

HIV Prevention in Latin America-setting the stage

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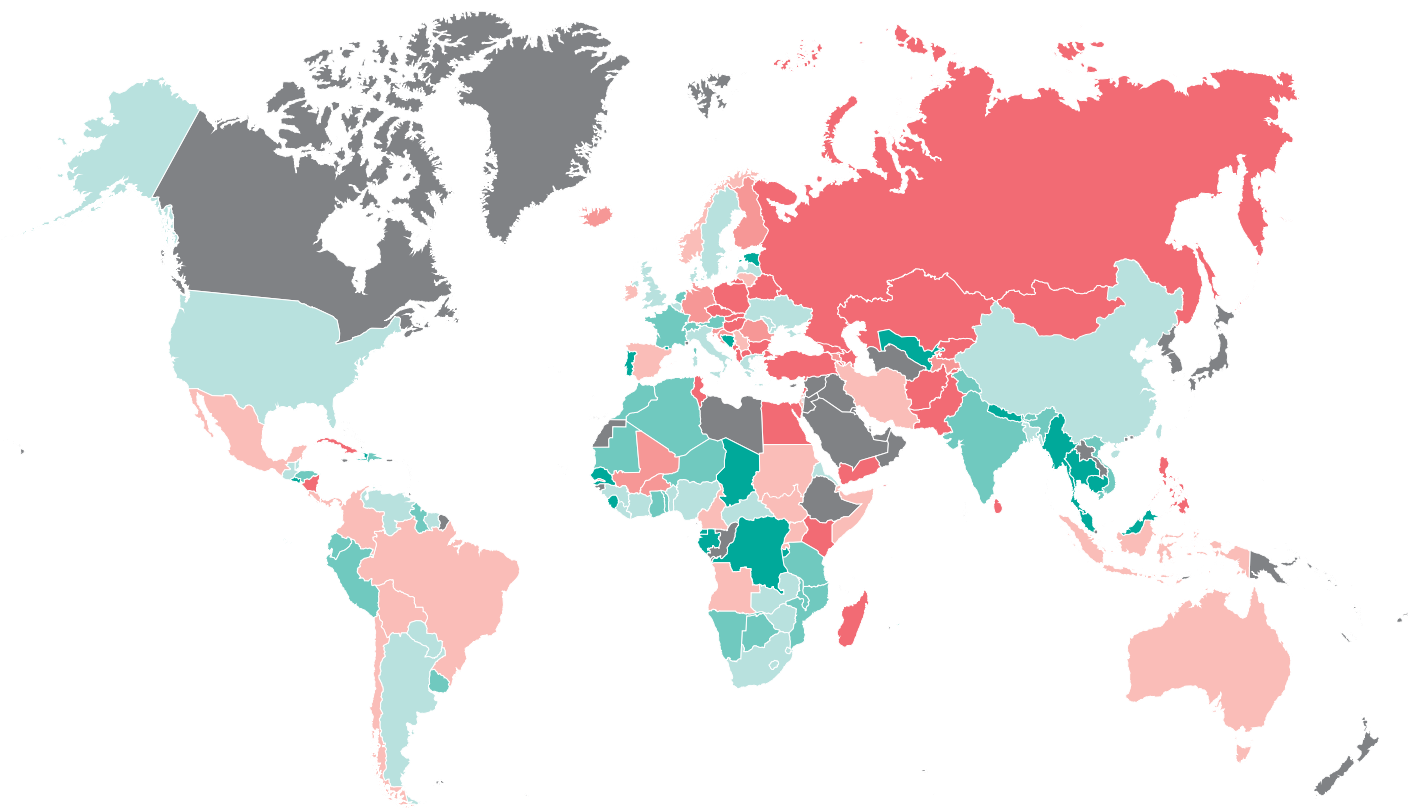


The HIV Pandemic

New infections in adults 2005- 2015

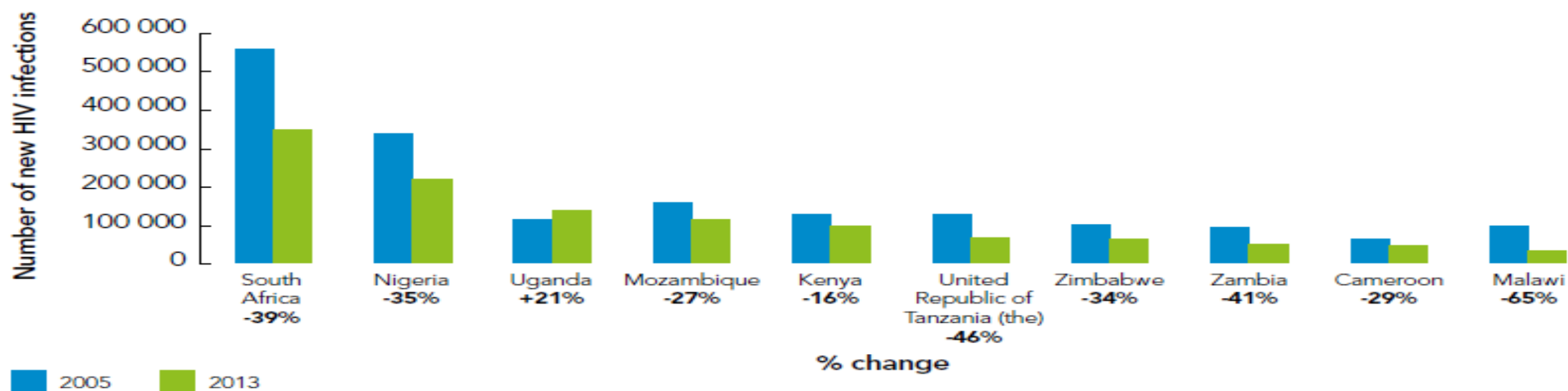
In 2015,
37 mi
people living
with HIV.

1.9 mi
new infections
per year.

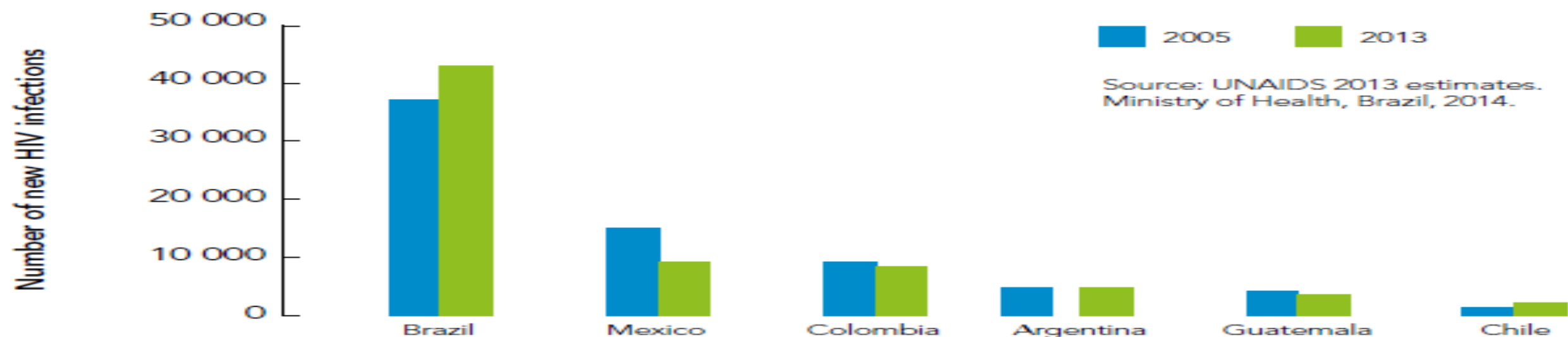


Sources: UNAIDS 2016 estimates; European Centre for Disease Prevention and Control (Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Hungary, Iceland, Ireland, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Sweden, United Kingdom, Albania, Andorra, Bosnia and Herzegovina, Macedonia, Israel, Montenegro, San Marino, Serbia, Switzerland and Turkey); Centers for Disease Control and Prevention. HIV Surveillance Report, 2014; vol. 26. <http://www.cdc.gov/hiv/library/reports/surveillance/>. Published November 2015. Accessed [10 July 2016]. Russian Federation 2016 Global AIDS Response Progress Reporting submission. China 2016 Global AIDS Response Progress Reporting submission.

Trends in new HIV infections for top 10 countries in sub-Saharan Africa, 2005 and 2013

