

“Getting to Zero” in San Francisco Consortium

Zero new HIV infections

Zero HIV deaths

Zero stigma and discrimination



Agenda

1. Welcome
2. Policy Updates
3. SF HIV Epidemiology Data
4. Presentation, Panel + Discussion: “On demand” PrEP

Acknowledgments

Welcome Diane Jones!

New Steering Committee Members

Johanna Brown

Shaddai Cuestas-Martinez

Lori Thoemmes

Jacob Moody

Mike Shriver

Jessie Murphy

Policy Update





HIV EPIDEMIOLOGY ANNUAL REPORT 2016

Getting to Zero Consortium Meeting
September 28, 2017



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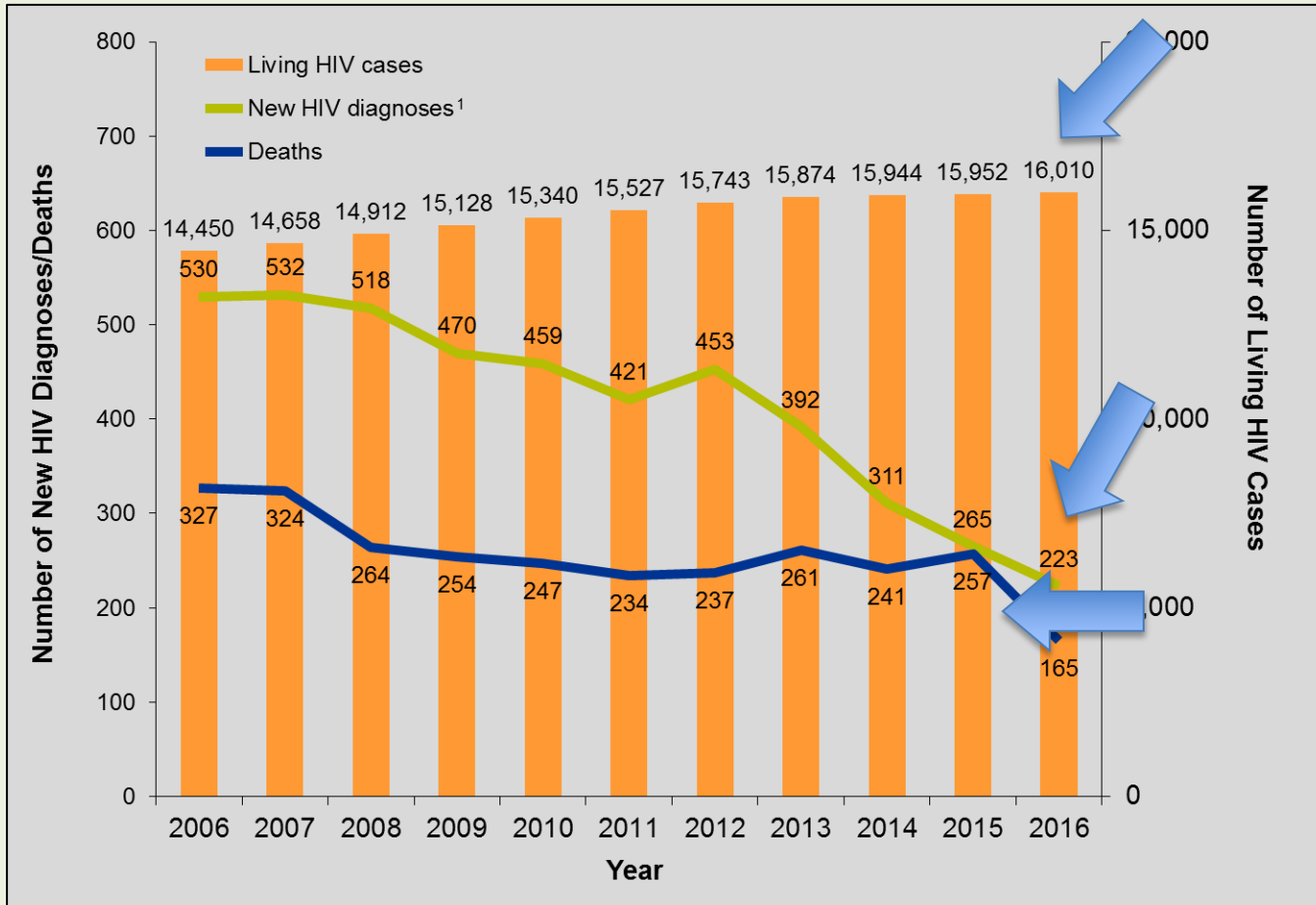
POPULATION HEALTH DIVISION
SAN FRANCISCO DEPARTMENT OF PUBLIC HEALTH

Outline

❖ Key Highlights

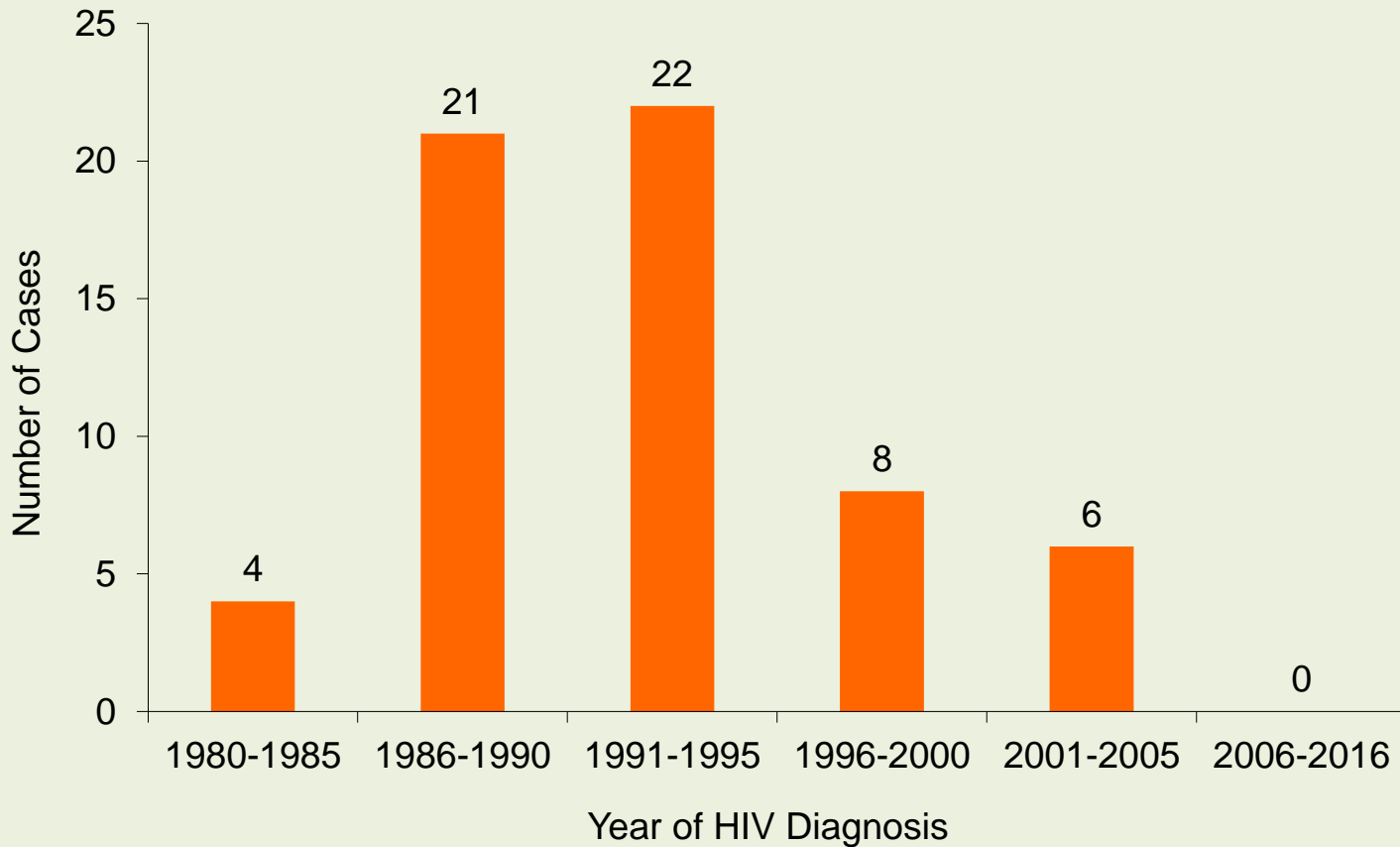
- **Many encouraging trends...**
 - New HIV diagnoses **declined**
 - Rate of new diagnoses among men for **declined**
 - Linkage to care **improved**
 - Viral suppression **improved**
 - Time to ART initiation **improved**
 - Time to viral suppression **improved**
 - Undiagnosed HIV **low**
 - **No new diagnoses** among babies or children since 2005
- **...but still significant disparities**
 - **Highest number and rate** of new diagnoses overall among:
 - MSM
 - **Highest rate** of new diagnoses by race among:
 - African-Americans
 - Care outcomes **worse** for:
 - Women
 - Trans women
 - African-Americans
 - Homeless people
- **The Gaps are Closing**
 - beginning to see care and prevention outcomes **improve** even in demographic groups with disparities

