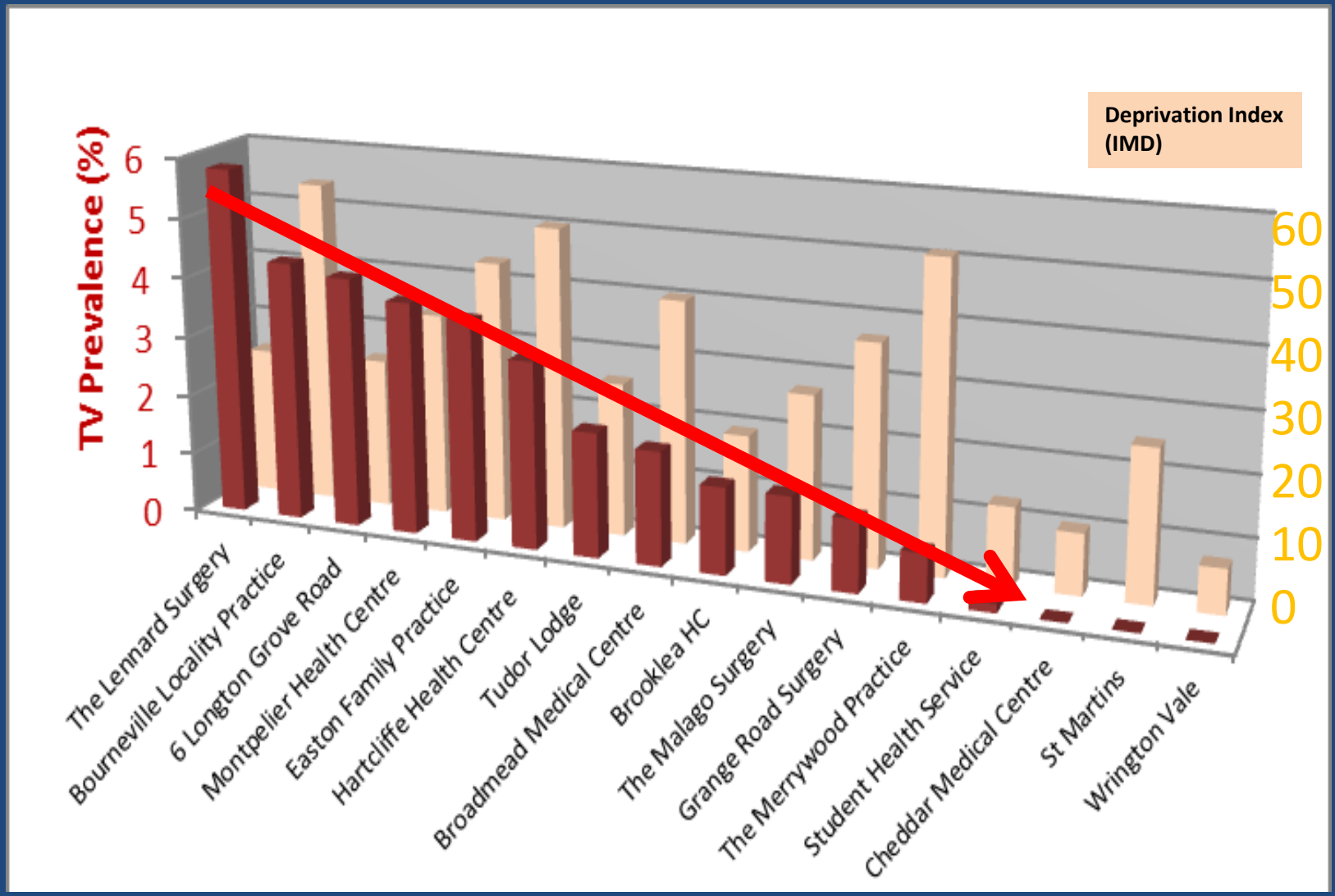
High TV rates: link to deprivation?