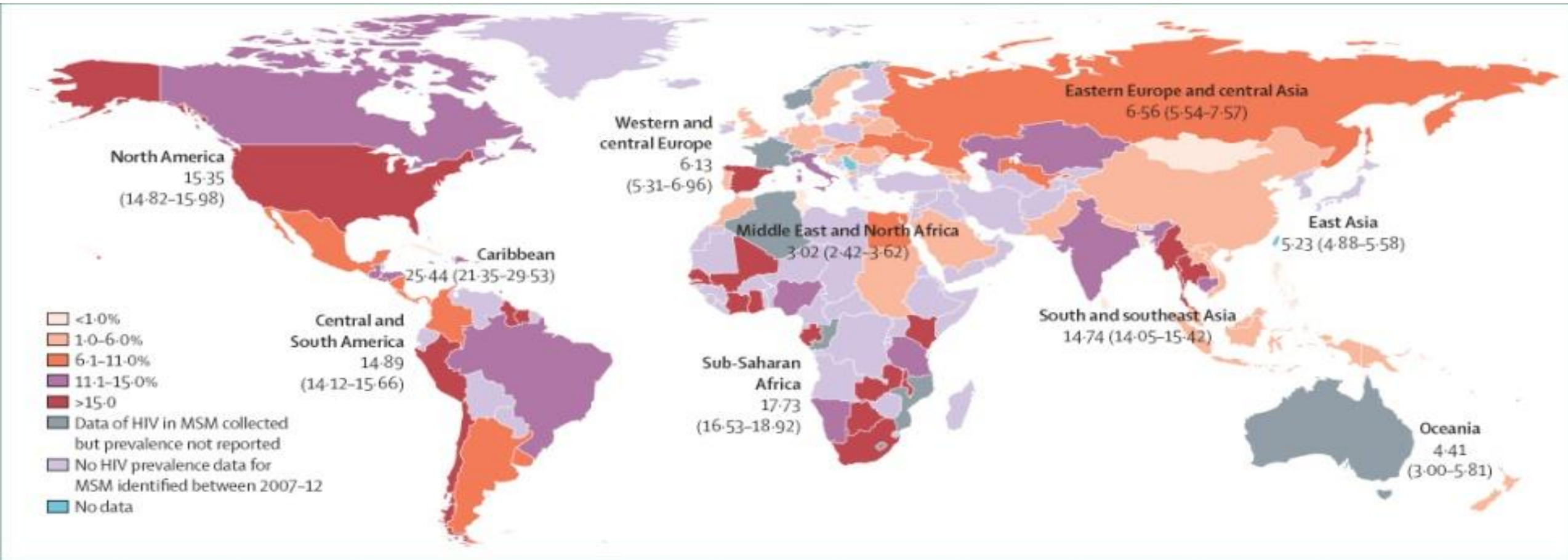


Trends in new HIV infections in Latin America, 2005 and 2013



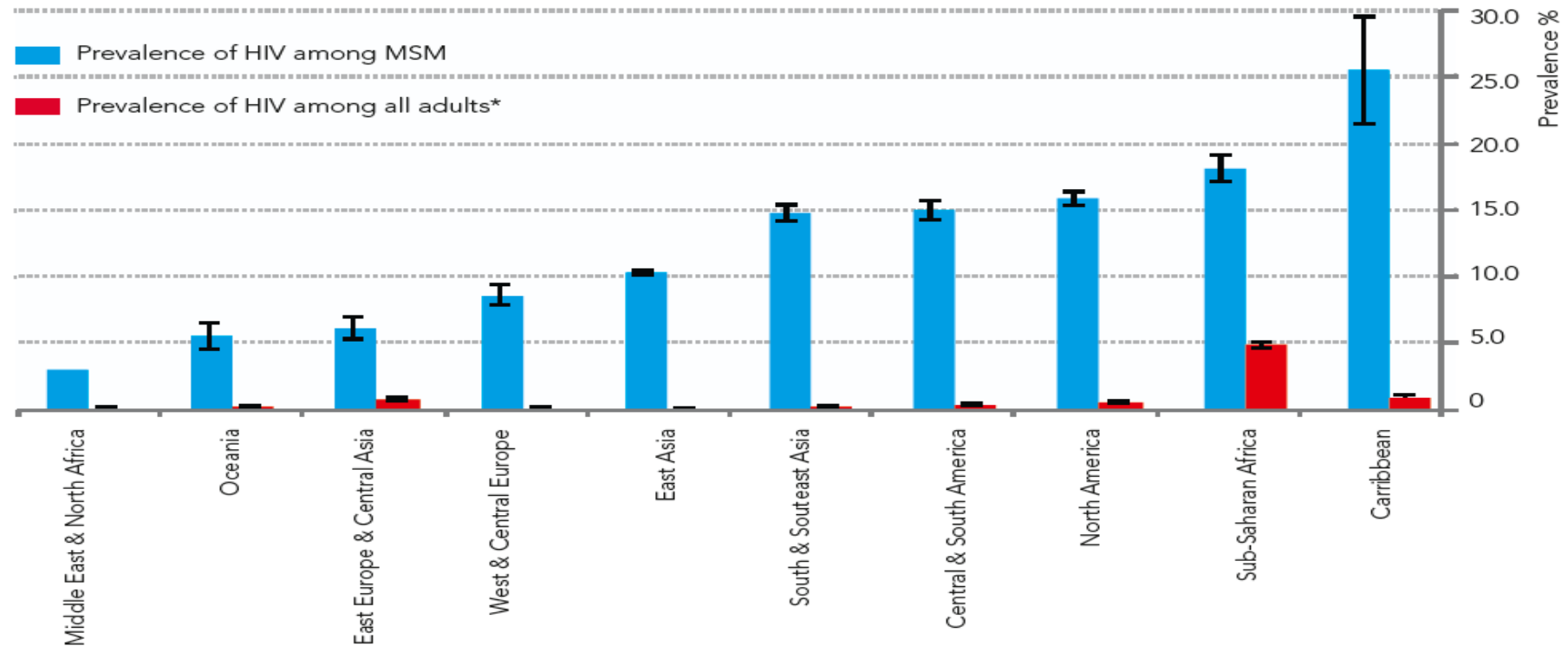
Source: UNAIDS 2013 estimates.
Ministry of Health, Brazil, 2014.

Global HIV Prevalence Among MSM 2007-2011



Global HIV Epidemics Among MSM

Pooled HIV prevalence among MSM, and among all men of reproductive age by region, updated 2013



Adapted from Beyrer, et al, The Lancet, 2013 [3]. Hiv prevalence among adults, UNAIDS 2012 (data from 2011)[1]

* UNAIDS World report 2012 (data 2011)

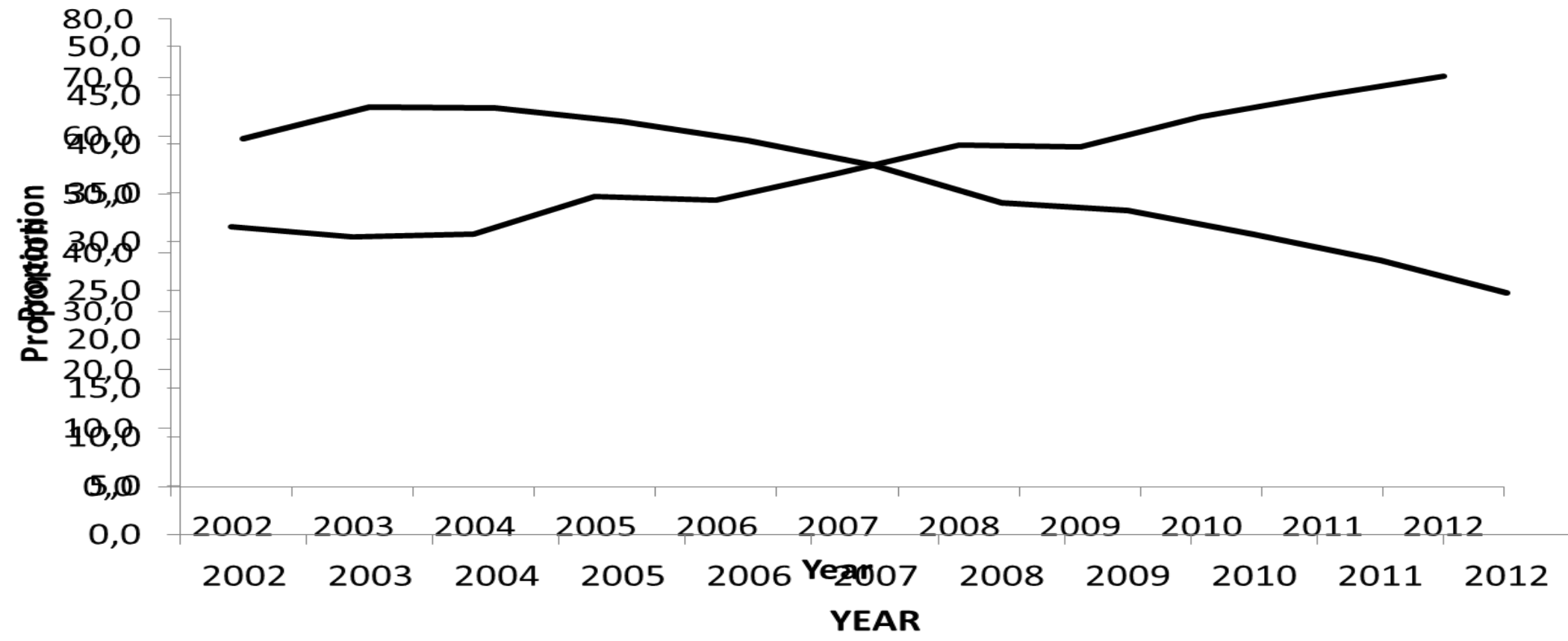


RESULTADOS

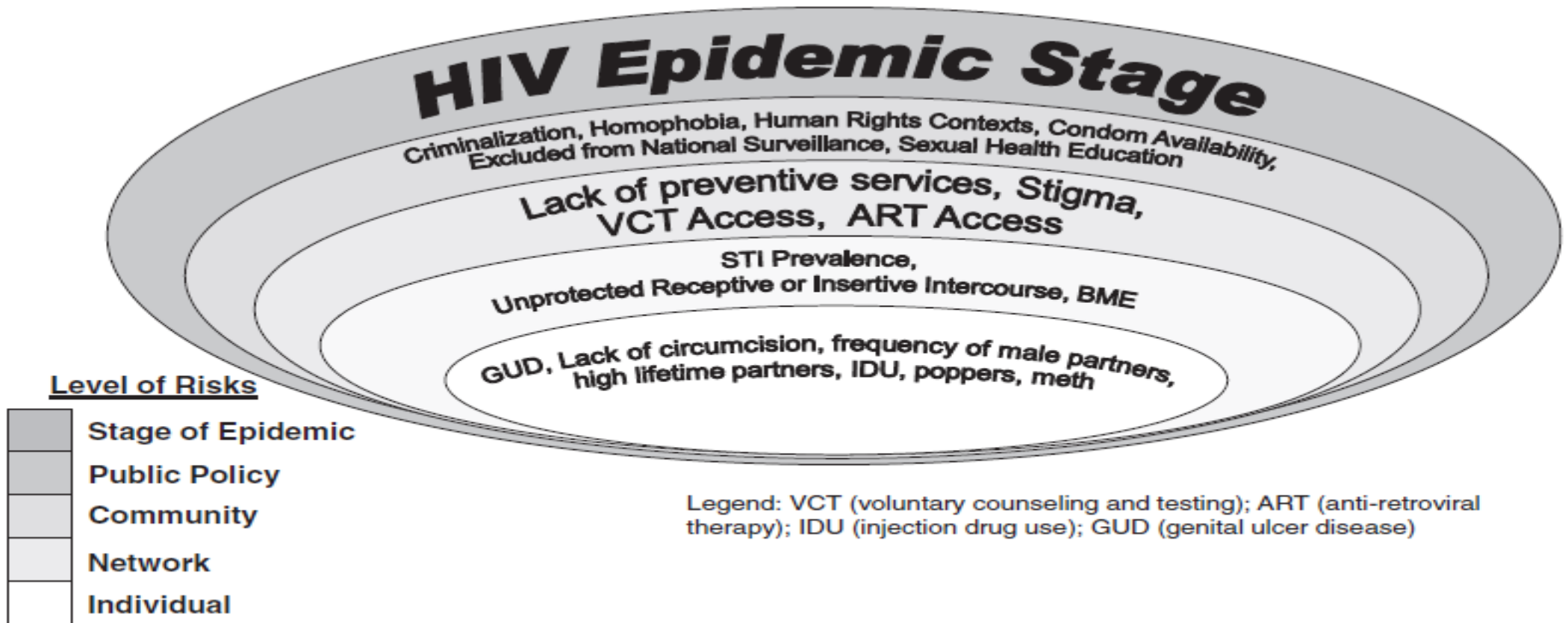
CHARACTERISTIC	CRUDE (N= 345), NO. (%)	WEIGHTED, % (95% CI)
Active STD		
Syphilis	112 (32.7)	28.9 (18.0-39.8)
Chlamydia	46 (14.1)	14.6 (5.4-23.8)
Gonorrhoea	25 (7.6)	13.5 (3.2-23.8)
Hepatitis B	10 (2.9)	0.7 (0.1-1.3)
Hepatitis C	6 (1.7)	0.8 (0-1.8)
HIV-positive self-reported status	95 (27.5)	23.2 (11.1-35.3)
HIV-positive status via testing	141 (41.2)	31.2 (18.8-43.6)

AIDS cases among young men in Brazil

AIDS cases among MSM Age 15-24 in Brazil, 2002 a 2013



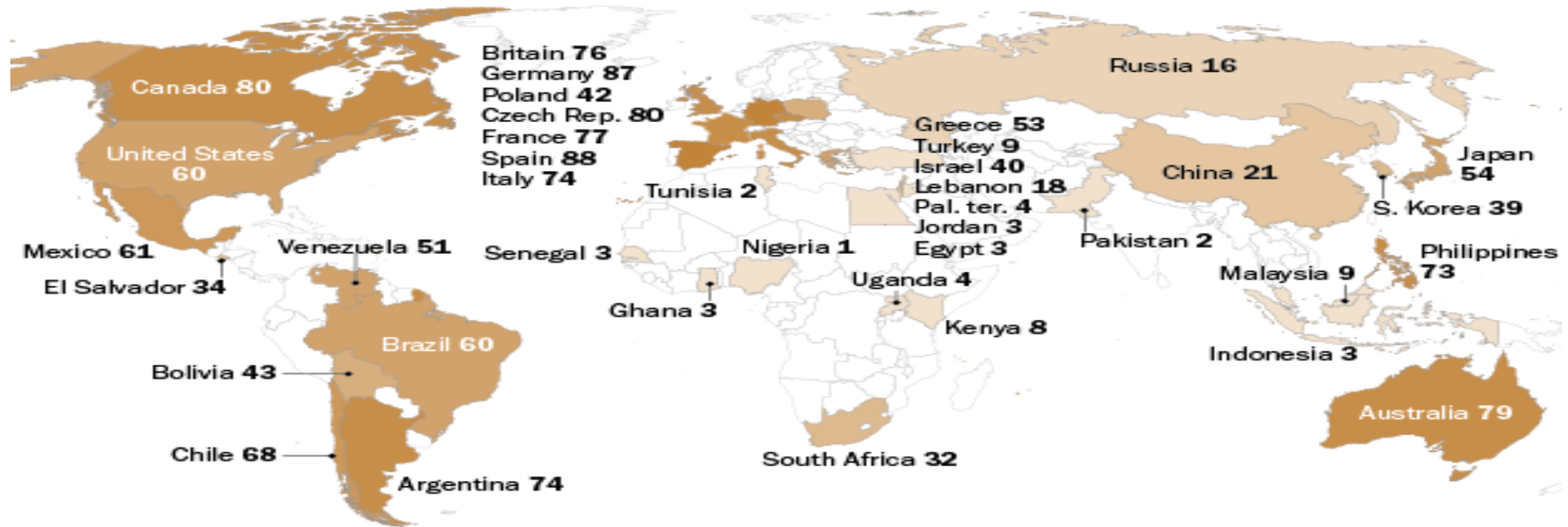
Modified Ecological Model for HIV Risk in MSM