Encouraging Trends among Persons Living with HIV and New Diagnoses

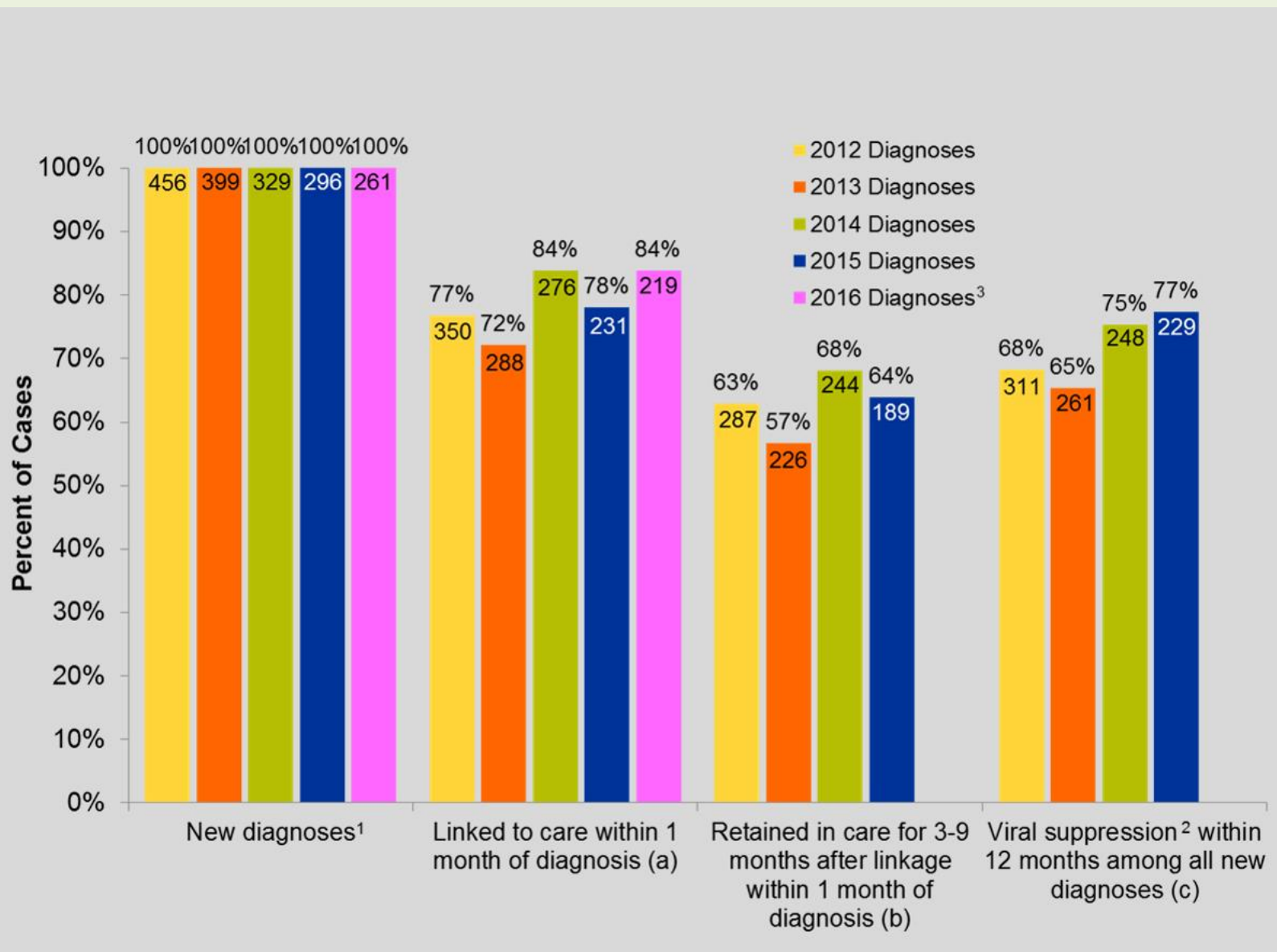


- Overall 93% of PLWH are aware of their HIV status
- New diagnoses **decreased** 16% between 2015-2016
- Number of deaths is **leveling**
- Survival is **improving**; 63% of PLWH >50yrs
- Late diagnoses declined from 21% in 2012 to 16% in 2016

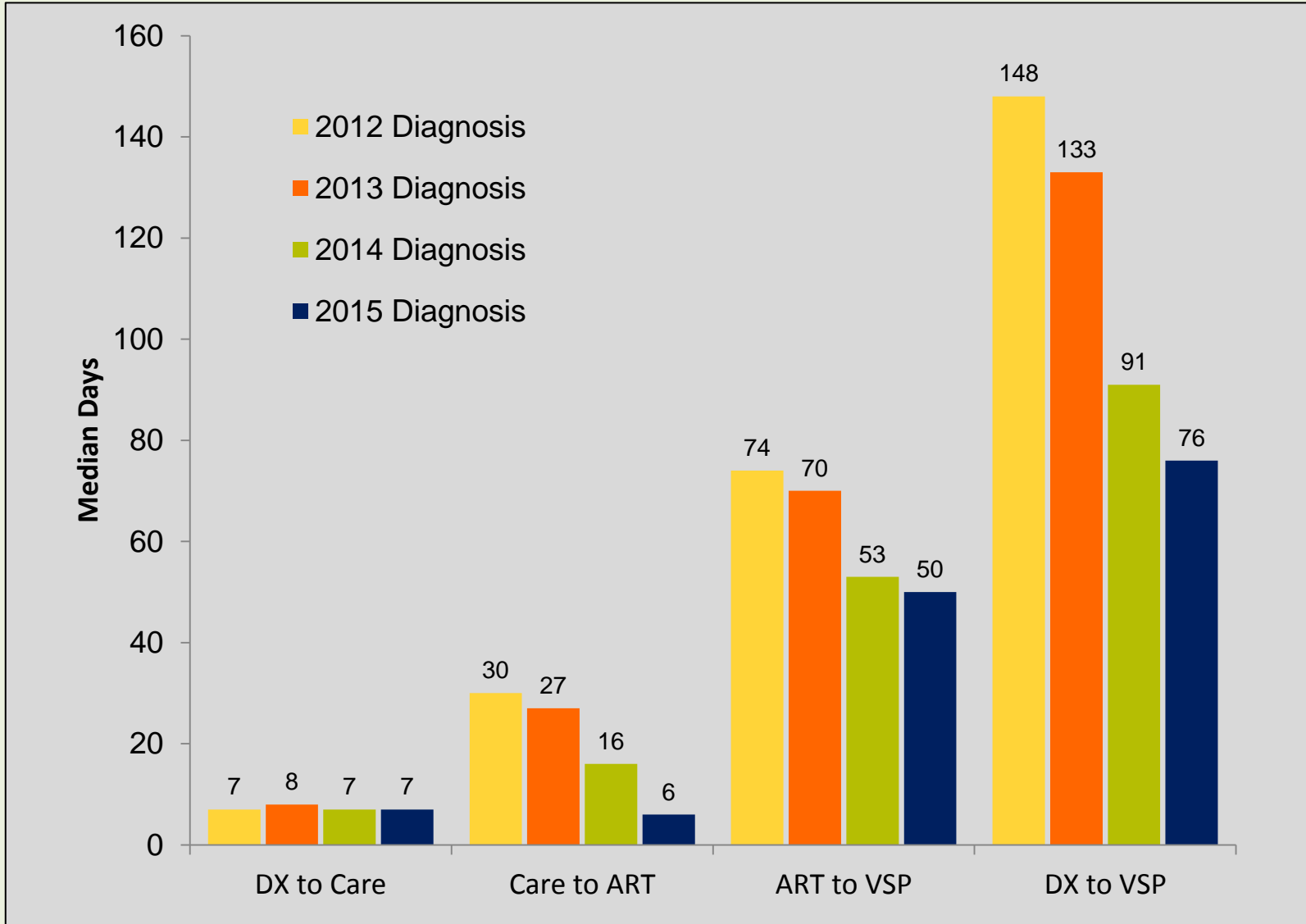
No Perinatal or Pediatric Cases (age<13) diagnosed since 2005



Improvements in the HIV Care Continuum



Faster Time to Care Indicators



Underlying causes of death

3 time periods, 2004-2015

Underlying Cause of Death ¹	Year of Death					
	2004-2007		2008-2011		2012-2015	
	Number	(%)	Number	(%)	Number	(%)
HIV	756	(57.7)	462	(47.6)	392	(40.3)
Non-AIDS cancer	132	(10.1)	117	(12.0)	133	(13.7)
Lung cancer	43	(3.3)	35	(3.6)	37	(3.8)
Liver cancer	26	(2.0)	18	(1.9)	17	(1.7)
Anal cancer	5	(0.4)	7	(0.7)	9	(0.9)
Pancreatic cancer	6	(0.5)	3	(0.3)	7	(0.7)
Colon cancer	7	(0.5)	8	(0.8)	5	(0.5)
Leukemia	1	(0.1)	2	(0.2)	5	(0.5)
Hodgkins lymphoma	1	(0.1)	1	(0.1)	2	(0.2)
Rectal cancer	8	(0.6)	3	(0.3)	2	(0.2)
Accident	102	(7.8)	116	(11.9)	103	(10.6)
Drug overdose	71	(5.4)	95	(9.8)	88	(9.0)
Heart disease	89	(6.8)	86	(8.9)	86	(8.8)
Coronary heart disease	52	(4.0)	39	(4.0)	43	(4.4)
Cardiomyopathy	10	(0.8)	2	(0.2)	7	(0.7)
Diseases of arteries	2	(0.2)	4	(0.4)	2	(0.2)
Suicide	45	(3.4)	38	(3.9)	34	(3.5)
Liver disease	27	(2.1)	25	(2.6)	23	(2.4)
Liver cirrhosis	15	(1.1)	13	(1.3)	12	(1.2)
Alcoholic liver disease	10	(0.8)	11	(1.1)	8	(0.8)
Chronic obstructive pulmonary disease	24	(1.8)	17	(1.8)	21	(2.2)
Assault	8	(0.6)	5	(0.5)	13	(1.3)
Diabetes	6	(0.5)	5	(0.5)	12	(1.2)
Cerebrovascular disease	8	(0.6)	10	(1.0)	11	(1.1)
Mental disorders due to substance use	37	(2.8)	14	(1.4)	11	(1.1)
Viral hepatitis	14	(1.1)	9	(0.9)	8	(0.8)
Renal disease	5	(0.4)	5	(0.5)	7	(0.7)
Undetermined intent	3	(0.2)	4	(0.4)	4	(0.4)
Septicemia	4	(0.3)	3	(0.3)	3	(0.3)



