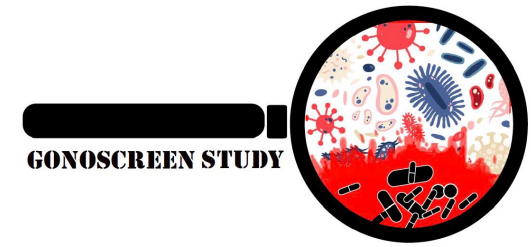


ClinicalTrials.gov Number:

NCT04269434

KCE Trials Number:

INV18-1133



Results of the GonoScreen study, what implications for screening PrEPers?



Chris Kenyon on behalf of
the trial team

1. RCTs of CT screening in low prevalence populations

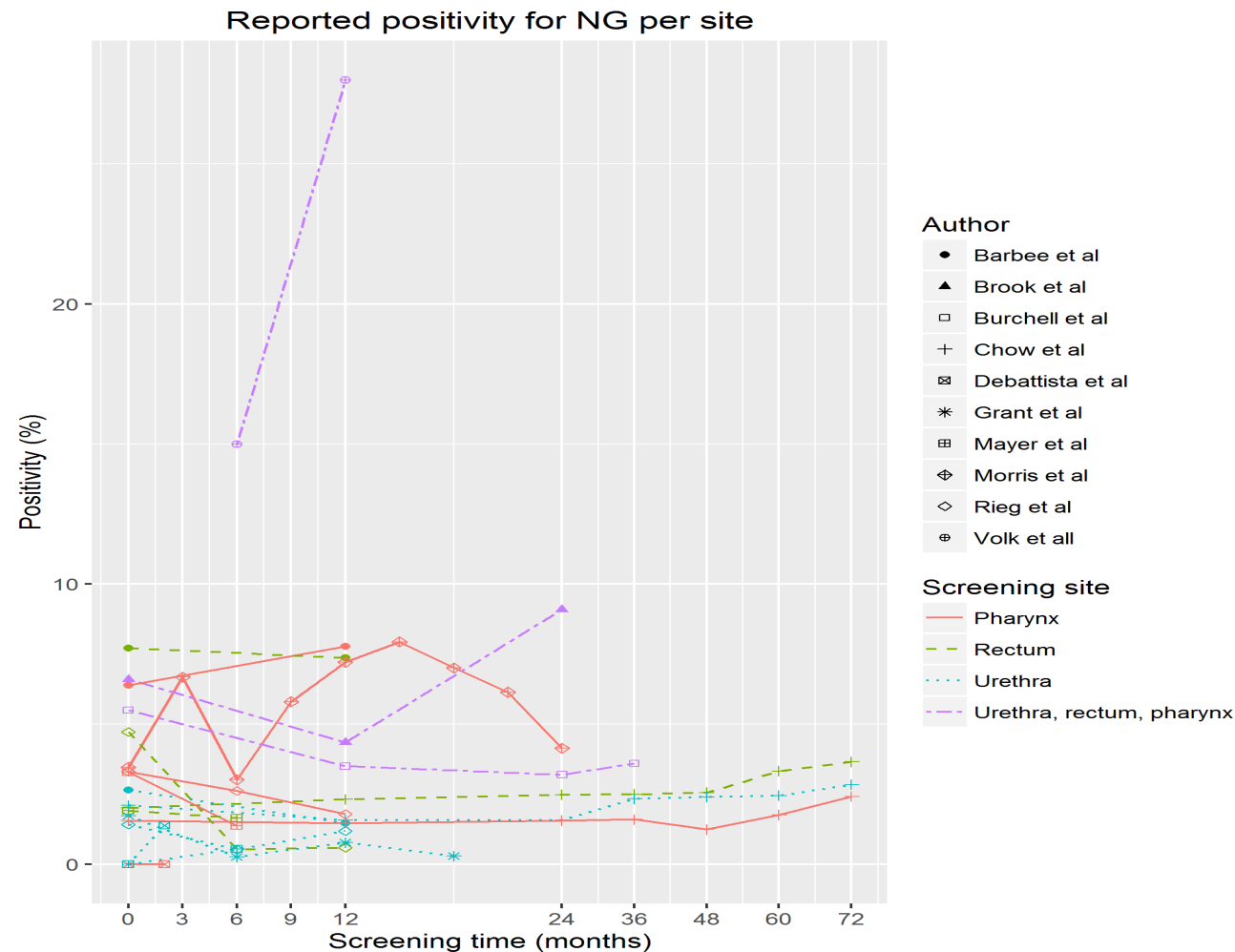
Effectiveness of yearly, register based screening for chlamydia in the Netherlands: controlled trial with randomised stepped wedge implementation

- 317 304 women and men aged 16-29 years
- No decrease in CT positivity post 3 rounds of screening

Population effectiveness of opportunistic chlamydia testing in primary care in Australia: a cluster-randomised controlled trial

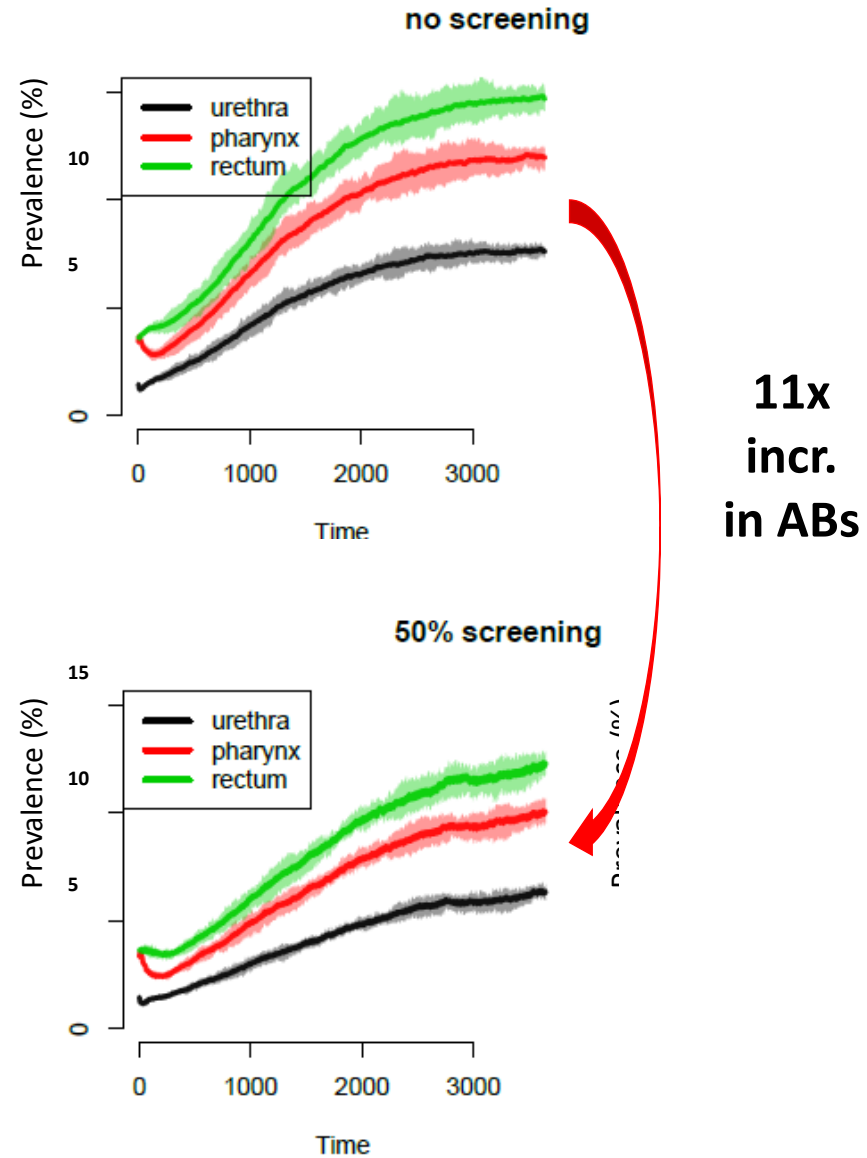
- 93 828 young adults attended intervention clinics and 86 527 attended control clinics
- No difference in CT prevalence

2. Systematic review of observational studies: efficacy of Ng/Ct screening on prevalence in MSM



3. Modelling studies

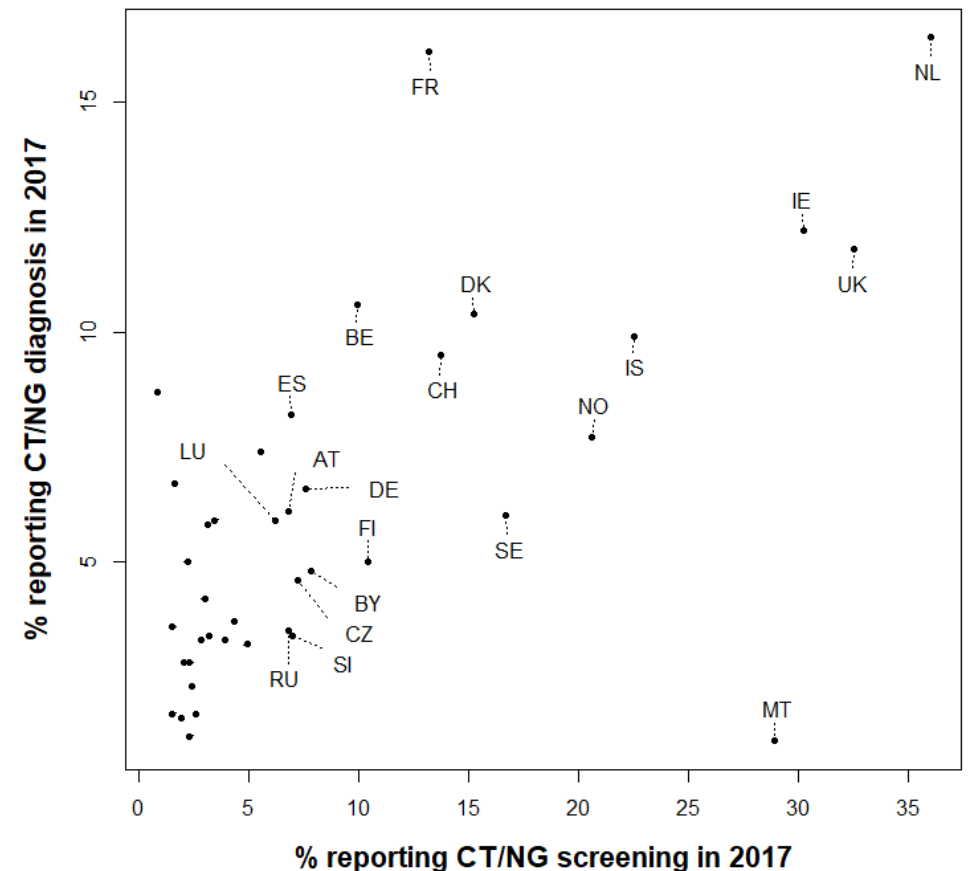
- Individual based model
- STERGM
- Parameters from Belgian MSM
- EMIS 2014



