

Inequities in Awareness of Pre-Exposure Prophylaxis (PrEP) for HIV Prevention in a Large, Representative, Population-Based Sample, New York City (NYC)

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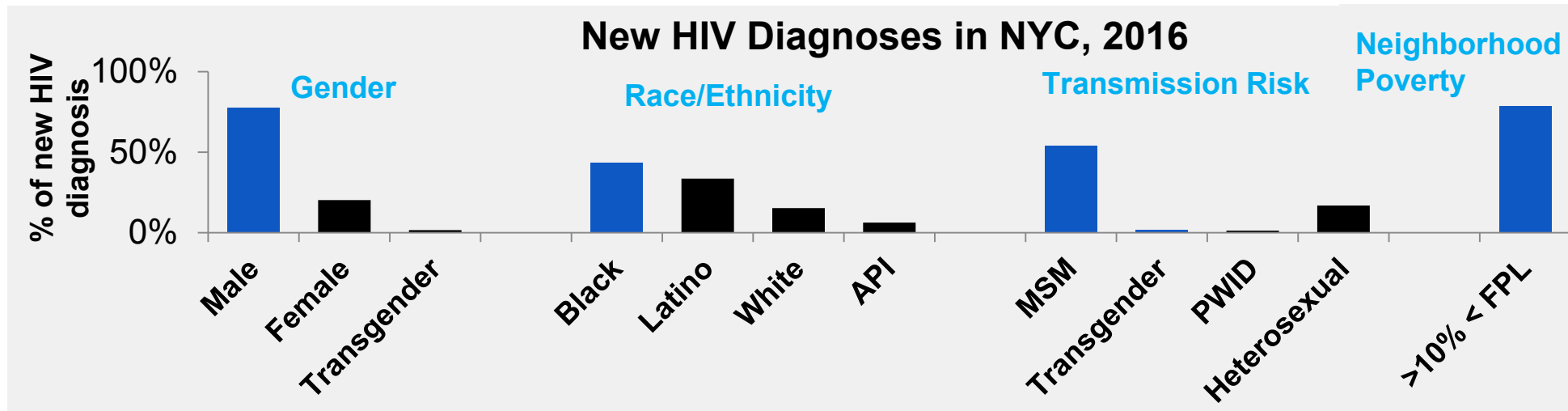
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HIV in NYC

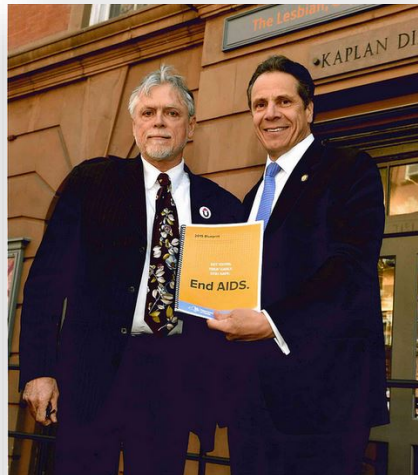
- NYC has approximately 8.5 million people; 6.7 million adults
- One of the largest HIV epidemics in the US is in NYC¹
 - ▣ 2,279 new HIV diagnoses in 2016
 - ▣ 1,403 deaths among people living HIV/AIDS in 2016
 - ▣ More than 120,000 people living with HIV/AIDS
- Highest burden of new diagnoses among gay men and other men who have sex with men (MSM); transgender individuals; Black and Latino individuals; those living in high poverty neighborhoods



API = Asian Pacific Islander; PWID = People who inject drugs; FPL = Federal Poverty Level

New York's Ending the Epidemic (EtE) Plan

1. Identifying people with HIV who remain undiagnosed and linking them to health care
2. Linking and retaining people with HIV to health care, getting them on antiretroviral therapy to improve their health and prevent transmission
3. **Providing Pre-Exposure Prophylaxis (PrEP) to people at-risk to keep them HIV-negative**



Pre-Exposure Prophylaxis (PrEP)

- Newest form of HIV prevention
- FDA approved in 2012
- CDC recommendations in 2014
- Oral medication taken daily by HIV-uninfected individuals
- Reduces risk of HIV infection by more than 90%