Deprivation Index (IMD) by practice fingertips.phe.org.uk

6 practices with highest TV rates

Positivity >3% + >130 patients tested

Practices N > 130 pt	Positives / tested	% BME	Dep Index

Deprivation Index Bristol average IMD = 25.2

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Should I care about TV in 1°Care?
.... not my problem

- Total cases diagnosed in GUM **54**
- Total cases diagnosed in GP **136**
- **GUM + GP populations overlap**

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Main Study Findings

- Substantial TV rate in GUM women

  4.8% sympt. **1.8**% asympt. – **2.5**% overall

- TV rate much higher in GP than expected

  2.7% sympt. **1.1**% asympt. - **1.9**% overall

- Some findings consistent with known epidemiology

  Age >25, Black Caribbean ethnicity

- TV rate varies greatly by practice:

  Deprivation is an independent risk

  Any other "Mystery" factors **??**

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Question: Is it worth it?

?? Extra Cost:

cost per additional positive

£?

?? Cost Effectiveness:

targeted or universal TV testing strategy

Katy Turner PhD, University of Bristol

University of BRISTOL
Public Health England

Considerations

- Clinical problem ☐
- Prevalence ☐
- Cost of testing and management (£, £/positive) ☐
- Benefit of diagnosis & treatment (QALY) ☐
- Transmission dynamics ☐
- Cost-effectiveness (£/QALY) ☐

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Considerations

- Clinical problem ✓
- Prevalence ✓
- **Cost of testing & management** (£, £/positive) ✓
- Benefit of diagnosis & treatment (QALY) ✗
- Transmission dynamics ✗
- Cost-effectiveness (£/QALY) ✗

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Methods

- Calculate costs associated with TV testing
- Compare existing testing with different testing scenarios using TV NAAT
- Calculate total cost of each scenario
- Calculate cost per positive test

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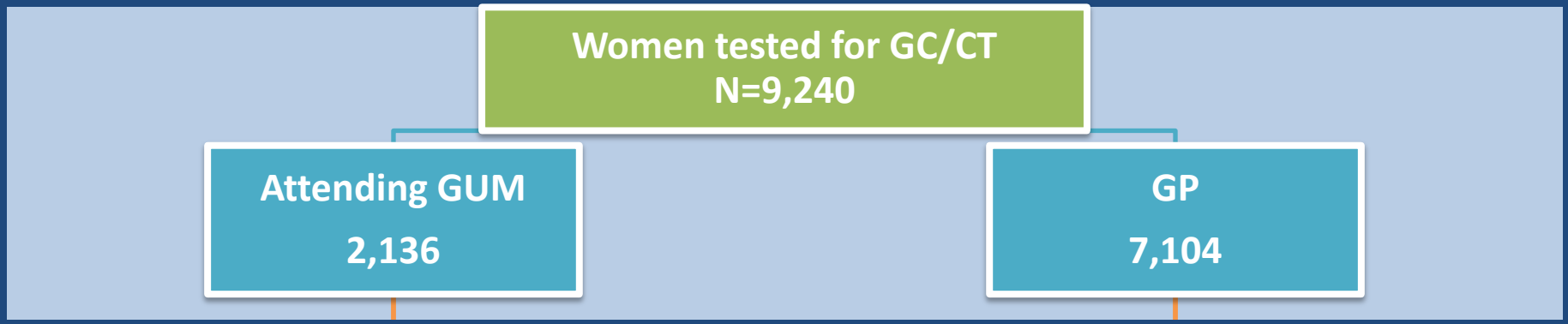
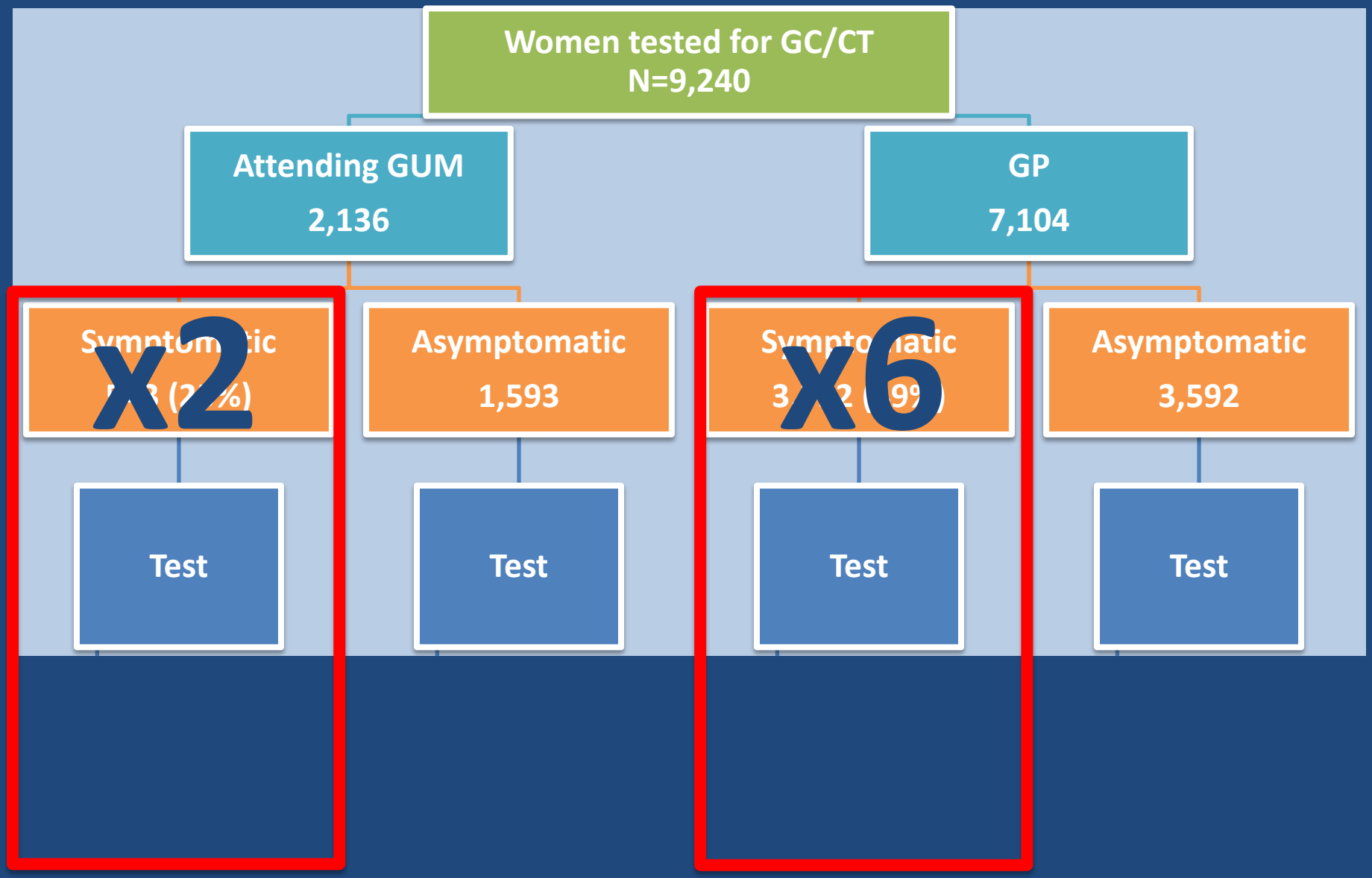
Current testing strategy (TV Micro/Cult)