2nd leading
cause of death



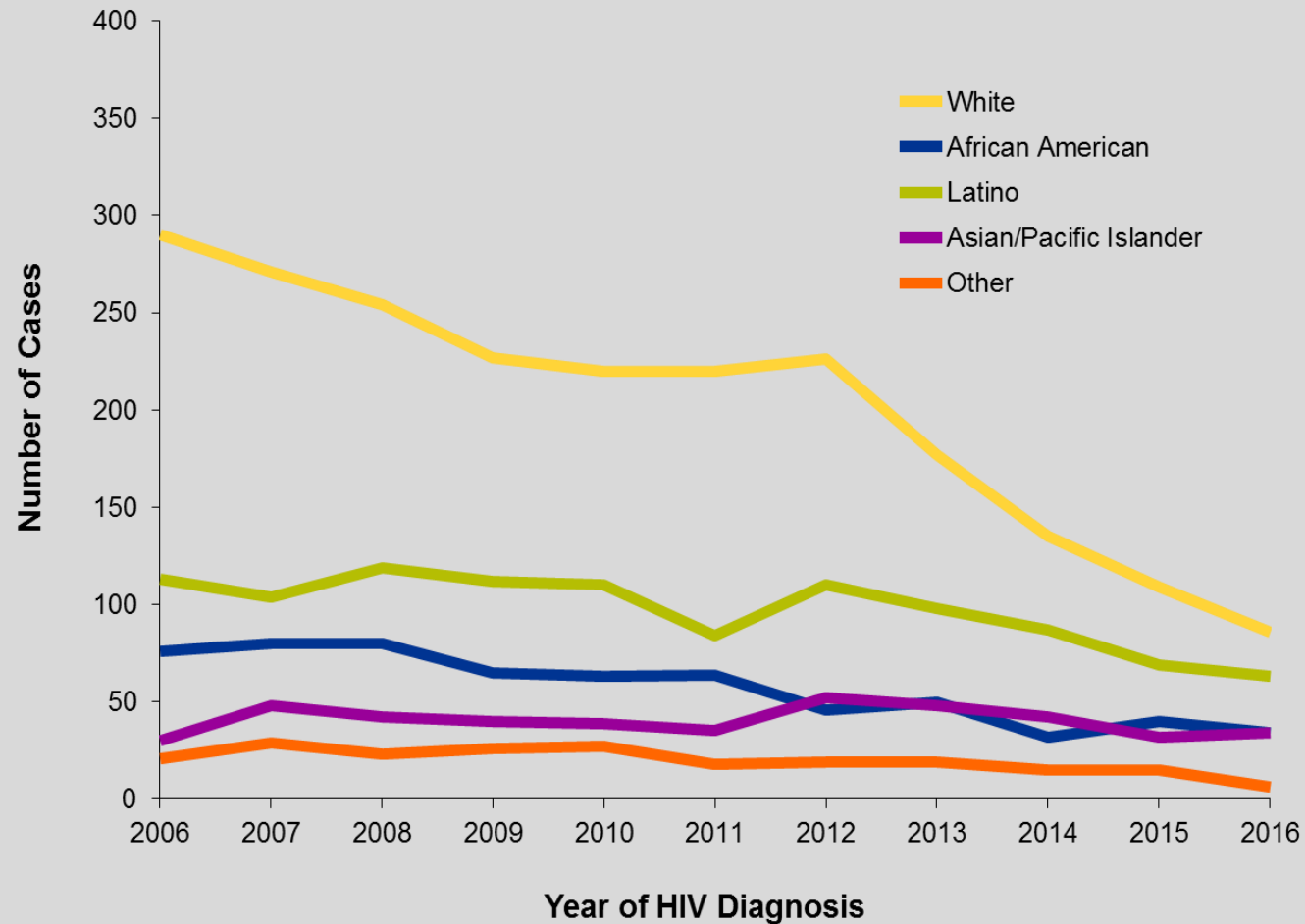
HIV-related causes of
death declining



Drug overdoses 3rd
leading cause of
death

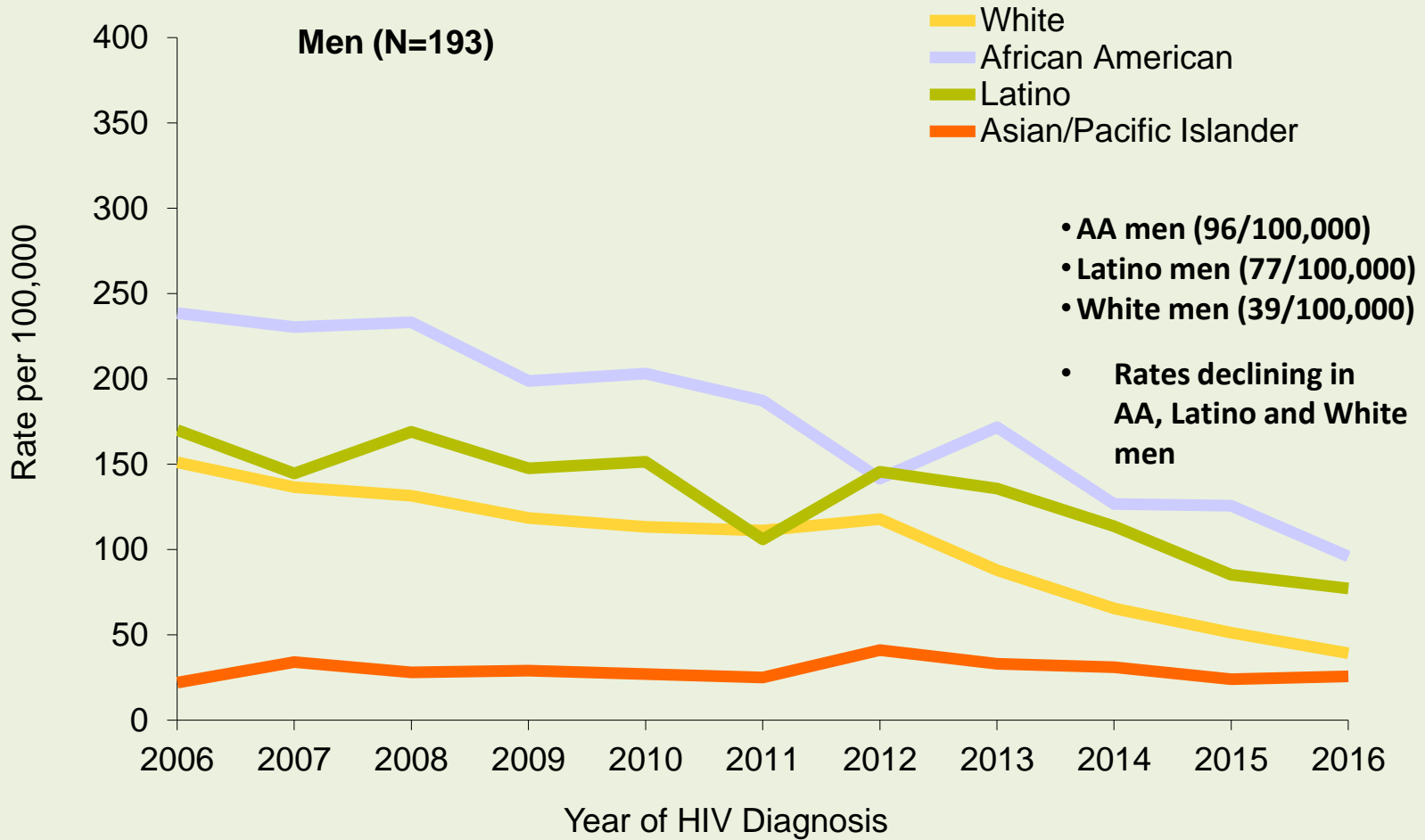
¹ Deceased cases diagnosed with HIV infection that lack cause of death information are not represented in this table.

