

# Global state of the science and implementation summary for oral PrEP



World Health  
Organization

Ioannis Hodges-Mameletzis  
World Health Organization  
HIV Department  
Geneva, Switzerland  
Twitter: [@mylittlebaklava](https://twitter.com/mylittlebaklava)

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## Preexposure Chemoprophylaxis for HIV Prevention in Men Who Have Sex with Men

Robert M. Grant, M.D., M.P.H., Javier R. Lama, M.D., M.P.H., Peter L. Anderson, Pharm.D., Vanessa McMahan, B.S., Albert Y. Liu, M.D., M.P.H., Lorena Vargas, Pedro Goicochea, M.Sc., Martín Casapía, M.D., M.P.H., Juan Vicente Guanira-Carranza, M.D., M.P.H., Maria E. Ramirez-Cardich, M.D., Orlando Montoya-Herrera, M.Sc., Telmo Fernández, M.D., Valdilea G. Veloso, M.D., Ph.D., Susan P. Buchbinder, M.D., Suwat Charialertsak, M.D., Dr.P.H., Mauro Schechter, M.D., Ph.D., Linda-Gail Bekker, M.B., Ch.B., Ph.D., Kenneth H. Mayer, M.D., Esper Georges Kallás, M.D., Ph.D., K. Rivet Amico, Ph.D., Kathleen Mulligan, Ph.D., Lane R. Bushman, B.Chem., Robert J. Hance, A.A., Carmela Ganoza, M.D., Patricia Defechereux, Ph.D., Brian Postle, B.S., Furong Wang, M.D., J. Jeff McConnell, M.A., Jia-Hua Zheng, Ph.D., Jeanny Lee, B.S., James F. Rooney, M.D., Howard S. Jaffe, M.D., Ana I. Martinez, R.Ph., David N. Burns, M.D., M.P.H., and David V. Glidden, Ph.D., for the iPrEx Study Team\*

# Oral PrEP containing TDF

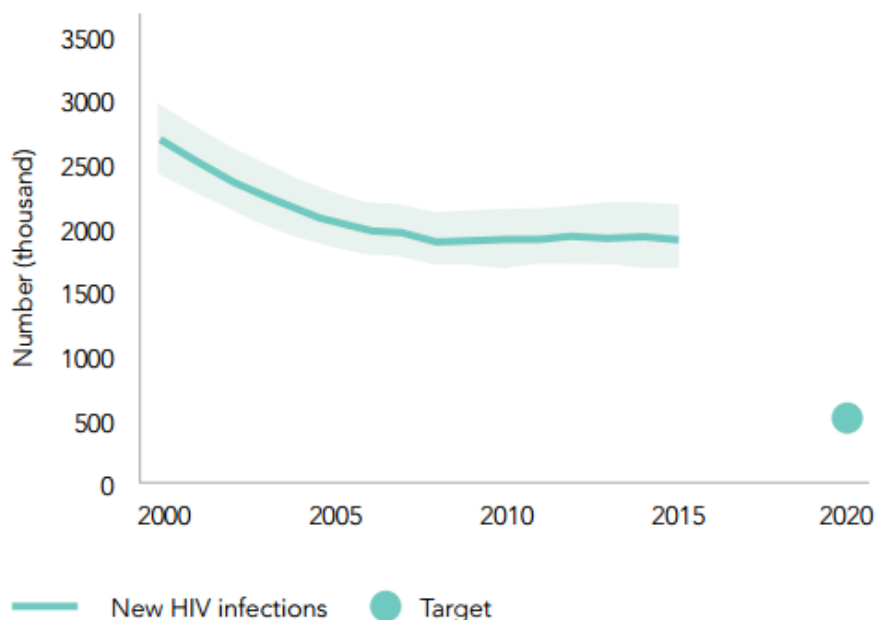
Recommended for any person at substantial HIV risk  
(as part of combination prevention)

- WHO strong recommendation, high quality evidence (2016 WHO consolidated ARV guidelines update)
  - Systematic review and meta-analysis of clinical research (Fonner et al, *AIDS*, 2016)
  - Adherence is the critical predictor
- Essential Medicines List (EML) recently added PrEP medicines (2017)
- For MSM-TG everywhere, SWs in most settings (given epidemiology), other populations (e.g. adolescent girls and young women)

What's the context?

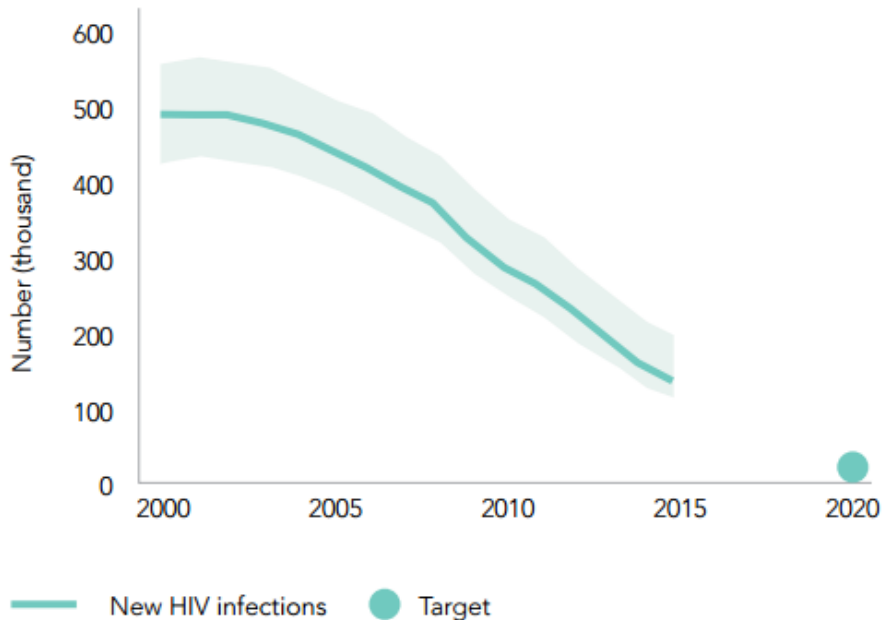
# Global HIV transmission **PERSISTS**: Treatment scale-up has ‘masked stagnation in the estimated annual number of new HIV infections’ (Baggaley et al, *JIAS*, 2016)