Structural Risks Homophobia

Percent who say homosexuality should be accepted by society

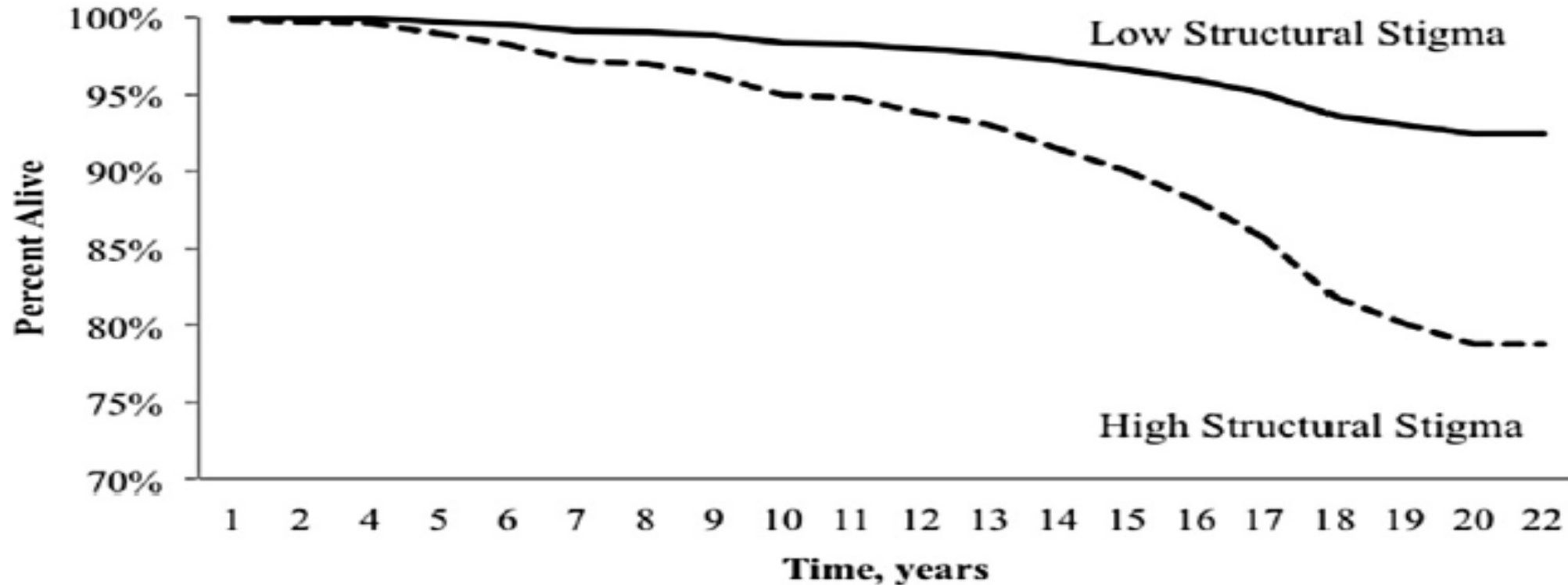
More acceptable  Less acceptable



PEW RESEARCH CENTER

Structural Stigma and all-cause Mortality

Fig. 2. Survival time by type of residential area, General Social Survey/National Death Index, 1988 - 2002



Heightened epidemic in men who have sex with men in Brazil

"They always say time changes things, but you actually have to change them yourself."

Andy Warhol¹

As noted in the UNAIDS Gap report,² Brazil has the largest number of people living with HIV in Latin America and is one of 15 countries (mostly middle-income countries) that account for three quarters of the global HIV pandemic. The epidemic in Brazil remains predominantly concentrated in key populations, such as injection drug users, sex workers, and gay, bisexual, and other men who have sex with men (MSM).² However, in the past 10 years, the number of new HIV infections has been increasing in younger people (≤ 25 years) and MSM.²

As has been reported in other countries,³ the AIDS epidemic in Brazil is disproportionately concentrated in MSM.⁴ Results from a national study⁴ in 2013 showed that HIV prevalence among MSM ranged from 5.2% to 23.7% in ten large metropolitan cities throughout Brazil. The overall HIV prevalence in MSM was two times higher than that estimated for female sex workers and three times higher than that for injection drug users. Additionally, half of MSM in this study who tested HIV positive were not aware of their infection.⁴

In *The Lancet HIV*, Lara Coelho and colleagues⁵ reported findings from their observational cohort study of 2224 HIV-infected individuals from the Instituto Nacional de Infectologia Evandro Chagas database. After excluding individuals who reported injection drug use or heavy cocaine use, MSM were 2.24 (95% CI 0.82–6.11) times more likely to die from AIDS-related causes than were women in the adjusted model; although this figure is not significant ($p=0.114$), it indicates that differences in AIDS-related rates of death between this select group of MSM and heterosexual men and women merit further investigation. Compared with women, MSM were younger, more likely to be white, and had more years of education at enrolment, and they had slightly more compromised immune status in the follow-up period. MSM were also less likely to initiate ART than were women; however, among those who did start ART, their adherence, as suggested by their viral load, was higher than that in women. The lack of use of and retention on ART was further supported by the finding that the frequency of AIDS-defining malignant disease,

specifically Kaposi's sarcoma, was more than three times higher in MSM than in women. However, even after controlling for these factors in an adjusted model, the disparity in the hazard of AIDS-related death for MSM compared with women remained unchanged.

Furthermore, the increased hepatitis B virus infection among MSM in this study⁵ suggests the need for a comprehensive sexual health programme that includes vaccination for known sexually transmitted infections, including hepatitis B virus and human papillomavirus. Other sexually transmitted infections were not explored in this analysis but might indicate risks for HIV viraemia and poor health outcomes. Stigma and discrimination are highlighted by Coelho and colleagues⁵ as key environmental factors that might account for differential health outcomes among MSM, and this issue requires future research. Findings from syndemic studies^{6–8} indicate the importance of addressing structural stigma (both sexuality and stigma related to disease or HIV status) to improve health outcomes.

Of note, some limitations are apparent in Coelho and colleagues' study.⁵ First, 24 transgender women were included in the MSM category. In view of the large disparities previously reported between MSM and transgender women,⁹ further effort will be needed to establish the differences in mortality between these groups in the study setting. Second, the results might have been affected by the substantial rate of loss to follow-up (3.94 [95% CI 2.89–5.38] per 1000 person-years). Finally, the extent to which the results of the study can be generalised to the rest of Brazil or to Latin America is unclear.

Overall, Coelho and colleagues' findings⁵ suggest that further attention is urgently needed to optimise outcomes among MSM in Latin America, through facilitation of access and linkage to care and further promotion of sustained engagement on HIV treatment and care. Furthermore, Kerr and colleagues' findings¹ support the need for the UNAIDS fast-track approach to reduce new infections and AIDS-related deaths by 90% from 2010 to 2030 in other regions of Brazil, especially by expanding access to HIV testing.¹¹ Known as the UN 90-90-90 Target,¹¹ this approach proposes that, by 2020, at least 90% of HIV-infected people be diagnosed, at least 90% of them access ART, and at least

Lancet HIV 2016

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[S2352-3018\(16\)30059-5](https://doi.org/10.1016/S2352-3018(16)30059-5)

See Online/Articles

<http://dx.doi.org/10.1016/>

[S2352-3018\(16\)30052-2](https://doi.org/10.1016/S2352-3018(16)30052-2)

Mortality in HIV-infected women, heterosexual men, and men who have sex with men in Rio de Janeiro, Brazil: an observational cohort study



Lara Coelho, Beatriz Grinsztejn, Jessica L. Castilho, Raquel De Boni, Marcel S B Quintana, Dayse P Campos, Sayonara R Ribeiro, Antonio G Pacheco, Valdeia G Veloso, Paula M Luz

Summary

Background Mortality in HIV-infected individuals might differ by sex and mode of HIV acquisition. We aimed to study mortality in HIV-infected women, heterosexual men, and men who have sex with men (MSM) in a cohort from Rio de Janeiro, Brazil.

Methods In this observational cohort study, we included HIV-infected women, heterosexual men, and MSM (aged ≥ 18 years) from the Instituto Nacional de Infectologia Evandro Chagas database who were enrolled between Jan 1, 2000, and Oct 30, 2011, and who had at least 60 days of follow-up. Causes of deaths, defined with the Coding of Death in HIV protocol, were documented. Cox proportional hazards models accounting for competing risks were used to explore risk factors for AIDS-related and non-AIDS-related deaths.

Findings We had 10 142 person-years of follow-up from 2224 individuals: 817 (37%) women, 554 (25%) heterosexual men, and 853 (38%) MSM. Of 103 deaths occurred, 64 were AIDS related, 31 were non-AIDS related, and eight were of unknown causes. In unadjusted analyses, compared with women, the hazard of AIDS-related deaths was higher for heterosexual men (hazard ratio [HR] 3.52, 95% CI 1.30–9.08; $p=0.009$) and for MSM (2.30, 0.89–5.94; $p=0.084$). After adjustment for age, CD4 cell counts, last HIV viral load, antiretroviral therapy use, and AIDS-defining infection, AIDS-defining malignant disease, and hospital admission during follow-up, the excess risk of AIDS-related death decreased for heterosexual men (adjusted HR 1.99, 0.75–5.25; $p=0.163$) but was unchanged for MSM (2.24, 0.82–6.11; $p=0.114$). Non-AIDS-related mortality did not differ by group.

Interpretation Compared with women, increased risk of AIDS-related death in heterosexual men was partly mitigated by risk factors for AIDS mortality, whereas the excess risk in MSM was unchanged. Further study of reasons for disparity in AIDS-related mortality by mode of transmission is needed.

Funding US National Institutes of Health, Brazilian National Council of Technological and Scientific Development (CNPq), and Research Funding Agency of the State of Rio de Janeiro (FAPERJ).

Introduction

Access to combination antiretroviral therapy (ART) prevents HIV transmission¹ and substantially improves the prognosis for HIV-infected individuals by decreasing HIV viral load, increasing CD4 cell counts, delaying progression to AIDS, and reducing mortality. Nevertheless, inequalities in health outcomes among HIV-infected individuals exist. In particular, sex differences in mortality have been reported in several regions of the world.^{2–4} In a large study from the Antiretroviral Therapy Cohort Collaboration including more than 32 000 HIV-infected individuals from Europe and North America,⁴ HIV-infected women in Europe had lower mortality than men before and after ART initiation, whereas no sex differences in all-cause mortality were reported in Canada and the USA. In a large multicentre cohort study in South Africa ($n=46\,201$),⁵ the increased mortality risk in men after initiation of ART persisted after adjustments for sociodemographic and HIV-related clinical characteristics. A systematic review of 65 studies² showed that women had improved survival (pooled risk

ratio of death 0.72, 95% CI 0.69–0.75) compared with men.

The varying reports of sex disparities in mortality among HIV-infected populations might be explained by differences in the mode of HIV acquisition in men. In particular, in HIV-infected adults, injection drug use is associated with high mortality compared with other modes of transmission.⁵ By contrast, differences in mortality between heterosexual men and men who have sex with men (MSM) with HIV infection have not been well described. Findings from a study in China⁶ in 2014 showed that MSM with HIV infection have faster disease progression to AIDS but lower mortality than heterosexual individuals. A Danish study⁷ found no difference in mortality in HIV-infected MSM, heterosexual men, and women. However, results from a US study⁸ in 2011 showed that, in the general population, MSM sexual behaviour was associated with an increased risk of death from HIV-related causes by more than three times.⁸ However, whether mode of transmission contributes to or modifies sex differences in mortality among HIV-infected men and women is unknown.

