HIV prevalence and risk behaviors: results of a nationally representative survey of MSM and a survey to transgender women in Mexico City

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National Institute of Public Health Mexico
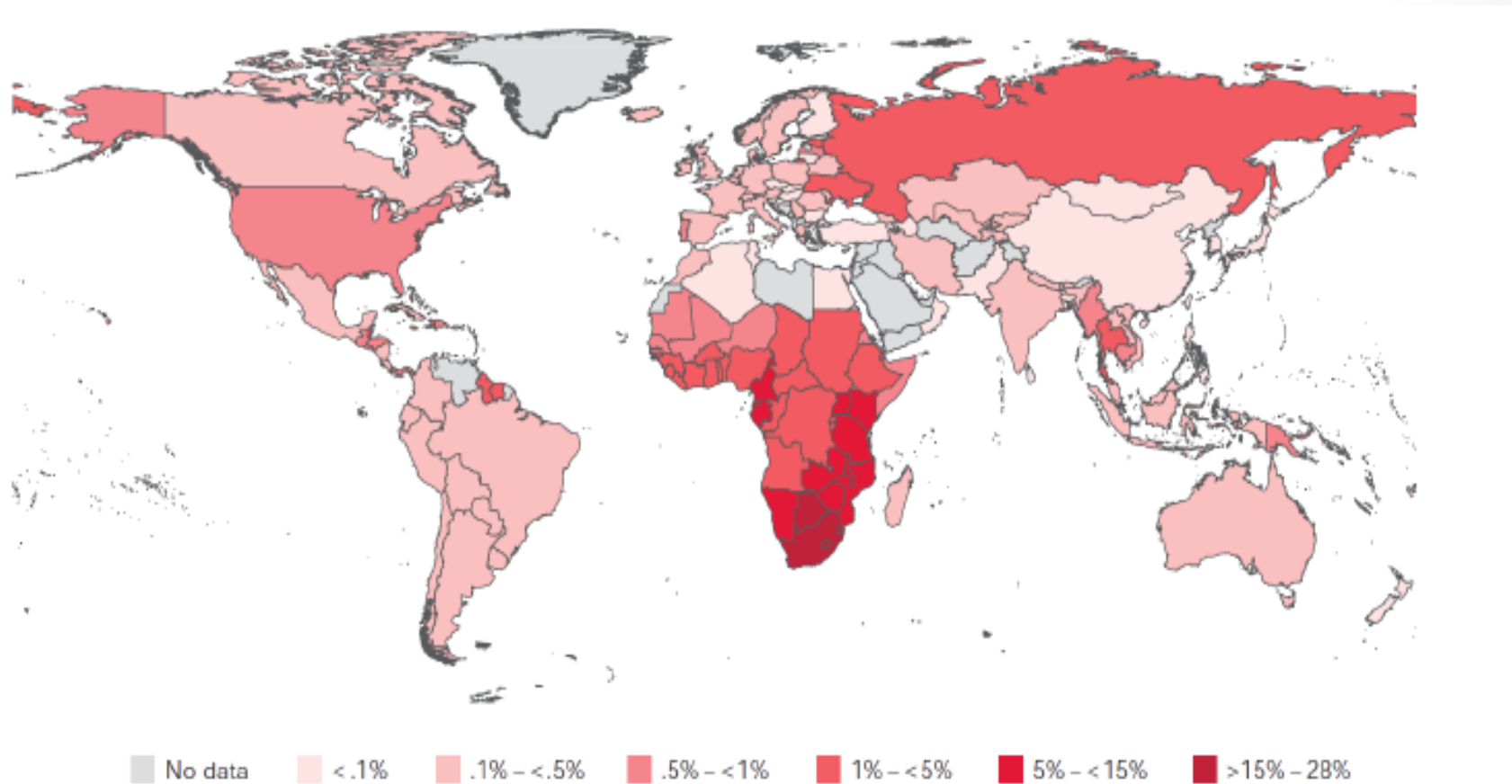**Presented by Arantxa Colchero, PhD**

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June 26, 2013

Introduction

HIV prevalence worldwide

| No data | < .1% | .1% – <.5% | .5% – <1% | 1% – <5% | 5% – < 15% | >15% – 28% |

Source: UNAIDS.