## New HIV infections among adults (aged 15 years and older), global, 2000–2015



Source: UNAIDS 2016 estimates.

## New HIV infections among children (aged 0–14 years), global, 2000–2015



Source: UNAIDS 2016 estimates.

# Put your foot on the peddle

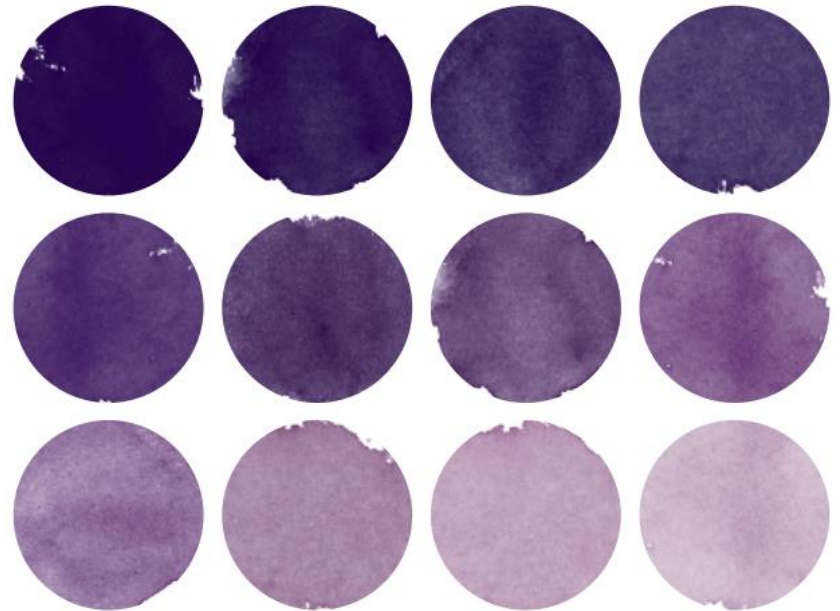


JUNE 2016

## GLOBAL HEALTH SECTOR STRATEGY ON HIV

### 2016–2021

TOWARDS ENDING AIDS



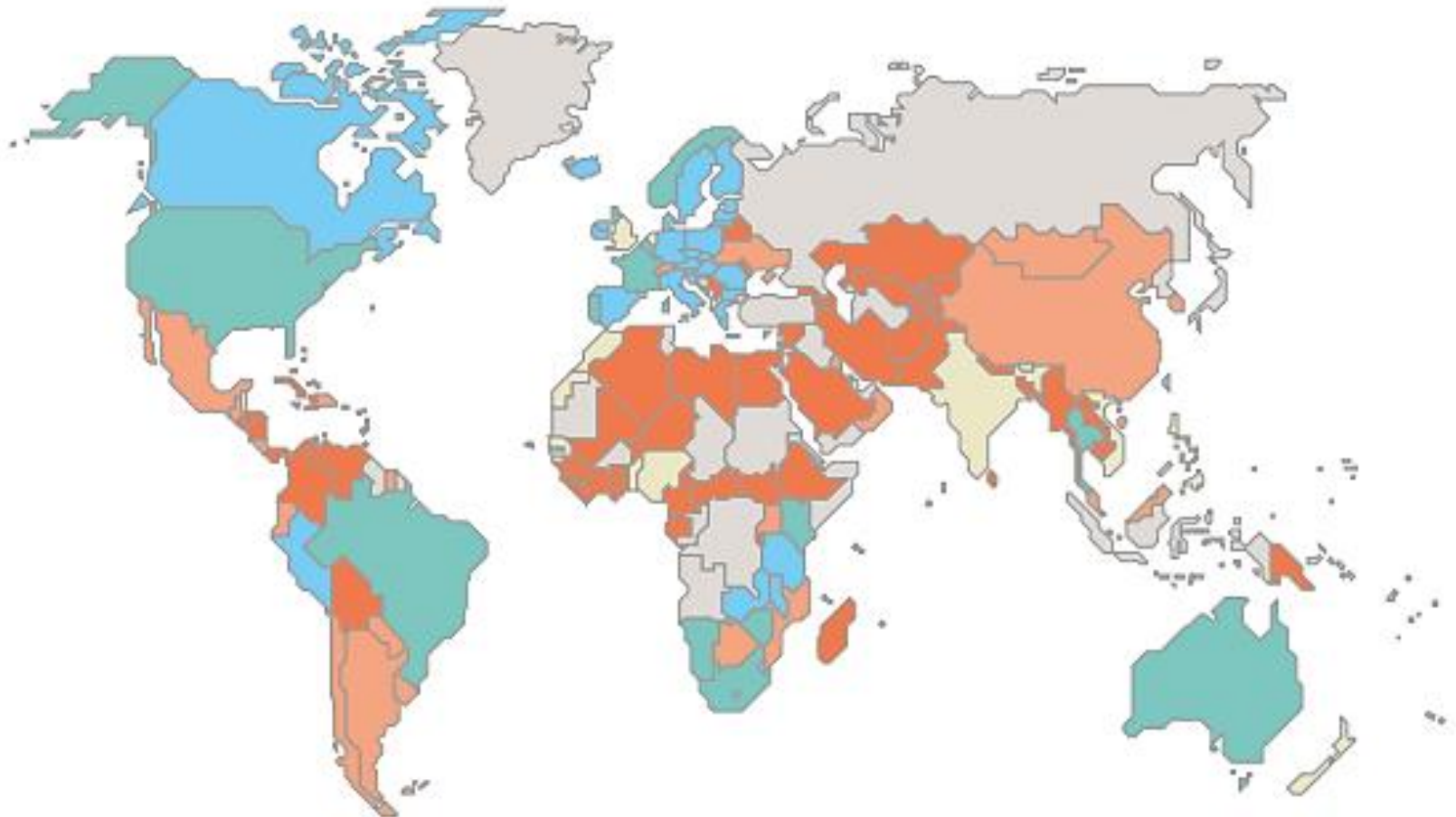
- Target setting: reducing HIV infections to under 500,000 by 2020
- Need for innovation in HIV prevention
  - E.g. PrEP, HIV self-testing
- WHO strategy on STIs and viral hepatitis
- Synergies across strategies

