90-90-90
Targets Workshop

July 22-23, 2017 • Paris

Sponsored by

IAPAC INTERNATIONAL ASSOCIATION OF PROVIDERS OF AIDS CARE

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GNP+ GLOBAL NETWORK OF PEOPLE LIVING WITH HIV

IAS

90-90-90 PLUS: How PrEP Implementation Can Help Get to Zero

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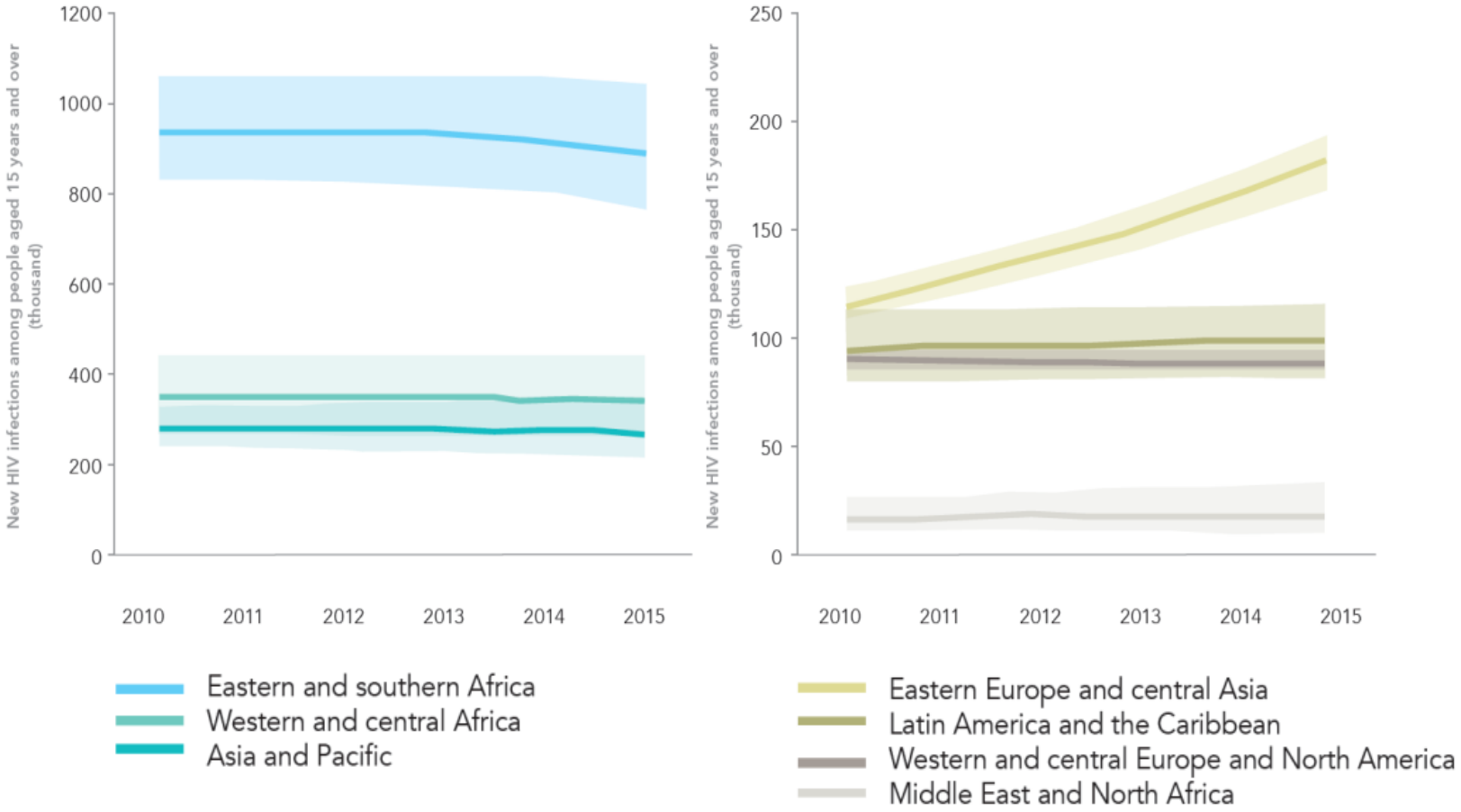
Why PrEP in a 90-90-90 world?