World Health Organization

UNAIDS

Prevalence of HIV among MSM

- Prevalence of HIV among MSM is increasing*

- Prevalence ranges between 9 to 22%

- MSM 19 higher risk (33 in the Americas)+

- Disinhibition, limited resources for prevention (particularly VCT), not targeted

*van Griensven et al. Current Opinion in HIV and AIDS 2009
* Kerr et al. AIDS 2013
+ Baral. et al. PLoS Med 2007

HIV in Mexico

- Prevalence general population< 1%

- Prevalence among MSM estimated at 10%

- Based on a survey in 4 cities (n=1,111)

- Scarce studies, not nationaly representative

Research opportunities

- Survey to MSM in 2011 in 24 cities

  - Mexico received resources from the Global Fund
  - Prevention activities in 44 cities (MSM and IDU)
  - Baseline survey

- Survey to transgender women (Mexico city, 2012

  - Funded by USAID trough PSI Mexico
  - In collaboration with HIV Clinic (Condesa)

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Methods MSM survey

Sample size and cities

- Sample size of 8,586 to estimate changes in incidence rates

- Baseline survey (impact evaluation)

- From the 44 cities where prevention activities would be implemented: 24 cities were selected

- Representative of the 5 regions in the country

Survey design

- Probabilistic design in two phases

- Random selection of 24 cities

- Random selection of gathering points in each city

Mapping gathering points

- Adapted the methodology of "PLACES"*

- More attended and referred places

- Sampling frame for the survey

- Prevention activities

*Priorities for Local AIDS Control Efforts. Weir, et al. 2003

Mapping gathering points

- Two steps

  - Identified a list of places by key informants in each city

  - Visit the meeting points to characterize them (questionnaire)

Survey

- Self-administered questionnaire (ACASI: audio computer-assisted self-interview)

  - Sociodemographics, health care utilization, sexual practices, stigma and discrimination

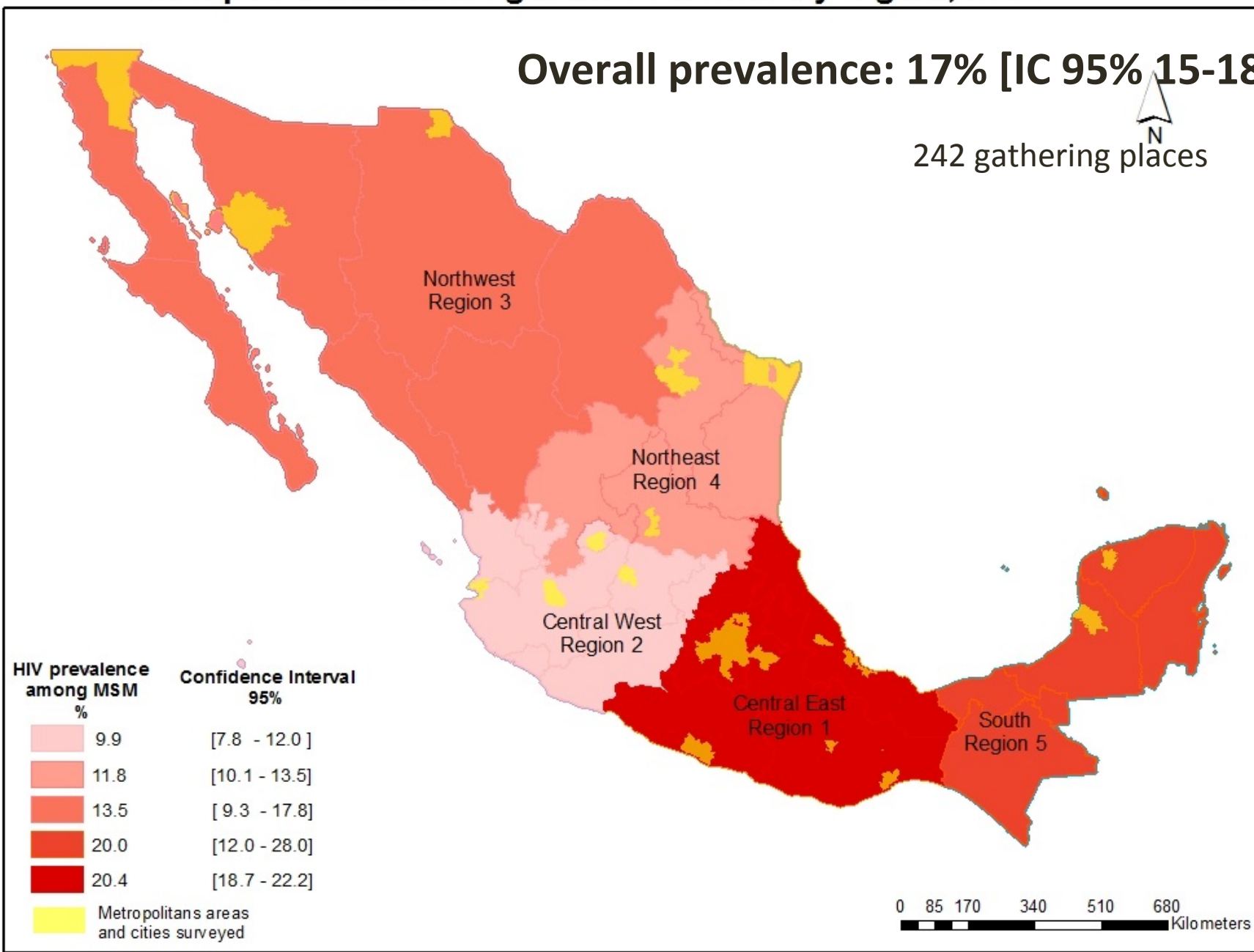- HIV rapid testing (LAFON): 100% sensitivity, 99.4 to 99.8% specificity