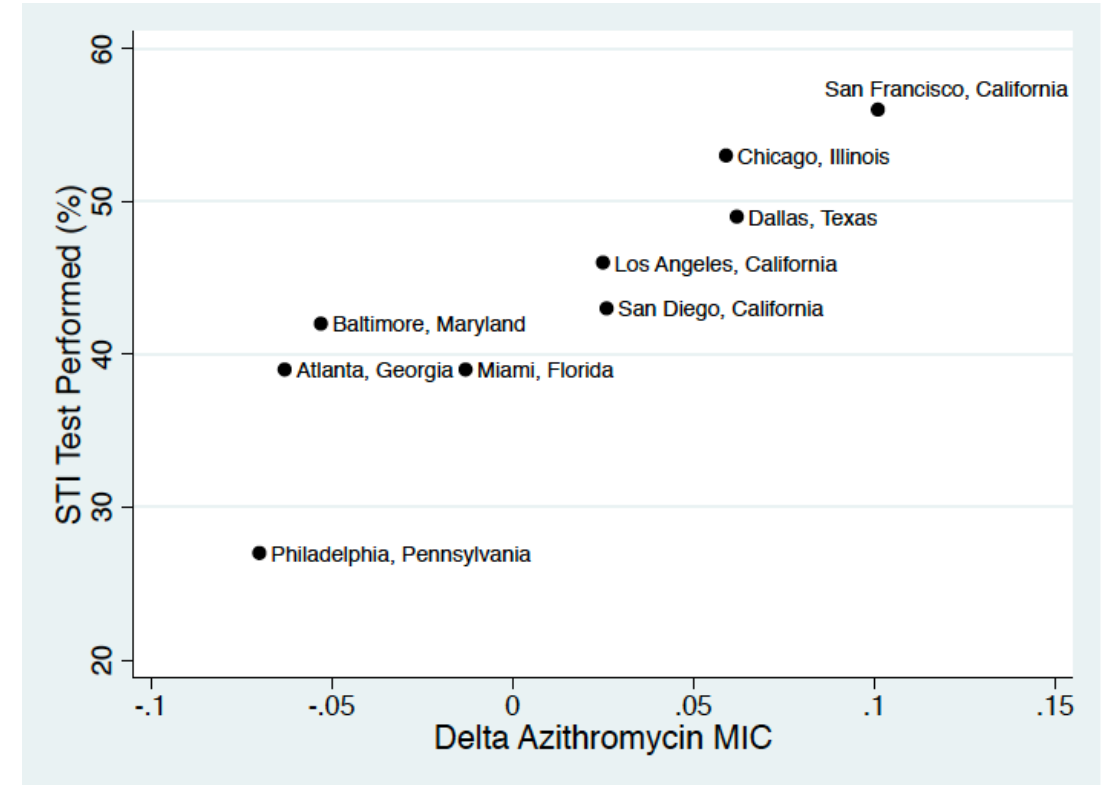
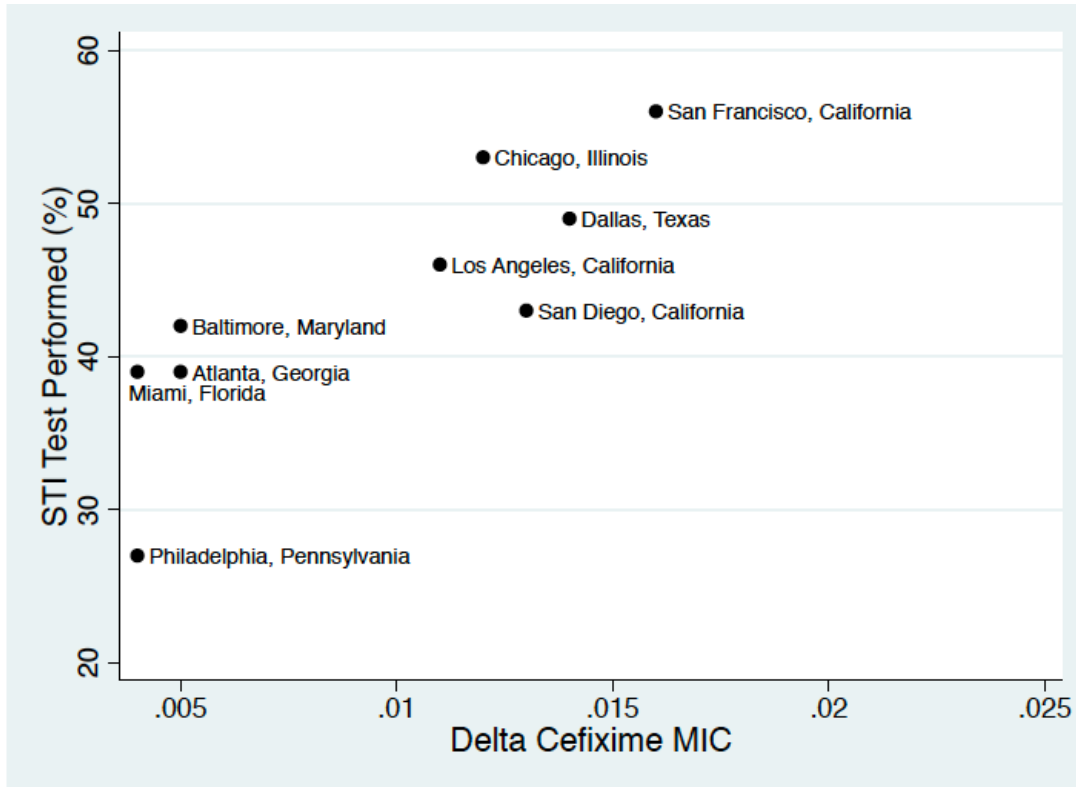
4. Ecological evidence from EU

Screening not associated with ↓ Ng/Ct prevalence

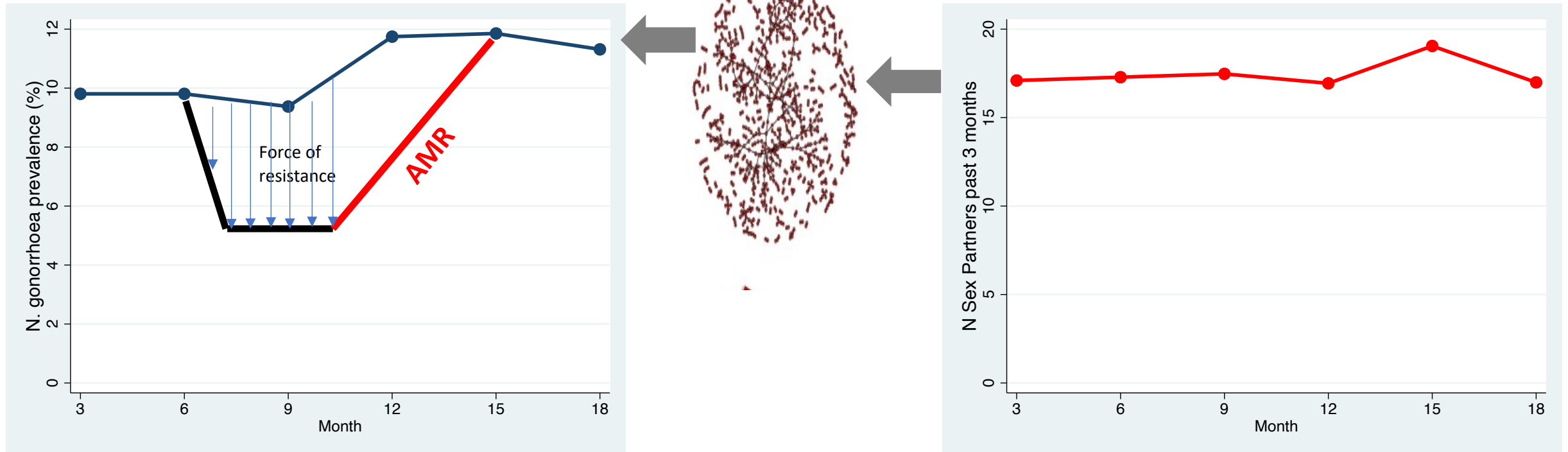
- Proportion MSM reporting STI screening in EMIS
 - VS.
- Ct/Ng incidence in MSM in:
 - EMIS & ECDC Surveillance



5. Ng/Ct Screening intensity in MSM associated with Ng MIC -USA



6. Using ABs to ↓ STI prevalence below equilibrium STI prevalence -> AMR



Wilson's Criteria for introducing screening

- 1 The condition being screened for should be an important health problem
- 2 The natural history of the condition should be well understood
- 3 There should be a detectable early stage
- 4 Treatment at an early stage should be of more benefit than at a later stage
- 5 A suitable test should be devised for the early stage
- 6 The test should be acceptable
- 7 Intervals for repeating the test should be determined
- 8 Adequate health service provision should be made for the extra clinical workload resulting from screening
- 9 The risks, both physical and psychological, should be less than the benefits
- 10 The costs should be balanced against the benefits