- Substantial N of undiagnosed infection
- "Churn": rates of virologic suppression and stability in care are suboptimal
- PrEP can add to the incentives for getting tested, i.e. there is something for those who are infected and for those who are not
- PrEP plus Test and Treat (T&T) could be cost effective, decreasing the number needed to treat more rapidly than T&T alone

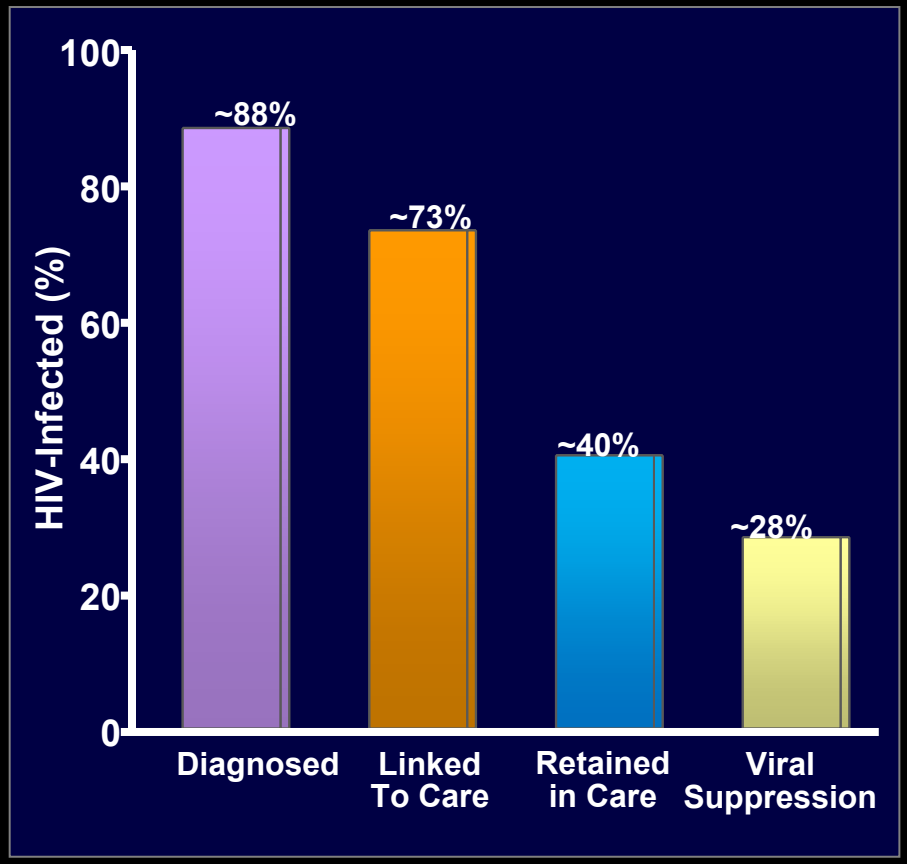
New HIV infections among people aged 15 years and over, by region, 2010–2015



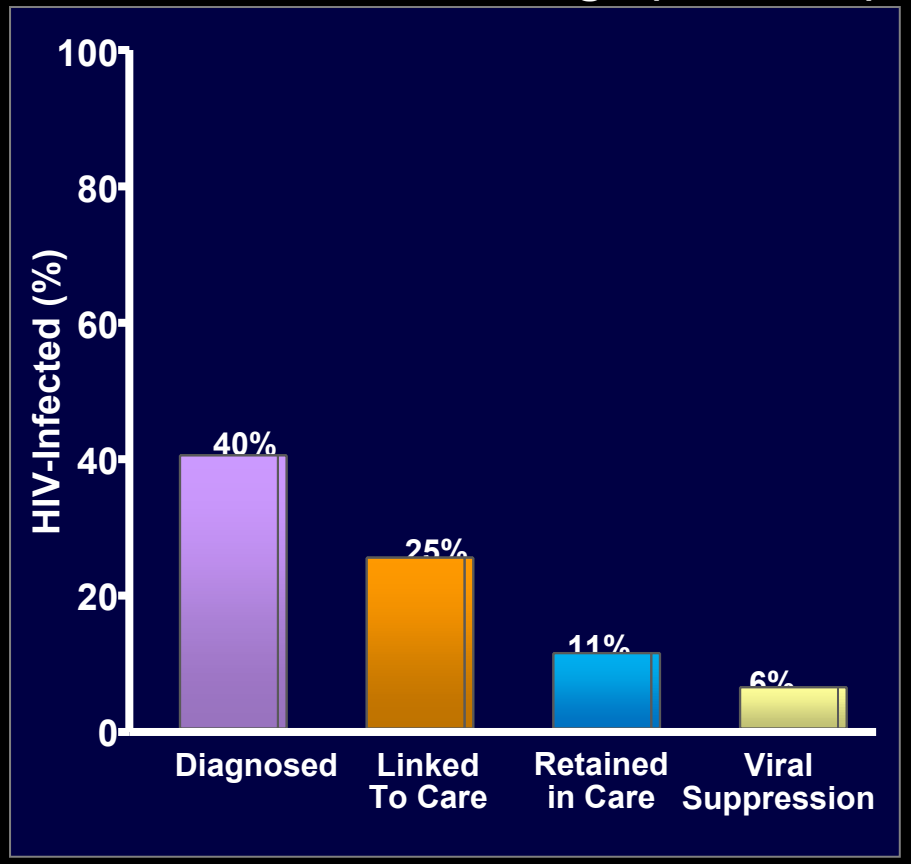
Source: UNAIDS 2016 estimates.