Lancet HIV 2016

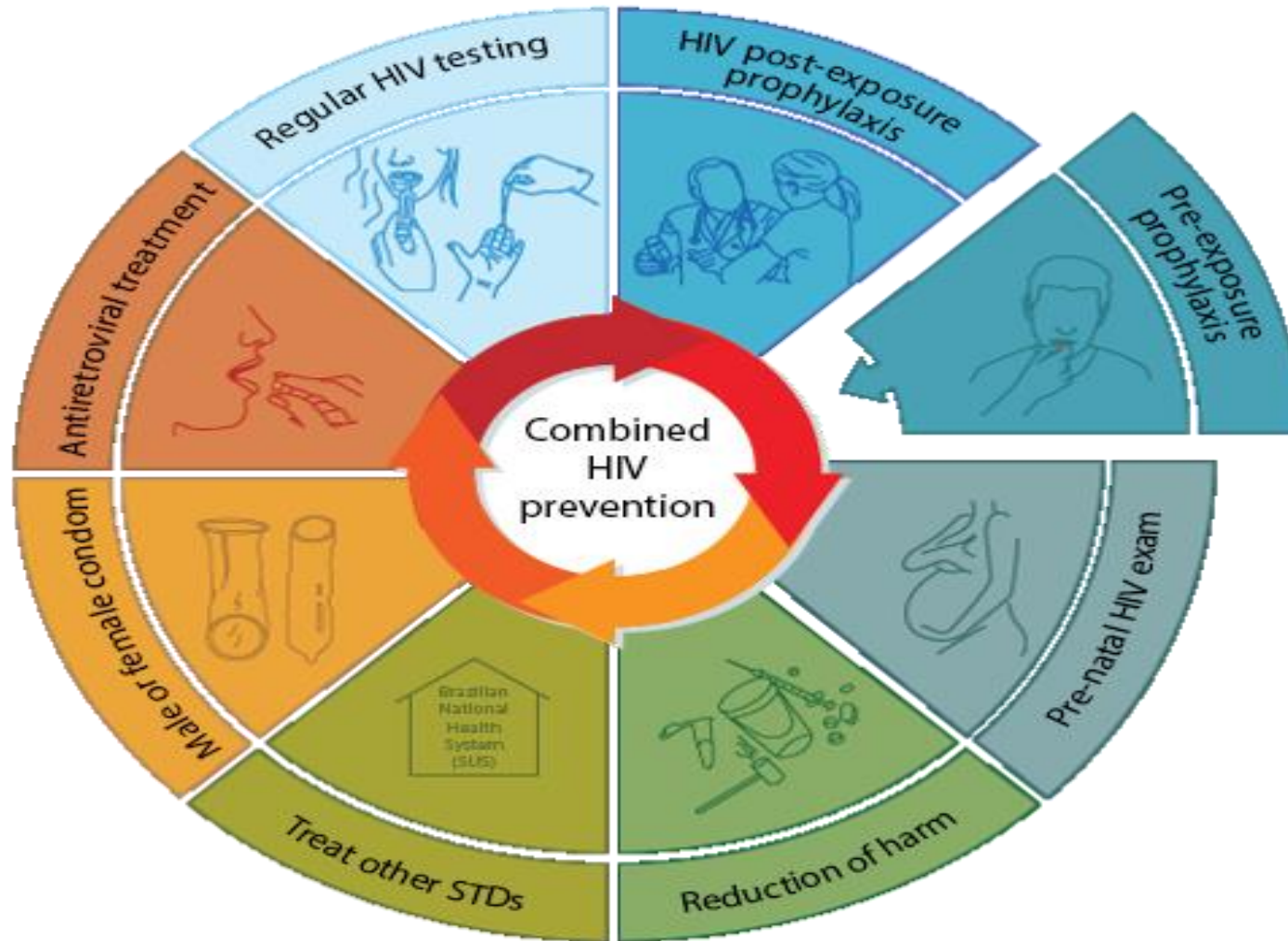
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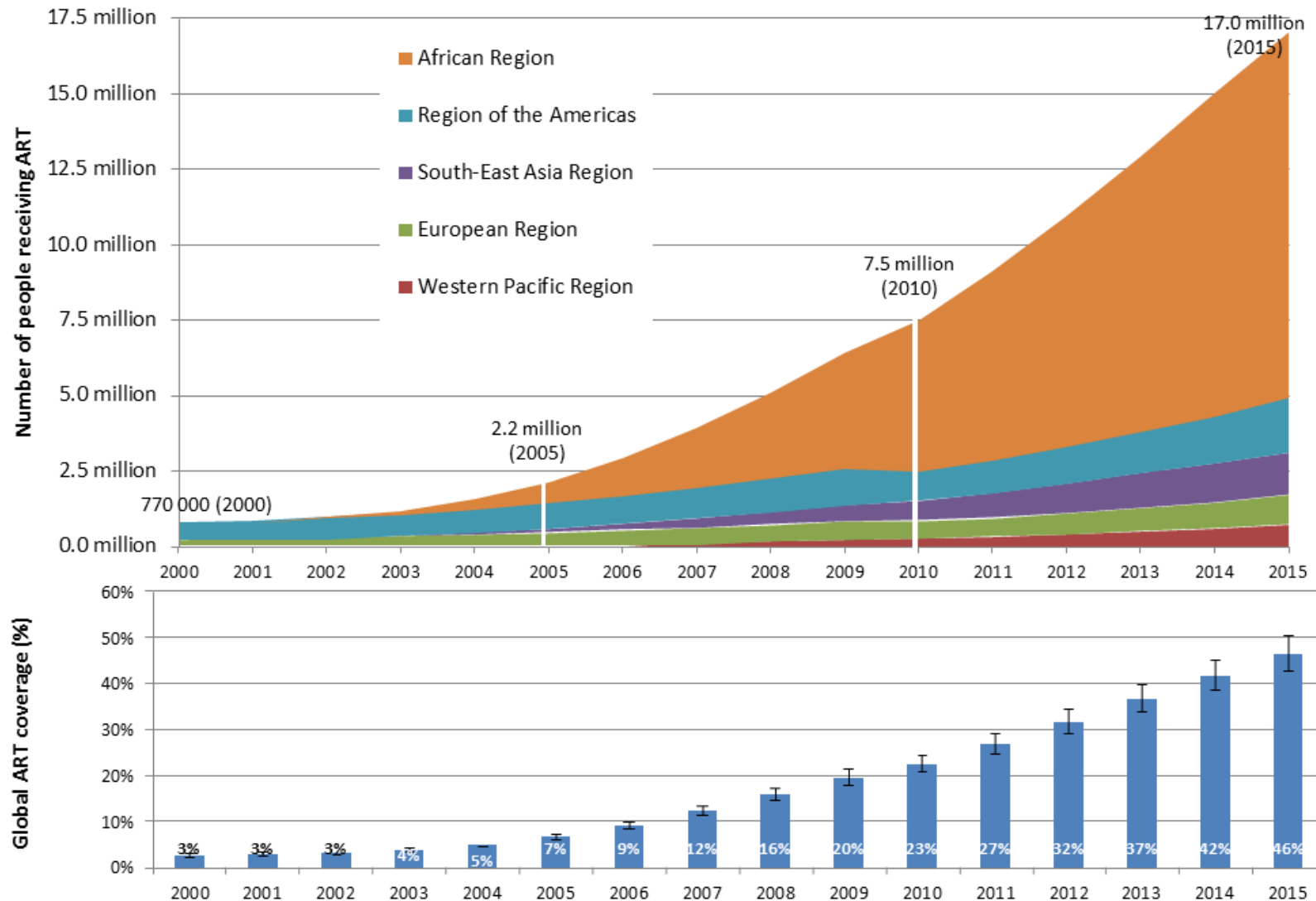
Correspondence to:
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paula.luz@ini.fiocruz.br

Prevenção Combinada



Estimated numbers of people receiving antiretroviral therapy globally and by WHO Region and percentage coverage globally