UK National Screening Committee criteria

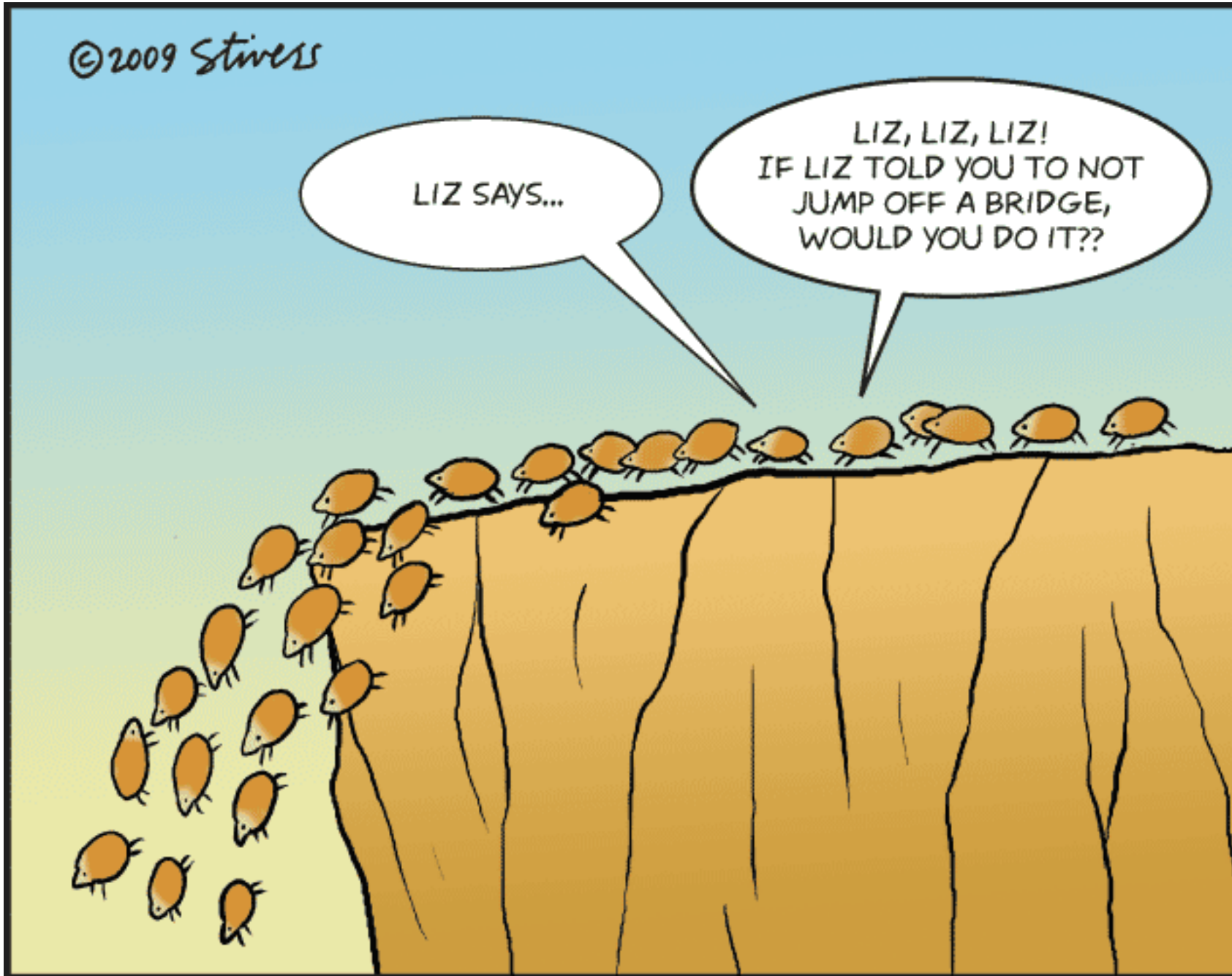
There should be evidence from high-quality RCTs that the screening reduces mortality or morbidity

O

©2009 Stivers

LIZ SAYS...

LIZ, LIZ, LIZ!
IF LIZ TOLD YOU TO NOT
JUMP OFF A BRIDGE,
WOULD YOU DO IT??



The Gonoscreen study

- Study design:

- Randomized, multicenter, controlled clinical trial of 3-site (oro-pharyngeal, ano-rectal, urethral), 3-monthly screening for Ng/Ct versus non-screening among MSM taking HIV-PrEP.



- September 2020 – August 2022

Study objectives

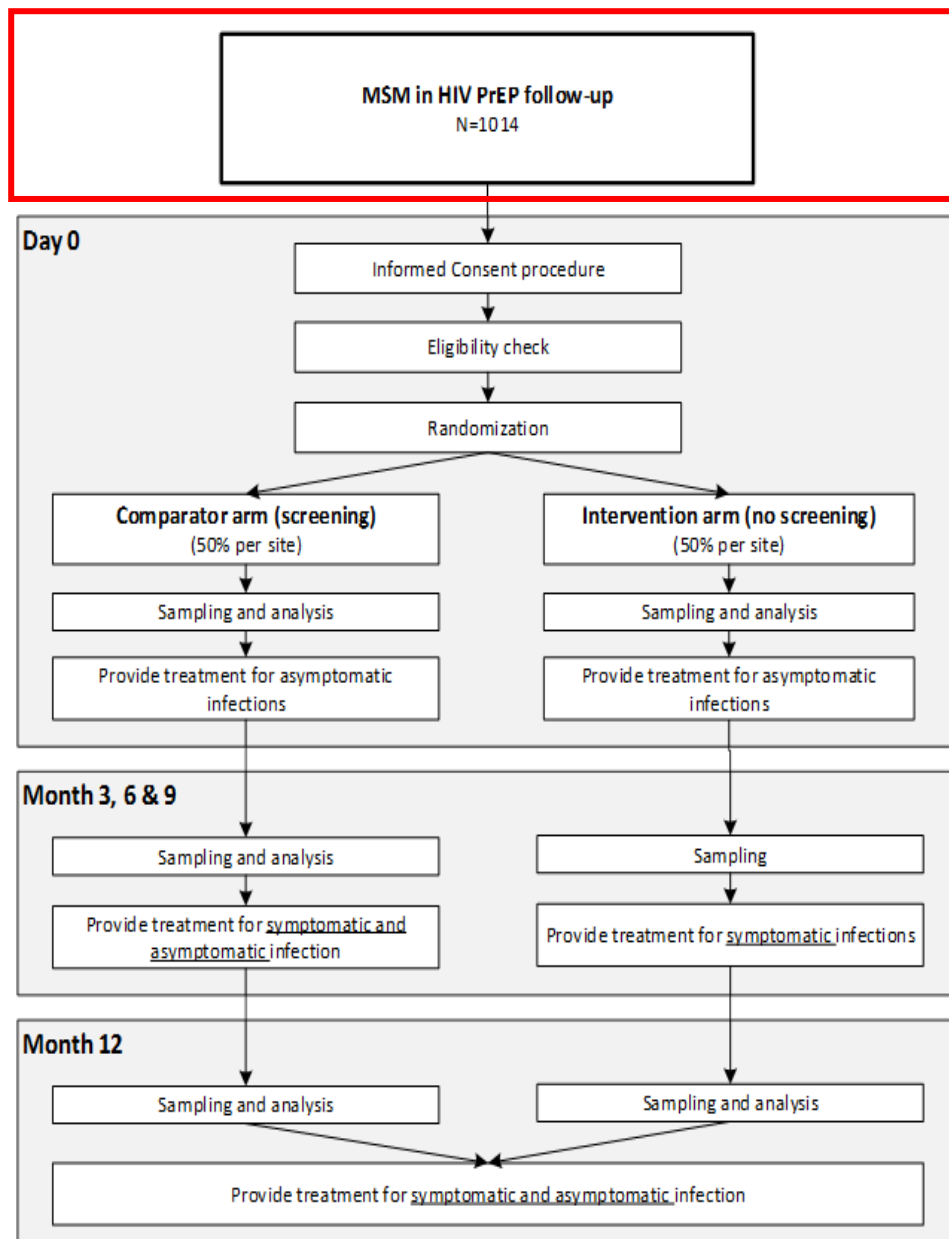
- Primary objective

- To assess if **not** screening MSM on HIV-PrEP for **Ng/Ct** is non-inferior compared to screening in terms of the **incidence rate** of these infections over a 12-month period

- Secondary objective

- To assess **antimicrobial exposure** (ceftriaxone/azithromycin/doxycycline) in both arms
- ...

Non-screening arm proven to be non-inferior if the upper limit of the 95% CI of the IRR (non-screening vs screening) lower than 1.25

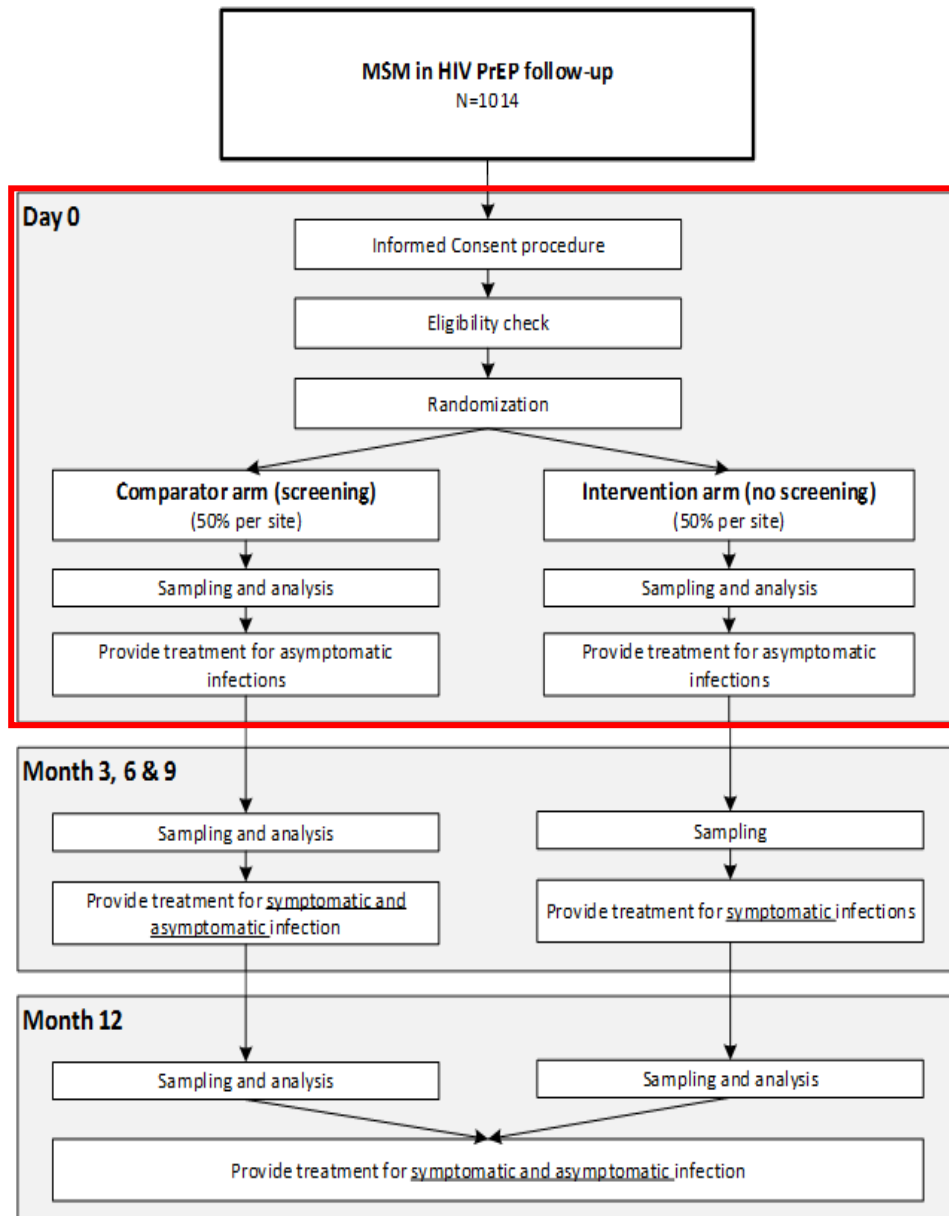


■ **Inclusion criteria:**

- Able and willing to provide informed consent
- Men (born as males) and transwomen aged 18 or more
- Has had sex with another man in the last 12 months
- Enrolled in Belgian PrEP program
- Willing to comply with the study procedures