Trends in New HIV Diagnoses by Race



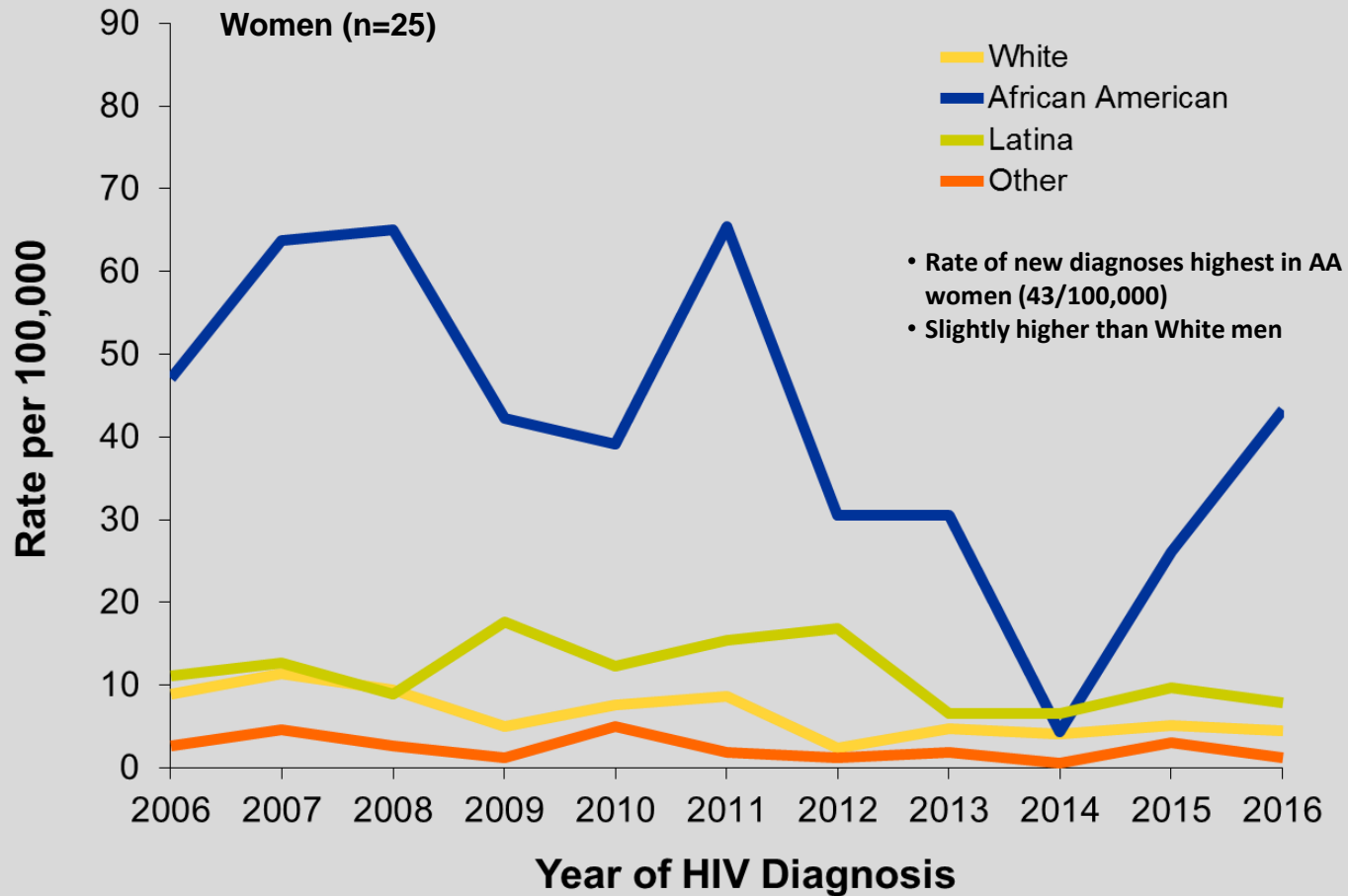
Health Disparities

Rate of New Diagnoses among Men



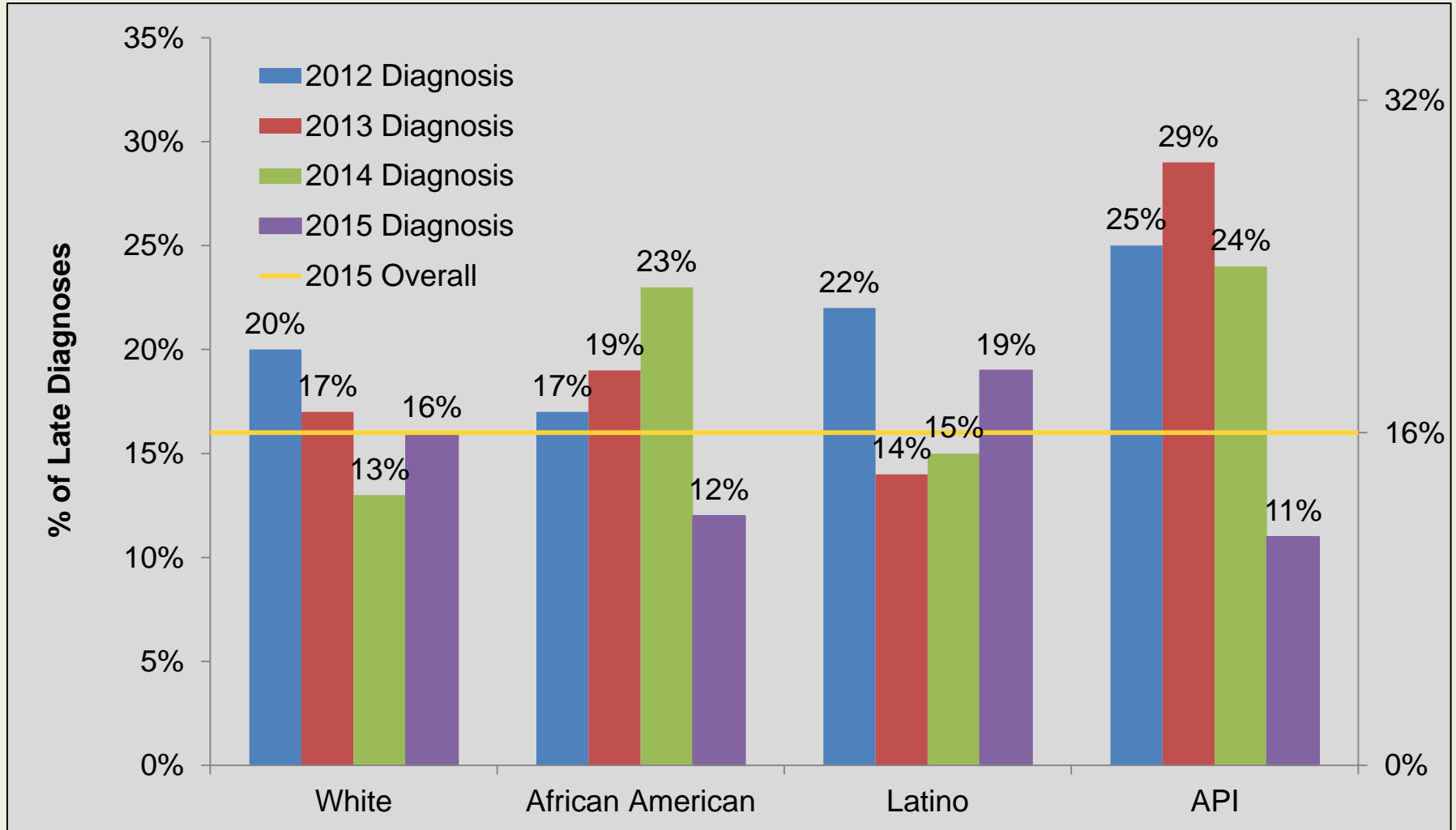
Health Disparities

Rate of New HIV Diagnoses among Women



Health Disparities

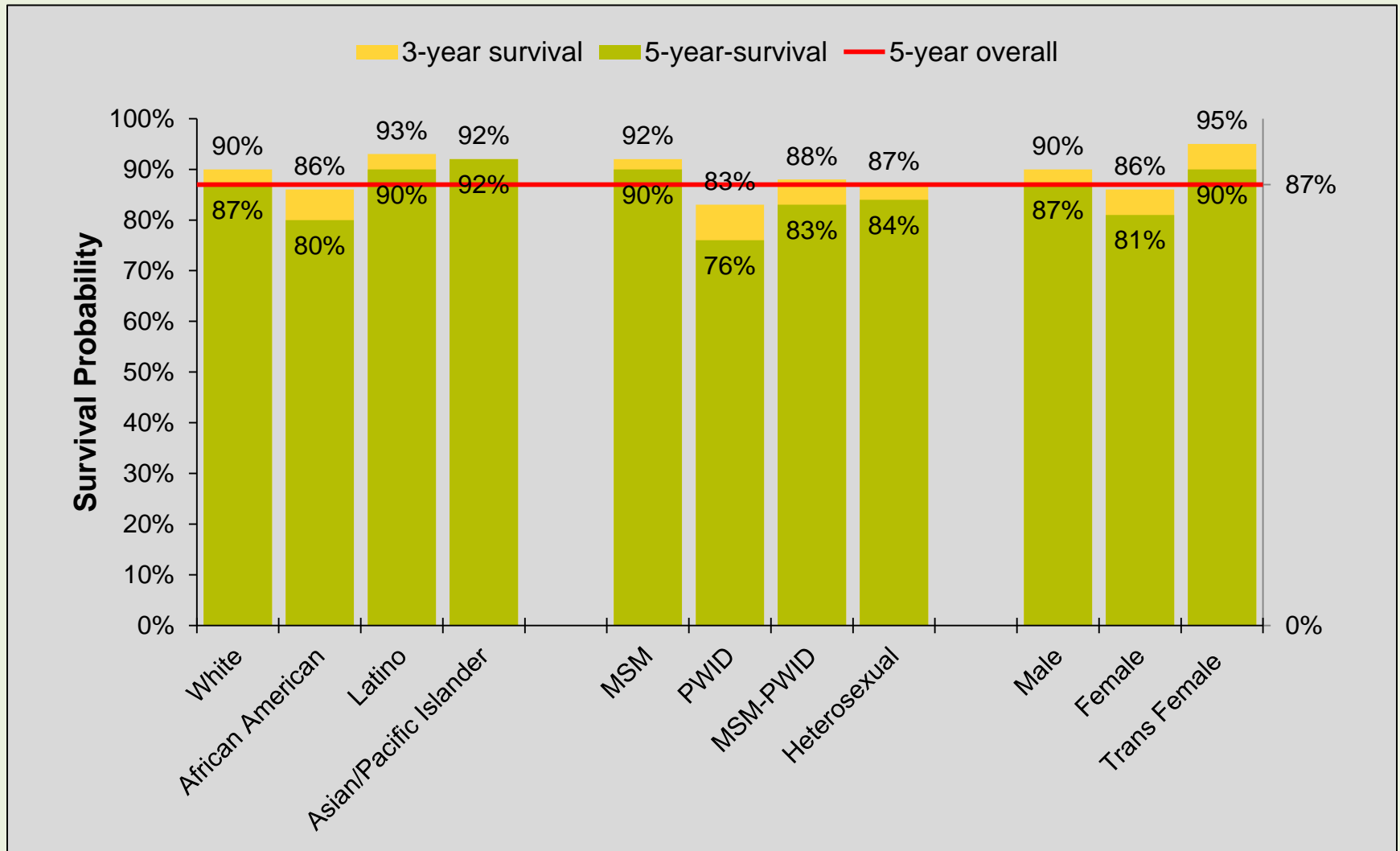
Late HIV Diagnosis by Race



Ages 50+ have highest proportion of late diagnoses – 33% vs 16% overall

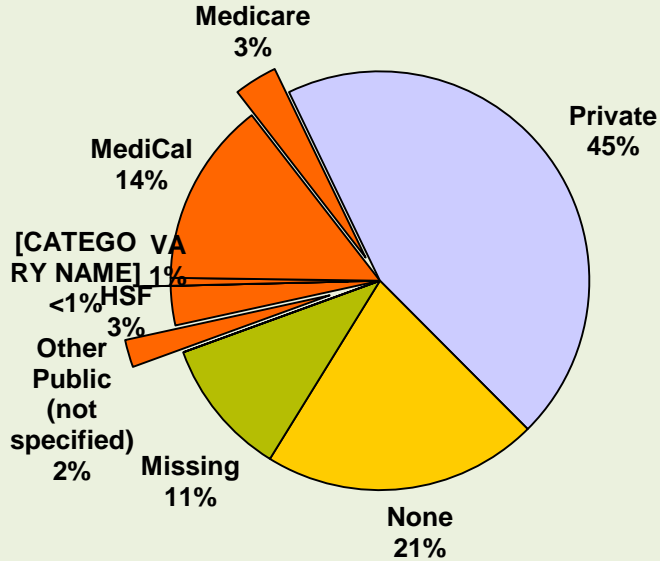
Health Disparities

Survival after AIDS

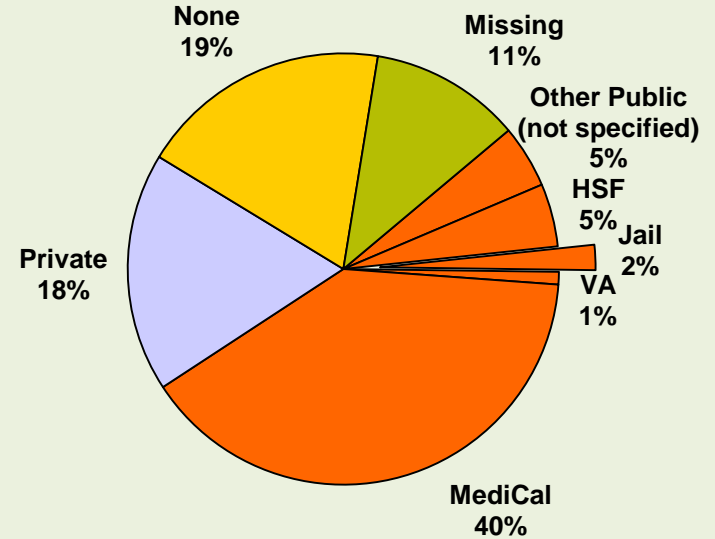


Health insurance status at HIV diagnosis by race/ethnicity 2014-2016

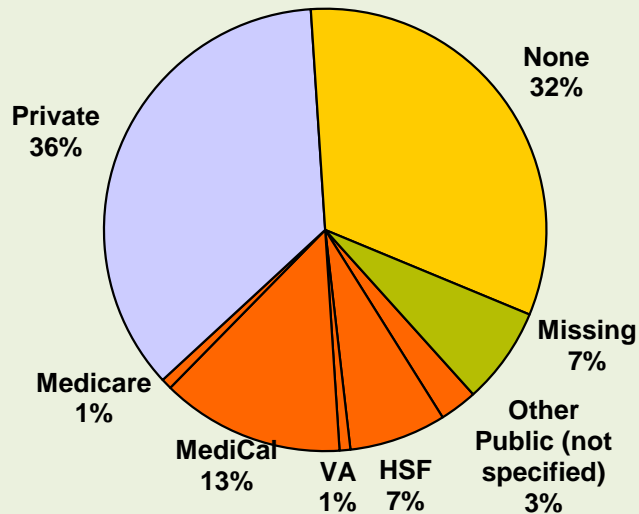
White (N=330)