HIV Cascade of Care: Missed Opportunities in the US

HIV-Infected: >25 Years of Age (n=896,800)



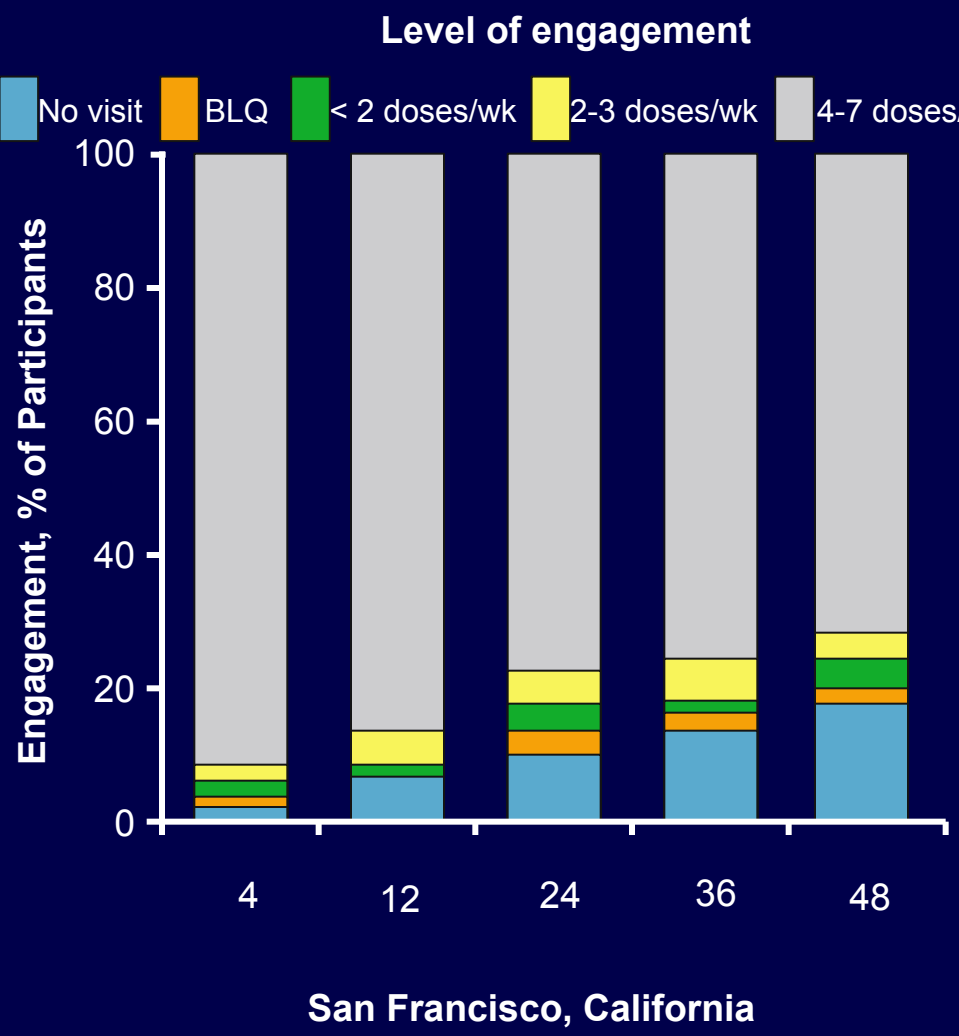
HIV-Infected: 13-29 Years of Age (n=78,949)



Zanoni B, Mayer K. *AIDS Patient Care STDS.* 2014;28:128-135.
Hall HI, et al. *JAMA Intern Med.* 2013;173:1337-1344.

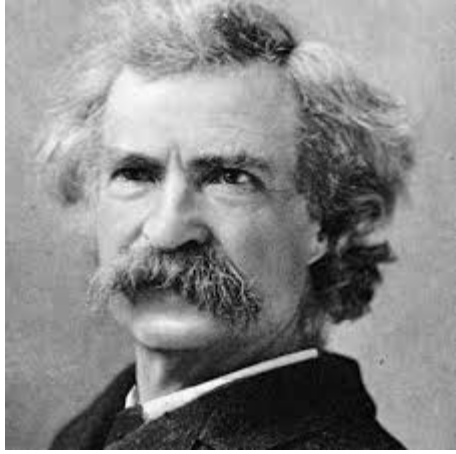
PrEP Demonstration: High Adherence in STD/Community-Based Clinics

- Prospective, open-label study of 48 wks of daily oral TDF/FTC PrEP for MSM/TGW (N = 557)
  - 3 US STD or community-based clinics in San Francisco, Miami, and Washington, DC
- Of pts with at least 2 DBS tested (n = 272), 62.5% had protective TFV levels (consistent with ≥ 4 doses/wk) at all visits
  - 3% had TFV levels consistent with < 2 doses/wk
- PrEP dispensation interrupted in 15%: most commonly due to AE concerns or low perceived risk
- STI incidence remained stable during follow-up (90/100 PY)



Liu AY, et al. JAMA Intern Med. 2016;176:75-84.