2000- 2015

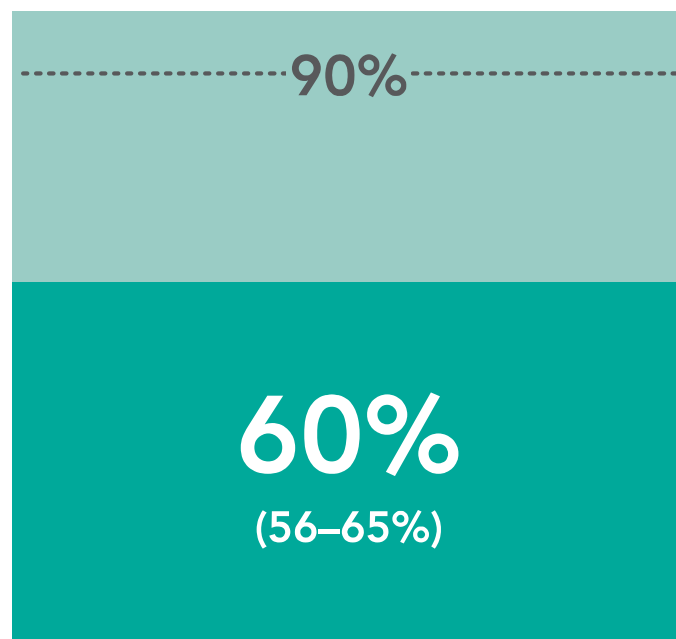


Progress Towards 90-90-90 Target

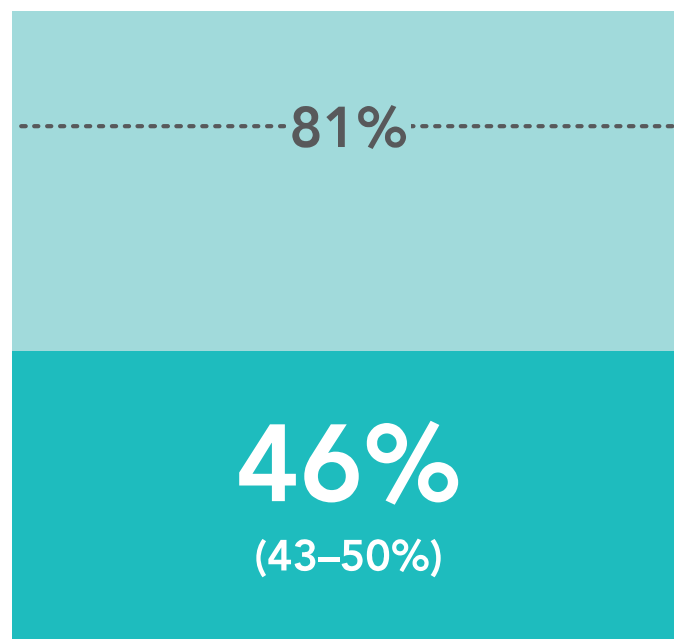
Global, 2015



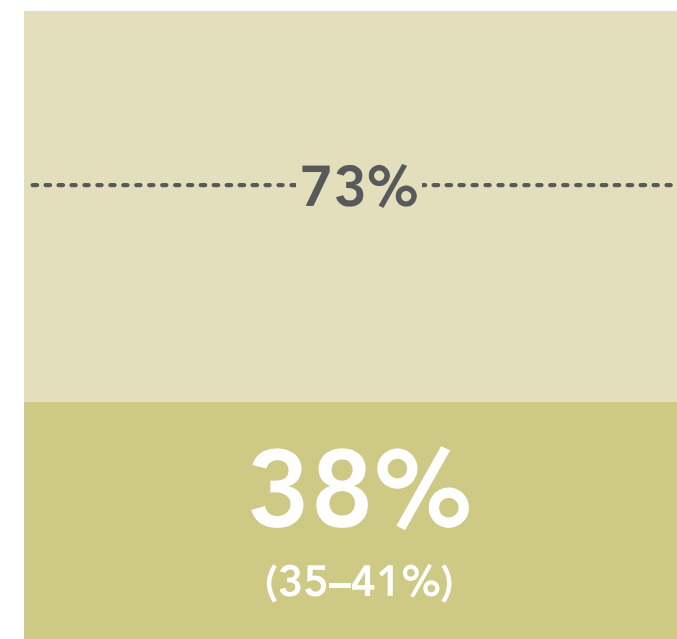
**AMBITIOUS
TREATMENT
TARGETS:**
WRITING THE FINAL CHAPTER
OF THE AIDS EPIDEMIC



Percentage of people living with HIV **who know their HIV status¹**



Percentage of people living with HIV **who are on antiretroviral treatment**



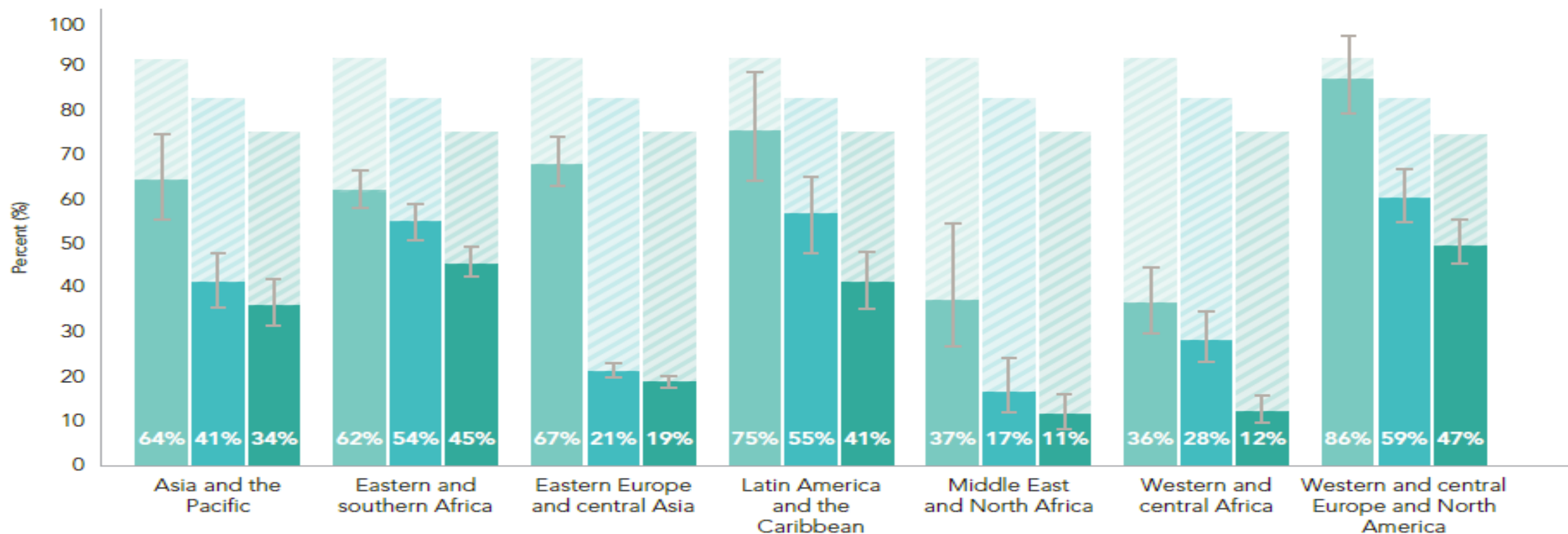
Percentage of people living with HIV **who are virally suppressed²**

¹ 2015 measure derived from data reported by 87 countries, which accounted for 79% of people living with HIV worldwide.

² 2015 measure derived from data reported by 86 countries. Worldwide, 22% of all people on antiretroviral therapy were reported to have received a viral load test during the reporting period.

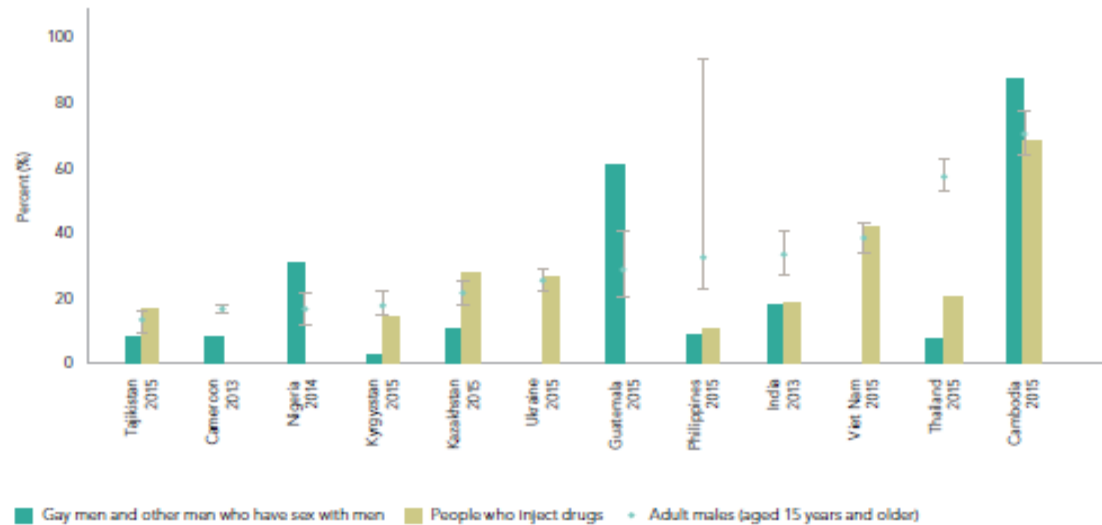
Source: UNAIDS special analysis, 2016; for more details, see annex on methods.

Progress toward the 90–90–90 target, by region, 2015



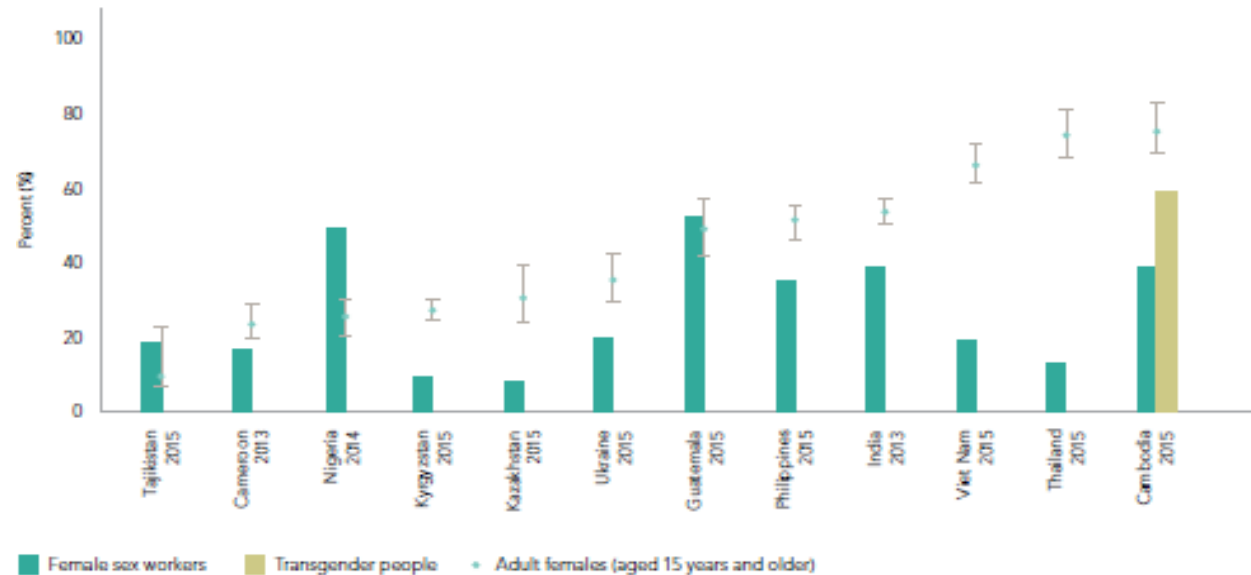
Antiretroviral therapy coverage among select key population groups and the general adult male and female population (aged 15 years and older), matched by survey year, 2013–2015

Antiretroviral therapy coverage among select key population groups and the general adult male population (aged 15 years and older), matched by survey year, 2013–2015



Source: UNAIDS, the Global Fund to Fight AIDS, Tuberculosis and Malaria, and the World Health Organization. Key Population Atlas. In press. 2016.

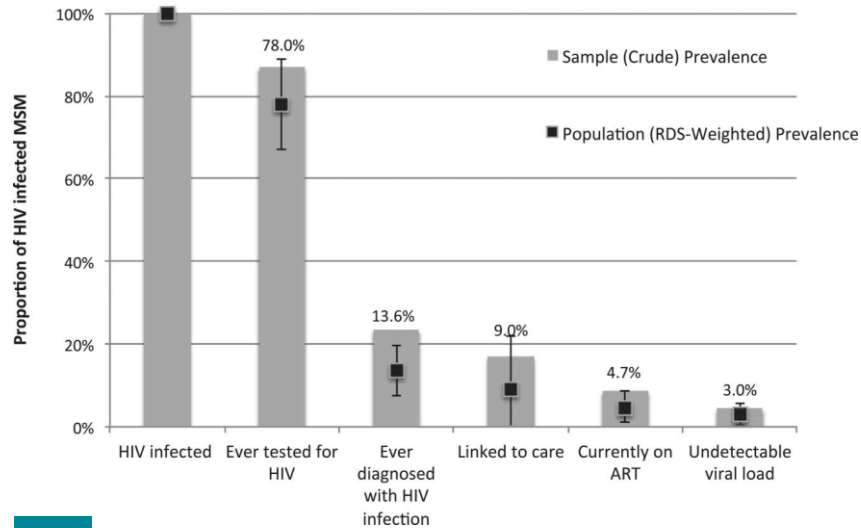
Antiretroviral therapy coverage among select key population groups and the general adult female population (aged 15 years and older), matched by survey year, 2013–2015



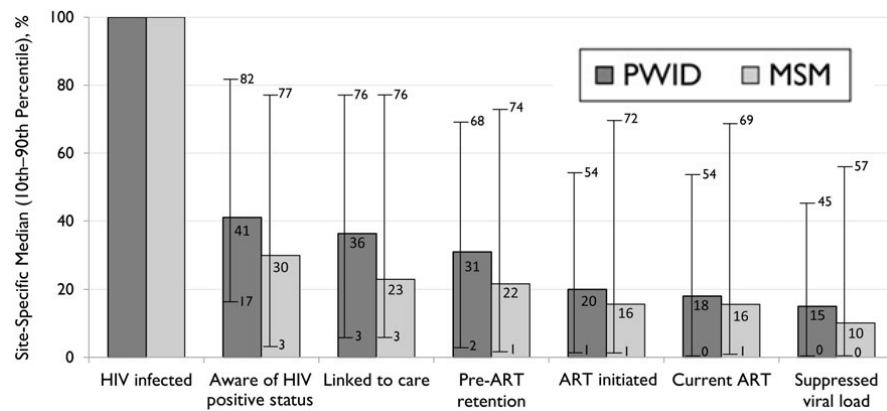
Source: UNAIDS, the Global Fund to Fight AIDS, Tuberculosis and Malaria, and the World Health Organization. Key Population Atlas. In press. 2016.

Treatment cascade in key populations

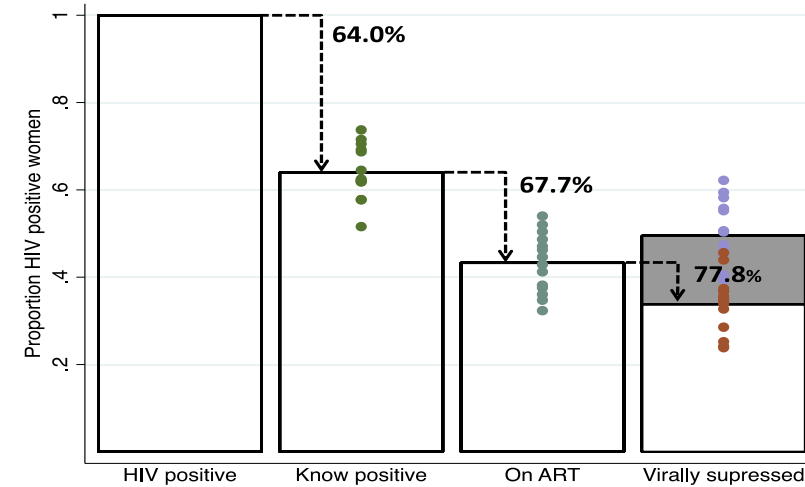
1 MSM in Russia



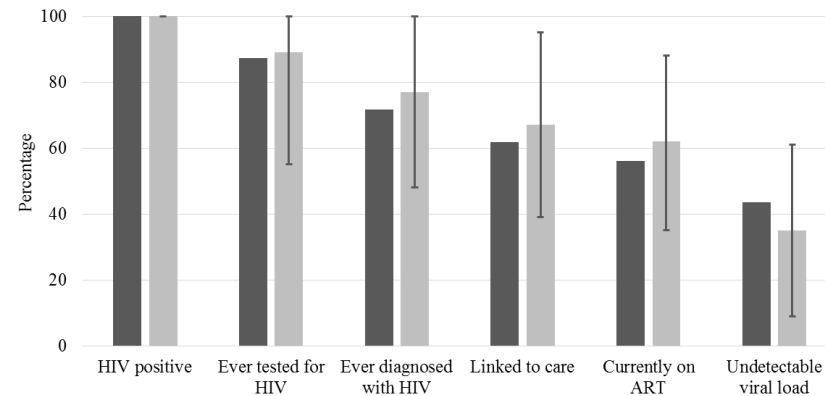
2 MSM & PWID in India



3 FSW in Zimbabwe



4 TGW in Brazil



Crude percentages in dark gray, respondent-driven sampling weighted population estimates in light gray