Pre-Exposure Prophylaxis (PrEP)- continued

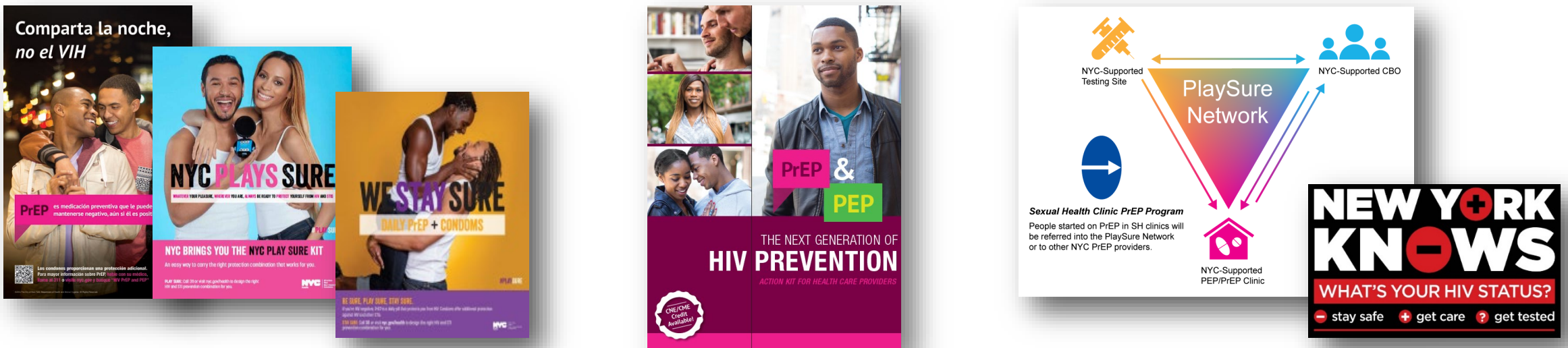
- Indicated for individuals who are at high risk of acquiring HIV

Summary of Guidance for PrEP Use

	Men Who Have Sex With Men	Heterosexual Women and Men	Injection Drug Users
Detecting substantial risk of acquiring HIV infection:	<ul style="list-style-type: none">• Sexual partner with HIV• Recent bacterial STD• High number of sex partners• History of inconsistent or no condom use• Commercial sex work	<ul style="list-style-type: none">• Sexual partner with HIV• Recent bacterial STD• High number of sex partners• History of inconsistent or no condom use• Commercial sex work• Lives in high-prevalence area or network	<ul style="list-style-type: none">• HIV-positive injecting partner• Sharing injection equipment• Recent drug treatment (but currently injecting)

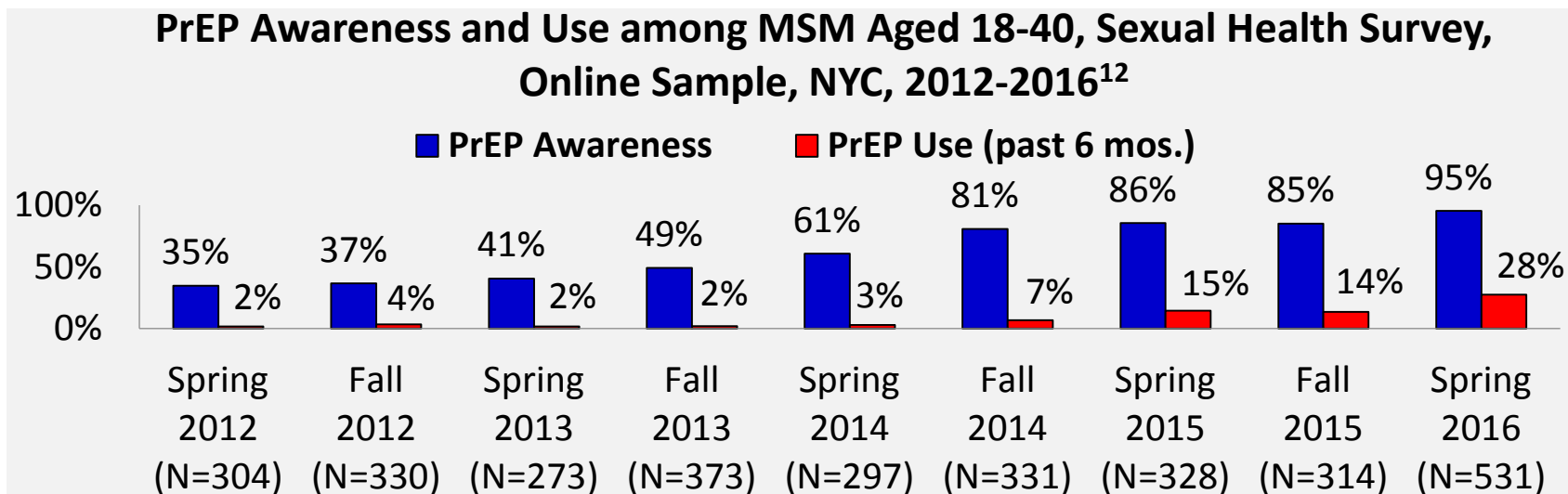
PrEP and NYC

- In NYC we use a multi-pronged approach to PrEP awareness and uptake
 - ▣ Promotion to consumers
 - ▣ Promotion to providers
 - ▣ Support for PrEP in diverse practice models (clinical and non-clinical)
- Majority of efforts have focused on MSM