■ **Exclusion criteria:**

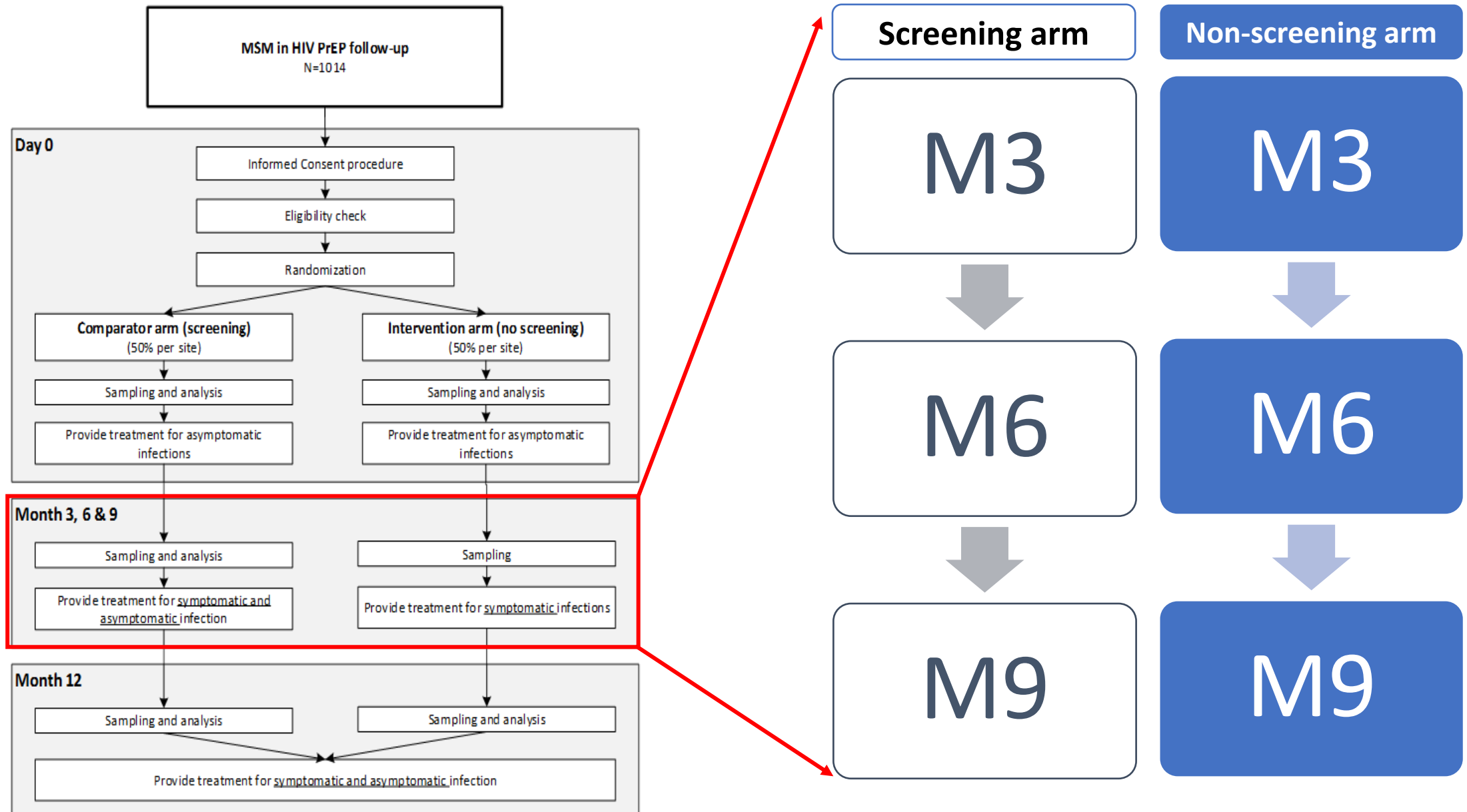
- Enrolment in another interventional trial
- Tests HIV-positive at screening
- Symptoms of proctitis or urethritis

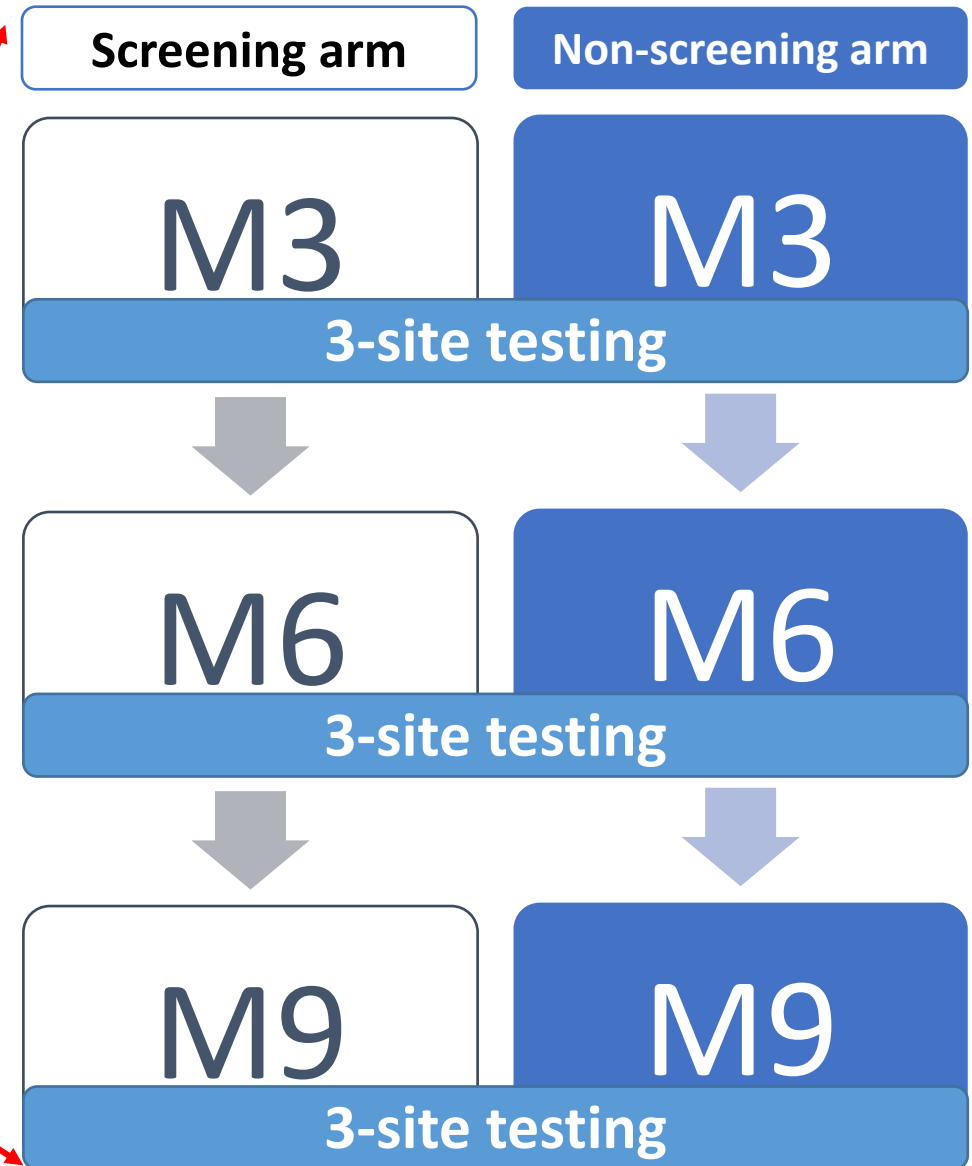
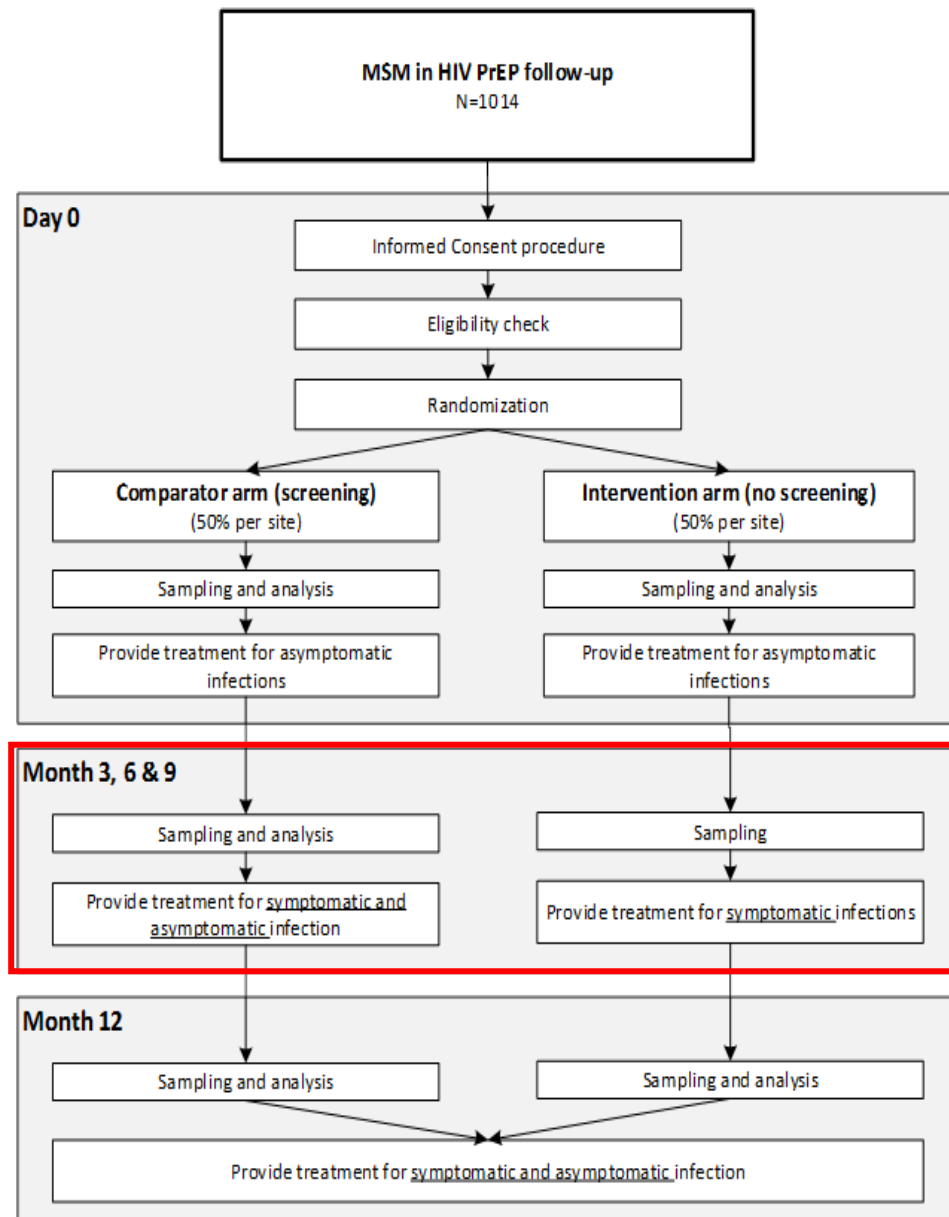