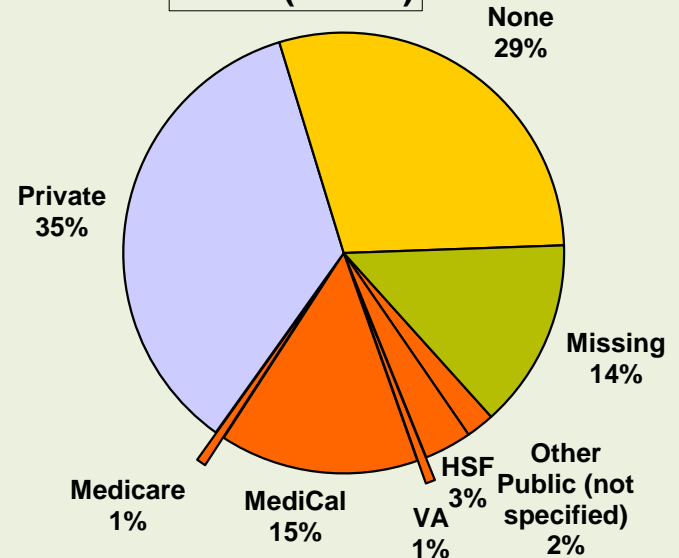
African American (N=106)



Latino (N=254)



Other (N=144)



Health Disparities

Viral Suppression

Table 3.4 Care indicators among persons living with HIV in 2015 who were last known to reside in San Francisco, by demographic and risk characteristics

	Number of living cases ¹	% with >= 1 laboratory test in 2015 ²	% with >=2 laboratory tests in 2015 ²	% Virally suppressed (most recent viral load test in 2015 <200 copies/mL) ²
Total	12,769	81%	61%	→ 73%
Gender				
Male	11,743	81%	61%	73%
Female	698	82%	63%	→ 66%
Trans Female	328	84%	72%	→ 67%
Race/Ethnicity				
White	7,294	82%	62%	75%
African American	1,600	82%	63%	→ 67%
Latino	2,633	78%	59%	→ 69%
Asian/Pacific Islander	756	81%	62%	75%
Other/Unknown	486	83%	59%	71%
Age in Years (as of 12/31/2015)				
13-24	94	81%	56%	68%
25-29	423	77%	53%	→ 63%
30-39	1,737	75%	52%	→ 63%
40-49	3,308	77%	56%	68%
50-59	4,522	83%	63%	76%
60-69	2,186	86%	72%	82%
70+	499	86%	74%	83%
Transmission Category				
MSM	9,437	81%	62%	76%
PWID	742	80%	63%	→ 63%
MSM-PWID	1,903	80%	62%	66%
Heterosexual	447	82%	62%	69%
Other/Unidentified	240	59%	42%	55%
Housing Status, Most Recent				
Housed	12,468	81%	62%	74%
Homeless	301	52%	41%	→ 31%

Homeless persons diagnosed with HIV compared to all persons diagnosed with HIV 2006-2016

	Homeless HIV Cases 2006-2016		HIV Cases 2006-2016	
	Number	(%)	Number	(%)
Total	502		4,574	
Gender				
Male	380	(76)	4,090	(89)
Female	72	(14)	340	(7)
Trans Female	50	(10)	144	(3)
Race/Ethnicity				
White	216	(43)	2,215	(48)
African American	138	(27)	630	(14)
Latino	97	(19)	1,069	(23)
Asian/Pacific Islander	13	(3)	442	(10)
Other/Unknown	38	(8)	218	(5)
Transmission Category				
MSM	160	(32)	3,237	(71)
PWID	126	(25)	302	(7)
MSM-PWID	167	(33)	625	(14)
Heterosexual	35	(7)	278	(6)
Other/Unidentified	14	(3)	132	(3)
Age at Diagnosis (Years)				
0 - 17	1	(<1)	16	(<1)
18 - 24	76	(15)	550	(12)
25 - 29	97	(19)	756	(17)
30 - 39	126	(25)	1,438	(31)
40 - 49	122	(24)	1,204	(26)
50+	80	(16)	610	(13)

Closing the Gap

Populations with higher viral suppression after LINCS intervention

Table 3.5 Care indicators among persons who accepted and completed LINCS services in 2015 by demographic and risk characteristics, San Francisco

	Number of referred to LINCS	Number of accepted and completed LINCS	% Linked to care within 3 months of LINCS initiation ¹	% Retained in care 3-9 months after linkage ¹	% Virally suppressed at most recent test in 12 months after LINCS initiation ¹
Total	209	106	90%	64%	68%
Gender					
Male	172	83	89%	66%	72%
Female	23	16	94%	56%	56%
Trans Female	14	7	86%	57%	43%
Race/Ethnicity					
White	84	41	88%	59%	61%
African American	58	32	88%	59%	→ 88%
Latino	47	27	96%	78%	52%
Asian/Pacific Islander	11	3	100%	67%	67%
Other/Unknown	9	3	67%	67%	100%
Age in Years (as of 12/31/15)					
13-24	8	5	100%	60%	→ 100%
25-29	24	10	90%	70%	→ 80%
30-39	55	28	79%	64%	54%
40-49	71	37	97%	62%	65%
50+	51	26	88%	65%	77%
Transmission Category					
MSM	98	51	92%	67%	73%
PWID	29	16	100%	69%	→ 63%
MSM-PWID	72	32	81%	59%	63%
Heterosexual	7	5	80%	40%	60%
Other/Unidentified	3	2	100%	100%	100%
Housing Status					
Housed	158	76	89%	62%	64%
Homeless	51	30	90%	70%	→ 77%