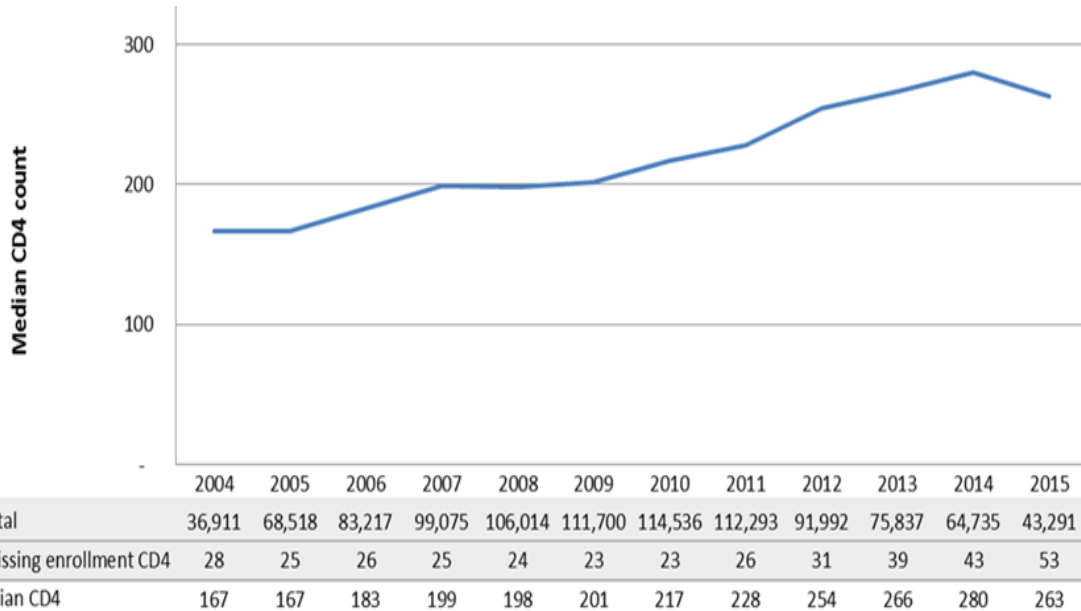
CURRENT RECOMMENDATIONS FOR INITIATION OF ANTIRETROVIRAL THERAPY IN LATÍN AMERICAN GUIDELINES

Guideline	AIDS or HIV-Related Symptoms	CD4+ Cell Count < 200/mm ³	CD4+ Cell Count 200-350/mm ³	CD4+ Cell Count 350-500/mm ³	CD4+ Cell Count > 500 cells/mm ³
Argentina 2015	Yes	Yes	Yes	Yes	Yes
Colombia 2014	Yes	Yes	Yes	Yes	Consider
Brazil, 2014	Yes	Yes	Yes	Yes	Yes
Chile 2015	Yes	Yes	Yes	Yes	Consider
Mexico 2015	Yes	Yes	Yes	Yes	Yes
Ecuador 2010	Yes	Yes	Yes	No/Selective indications	No
Venezuela 2015	Yes	Yes	Yes	Yes	Consider in special cases
World Health Organization, 2015	Yes	Yes	Yes	Yes	Yes

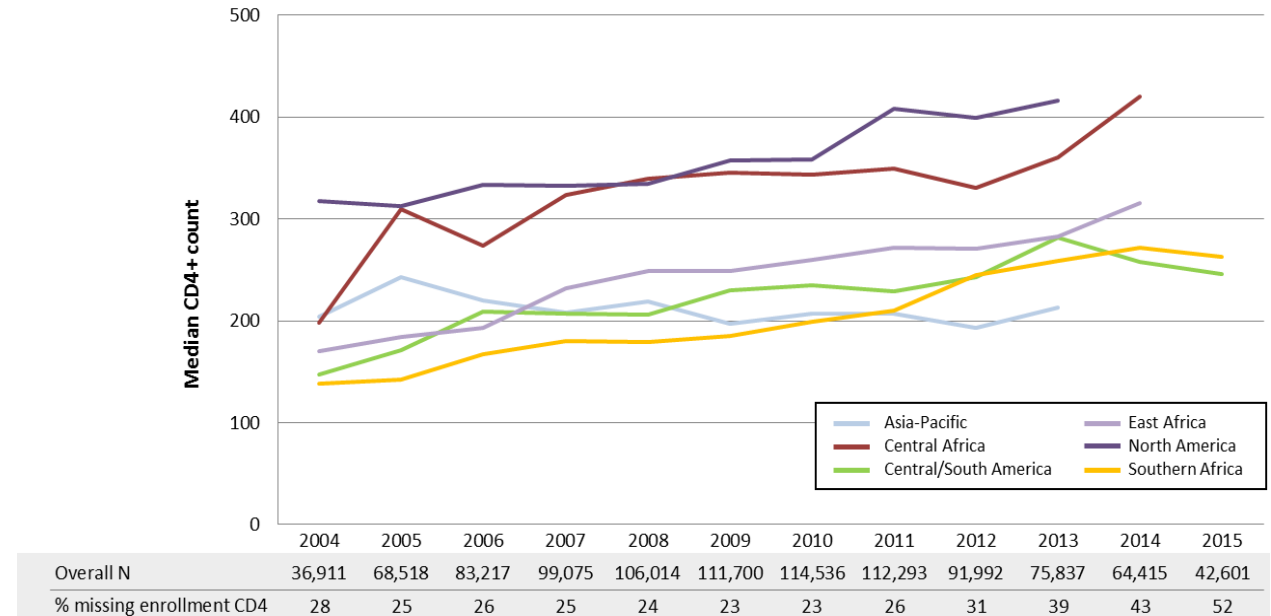


Global analysis of delays from eligibility to ART initiation among adults (2004-2015)

Median CD4 count at enrollment

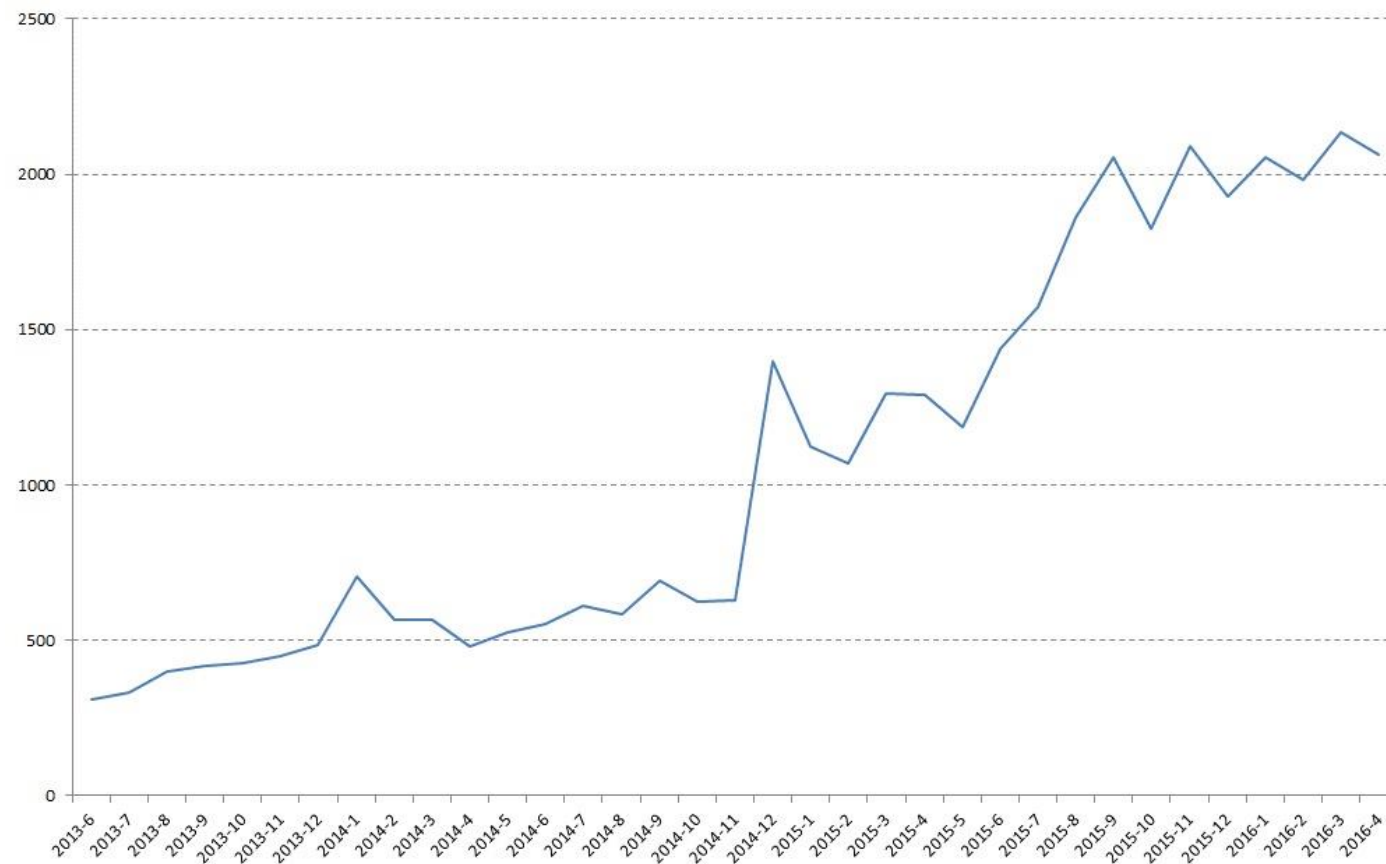


Median CD4 count at enrollment by region



Expansão da Profilaxia Pós-Exposição(PEP)

Dispensações Mensais de PEP. Brasil, 2013 - 2016





“A hora é agora” - The Time is Now:
HIVST to reach men who have sex with men in
Brazil”

Overview

- 1 of 3 projects under the scope of the ‘A hora é agora’ program designed to increase HIV testing among MSM
- Implemented in Curitiba, Brazil



- 1.75 million inhabitants
- HIV prevalence among MSM=6.9% (Kerr et al., 2013)

Aims

- To develop, implement and evaluate the **feasibility** of a Web-based intervention that

Promotes HIV prevention
 Provides free anonymous HIVST
 Promotes linkage to care

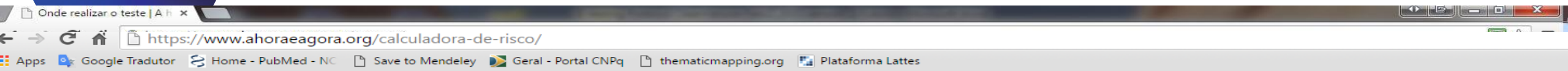


E-testing

for MSM from Curitiba, ≥ 18 years and with HIV status unknown/negative



Website/app



A hora é agora:
testar nos deixa mais
FORTES

TESTE-SE: A HORA É AGORA

ASSISTA COMO FAZER O TESTE

CONSULTA SOLICITAÇÃO

CALCULE SEU RISCO

COMO SE PREVENIR

ONDE REALIZAR O TESTE

O QUE VOCÊ ACHOU DO SITE?

Calculadora de Risco

Home > Calculadora de Risco

O risco de se infectar pelo HIV muda de acordo com as práticas sexuais. Se você está em dúvida sobre o seu risco no momento, preencha os seis campos e clique em **“Calcular Risco”**.