Analysis

- Prevalence of HIV by region (adjusted for positive predicted vallue)

- Probit model to estimate the probability of a positive result as a function of age, education, sexual identity, number of sexual partners, condom use, sexual rol and region

Results MSM survey
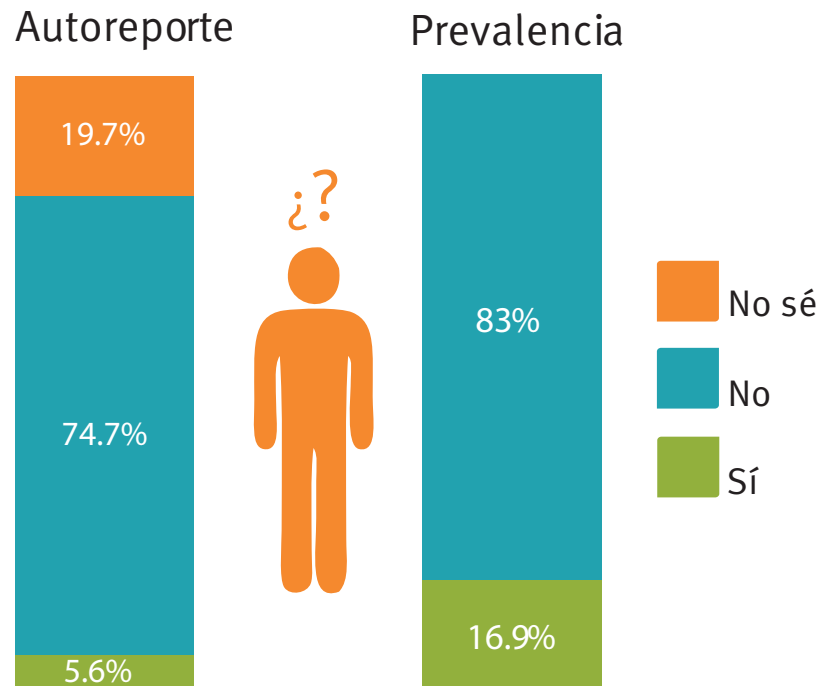
HIV prevalence among MSM in Mexico by region, 2011

Overall prevalence: 17% [IC 95% 15-18]

242 gathering places

Northwest Region 3

Northeast Region 4

Central West Region 2

Central East Region 1

South Region 5

HIV prevalence among MSM %	Confidence Interval 95%
9.9	[7.8 - 12.0]
11.8	[10.1 - 13.5]
13.5	[9.3 - 17.8]
20.0	[12.0 - 28.0]
20.4	[18.7 - 22.2]
	Metropolitans areas and cities surveyed

0 85 170   340   510   680
Kilometers

HIV risk perception

Diferencia entre autoreporte y prevalencia de VIH

Autoreporte — 19.7%, 74.7%, 5.6%

Prevalencia — 83%, 16.9%

No sé
No
Sí

30% of those with a positive result know their status

Variable	Mean/Proportion	Linearized standard error	95% Confidence Interval
Age	27.4	0.243	[26.99-27.95]
Last school grade completed			
Primary school or less	0.04	0.005	[0.03-0.05]
Secondary school	0.13	0.008	[0.12-0.15]
High school	0.41	0.009	[0.39-0.43]
University or higher	0.42	0.013	[0.39-0.42]
Sexual identity (gay=1, 0 otherwise)	0.73	0.011	[0.71-0.75]
Number of sexual partners (last month)	2.03	0.073	[1.88-2.17]
Condom use (last sexual intercourse)	0.73	0.007	[0.71-0.74]
Sexual role (last sexual intercourse)			
Receptive	0.33	0.007	[0.31-0.34]
Insertive	0.34	0.006	[0.32-0.35]
Insertive & receptive	0.33	0.006	[0.31-0.34]
Region			
Region 1	0.53	0.024	[0.48-0.58]
Region 2	0.16	0.038	[0.08-0.23]
Region 3	0.17	0.041	[0.08-0.25]
Region 4	0.07	0.008	[0.05-0.08]
Region 5	0.06	0.034	[-0.002-0.131]