New testing strategy (TV NAAT)



Costs

TV test

Added to CT/GC NAAT = **£7.62**

Standalone = **£15.19**

Microscopy + Culture = **£7.93**

Sexual health screen

Asymptomatic **£79.77*** Symptomatic **£99.38***

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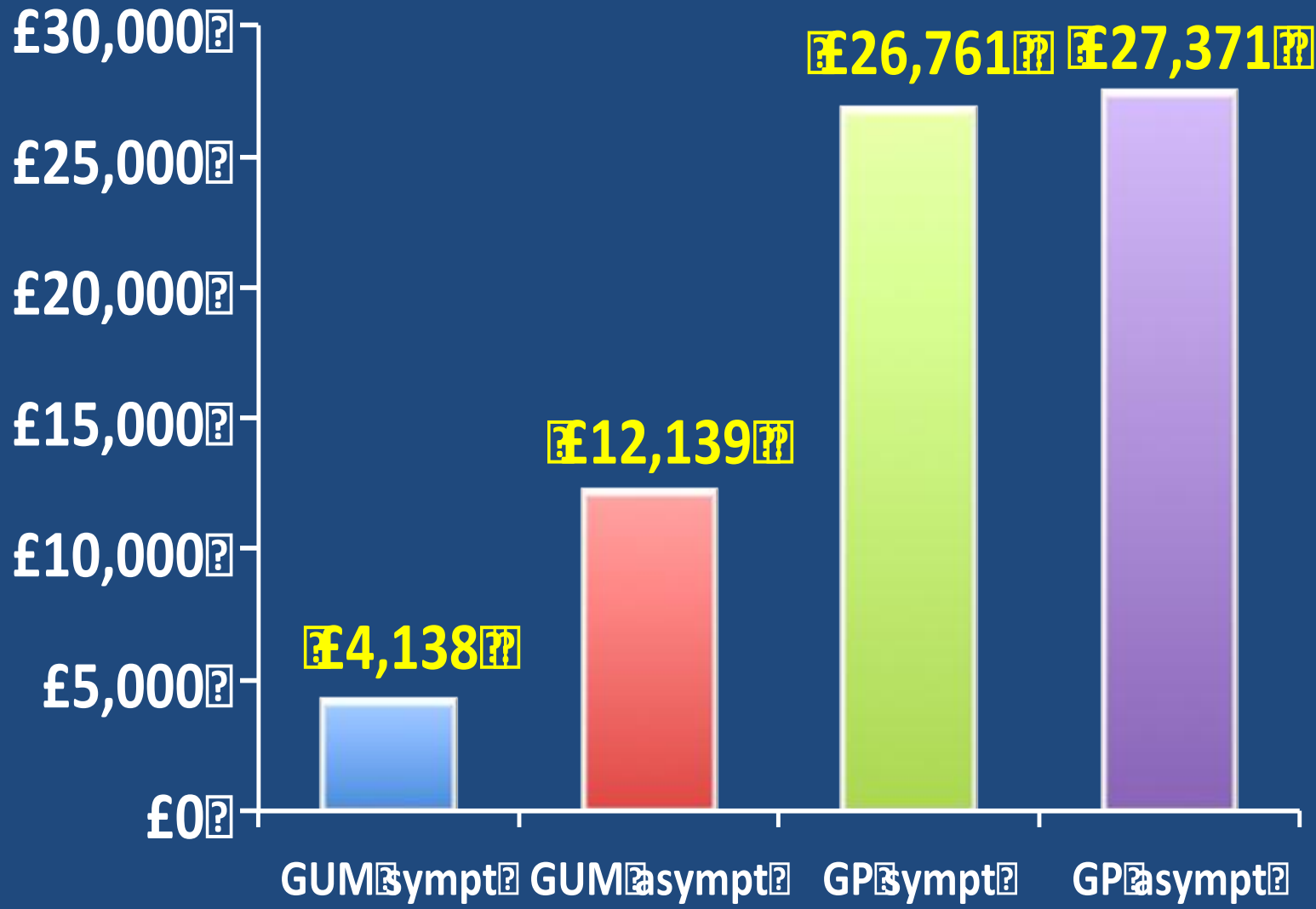
*Adams, E. J et al BMJ 2014 Open 4(7): e005322