# Where PrEP has been approved?

(approval implies **regulatory approval**)

- Originator product approved (except in India):
  1. USA (1<sup>st</sup> approval in 2012 by FDA)
  2. South Africa
  3. Kenya
  4. Canada
  5. Peru
  6. India (Cipla's TDF/FTC product approved by national regulator)
  7. Australia
  8. European Medicines Agency (initial approval in France as a temporary approval, *RTU*)
  9. Thailand
  10. New Zealand
  11. Tanzania
  12. Taiwan
  13. Zambia
  14. Zimbabwe
  15. Lesotho (reciprocal approval based on South African market authorization)
  16. Swaziland (reciprocal approval based on South African market authorization)
  17. Namibia
  18. Brazil
  19. Israel

# Availability of PrEP is limited



Regulatory approval, framework\*\* being put in place, PrEP use scaling up\*

Regulatory approval, but any PrEP use is private

Demonstration project

No regulatory approval; reported low-level off-label PrEP use

PrEP not available

No data



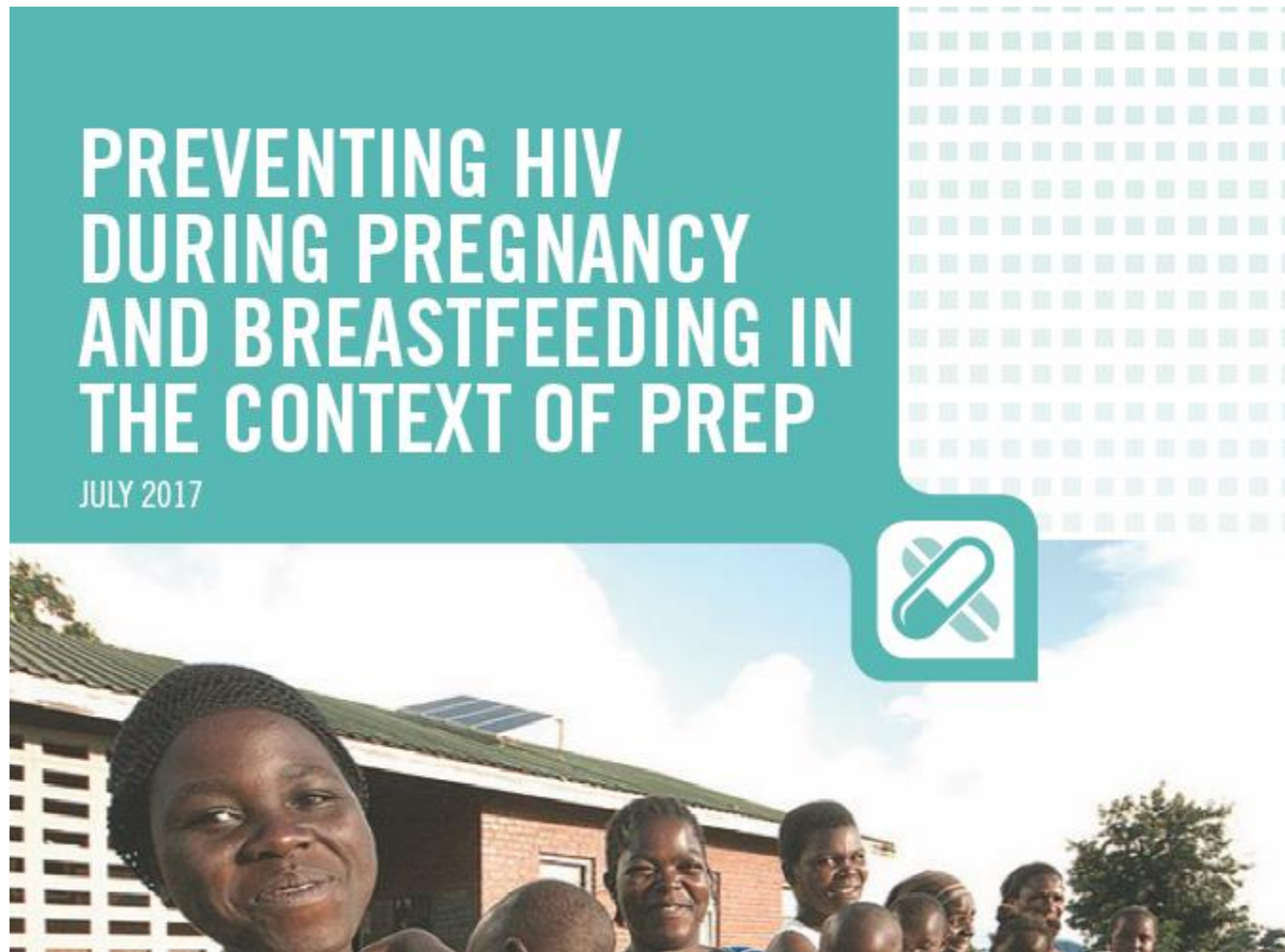
# Many elephants in the room, depending which room