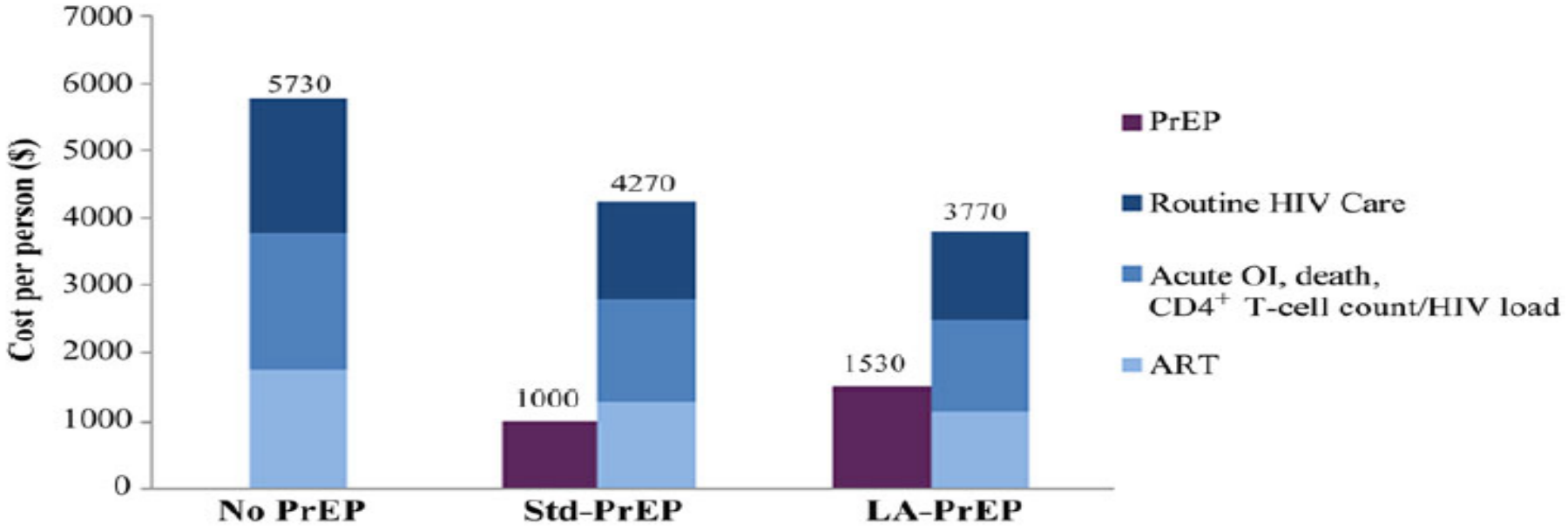
Can PrEP be cost effective?



- Depends…..
- Need to understand local epidemiology to identify populations with 3% (CDC) to 5% annualized HIV incidence (Brian Williams, 2012) https://arxiv.org/pdf/1209.0364
- Can generic TDF/FTC be used? On demand PrEP?
- Are major HIV testing centers equipped to counsel, triage and manage PrEP?
- PrEP Centers of Excellence to disseminate best practices?
- PrEP@home: self-monitoring?

Potential Clinical and Economic Value of Long-Acting Preexposure Prophylaxis for South African Women at High-Risk for HIV Infection

Rochelle P. Walensky,[1,2,3,5,6] Margo M. Jacobsen,[1,3] Linda-Gail Bekker,[11] Robert A. Parker,[1,3,4,6] Robin Wood,[11] Stephen C. Resch,[7] N. Kaye Horstman,[1,3] Kenneth A. Freedberg,[1,2,3,6,8,9] and A. David Paltiel[10]



	No PrEP	Std-PrEP	LA-PrEP
Total Cost ($):	5730	5270	5300
Lifetime HIV Risk (per 1000):	630	540	510

JID 12/7/15

Belgian TasP+/- PrEP Model

Scenario	N new infections/yr	Annual Cost (million Euros)
Current Situation	1350	260,5
Outreach+TasP	865	239,9
Outreach+TasP+PrEP	663	226,8

S Vermeesch et al, Acta Clinica Belgica Jul 7, 2017

US Scenarios

- At 40% coverage of indicated MSM over the next decade per CDC PrEP guidelines could avert 1162 infections per 100 000 person-years, 33.0% of expected infections. The predicted NNT for the guidelines would be 25.

S Jennesse et al, JID, 2016

- For PrEP to be cost saving at base-case adherence/efficacy levels and at a background prevalence of 20%, drug cost would need to be reduced to $8,021 per year with no disinhibition, and to $2,548 with disinhibition.