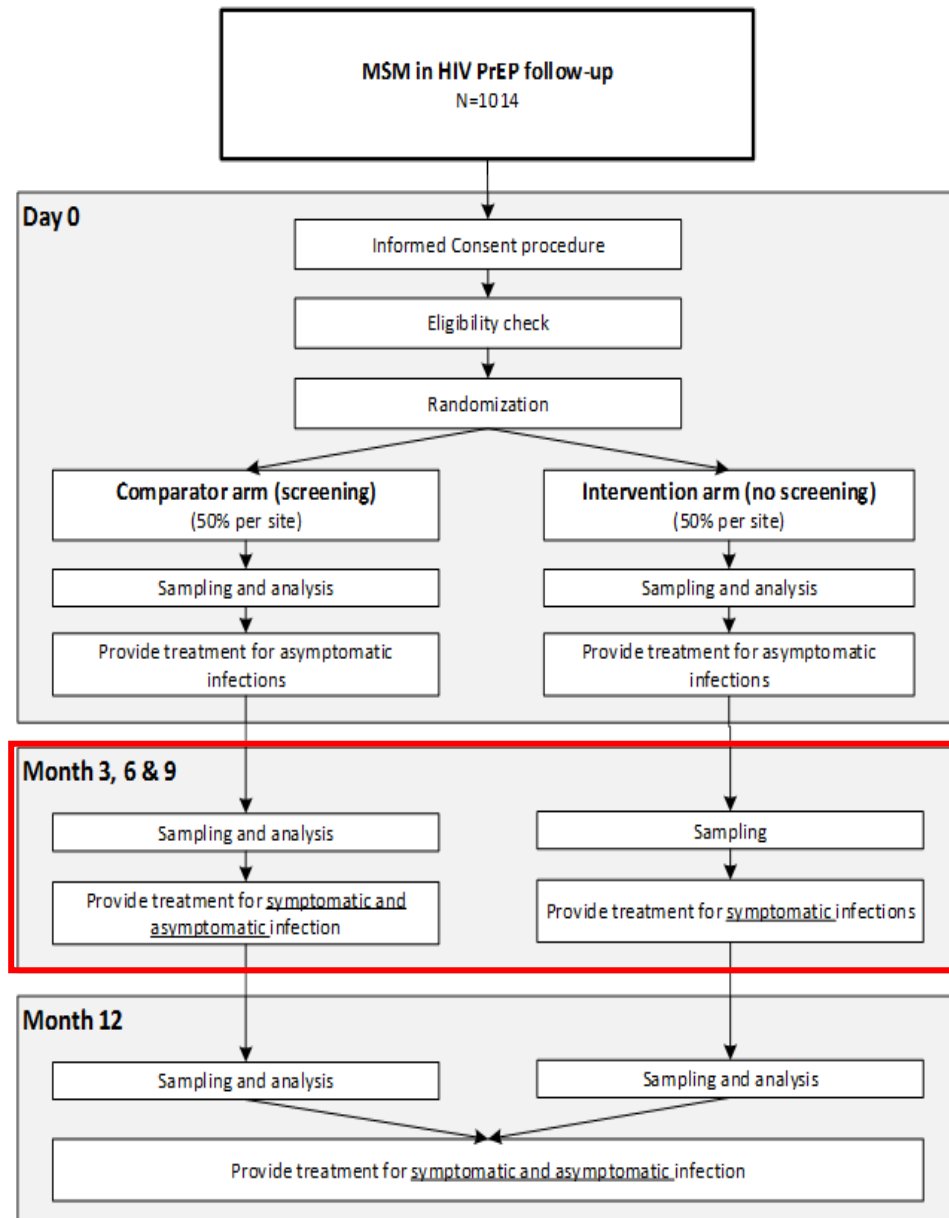
3-site testing for Ct and Ng (PCR)