Socio-economic and risk behavior characteristics

Variable	Coefficient	Linearized standard error	95% Confidence Interval
Age	0.029	0.004*	[0.020-0.038]
Age squared	-0.0004	0.0003*	[-0.0005- -0.0002]
Last grade completed (reference: university of higher)			
Primary school or less	0.054	0.031†	[-0.007-0.115]
Secondary school	0.041	0.017**	[0.007-0.075]
High school	0.050	0.010*	[0.030-0.069]
Sexual identity (gay=1)	0.049	0.010*	[0.028-0.069]
Number of sexual partners (last month)	0.004	0.001*	[0.001-0.006]
Condom use (last sexual intercourse)	0.049	0.012*	[0.026-0.072]
Sexual role (last sexual intercourse; reference: insertive)			
Receptive	0.054	0.013*	[0.029-0.079]
Insertive or receptive	0.070	0.013*	[0.046-0.095]
Region (reference: Region 1)			
Region 2	-0.108	0.016*	[-0.140- -0.076]
Region 3	-0.073	0.027*	[-0.125- -0.021]
Region 4	-0.081	0.017*	[-0.114- -0.048]
Region 5	0.018	0.039	[-0.059- 0.095]

F test (probit model): $F_{(14-158)}=16.3$, $p<0.001$

*significant at 5%, **significant at 1%, + significant al 10%*

Predictors of a positive result to HIV rapid testing (probit model)

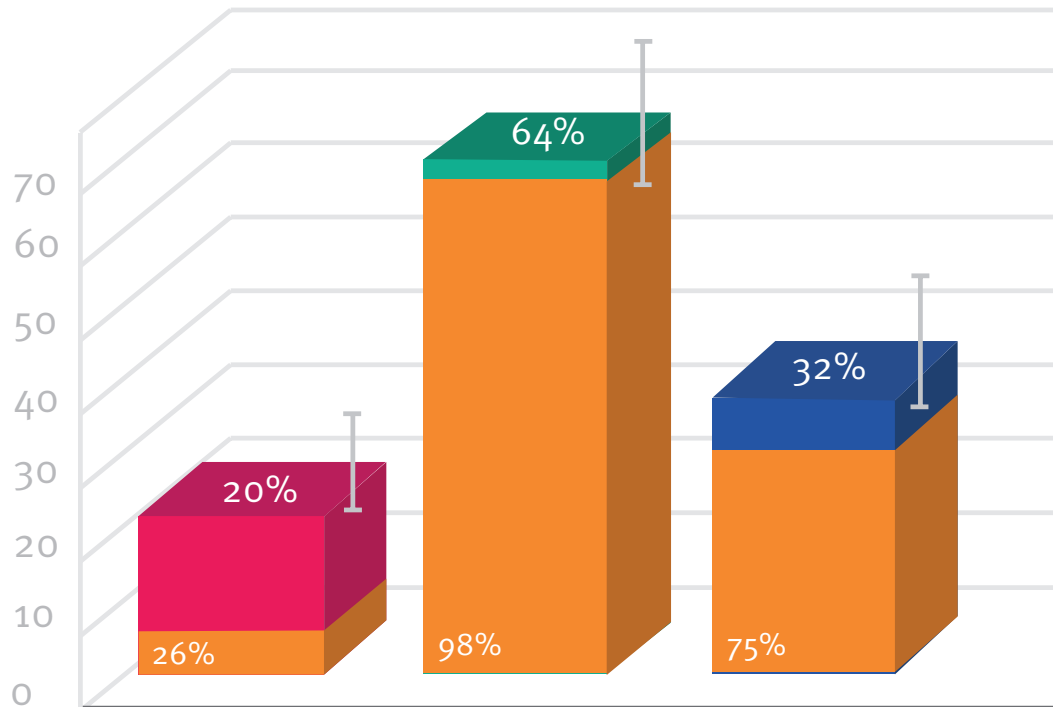18

Survey to TW

Sample size and cities

- TW survey 2012 (n=585)

  - Mexico city:

    - Gathering places

    - HIV Clinic

    - 4 Detention Centers

Survey to TW

- Gathering places same method as in MSM

- HIV Clinic: patients from TW and HIV clinic

- Detention centers: invited

- We provided

  - Prevention kit
  - Incentives (except prisons)
  - Accompanied by peers in gathering places

HIV positive results and knowledge of status

Legend:
- Gathering places
- HIV clinic
- Detention centers
- Knowlegde of HIV status

Values shown: 20%, 26%, 64%, 98%, 32%, 75%

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Sociodemographics

- Low education compared to MSM

- Occupation: sexual work, beauty salons

- About 90% had revealed the desire to become women around 14 years old, only 50% had support from their families

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Mental health and substance abuse

- Sustance abuse higher than the general population

- Mental Health SF36: above the ideal

- Suicidal attempts and plans higher that the general population

Conclusions

Conclusions

- High prevalence of HIV among MSM and TW: an increase?

- Results representative of MSM in meeting places

- Prevention packages according to their needs

- Target the most at risk populations

- VCT programs linked to treatment are urgent