CALCULADORA DE RISCO		ESCORE
Qual sua idade?	<input type="text"/>	0
Nos últimos 6 meses, com quantos homens você teve relações sexuais?	<input type="text"/>	0
Nos últimos 6 meses, quantas vezes você foi o parceiro passivo sem usar camisinha?	<input type="text"/>	0
Nos últimos seis meses, com quantos homens sabidamente HIV-positivos você fez sexo?	<input type="text"/>	0
Nos últimos 6 meses, quantas vezes você foi o parceiro ativo sem usar camisinha com um homem HIV positivo?	<input type="text"/>	0
Nos últimos 6 meses você usou drogas estimulantes (cocaína, poppers, crack, ecstasy)?	<input type="text" value="Não"/>	0
ESCORE TOTAL		0



SITE SEGURO
validado por
CERTISIGN



GRUPO DIGNIDADE



Ministério da Saúde



Incidence Risk for MSM
é informativa e não substitui





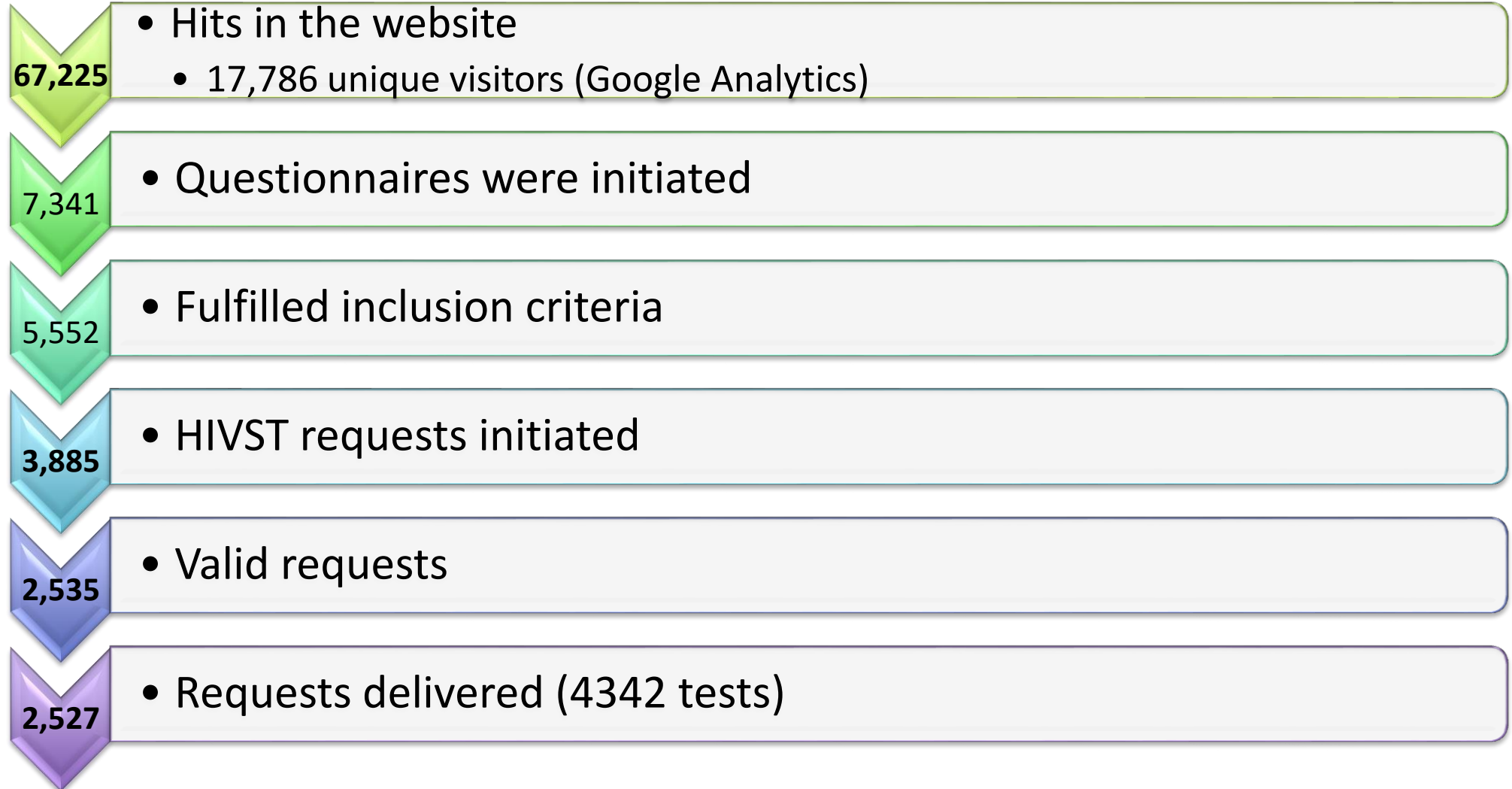
HIVST

Home » Assista como fazer o teste



Feasibility

- From February 6, 2015 to January 31, 2016:





Conclusions & Lessons learned

- The e-testing strategy was feasible
- MSM were interested in HIVST
- Most tests were delivered by mail
- Results uploaded in the platform were lower than expected (20%)
 - no incentives are allowed by Brazilian IRB
 - response by mail was low
 - difficult to monitor results from the second test
- Monitoring & Evaluation protocol should evaluate cost-effectiveness

PROFILAXIA
PRÉ EXPOSIÇÃO

Brasil!

PrEP BRASIL

- **Projeto Demonstrativo**
 - Registro no Clinicaltrials.gov NCT01989611
- **Objetivos Primários**
 - Avaliar a utilização, segurança e capacidade de implementação de PrEP sem custo para HSH e mulheres transgêneros no contexto do Sistema Único de Saúde (SUS).
- **Objetivos Secundários**
 - Conhecimento da PrEP
 - Adesão por níveis séricos de TDF
 - Dano social
 - Compensação de risco
 - Fatores relacionados com adesão



1
COMPRIMIDO
POR DIA
PODE
PREVENIR O
HIV/AIDS

ISSO PODE FUNCIONAR PARA VOCÊ TAMBÉM!
PARTICIPE DESSA PESQUISA COM A FIOCRUZ

9090 (21) 2260-6700

f LAPCLIN-AIDS e LAPCLIN_AIDS

PrEP Brasil
LaPCLin Laboratório de Pesquisa Clínica AIDS
IPEC
Ministério da Saúde
FIOCRUZ Fundação Oswaldo Cruz

PACIENTES E MÉTODOS

Pré-rastreamento

Abordados

- Indivíduos recrutados nos centros FIOCRUZ-RJ, CRT-SP and USP-SP
 - Fiocruz e CRT: auto-referência ou convidados para participação durante testagem para HIV ou profilaxia pós-exposição (PEP)
 - USP: auto-referência

Elegíveis

- Descrição do risco sexual (≥ 2 parceiros sexuais anais sem uso de preservativo OU ≥ 2 intercursos sexuais anais com parceiro infectados pelo HIV OU diagnóstico de doença sexualmente transmissível (DST) nos últimos 12 meses
- Teste rápido anti-HIV = negativo

Triados

- Avaliação dos hábitos de vida
- Carga viral HIV (HIV RNA)
- Avaliação clínica
- Avaliação da função renal
- Testagem para HBV e HIV

Incluídos

- 45 dias após visita de rastreamento
- Avaliação clínica e hábitos de vida + testagem para DST + testagem para HIV
- Carga viral HIV (HIV RNA)

RESULTADOS



1187

indivíduos entrevistados

29 ANOS

foi a **idade mediana** dos participantes (IQR 24-36)

56.2%

eram **Não-brancos**

63.4%

tinham **Ensino superior ou mais**

95.3%

eram **HSH** e

4.7%

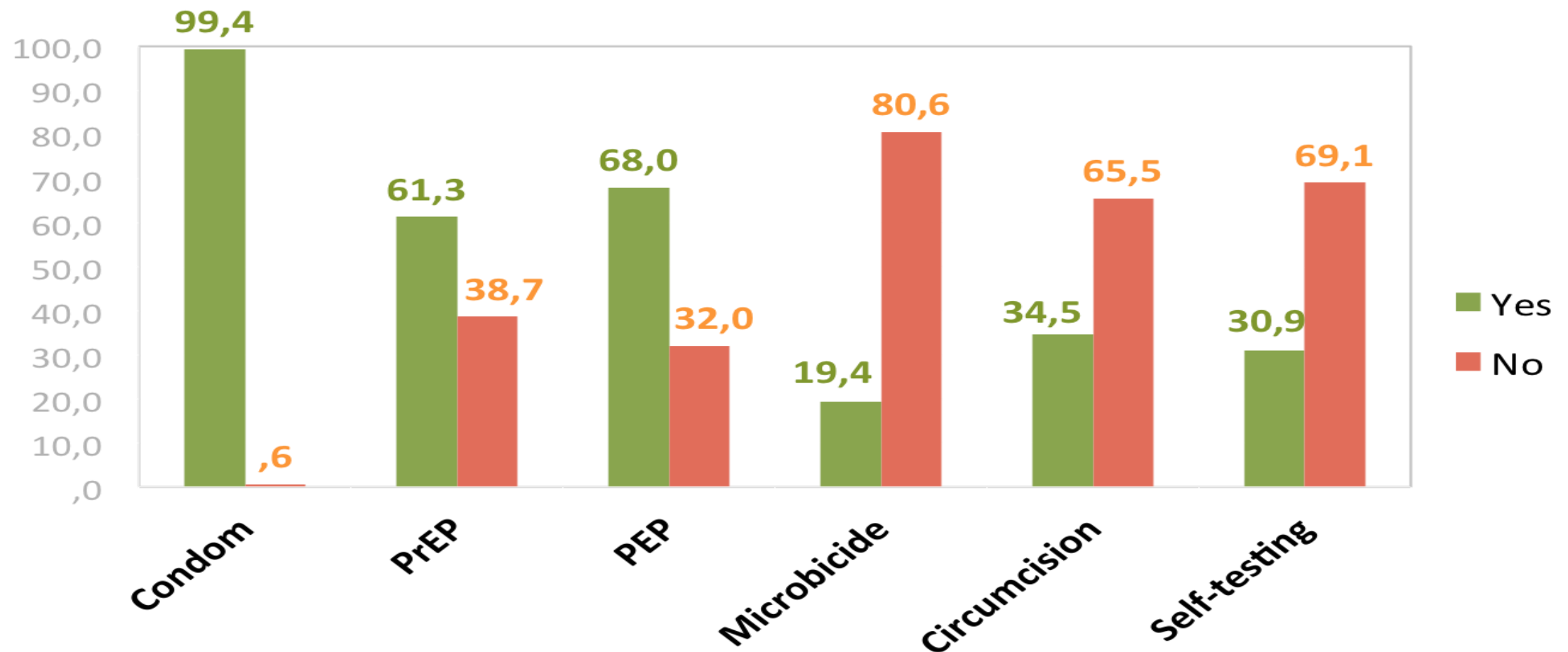
TGW

9.8%

foi a **prevalência infecção pelo HIV**

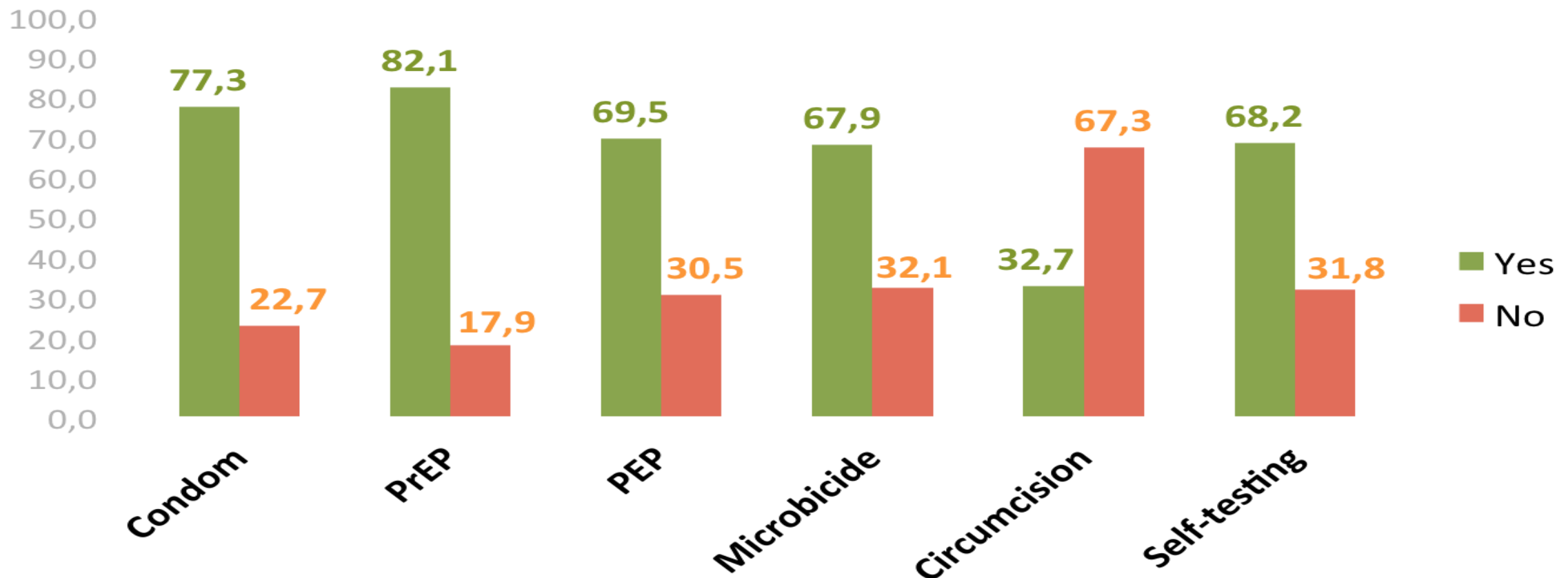
CONHECIMENTO DE MEDIDAS DE PREVENÇÃO

Graphic 1: Have you heard of ...for preventing HIV?