<b>Cost</b> →	Why should we prioritize PrEP when treatment is our immediate priority?
<b>Where, Who</b> →	Where do we start? Which populations ? Where to offer services?
<b>Safety</b> →	'Toxic drugs' for people without HIV
<b>Drug resistance</b> →	People taking PrEP, esp. with poor adherence: Will this result in lots of drug resistance use?
<b>Behavioral disinhibition</b> →	Offering PrEP will mean people stop using condoms, have more sexual partners, more STIs
<b>Pregnancy and hormonal contraception</b> →	PrEP isn't safe during pregnancy and should be stopped when women become pregnant What about drug interactions?
<b>Adherence</b> →	Some of the trials had poor results with poor adherence (women)
<b>&gt;18 years</b> →	Many concerns esp. for adolescent girls

# What about PrEP in pregnancy + breastfeeding?

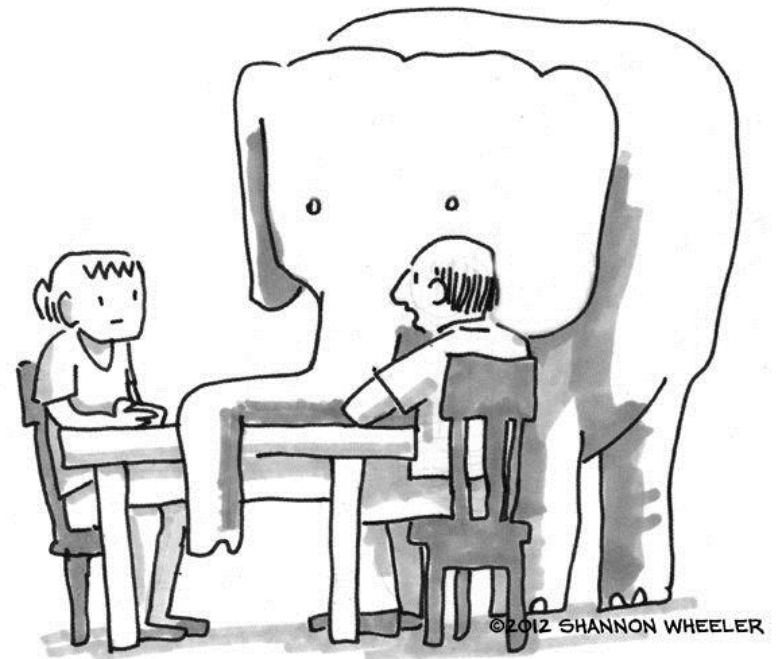
- Oral PrEP containing TDF *can* be used in pregnancy and BF
- Safety data available from:
  - HIV treatment
  - Limited PrEP trial data
    - Women excluded in RCTs once pregnancy was confirmed
  - HBV treated populations
- Systematic review of that data commissioned by WHO (Mofenson L, Baggaley R, Mameletzis I, *AIDS*, 2017)

Review was the basis of technical brief just released by WHO (2017)



# What about STIs?

- Will PrEP scale-up in populations and individuals at risk for HIV lead to an outbreak of STIs?
- Will PrEP being available as a service encourage providers to offer PrEP to those not at risk, leading to an increase in ‘risk compensation’?
- Will PrEP undermine STI screening efforts currently in place?
  - We are doing syndromic management
  - **We need to raise the bar on STI screening**