- oro-pharyngeal swab
 - ano-rectal swab
 - urine sample
- => pooled sample

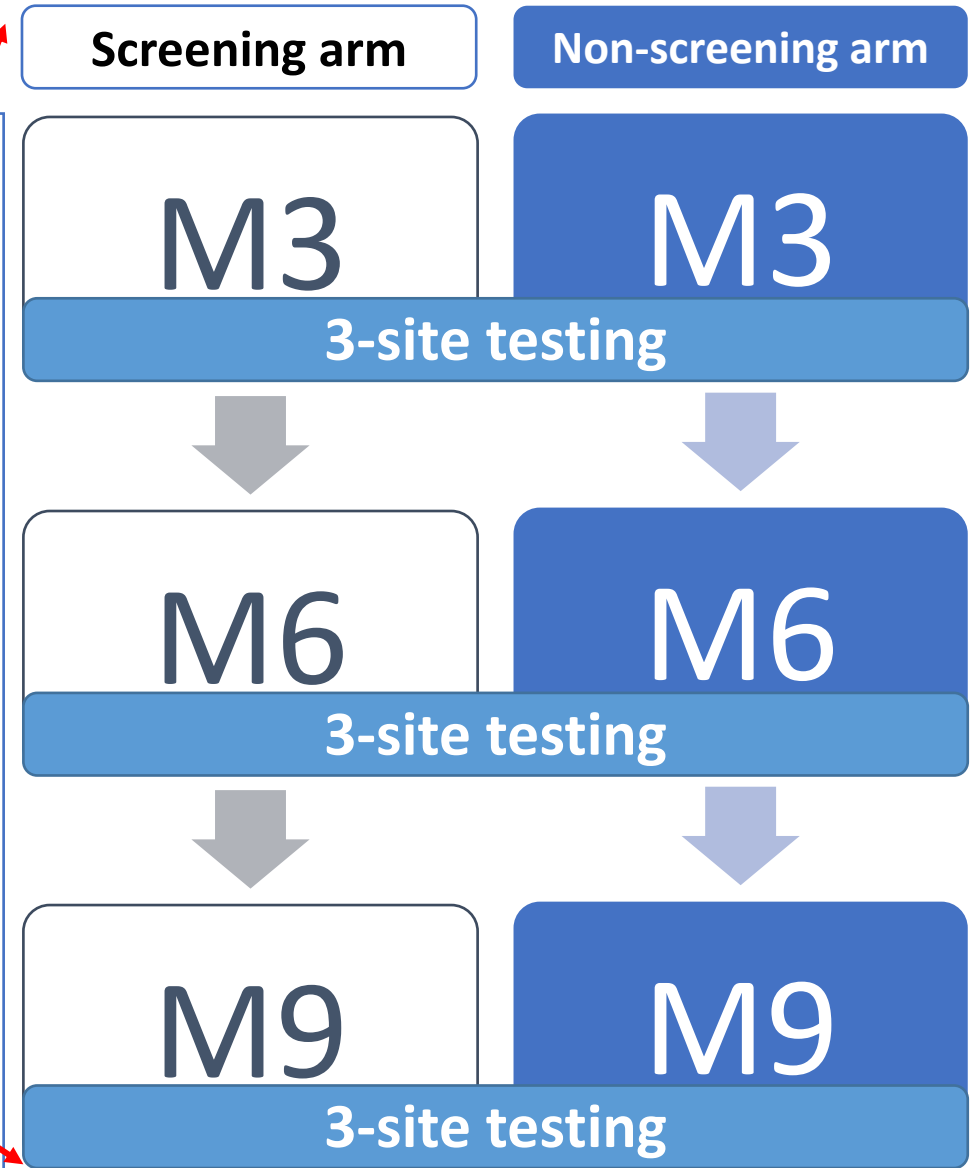
R/ all positives

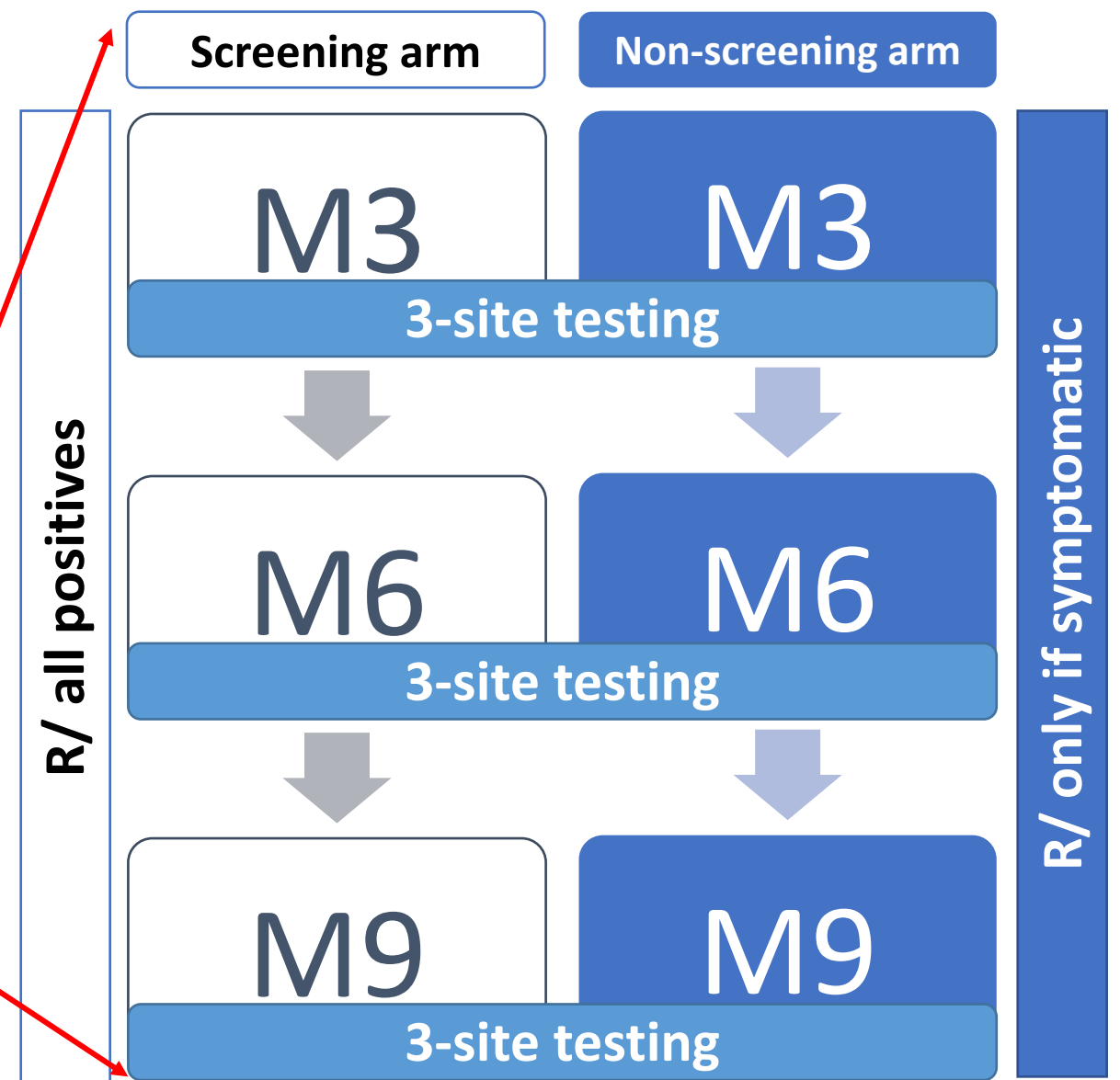
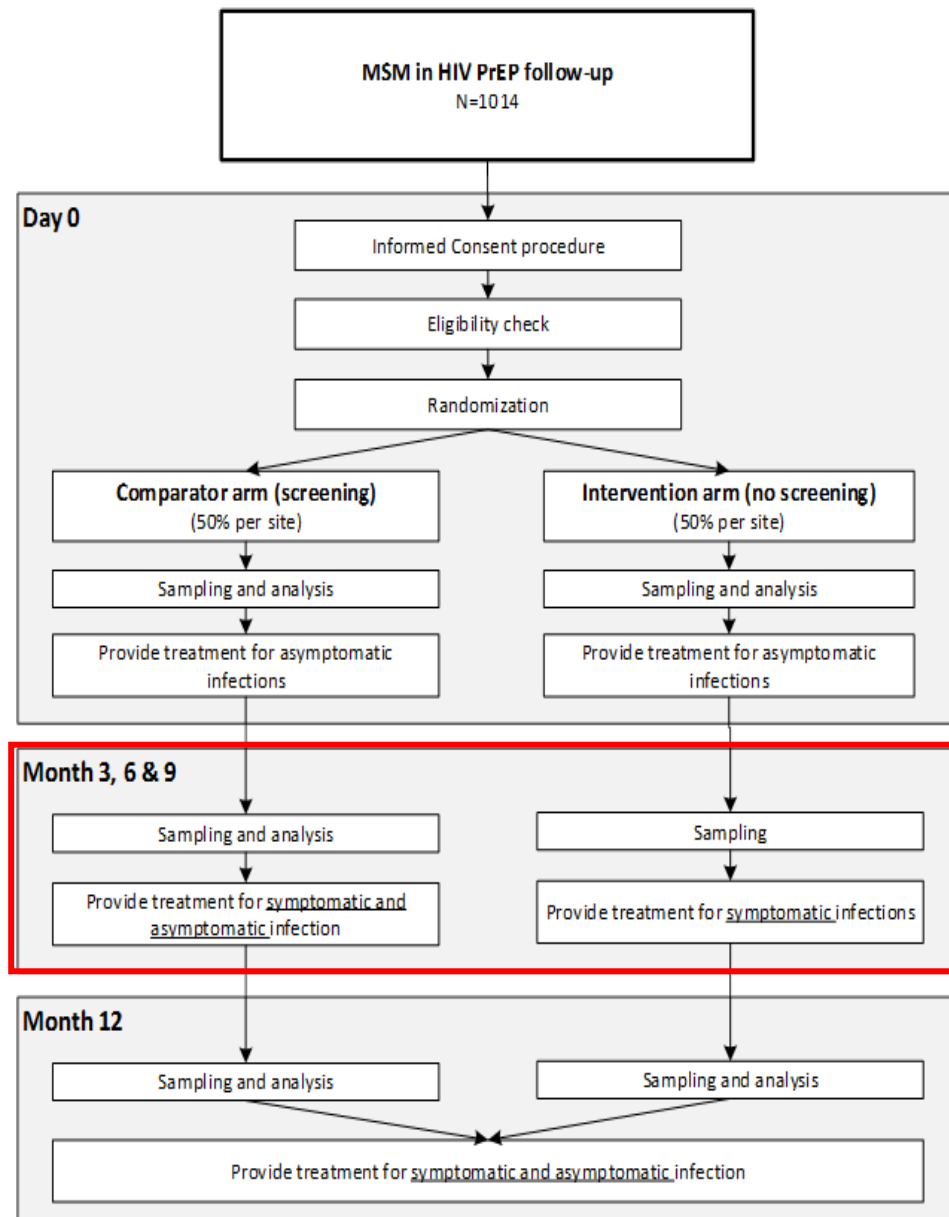