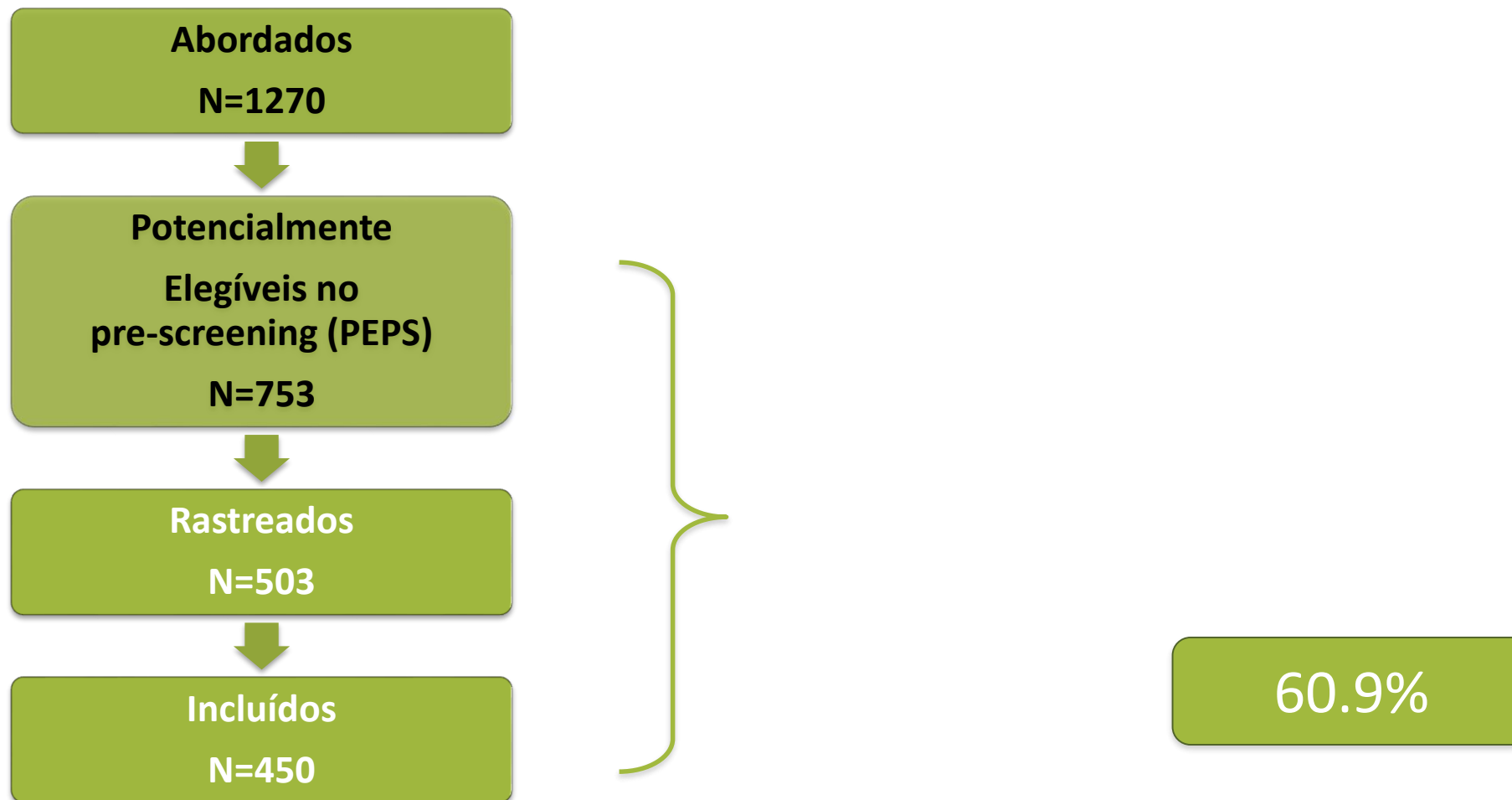


MUITO INTERESSE EM USAR MEDIDAS DE PREVENÇÃO

Graphic 2: Very interested in usingfor HIV prevention if available in SUS

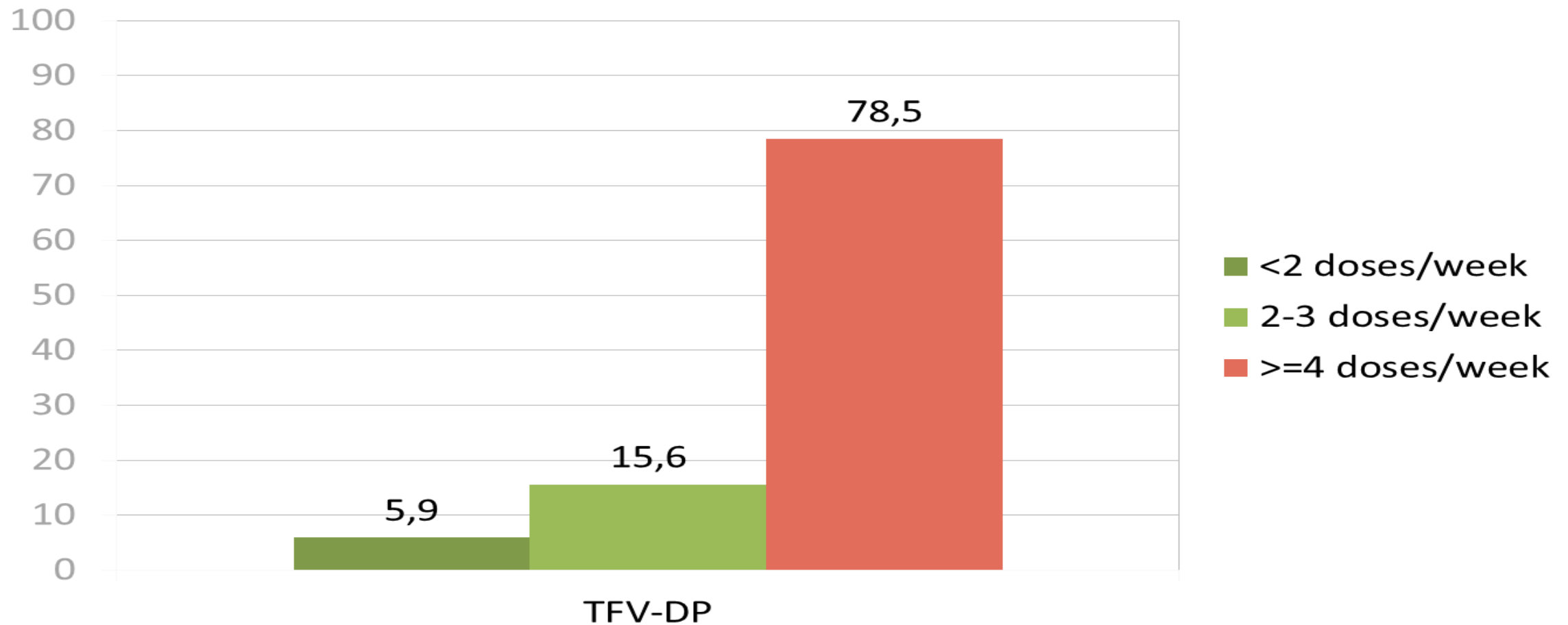


UTILIZAÇÃO DE PrEP (UPTAKE)



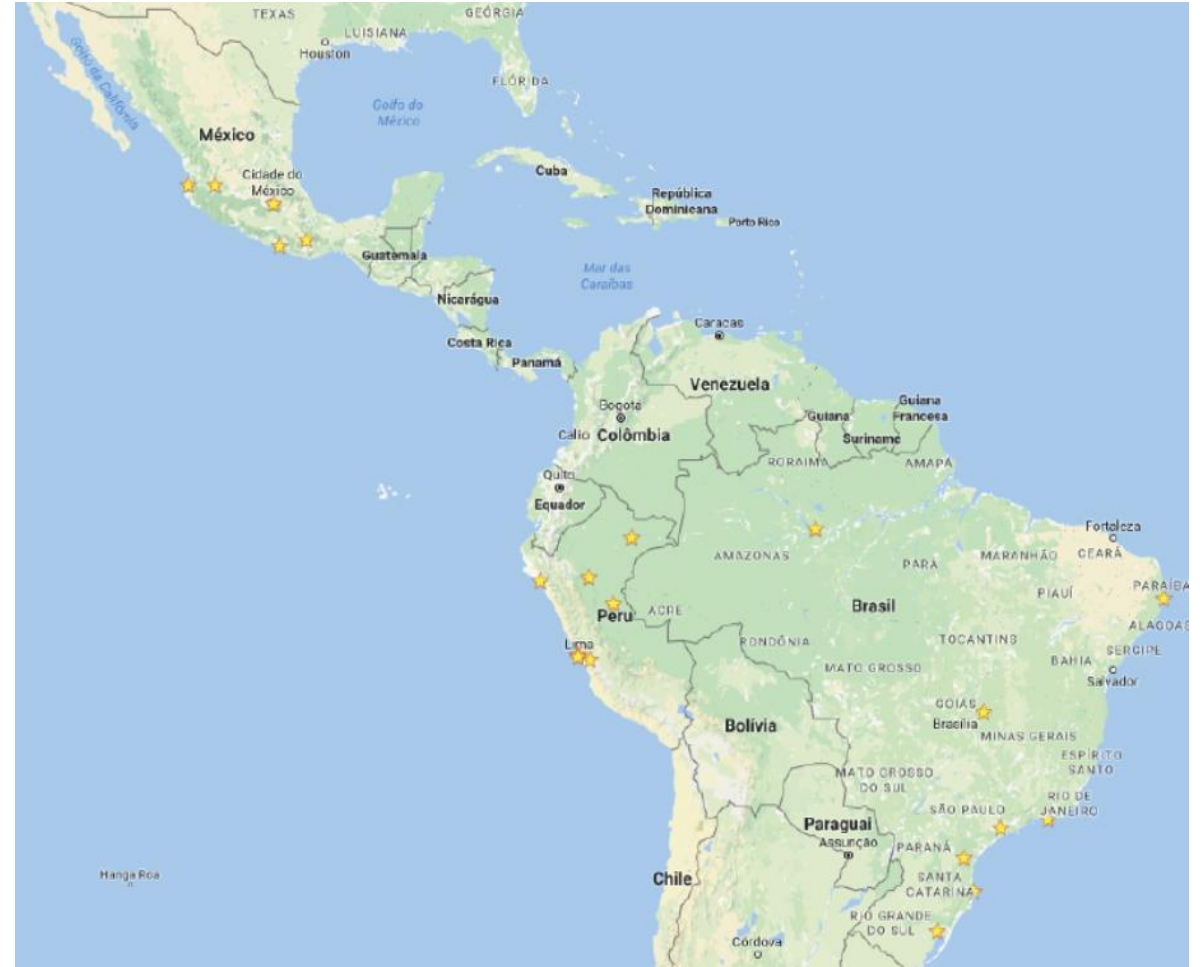
¹ Inelegíveis no rastreamento (n=8) e inclusão(n=7) → $(450/738)*100$

NÍVEIS DE DROGA NA SEMANA 4: DBS



Latin America PrEP Demonstration Project

- Brasil, Peru and Mexico
- 7500 MSM/TGW
- Daily Truvada
- Sponsored by UNITAID



- Recent advances in HIV prevention have aimed to expand the range of effective approaches and to promote individuals' autonomy and choice
- Risk perception is a key element in the demand step of the prevention cascade
- Leverage community education on combination prevention