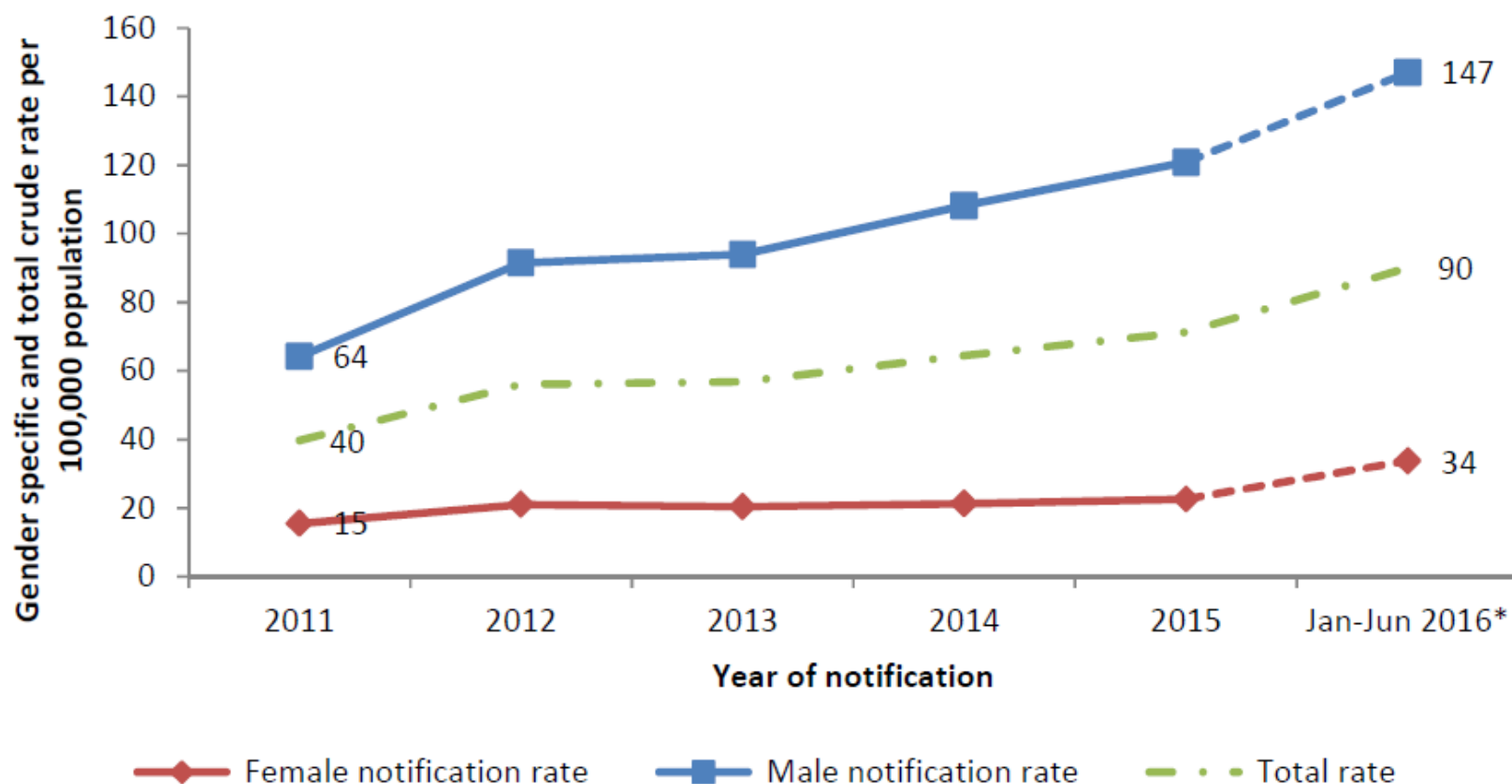


*“Honestly? I preferred it when we didn’t talk about the elephant.”*

NSW Sexually Transmissible Infections Strategy 2016-2020: Data Report  
January to June 2016