Testing scenarios

1. All samples sent for STI testing
2. Symptomatic samples (GUM/GP)
3. Targeted high prevalence GPs
4. Combination

Cost of universal TV NAAT test



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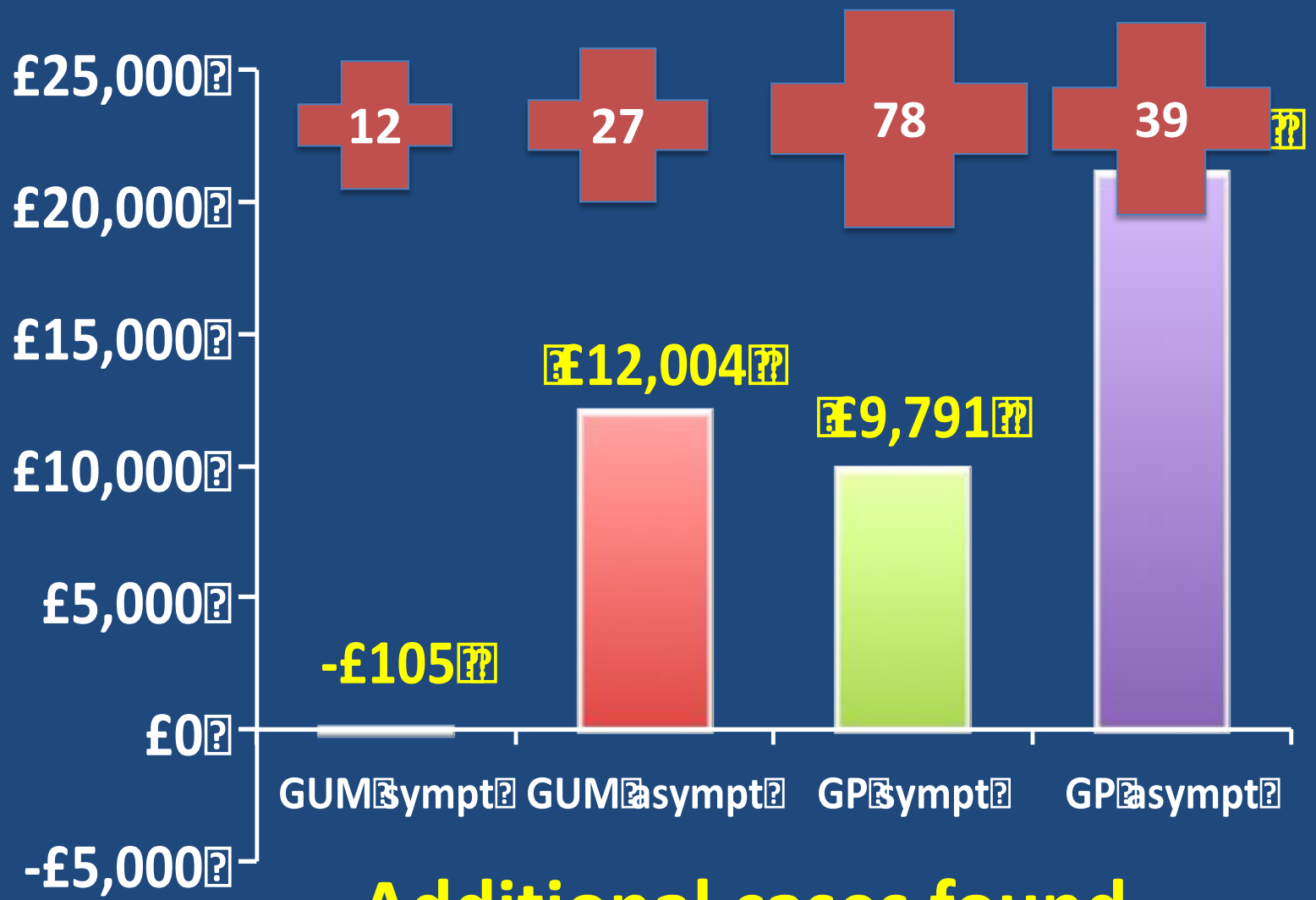
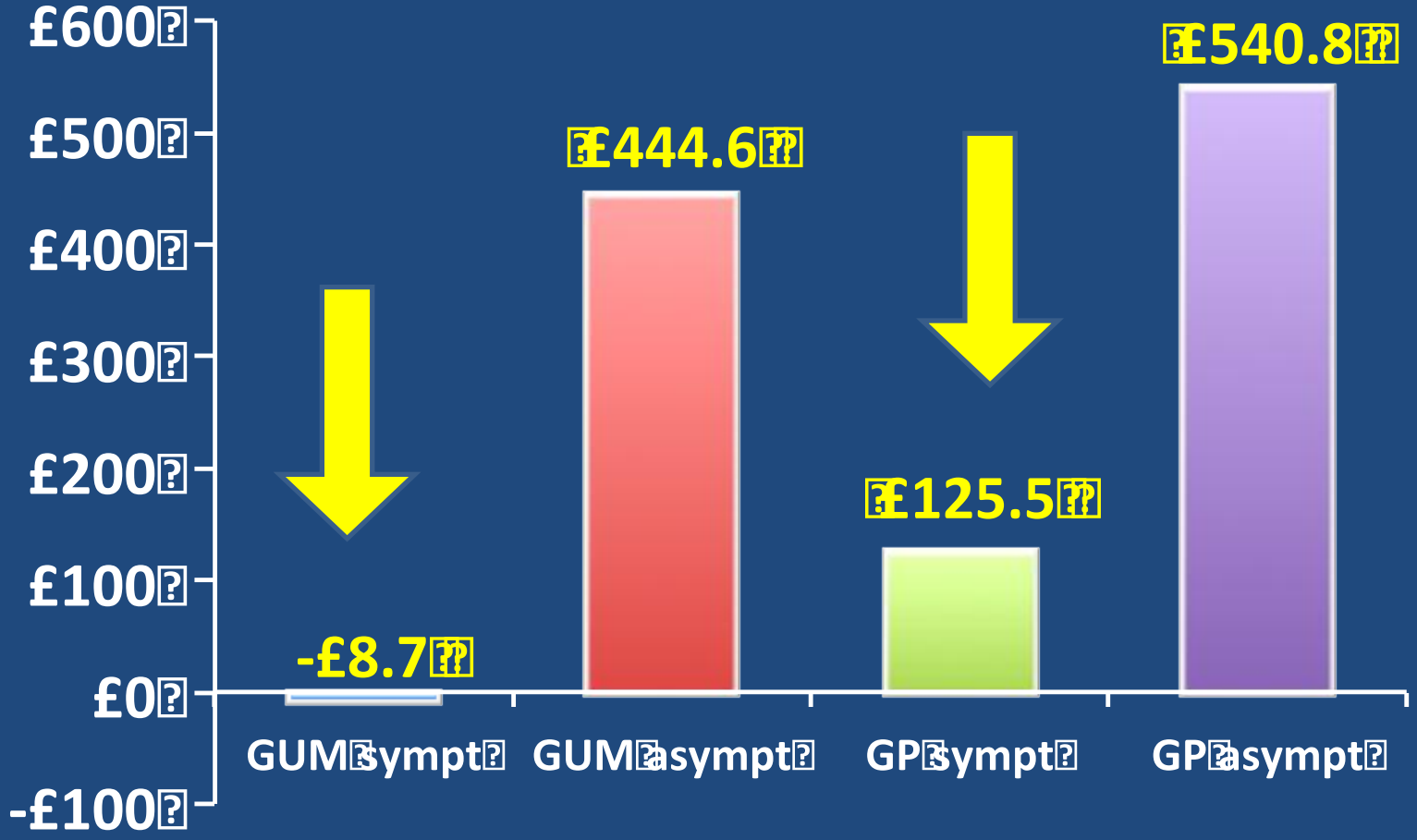
Adjusted total cost