J. McKenney et al, PLoS ONE, 2017

PrEP and 90-90-90: Work in Progress

- PrEP plus TasP associated with favorable trends declines in new infections in London, San Francisco and Washington, DC
  (Brown, Eurosurveillance 2017; SFDPH, 2015; Chason, Washington Post 6/7/17)
- Some PrEP access reported in 60 countries
- Kenya, South Africa, Zimbabwe rolling PrEP out, and in national plans of other African countries
- National PrEP programs in Europe, Australia, Asia, Latin America, Canada
- About 250,000 have initiated PrEP, most in the US (Betty Chang, Gilead, 6/17)

Using EHR data to identify PrEP candidates: patients with incident HIV (cases) and patients without HIV (controls)

Demographics

Laboratory Results

Diagnoses

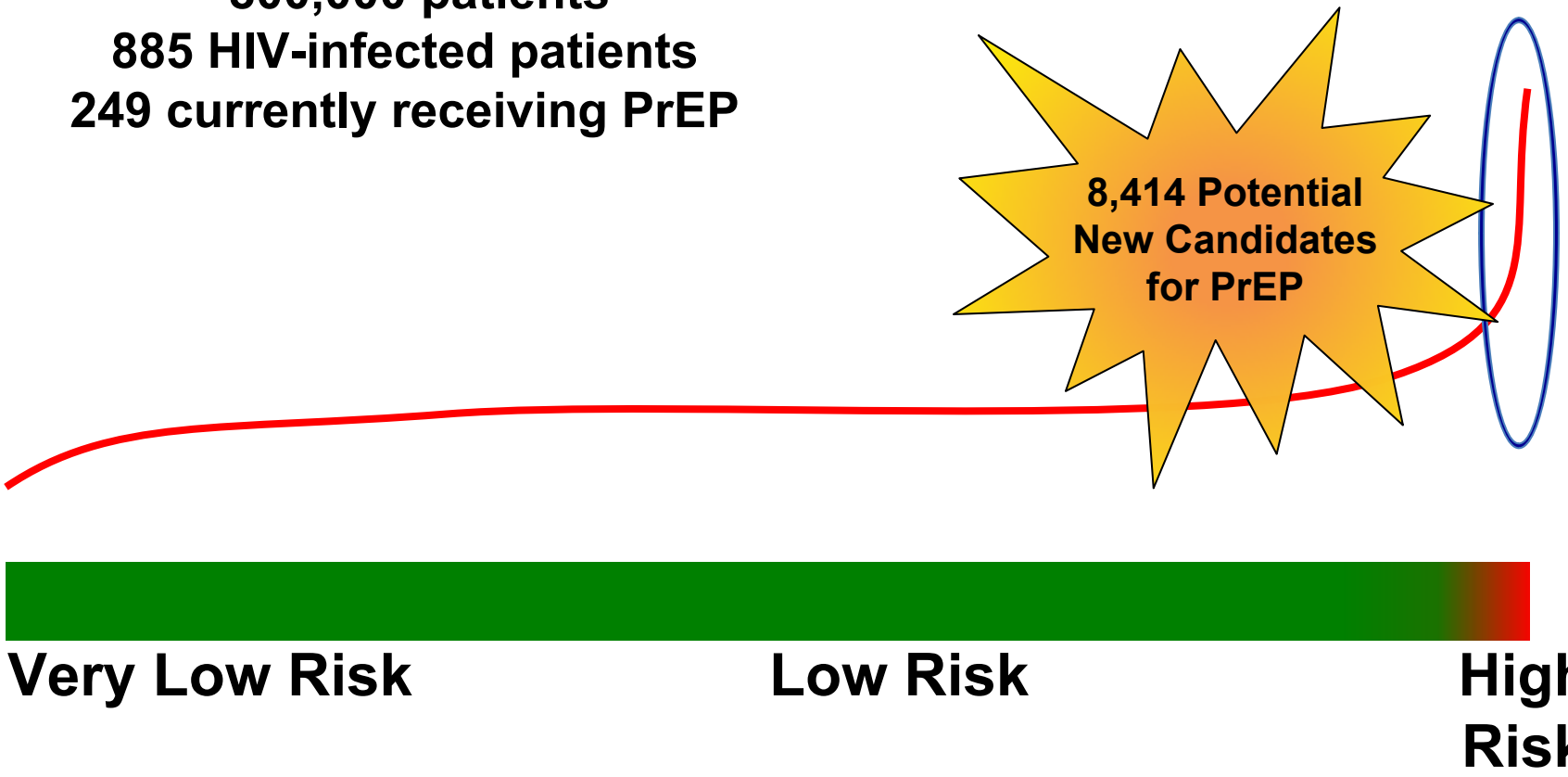
Prescriptions

8,414 (1.1%) of patients in the HMO population had HIV prediction scores above an inflection point in the distribution of scores

(D Krakower, ID Week, 2016)

Atrius Health

~800,000 patients
885 HIV-infected patients
249 currently receiving PrEP



Where to provide new PrEP?