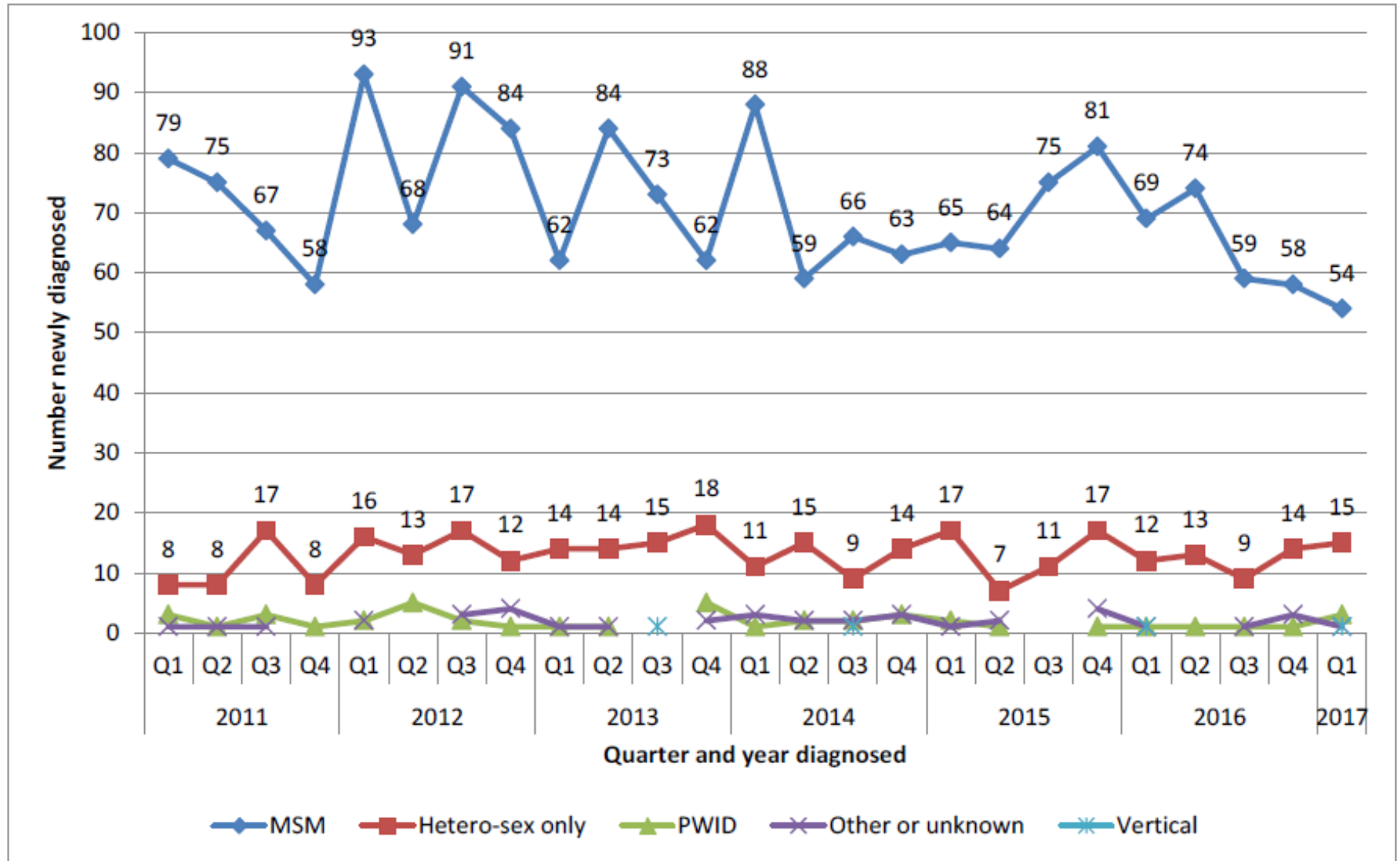
2016

Figure 3: Gender specific gonorrhoea notification rate, NSW, 1 January 2011- 30 June 2016



Are we seeing examples where PrEP implementation, in a real-life setting, is having *some* impact epidemiologically?

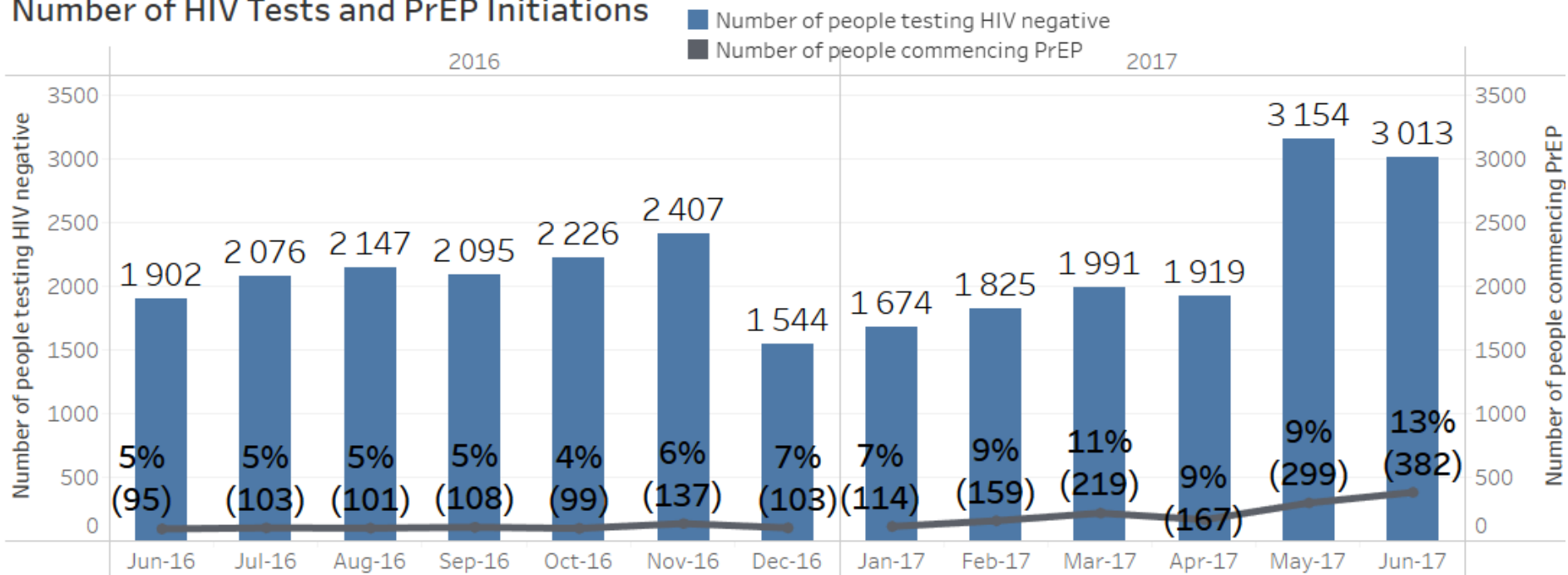
**Figure 2: Number of NSW residents notified with newly diagnosed HIV infection from 1 January 2011 to 31 March 2017 by reported HIV risk exposure**