Additional cases found

Cost per additional positive



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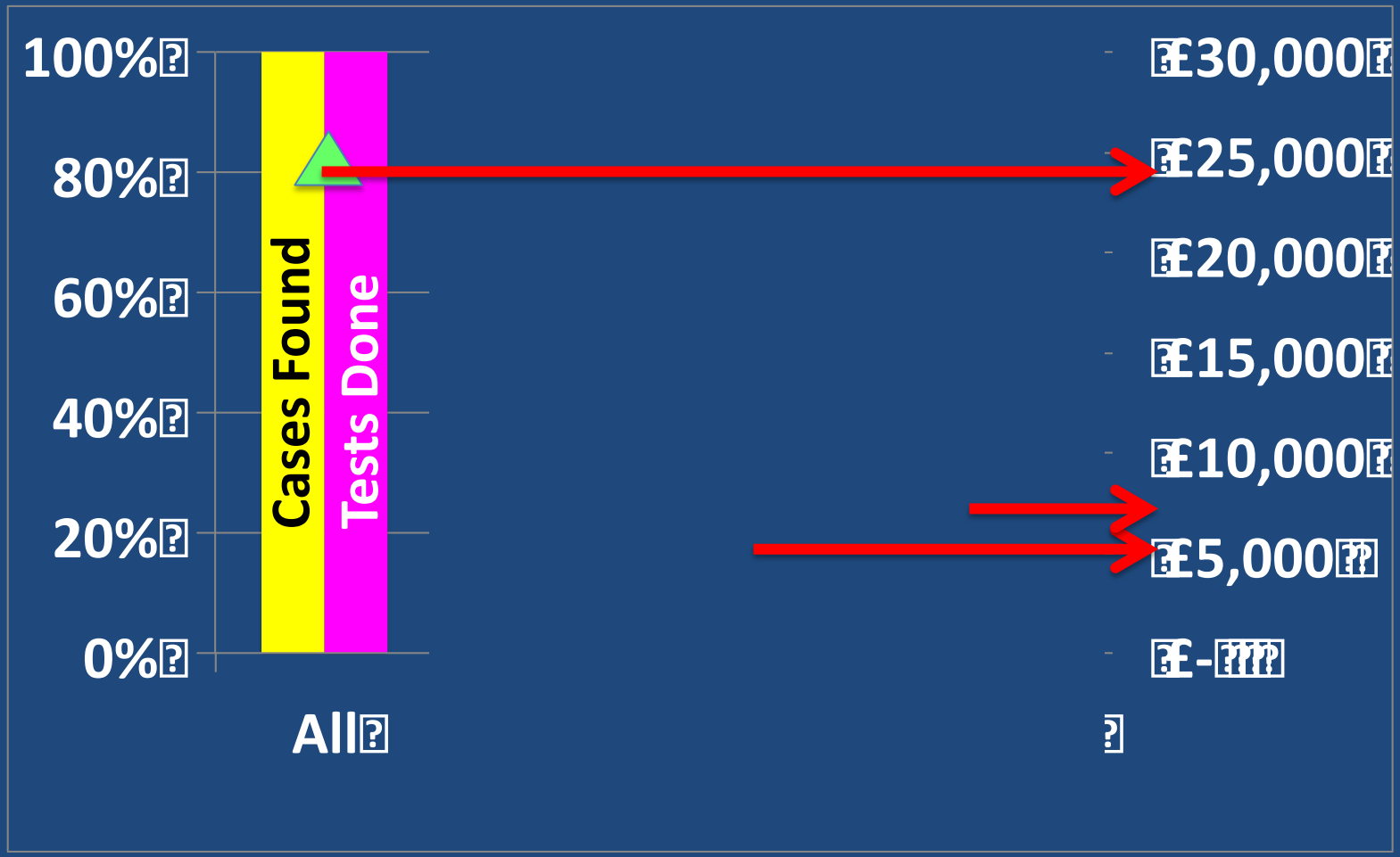
Testing scenarios