PrEP Awareness

- Most studies of PrEP awareness have been conducted among MSM¹⁻¹²
- Primarily convenience samples^{1-5,7-9,11-14} recruited from
 - Dating / sex apps and social media
 - Sexual health clinics / HIV testing sites
 - Community events
 - Gay bars, clubs, bathhouses
- Among MSM, PrEP awareness appears to be increasing over time^{3,11,12}



PrEP Awareness, continued

- Concern that disparities in HIV infection will be compounded by those in PrEP awareness and access
 - Among MSM, awareness of PrEP appears high, however has been associated with being white, younger age, gay identity, greater income, more education, recent HIV testing^{2,4,6,8,9}
 - Studies among other groups have found awareness was low among Black and Latina women^{13,14} and young adults experiencing homelessness¹⁵
- While awareness among priority populations is important, fostering awareness of PrEP among general population is also crucial
 - Normalize of PrEP/reduction of stigma
 - Increase knowledge among social and family networks of potential PrEP users
 - Increase knowledge of PrEP among those are not currently indicated but may be in the future

Research gap

PrEP awareness in a representative sample

PrEP awareness in general population

Objectives

Using a large, representative, population-based sample:

- ▣ Estimate prevalence of PrEP awareness among all sexually active adult New Yorkers
- ▣ Assess correlates of PrEP awareness, including sociodemographic factors, priority populations, sexual health engagement

Methods: Community Health Survey

- **Community Health Survey (CHS)**

- Annual phone survey of 10,000 non-institutionalized New York adults (≥ 18 years old)
- Uses stratified random sample with post-stratification weighting to produce citywide estimates

- **PrEP on CHS**

- PrEP awareness and use questions added in 2016
- Asked only of New Yorkers sexually active in the past year (prevalence - 70.6%)



“Sometimes people who do not have HIV take a daily HIV medication, known as Truvada, to keep from getting HIV. This is called PrEP, or Pre-Exposure Prophylaxis. Have you ever heard of PrEP?”

Methods: Community Health Survey

- Assessed prevalence of PrEP awareness overall and by group – weighted N's and proportions
- Associations examined through adjusted prevalence ratios (Poisson regression)
- Correlates assessed:
 - Age
 - Gender
 - Race/ethnicity
 - Education
 - Household income
 - Health insurance status
 - Borough of residence
 - Sexual identity
 - Priority population
 - Sexual history taken by a provider (last doctor's visit)
 - Recent HIV test (past 12 months)
- Sexual history and HIV test only assessed among non-PrEP users (PrEP use prevalence <1%)
- Multivariable models were adjusted for factors associated with awareness bivariately ($p < 0.05$)



Results: One in four aware of PrEP

Characteristic	Number Aware* Weighted n/N	% Aware (95% CI)	aPR† (95% CI)
Overall	1,020,000/4,193,000	24.5 (23.0-26.1)	n/a

Note: Analysis conducted among sexually active New Yorkers; aPR= adjusted prevalence ratio

* Population estimates are rounded to the nearest 1,000

Results: PrEP awareness associated with age

Characteristic	Number Aware* Weighted n/N	% Aware (95% CI)	aPR† (95% CI)
Overall	1,020,000/4,193,000	24.5 (23.0-26.1)	n/a
Age group (yrs)			
18-24	136,000/549,000	24.9 (20.3-30.2)	1.5 (1.1-2.1)
25-44	564,000/2,040,000	27.8 (25.4-30.3)	1.8 (1.4-2.3)
45-64	270,000/1,297,000	20.9 (18.7-23.4)	1.3 (1.0-1.7)
≥65	52,000/299,000	17.5 (13.6-22.1)	ref
Gender‡			
Man	515,000/2,124,000	24.4 (22.4-26.6)	1.1 (0.9-1.2)
Woman	507,000/2,069,000	24.6 (22.3-27.0)	ref

Note: Analysis conducted among sexually active New Yorkers; aPR= adjusted prevalence ratio

* Population estimates are rounded to the nearest 1,000

† Adjusted for age, gender, race/ethnicity, education, household income, insurance status, borough, and sexual identity