67%

68%

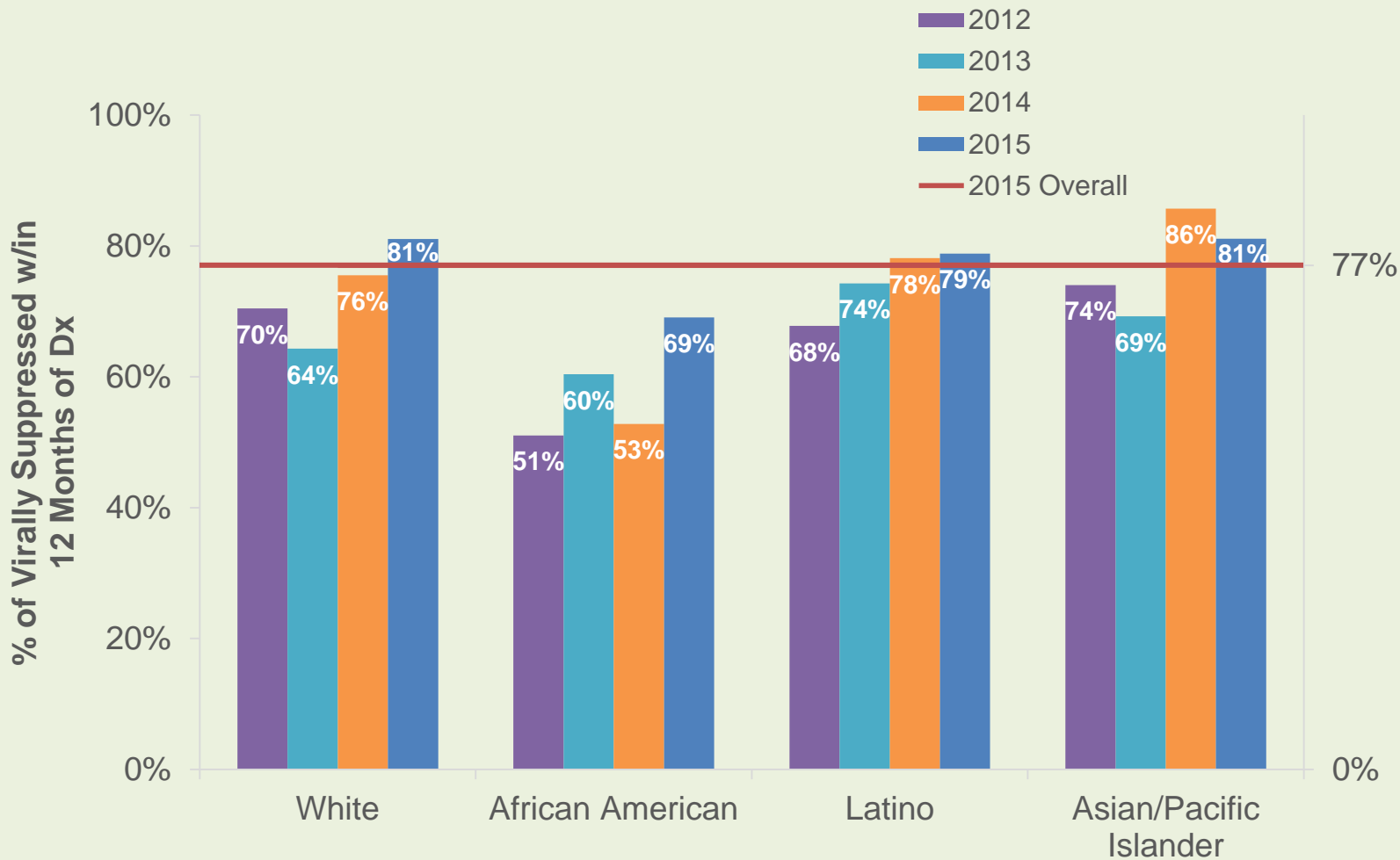
63%

63%

31%

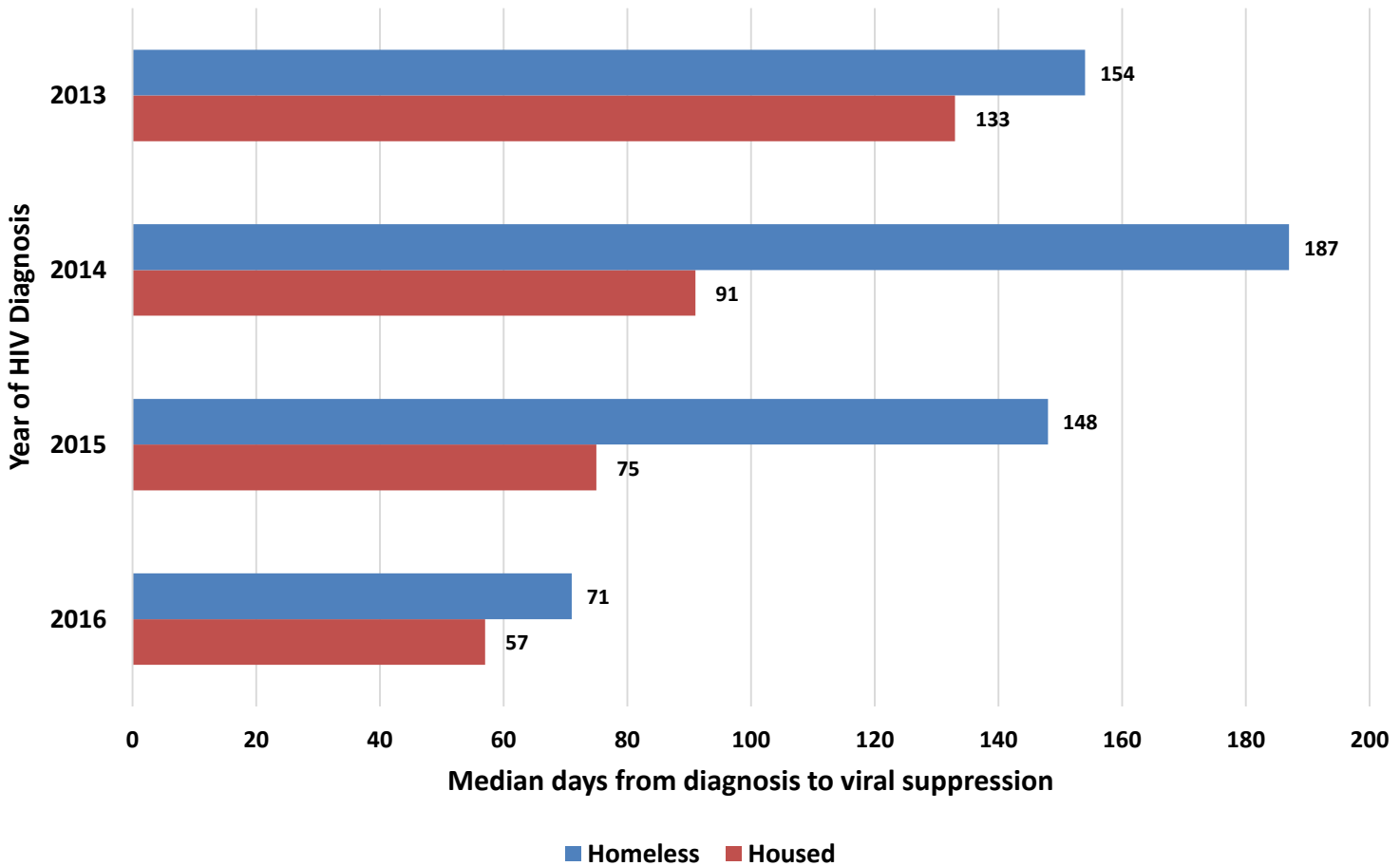
Closing the Gap

Viral Suppression Trends in Newly Diagnosed by Race/Ethnicity



Closing the Gap

Time from HIV Diagnosis to Viral Suppression by Housing Status, 2013-2016, San Francisco



Preliminary data; subject to change

Summary

❖ Positive Trends

- **Encouraging trends are not slowing; plus new improvements**
- Overall positive direction: new diagnoses, deaths, survival, late diagnoses, and HIV care continuum steps including faster time to care indicators

❖ Improvement Needed

- **Health disparities persist.** Not all San Franciscans are being reached or experiencing the same improvements
- **Women, trans women, African-Americans, MSM and, in particular, the homeless experiencing many health disparities** including:
 - disproportionately diagnosed
 - Poorer treatment and care outcomes
 - Poorer survival

❖ Gaps are Closing

- Many **disparities are improving;**
prevention and care indicators are improving even in demographic groups with relatively poor outcomes
- Number and rates of new diagnoses converging by race



UCSF Health Disparities Core

UCSF Gladstone Center for AIDS Research

Our mission is to support, direct and advise those working to reduce the health disparities in prevention and care and promote resilience in Bay Area communities most impacted by HIV (including LGBTQ, minority and people of color).

For more information contact Lauren Sterling at (415) 575-0503, Lauren.Sterling@ucsf.edu or visit CFAR.UCSF.edu



Zero new HIV infections
Zero HIV deaths
Zero stigma and discrimination

On demand PrEP

Darpun Sachdev, MD

Medical Director, LINCS

SF City Clinic

San Francisco Department of Public Health



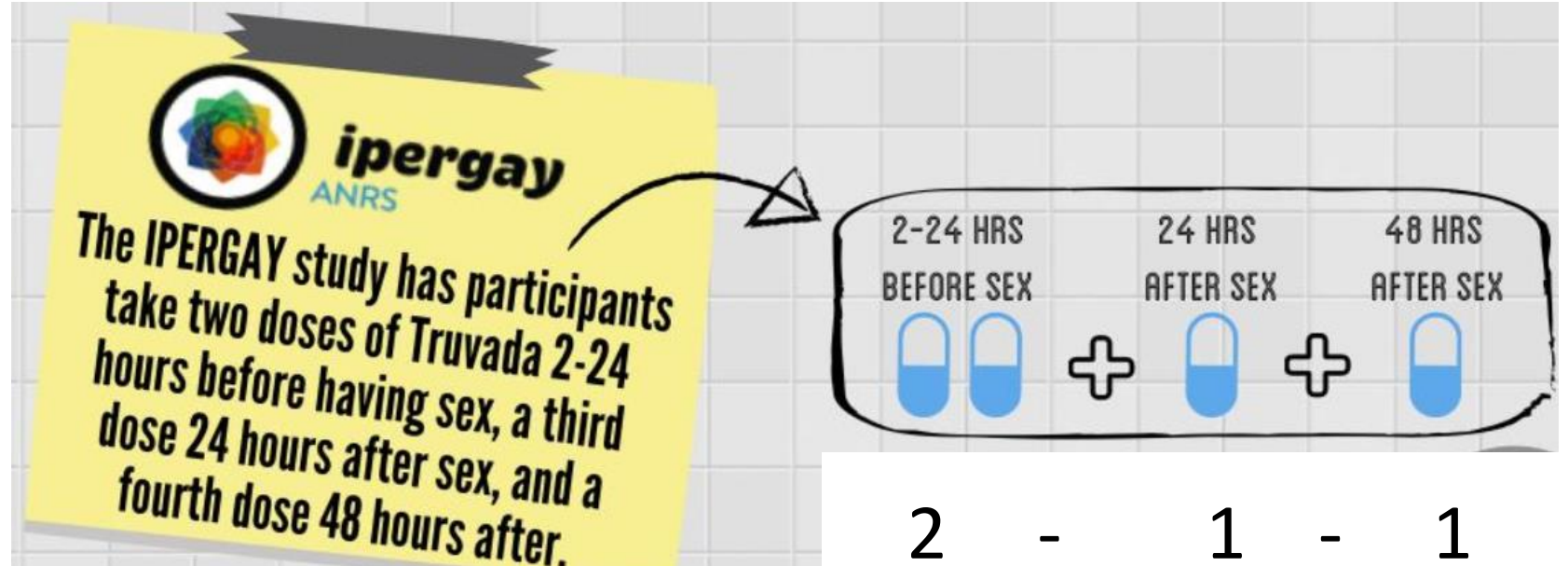
What is on-demand PrEP?

Non daily PrEP terms

- Intermittent
- Event/sex driven
- As-needed

What it's not?

- Not a morning after pill
- Not disco dosing



What hasn't changed?

- CDC continues to recommend **daily PrEP**
 - No randomized studies in the United States studying on-demand PrEP
 - FDA review only included IPrEX and Partners PrEP
- Daily PrEP is the only recommended option for cis-women
- On-demand PrEP does not prevent side effects
 - Active group in IPERGAY had more gastrointestinal adverse events (14% vs 5%; $p=0.002$) and renal adverse events (18% vs 10%; $p=0.03$) than the placebo group
 - In open label extension, 14% reported GI adverse events
 - Unclear if these symptoms are transient or improve over time as with daily dosing

What's changed?

- A new analysis of IPERGAY study evaluated 269 patients (134 person-yrs) who took on-demand PrEP less frequently (**<15 pills a month**) and found no transmissions in active arm v. 6 infections in placebo arm¹
- **Real-life experience to date (N~1950)**
 - France: 57% of patients choose on-demand²
 - Montreal: 22% of patients choose on-demand³
 - Amsterdam: 27% choose on-demand – ~1/4 switched from daily (reasons: less sex, aversion to daily meds)⁴

IPERGAY analysis (IAS 2017)

Median number of sex acts/mo: 5

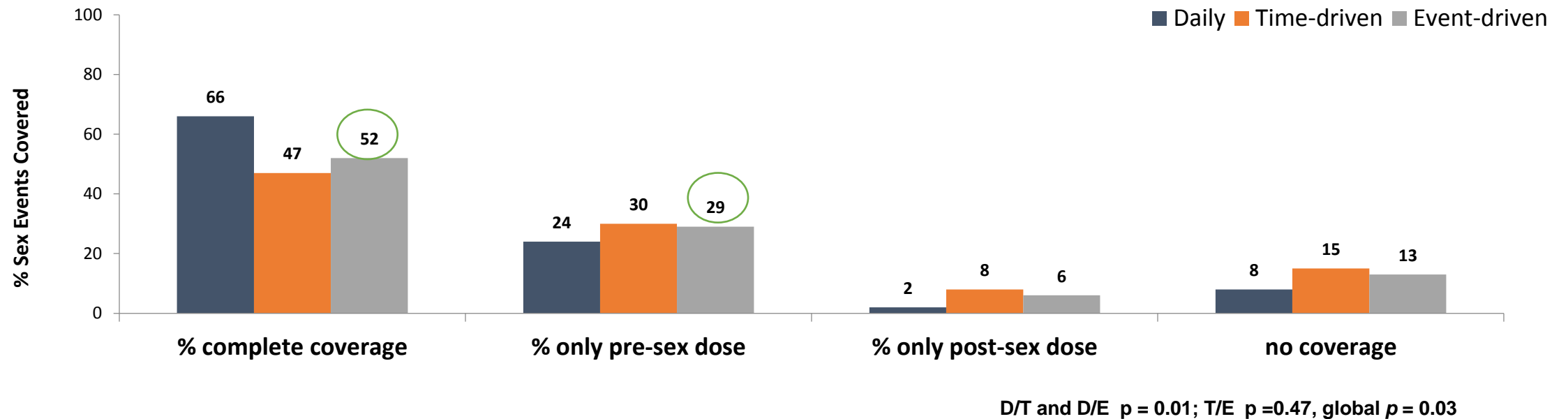
Median number of pills/mo: 9.5

Compared to people choosing daily regimens people who chose on-demand PrEP were:

- Older
- Less likely to be in a serodiscordant relationship
- Fewer casual partners

HPTN 067 ADAPT: Clinical Trial of Non-Daily Use of Oral FTC/TDF for PrEP in MSM Harlem and Bangkok

N=179 (Harlem/NYC) MSM



Coverage:

- ≥1 pill taken in the 4 days before sex
- ≥1 pill taken in the 24 hours after sex

Does pharmacology support on demand dosing for MSM?