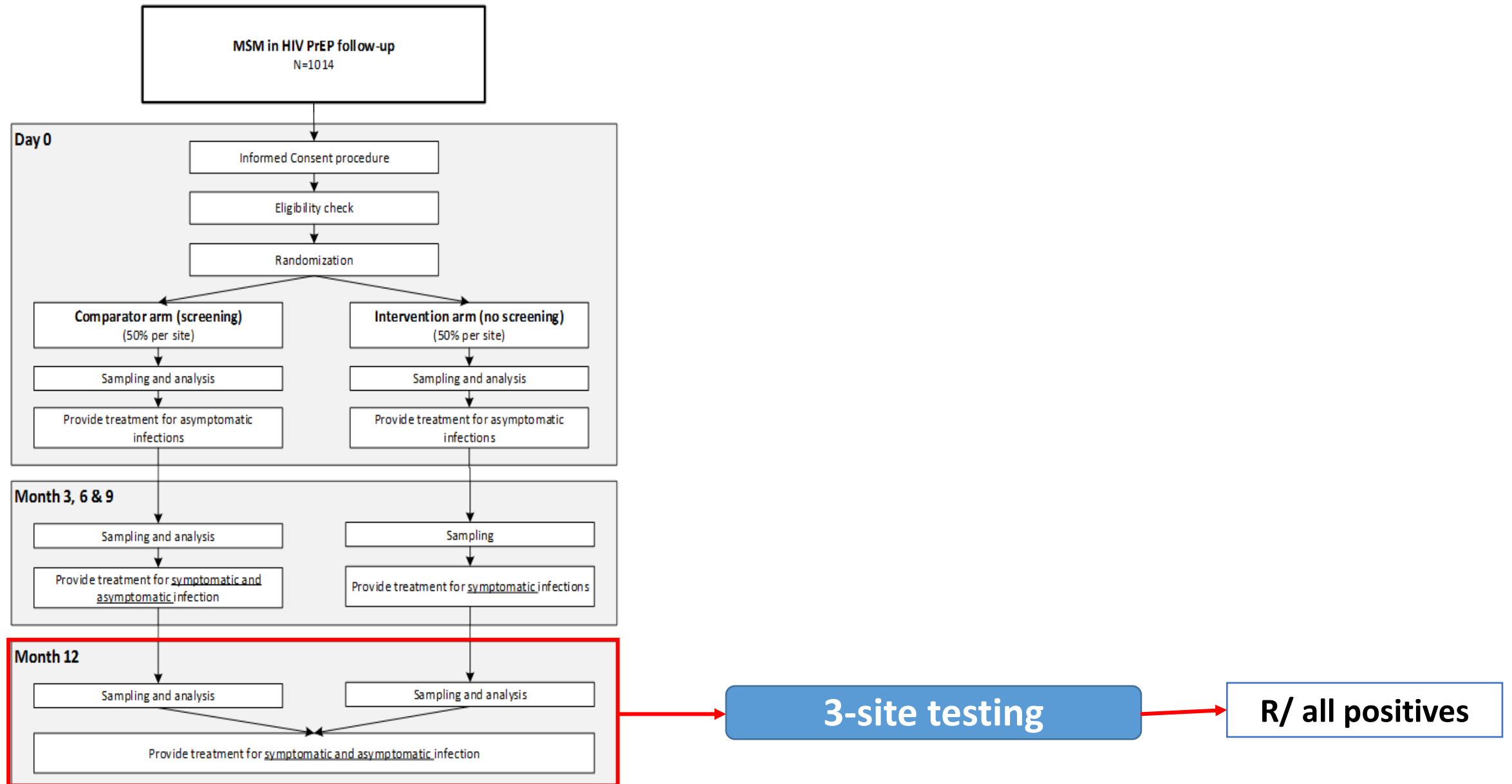




R/ all positives



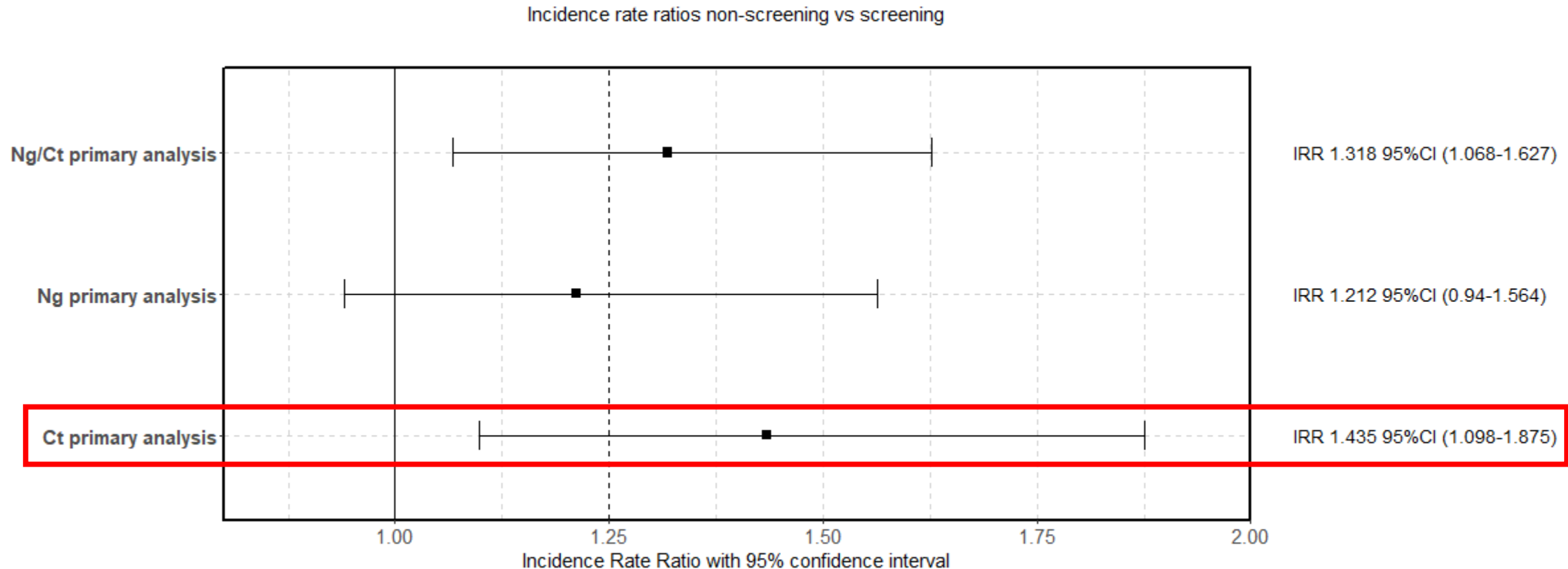




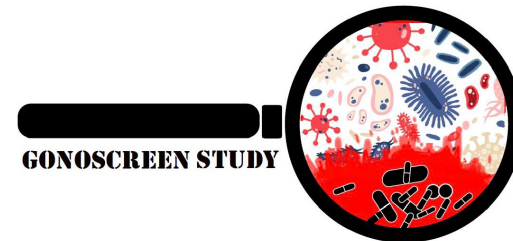
Baseline characteristics

	3 x 3 Screening (N=506) n (%) / Median (IQR)	Non-screening (N=508) n (%) / Median (IQR)	Total population (N=1014) n (%) / Median (IQR)
Age	39 (33 - 47)	39 (32.5 - 48)	39 (33 - 47)
Sex: Man	506 (100%)	505 (99.4%)	1011 (99.7%)
Sex: Transwoman	0 (0%)	3 (0.6%)	3 (0.3%)
Number of sex partners (past 3 months)	4 (2 - 8)	4 (2 - 8)	4 (2 - 8)
Number of unprotected sex partners (past 3 months)	2 (1 - 5)	2 (1 - 5)	2 (1 - 5)
Any antibiotic (past 6 months)	192 (37.9%)	173 (34.1%)	365 (36.0%)
Cephalosporins	67 (13.2%)	77 (15.2%)	144 (14.2%)
Macrolides	81 (16.0%)	94 (18.5%)	175 (17.3%)
Penicillins	63 (12.5%)	47 (9.3%)	110 (10.8%)
Quinolones	11 (2.2%)	5 (1.0%)	16 (1.6%)
Tetracyclines	57 (11.3%)	54 (10.6%)	111 (10.9%)

Primary analysis



Unresolved infections bias in the non-screening arm



GONOSCREEN STUDY

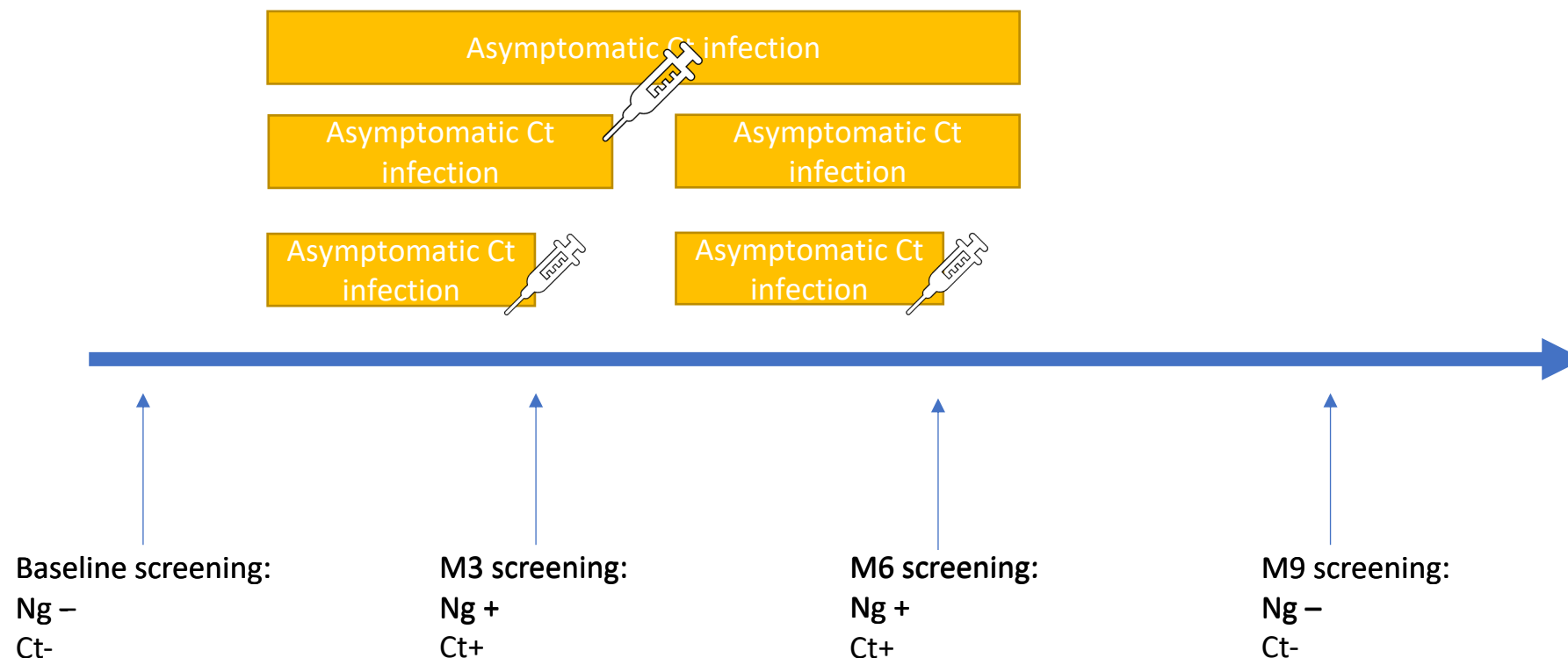
Primary analysis = 2 infections

Sensitivity analysis = 1 infection ... unless evidence of the use of an effective antibiotic against the pathogen