Setting	Barriers	Facilitators
STD Clinics	○ Don't provide 1° care ○ High patient volume ○ Limited counseling time	○ See high risk populations ○ Sexual health focus ○ Partner notification services
Community Health Centers	○ Clinicians not trained in sexual health care ○ Busy clinical practices ○ Need to address 1^0 care issues ○ Limited counseling staff	○ Opportunity to integrate care ○ Ongoing relationship ○ Safety net insurance programs ○ May be medical home for at risk, underserved patients
Community-Based Organizations	○ Lack of clinical support ○ Often limited resources ○ Need to link to clinicians, who may or may not be responsive	○ Work with at-risk populations ○ Able to do community outreach ○ May have peer navigators
Pharmacies	○ Prescriber often not on site ○ May not be able to address other health concerns ○ Lack of private physical space for counseling	○ Experience with medications and adherence counseling ○ Collaborative drug therapy agreements ○ Extended operating hours ○ Potentially low service fees
Primary Care Providers	○ Generalist ○ Busy schedule ○ Discomfort discussing sexual behaviors	○ Able to integrate other primary care issues ○ Long-term patient relationship common

How to improve chemoprophylaxis effectiveness?

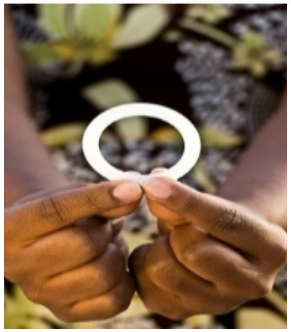
New oral PrEP drugs and dosing strategies

IPERGAY
un essai ANRS
Intervention Préventive de l'Exposition aux Risques avec et pour les GAYS

Novel adherence strategies

Alternative delivery systems and formulations

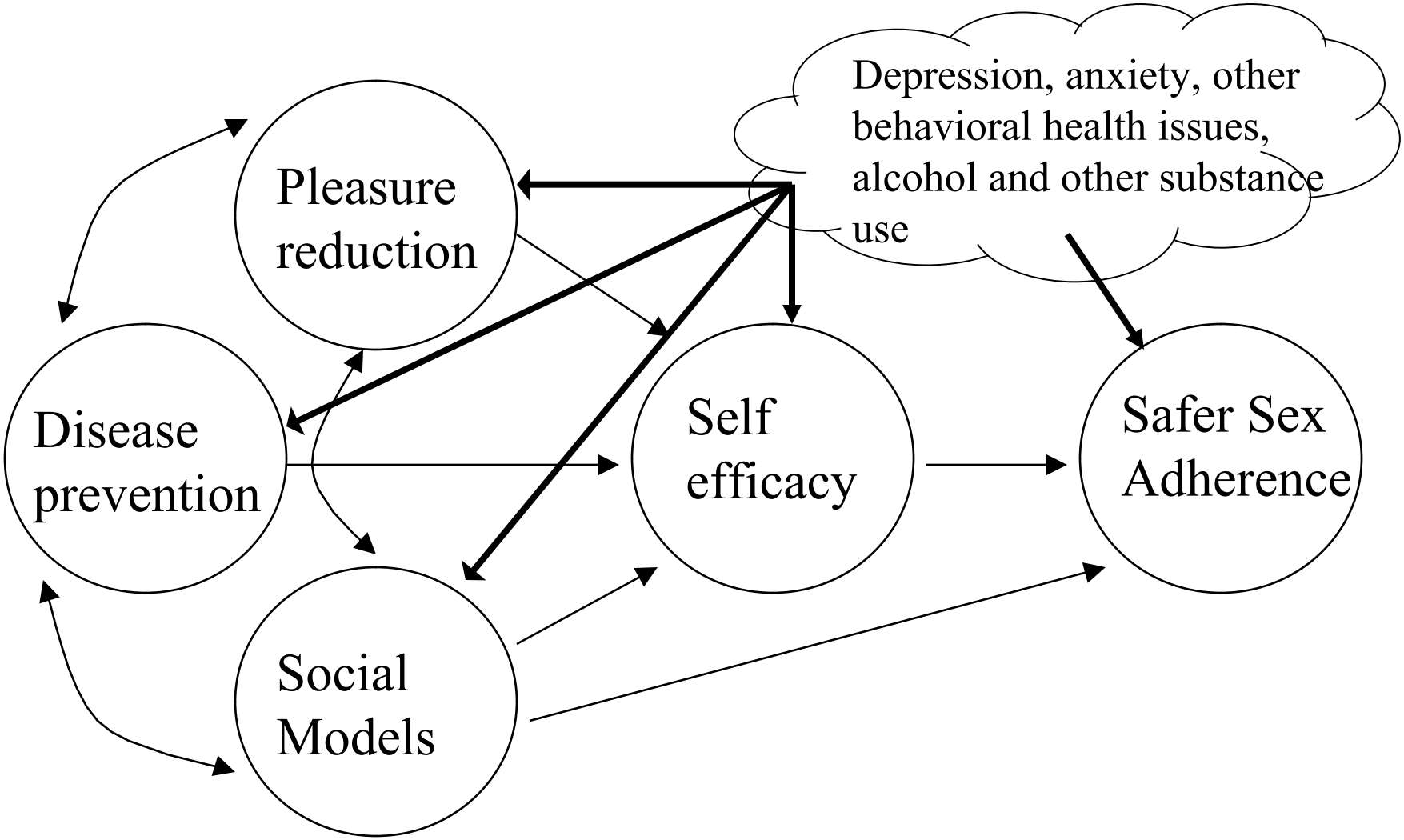
Vaginal & Rectal Microbicides (MTN 017)