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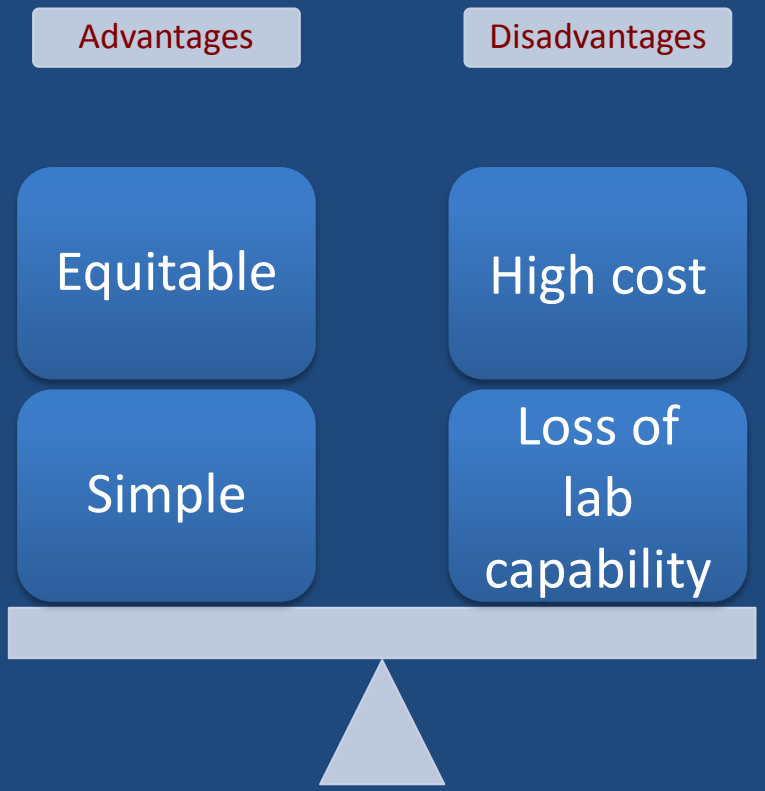
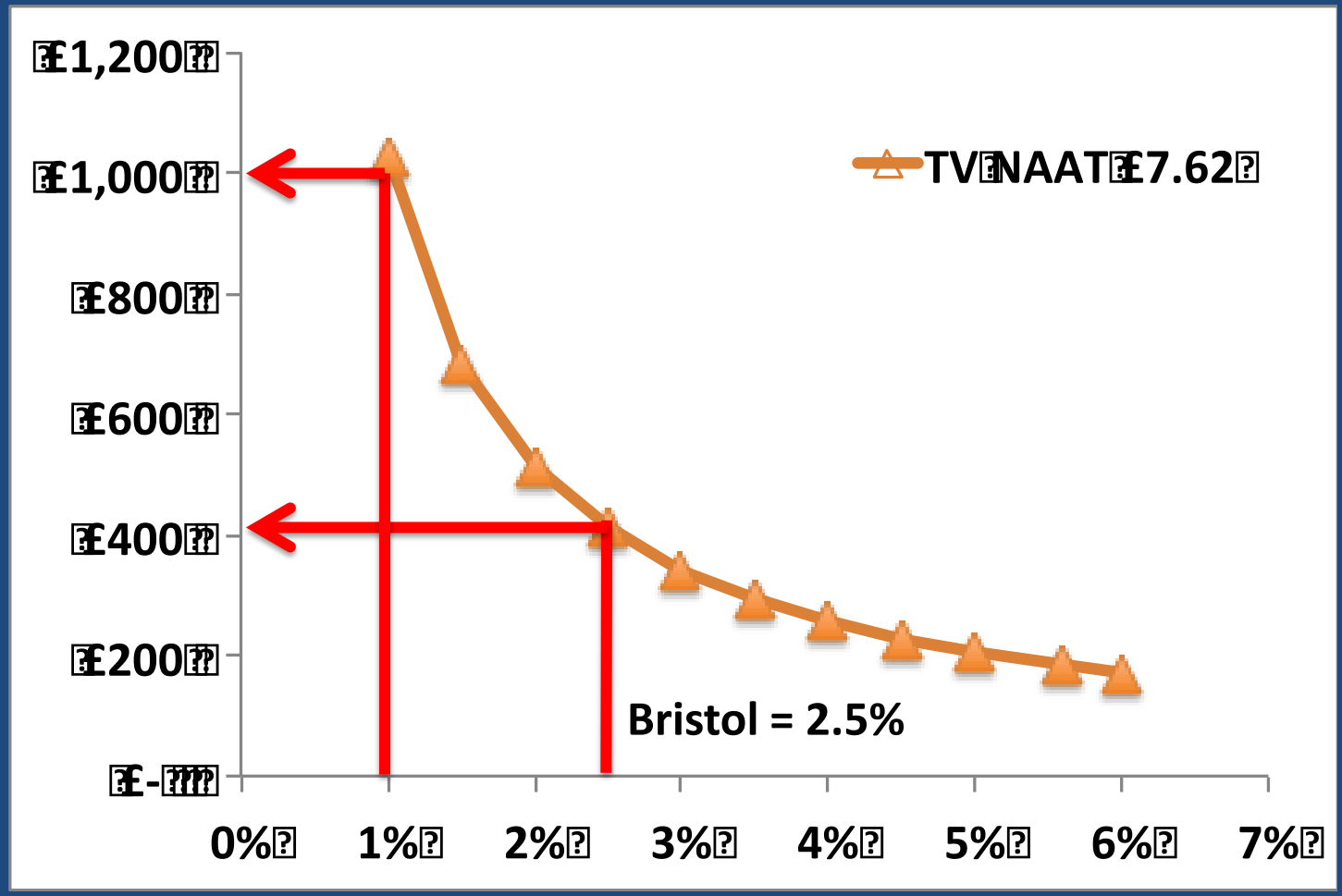
Primary Care TV Testing

Test all patients with TV NAAT, stop doing microbiology testing



Prevalence affects Cost* per TV +



*Assumptions: Existing APTIMA Platform, add TV NAAT, No change to microbiology

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Future Plans for Bristol…

GUM

- TV NAATs for symptomatic women ✔
- TV NAATs for asymptomatics too expensive ?
- Target high risk patients: age + ethnicity ?
- NAAT urine for male contacts of TV+ women ?

GP

- TV NAATs for symptomatic women ✔
- How to identify other high risk General Practices ?

  - further study !

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Conclusions

- First UK study in primary care N= 9240
- High TV positivity found (2.7% GP symptoms+)

Targeting?

- Testing symptoms+ is most cost effective
- Ethnicity alone misses >65% of cases
- Deprivation is independent risk factor
- Is there another Mystery Factor?


Mystery X-Factor
West Country
ENTHUSIASM!

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Bristol, Weston & Bath

Sexual Health Bristol

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