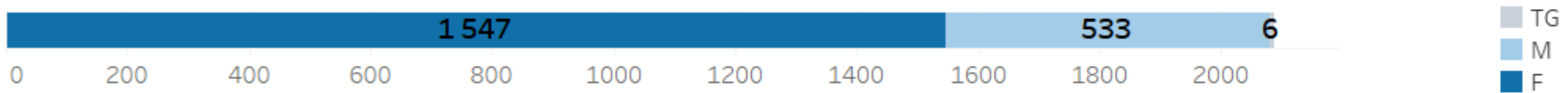
Data source: Notifiable Conditions Information Management System, Health Protection NSW, extracted 8 May 2017

# South African National PrEP roll-out

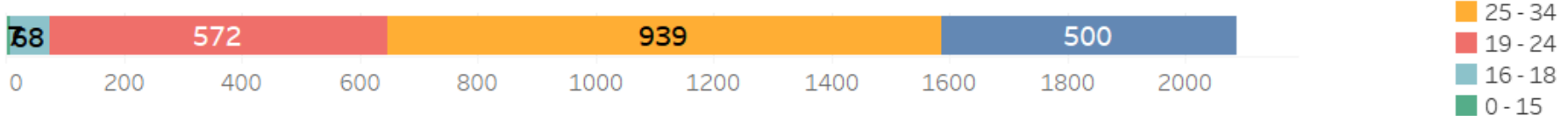
## Number of HIV Tests and PrEP Initiations



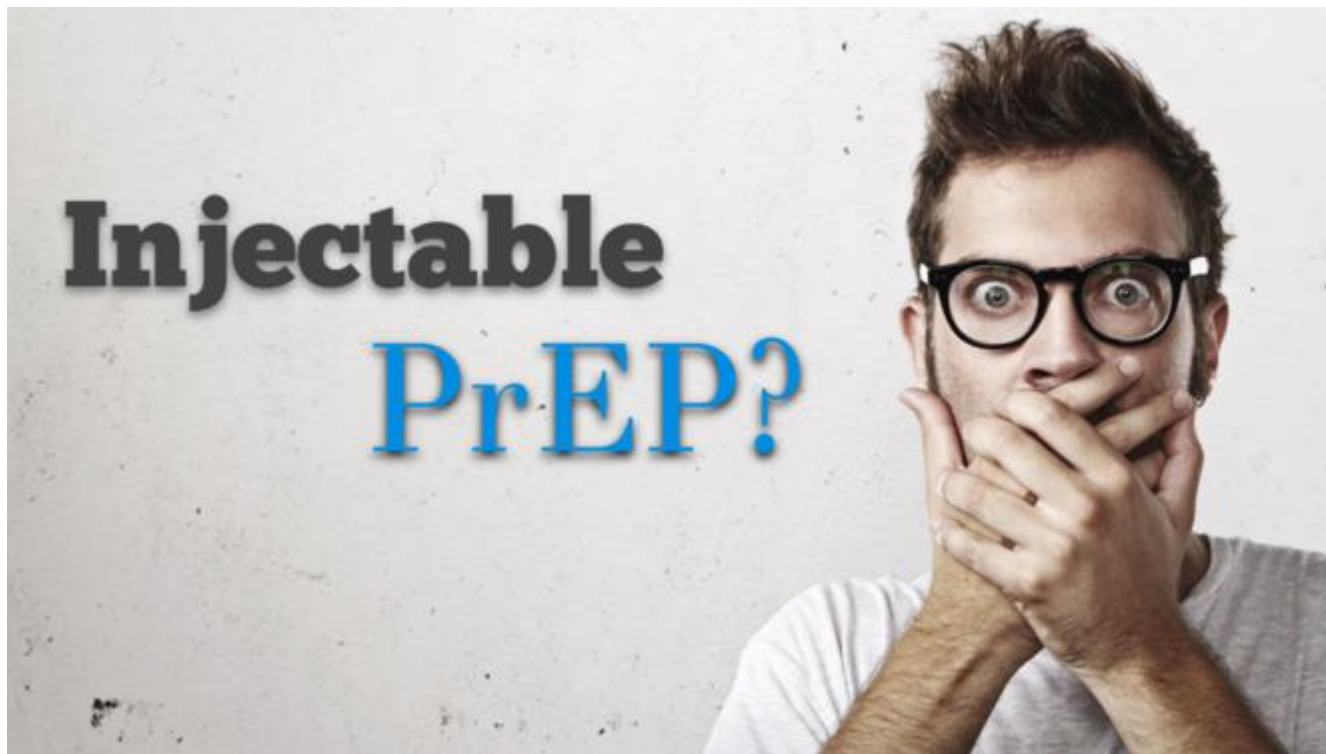
## PrEP Initiations by Gender [n: 2 086]



## PrEP Initiations by Age [n: 2 086]







Can we move beyond oral PrEP  
(containing TDF)?