Intravaginal rings (Dapivirine, Tenofovir) +/- Contraception)

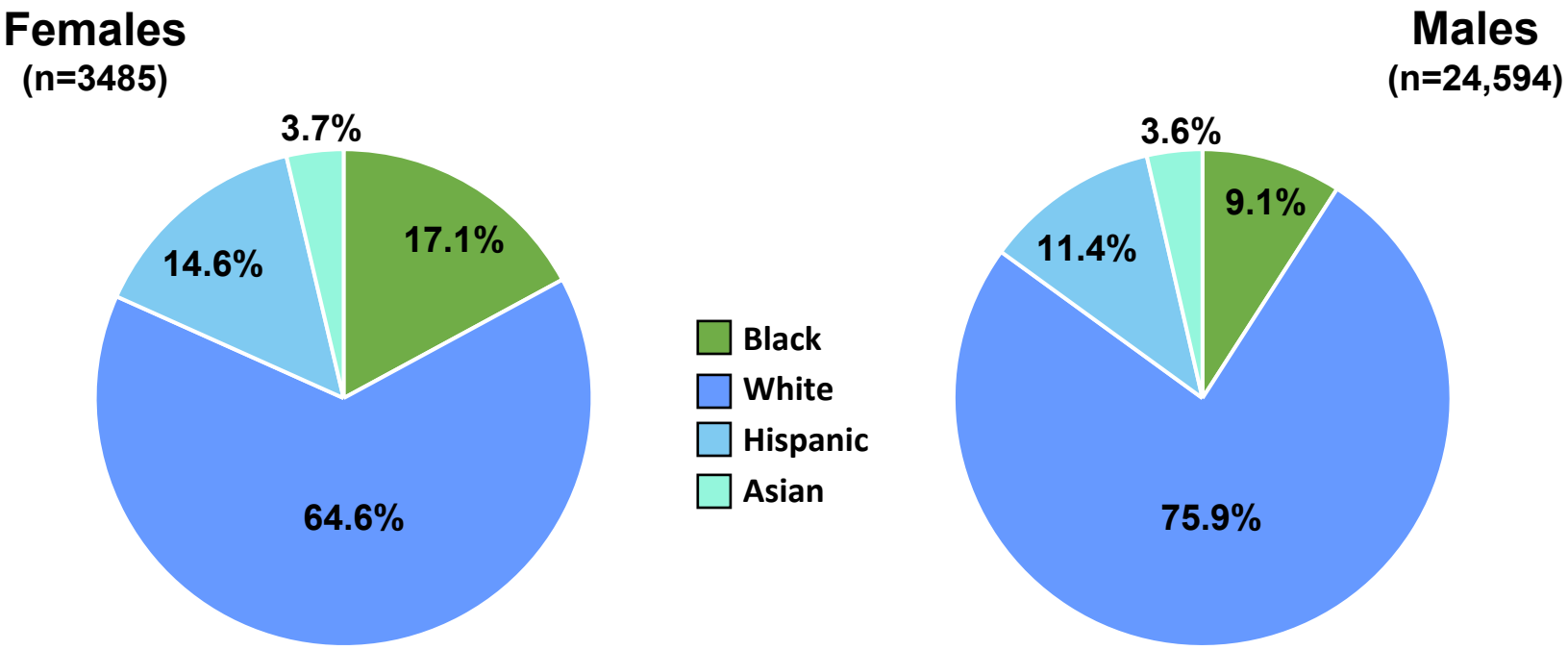
Injectables: ARVs and mAbs (Cabotegravir, VRC01)

Bio-Prevention is always "Bio-Behavioral" (pills, rings, and injections require adherence)



Wulfert, Safren, et al., 1999; Journal of Applied Social Psychology

PrEP Utilization by Gender and Race in the US (2013 to Q1 2016)