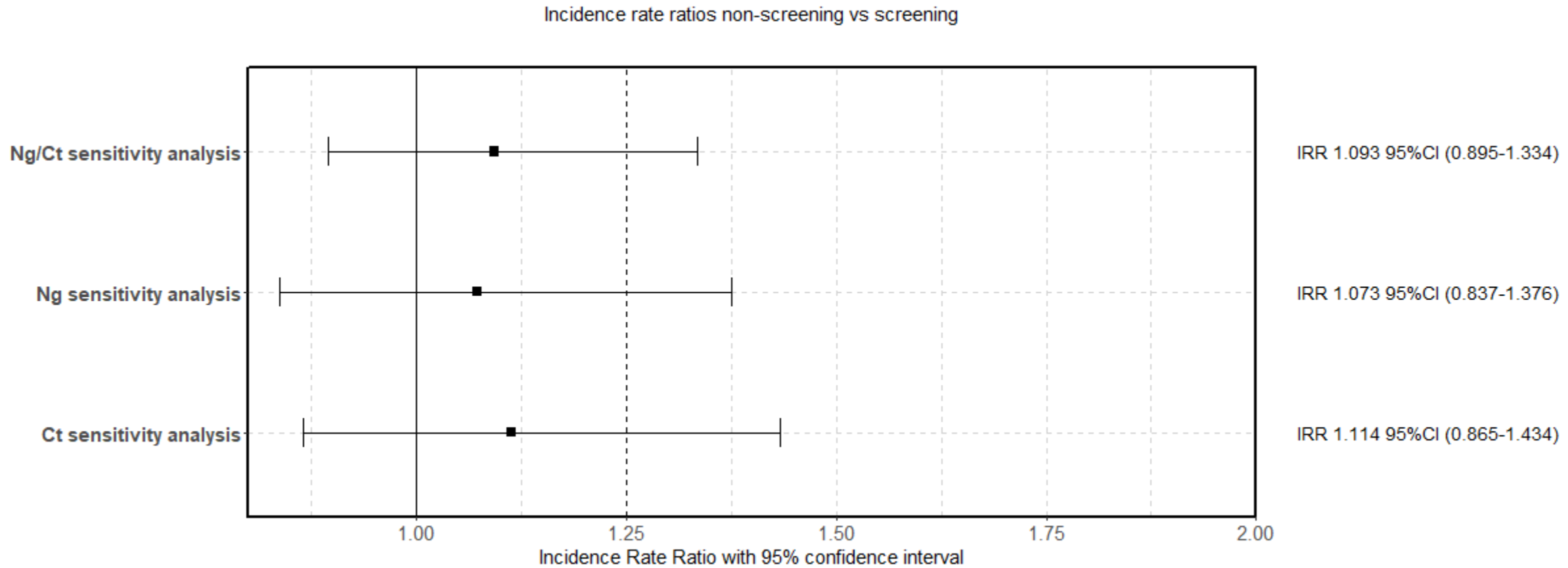
Non-screening arm

Non-screening arm

Screening arm

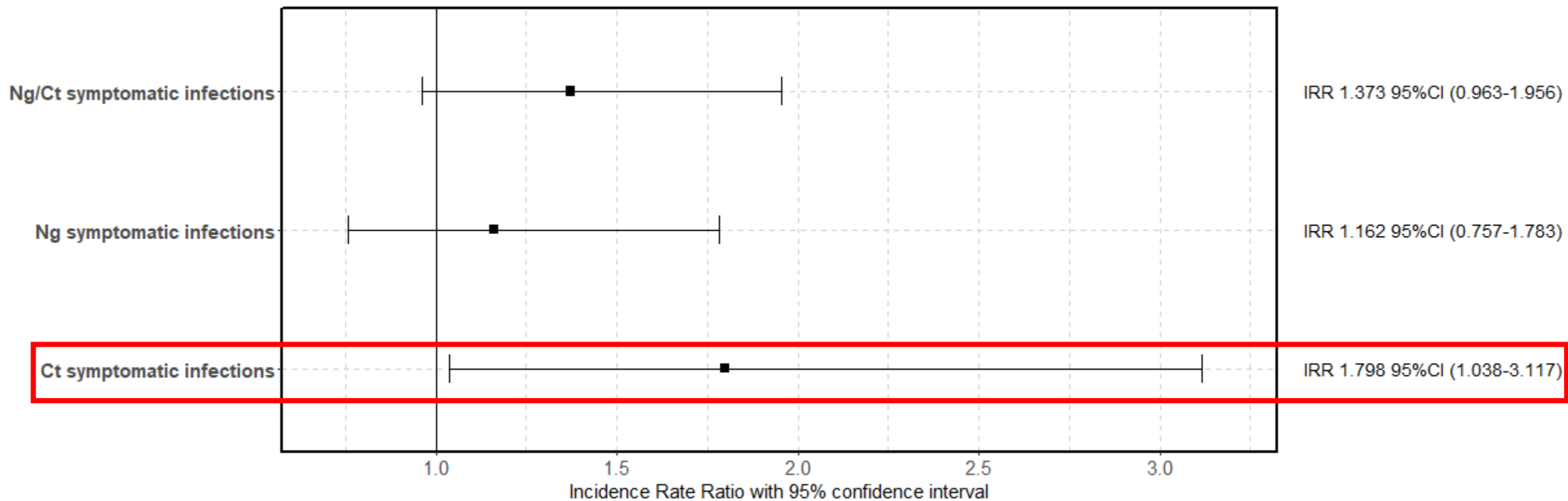


Sensitivity analysis



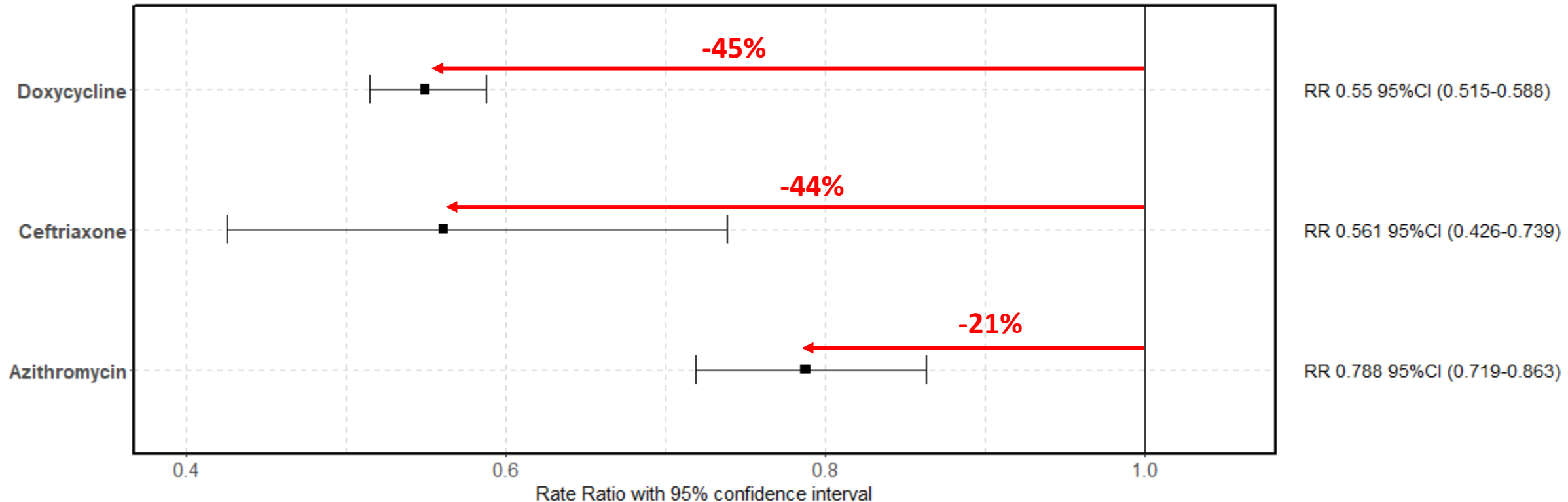
Symptomatic infections

Incidence rate ratios non-screening vs screening



Antimicrobial consumption

Rate ratios non-screening vs screening



Conclusion

- Screening for Ng/Ct in MSM -> ↓ incidence of Ct but not Ng
- This effect disappears when controlling for the untreated infection bias
- Screening for Ng/Ct leads to a substantial increase in antimicrobial consumption
- Screening leads to more harm than benefit

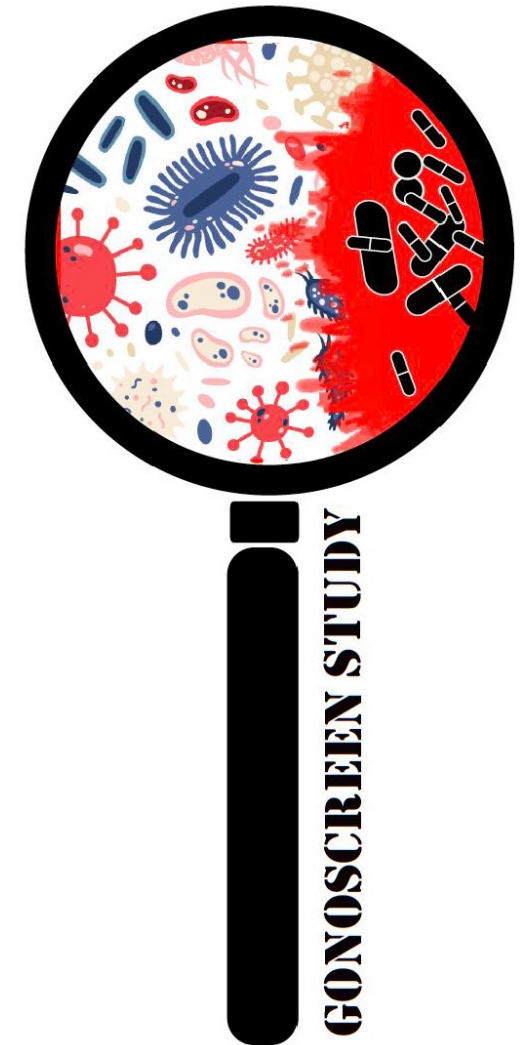
Advice for MSM (on PrEP)

- Test for CT/NG if symptoms (incl. culture NG)
- If no symptoms:
 - Do test for HIV/HCV/syphilis as appropriate
 - Only test for NG/CT if:
 - They have sex with women
 - Their partner has NG/CT
 - They have a strong preference for NG/CT screening

“Should I be tested for Ng/Ct?”

- “Paul”

- 38yo MSM on daily PrEP x 18mo
- 5 partners per 3 months, versa
- No condoms
- No STIs prior to PrEP
- Since on PrEP:
 - Ng x 3
 - Ct x 4
 - Mg x 3asymptomatic
- Vomited after last Ng treatment (CRO 1g, AZM 2g)
- Sick of injections
- No change in sex behaviour since on PrEP
 - STIs detected on PrEP are a function of screening

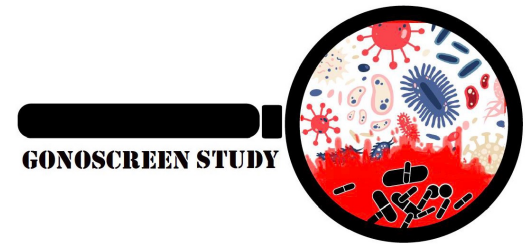


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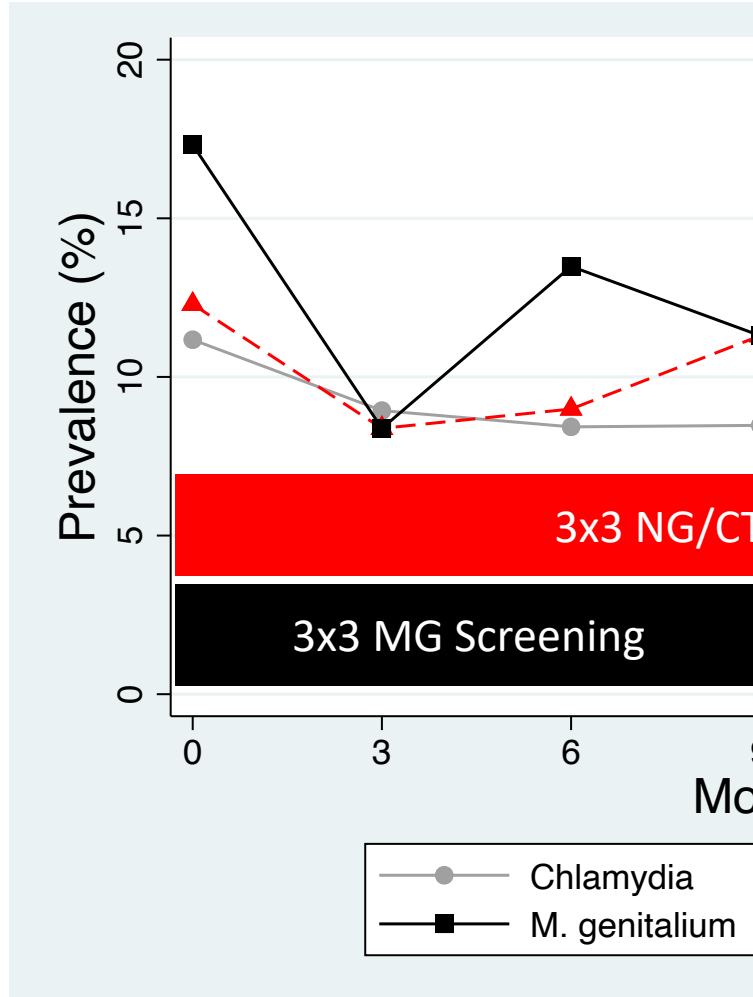


Profound thanks to all the study participants and colleagues at all 5 centers

Thibaut Vanbaelen, Achilleas Tsoumanis, Eric Florence, Christophe Van Dijck, Diana Huis in't Veld, AnneSophie Sauvage, Natacha Herssens, Irith DeBaetselier, Anke Rotsaert, Veronique Verhoeven, Sophie Henrard, Yven Van Herrewwege, Dorien Van den Bossche, Jean Christophe Goffard, Elizaveta Padalko, Thijs Reyniers, Bea Vuylsteke, Marie Pierre Hayette, Agnes Libois, Chris Kenyon



↓ screening -> ↓↓ AB consumption



AB consumption:

- FQ – 38 fold lower
- Macrolides – 2 fold lower

Changing from 3x3 to 6x1 NG/CT screening

-> 6-fold decline in macrolide consumption

	3x3 Period	1x6 Period
Tests/client/year	12	2.1
Macrolide consumption (DDD/1000p/yr)	4398	766

6. Mass gonorrhoea treatment- Greenland