# The pipeline?

- Safe, desirable, durable, and affording systemic prevention
  - (Carl Dieffenbach, 2017)
- Other oral formulations
  - DISCOVER study (2<sup>nd</sup> generation oral PrEP)
    - F/TAF
- Vaginal ring (DRV)
  - ASPIRE
  - The Ring Study
  - Open-label extension
  - Article 58 (EMA, WHO)
- Injectables
  - HPTN 083
    - MSM-TG
  - HPTN 084
    - Women
- Implants



# Major pipeline compounds for HIV Treatment in 2017

Drug Class	Pre-clinical	Phase I	Phase II	Phase III	Phase IV
NRTI	GS9131*				
NNRTI		EFdA*	Elsufavirine	Doravirine Rilpivirine LA*	
Protease Inhibitors	GSPI1				
Integrase Inhibitors	GSK1264			Bictegravir NM Cabotegravir*	Raltegravir OD*
Entry inhibitors	Combonectin		PRO140 UB-421	Albuvirtide Fostemsavir Ibuzalumab*	
Capsid inhibitors		GS-CA1			
Maturation inhibitors	GSK3640254				
	●	New drugs/formulations	●	Biologics	

\* Potential use for PrEP

Adapted from 2017 TAG pipeline report

# Take home summary

- We have great evidence on efficacy and effectiveness of oral PrEP containing TDF
- Appetite to implement, but concerns persist
  - WHO PrEP implementation tool addresses these
- Let's not complicate it (service delivery)
- Key populations matter, women matter, men matter, transgender persons matter,
- New products in the pipeline hopefully can provide more options to people
  - Analogy to contraception
  - Female-controlled options
- Who do you focus on to make **IMPACT**?
  - Potential PrEP users
  - Policy makers
  - Providers

# E.g. of country support by WHO

- South Africa
  - NDoH programme
- Brazil
  - UNITAID project
- LAC PrEP Task Force
- Nigeria
  - PrEP demo project in SDCs
  - PrEP now included in their integrated ARV guidelines
- India
  - PrEP demo project in SWs
  - Discussion about PrEP for MSM
- China
  - Initial demonstration projects, thinking about wider roll-out
- Philippines
- Thailand
- Ukraine
- China
- Mozambique

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- Nelly Mugo
- Julie Fox
- Kenneth Mayer
- Jared Baeten
- South African NDoH
- FIOCRUZ
- Brazilian MoH



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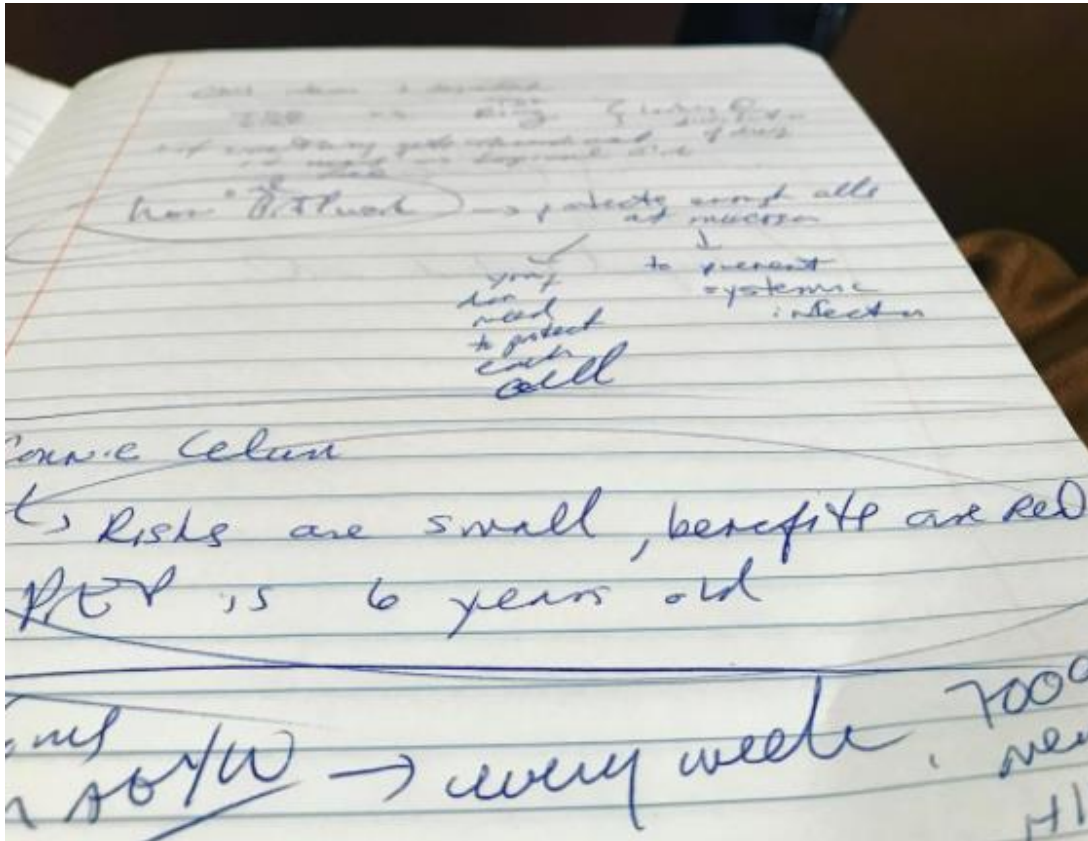
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# So much PrEP data: IAS 2017 sessions

- Update from PrEP clinical trials (TUAC01, Tuesday)
- Prevention: It's Not Just about PrEP (TUAC04, Tuesday)
- Monday, July 24
  - On-demand oral TDF-FTC for PrEP: is it an option  
Making Strides with Systemic PrEP: Pills, Injection, Infusions and Implants
  - Topical Agents for PrEP: As Good as Systemic PrEP

# Risks are small, benefits are real



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Palais des Congres de P...

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mylittlebklava Risks are small with PrEP, benefits are real. #offerPrEP #HIV #IAS2017



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Put the power in the people,  
put the pill in theirs palms

Sheena McCormack, July 24, 2017