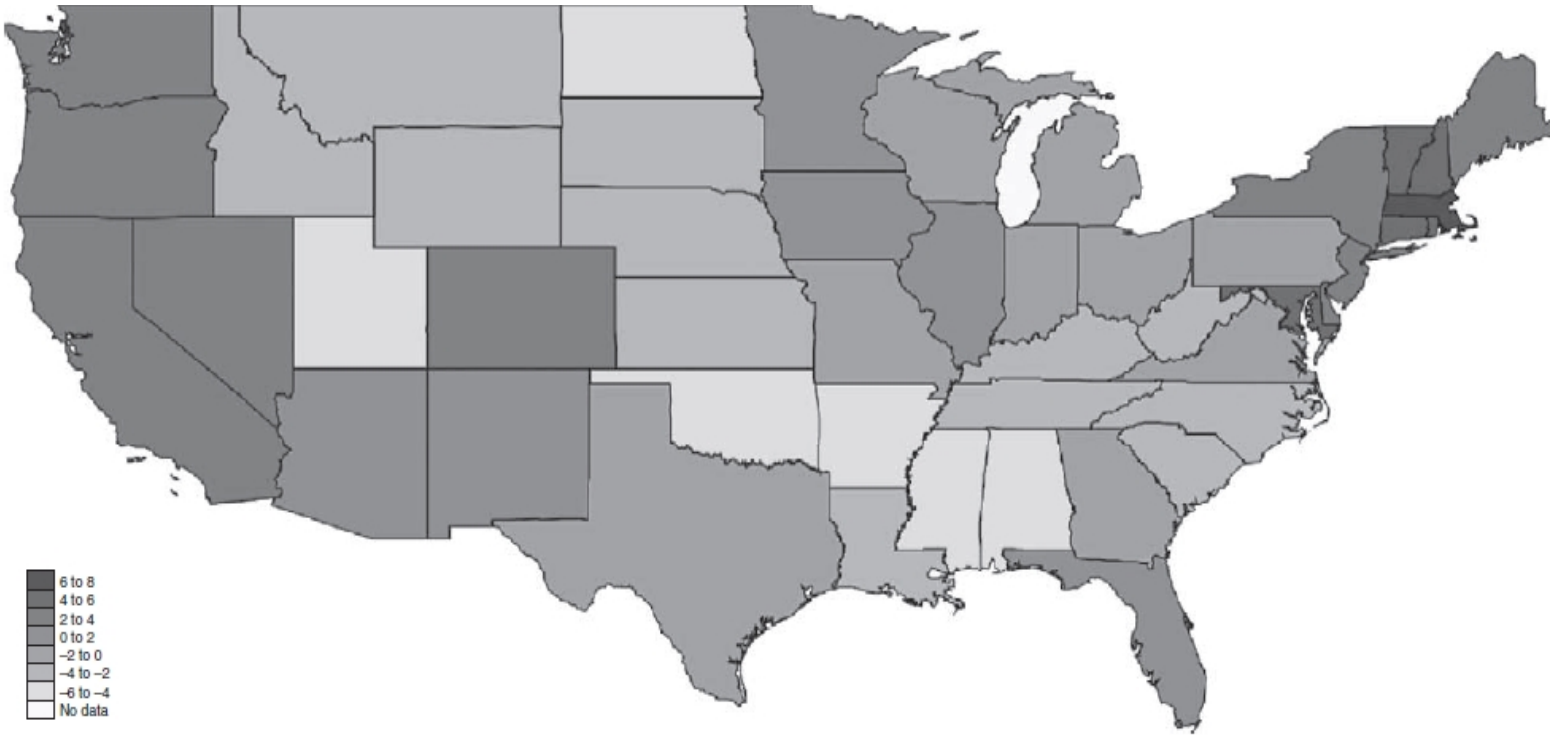
White Females
3.8 and 4.4 times more likely
to be started than their
Black or Hispanic counterparts

White Males
8.3 and 6.7 times more likely
to be started than their
Black or Hispanic counterparts

In 2014, 44% and 23% of new HIV infections were black and Hispanic persons compared with 27% for whites.

Bush S, et al. *J Int AIDS Soc*. 2016;19(suppl 7):14-15. Abstract O314.

State-level structural sexual stigma and HIV prevention in a national online sample of HIV-uninfected MSM in the United States



MSM in states with higher levels of structural stigma were more likely to report condomless anal sex, were less likely to have used PEP or PrEP, and less likely to disclose same sex behavior with their providers

Oldenburg, C et al, AIDS, 2015

Conclusions

- There is a role for PrEP in more rapid achievement of 90-90-90+ goals
- Challenges remain, including:

  -Identification of highest risk populations

  -Determination of who is best equipped to provide PrEP, and ensuring adequate training

  -Managing costs (e.g. generics, staffing)

  -Demand creation

  -Addressing structural impediments, stigma

Thank you

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