Yes if.....

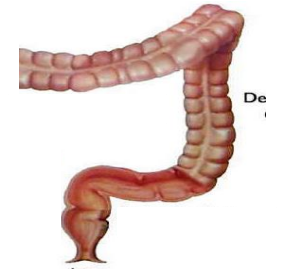
1. the right drug
2. to the right biological site(s)
3. at the right concentration(s)
4. for the right length of time

Non human primate data **require** post dose for efficacy

Pharmacology supports on-demand dosing for anal sex.


Data **do not** support this regimen for vaginal sex.

We have very little data for trans women and men.



Colorectal tissue

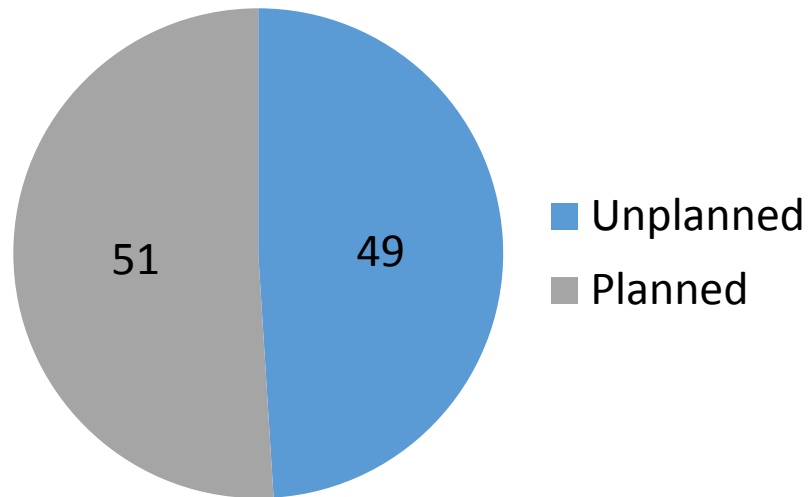
Adherence to on-demand PrEP v. daily PrEP

	On-demand PrEP	Daily PrEP
Decision to take PrEP	Assessment on a day-to-day basis	Assessment of “periodic” risk
Adherence cue	Planned Sex 	Daily habit
Unique barriers	<ul style="list-style-type: none">- Unplanned sex- Desire to ‘pick and choose’ with certain partners	<ul style="list-style-type: none">- Aversion to daily pill- Taking PrEP when not having sex

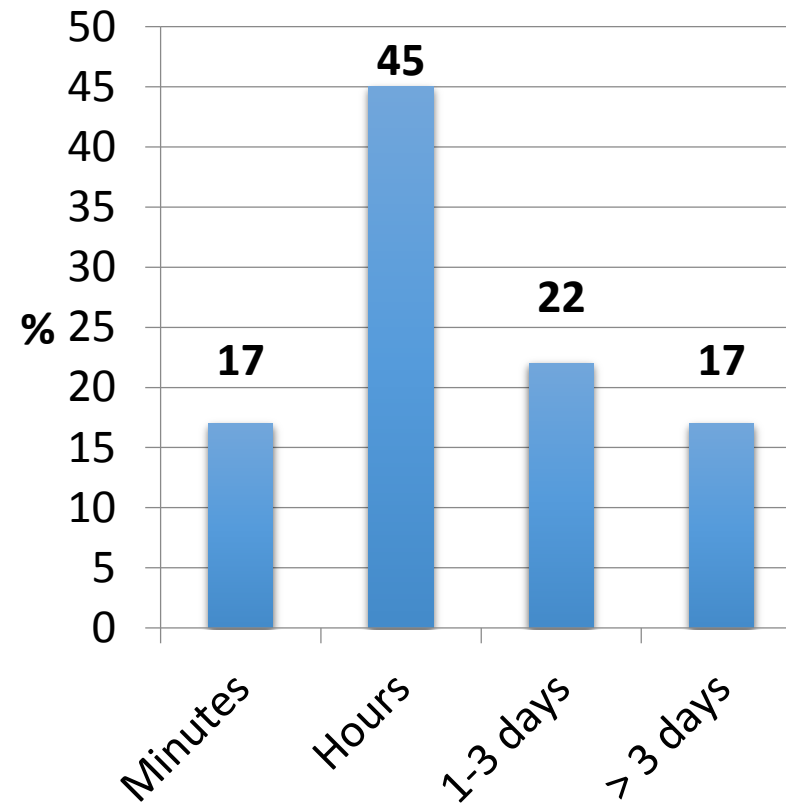
How often do MSM plan sex?

US online survey, 1013 MSM

Last anal sex planned?

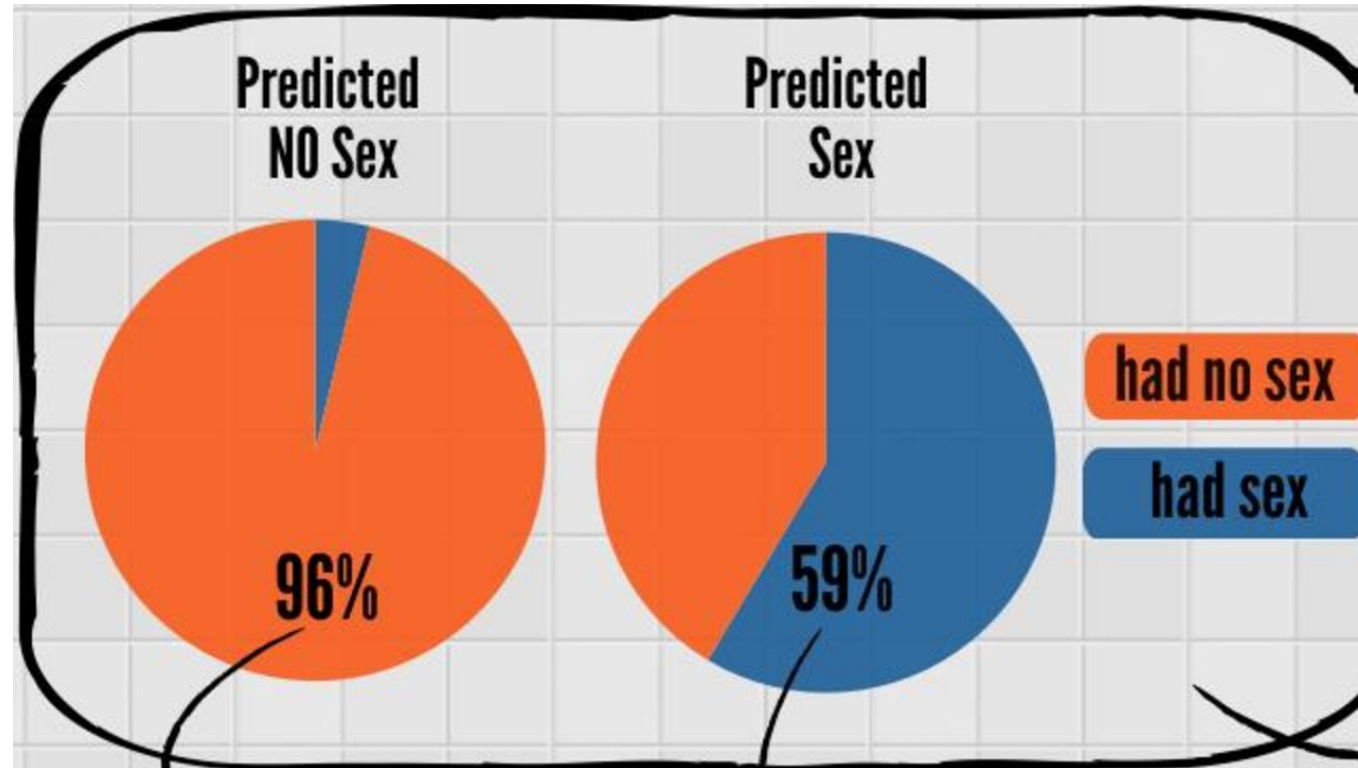


How far ahead planned?

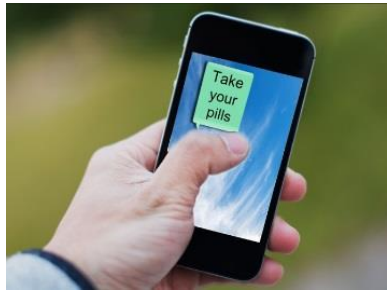


How well do MSM predict sex?

- The “Hope Springs Eternal” study (Parsons et al, JAIDS 2015;68:454-55)
 - 92 HIV negative MSM asked to predict sex with casual partner x 30d
 - Much better at predicting when they WOULDN'T have sex than when they would.



Practical Considerations of On Demand PrEP (MSM only, off-label)



Emphasize emergency PEP (28 days) and condoms if missed doses

Continue q3mo HIV and rectal/pharyngeal/urine STD testing

NOT INTENDED FOR

- Cis- or trans-women
- Decreasing (renal/bone) toxicity

Patterns of sex

- Have infrequent (<once/week) sex event
- Ability of sex planning / have control over planning for sex with sexual partners

Pros

- Fewer doses
- Alternative for individuals who do not want to take a daily pill

Cons

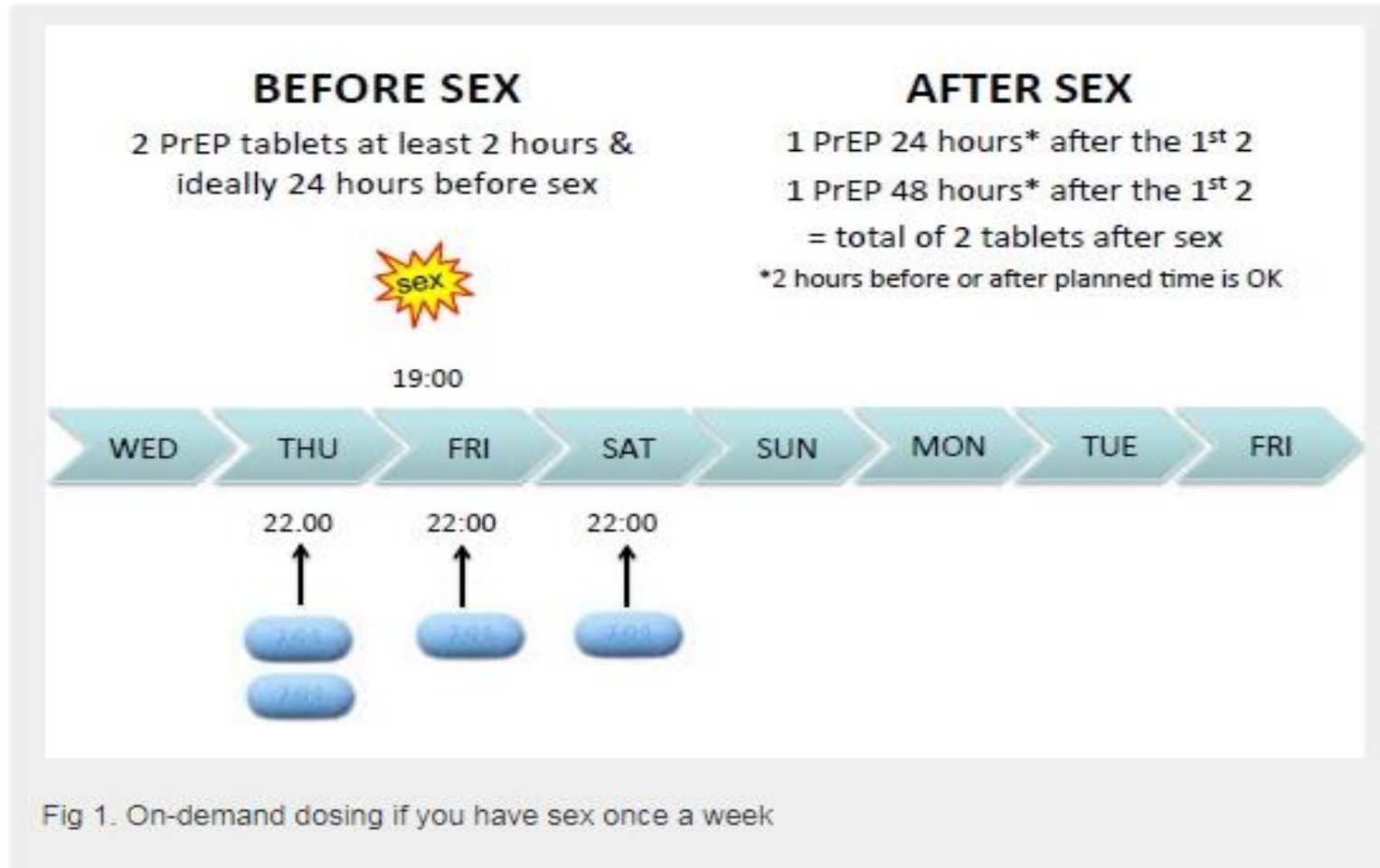
- Need to carry tablets at all times (pre/post-sex dose)
- Complicated regimen (Need 2 hours window pre-sex)
- Need to use this strategy **uniformly** with all sex acts, don't pick and choose with certain partners
- Potential for **resistance** if seroconvert with partner off PrEP then take on-demand dosing with other sexual partners
- **Loss of forgiveness of TDF/FTC** with on-demand dosing: consider the implications of switching
- **Data do not suggest decreased side effects**

Panel + Discussion: On-demand PrEP



On demand PrEP: Dosing Strategies

On-demand dosing: If you have sex once a week



On-demand dosing: Sex several times over a few days

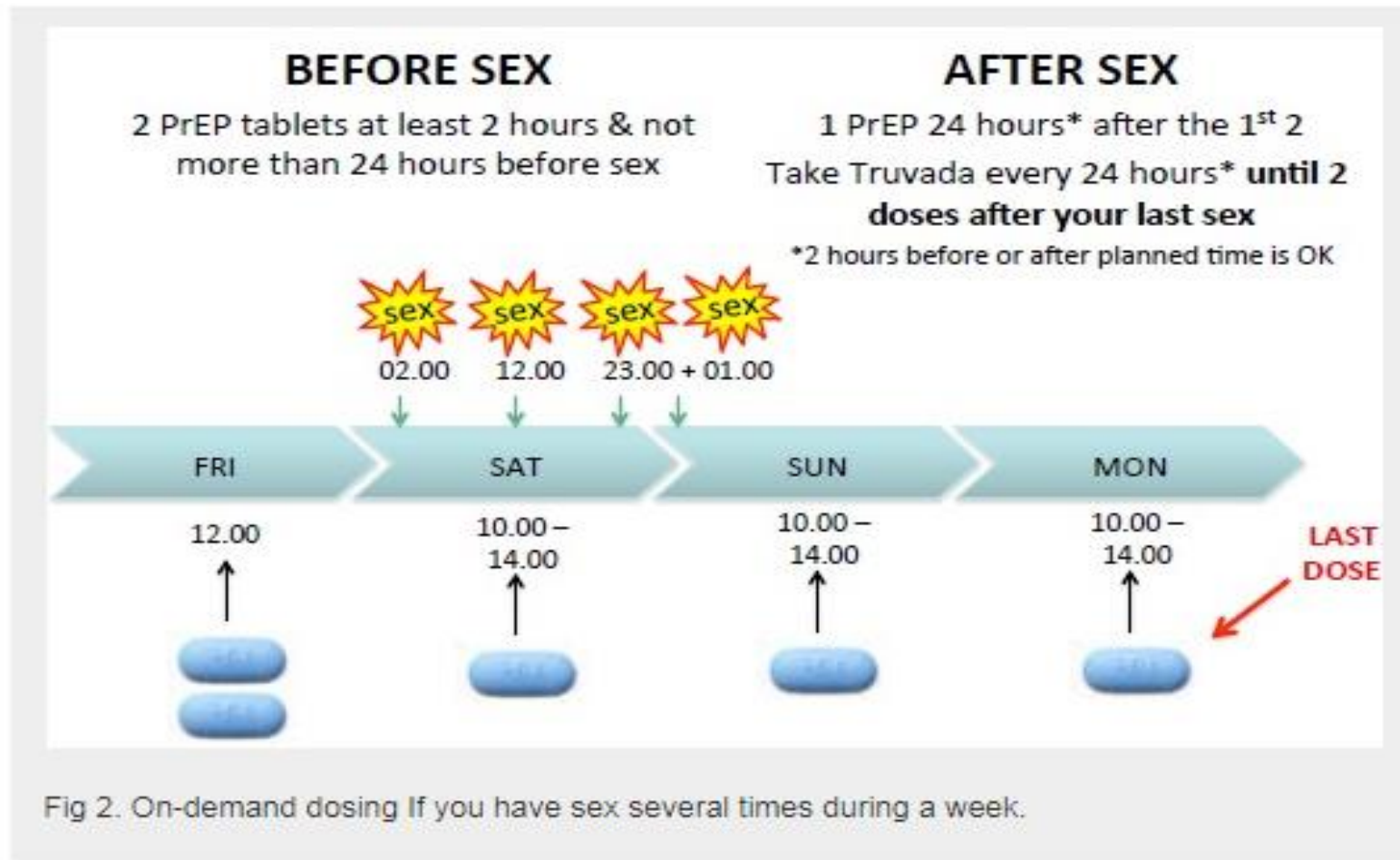


Fig 2. On-demand dosing If you have sex several times during a week.

Sex several times, then more sex less than 7 days after the last PrEP dose

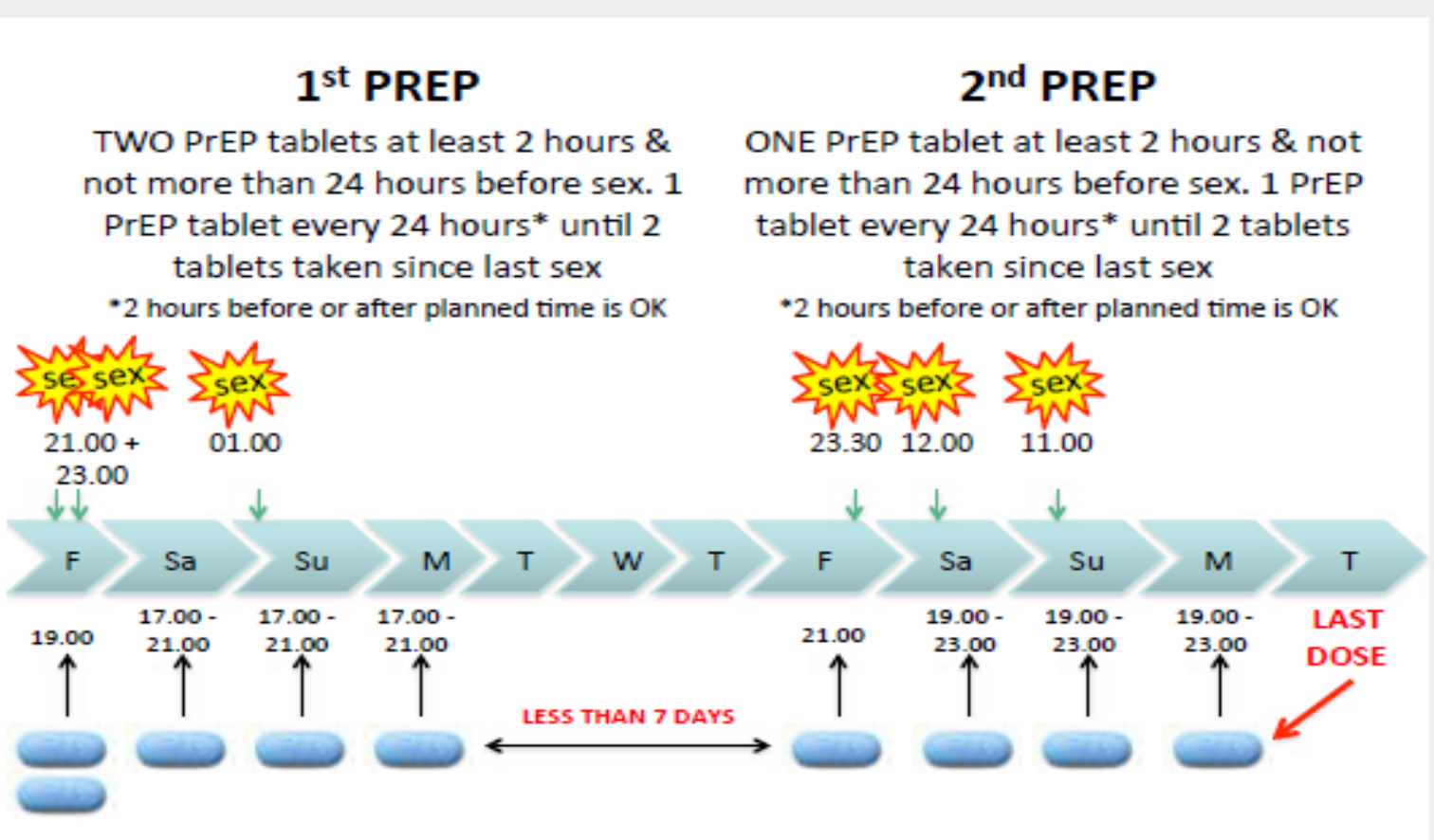


Fig 3. On-demand dosing if you have sex several times and then more sex a within a week

Thank You

- Join the consortium: www.GettingToZeroSF.org
- Quarterly consortium meetings, committee meetings, as well as other GTZ events are listed on the calendar:
<http://www.gettingtozerosf.org/getting-to-zero-events/>