‡ Man includes transgender men, woman includes transgender women

Bold indicates statistically significant at the alpha = 0.05 level

Results: PrEP awareness associated with race/ethnicity and education

Characteristic	Number Aware* Weighted n/N	% Aware (95% CI)	aPR† (95% CI)
Overall	1,020,000/4,193,000	24.5 (23.0-26.1)	n/a
Race/ethnicity			
White, non-Latino	491,000/15,210,00	32.4 (29.4-35.6)	ref
Black, non-Latino	247,000/929,000	26.7 (23.4-30.1)	1.0 (0.9-1.2)
Latino	199,000/1,227,000	16.3 (14.2-18.6)	0.8 (0.6-0.9)
API, non-Latino	57,000/411,000	14.0 (10.2-18.8)	0.5 (0.4-0.7)
Other, non-Latino	29,000/105,000	28.3 (19.1-39.7)‡	1.0 (0.7-1.4)
Highest education level			
High school or higher	958,000/3,510,000	27.4 (25.6-29.2)	1.9 (1.5-2.6)
Less than HS	62,000/670,000	9.4 (7.1-12.3)	ref

Note: Analysis conducted among sexually active New Yorkers; aPR= adjusted prevalence ratio; API = Asian-Pacific Islanders

* Population estimates are rounded to the nearest 1,000

† Adjusted for age, gender, race/ethnicity, education, household income, insurance status, borough, and sexual identity

‡ Estimate should be interpreted with caution due to wide 95% CI; **Bold** indicates statistically significant at the alpha = 0.05 level

Results: PrEP awareness associated with income, insurance status and borough

Characteristic	Number Aware* Weighted n/N	% Aware (95% CI)	aPR† (95% CI)
Overall	1,020,000/4,193,000	24.5 (23.0-26.1)	n/a
Annual household income			
100% FPL or higher	881,000/3,214,000	27.6 (25.7-29.5)	1.2 (1.0-1.5)
Less than 100% FPL	142,000/979,000	14.5 (11.9-17.6)	ref
Insured			
Yes	948,000/3,641,000	26.2 (24.5-28.0)	1.6 (1.2-2.1)
No	63,000/482,000	13.1 (10.0-17.0)	ref
Borough of residence			
Manhattan	352,000/872,000	40.5 (36.1-45.0)	1.6 (1.4-1.9)
Other	670,000/3,320,000	20.3 (18.8-21.9)	ref

Note: Analysis conducted among sexually active New Yorkers; aPR= adjusted prevalence ratio; FPL = Federal Poverty Level

* Population estimates are rounded to the nearest 1,000

† Adjusted for age, gender, race/ethnicity, education, household income, insurance status, borough, and sexual identity

Bold indicates statistically significant at the alpha = 0.05 level

Results: PrEP awareness associated with sexual identity and select priority population

Characteristic	Number Aware* Weighted n/N	% Aware (95% CI)	aPR† (95% CI)
Overall	1,020,000/4,193,000	24.5 (23.0-26.1)	n/a
Sexual identity			
Gay/lesbian/bisexual/other	171,000/258,000	66.3 (59.0-72.9)	2.6 (2.3-3.0)
Straight	830,000/3,785,000	22.0 (20.5-23.7)	ref
Select priority population			
MSM	111,000/130,000	85.4 (77.6-90.8)	3.4 (3.0-3.9)
Black and Latina women	229000/1,095,000	21.0 (18.3-24.0)	0.9 (0.7-1.2)
All others	682,000/2,968,000	23.1 (21.3-25.1)	ref

Note: Analysis conducted among sexually active New Yorkers aPR= adjusted prevalence ratio

* Population estimates are rounded to the nearest 1,000

† Adjusted for age, gender, race/ethnicity, education, household income, insurance status, borough, and sexual identity

Bold indicates statistically significant at the alpha = 0.05 level

Results: PrEP awareness associated with having had a sexual history and HIV test

Characteristic	Number Aware* Weighted n/N	% Aware (95% CI)	aPR† (95% CI)
Overall	1,020,000/4,193,000	24.5 (23.0-26.1)	n/a
Sexual history taken by provider‡			
Yes	551,000/1,669,000	33.2 (30.4-36.2)	1.5 (1.3-1.8)
No	425,000/2,411,000	17.7 (16.1-19.5)	ref
HIV test, last 12 months			
Yes	453,000/1,636,000	27.8 (25.3-30.5)	1.3 (1.1-1.5)
No	517,000/2,446,000	21.3 (19.4-23.2)	ref

Note: Analysis conducted among sexually active New Yorkers who have never used PrEP; aPR= adjusted prevalence ratio

* Population estimates are rounded to the nearest 1,000

† Adjusted for age, gender, race/ethnicity, education, household income, insurance status, borough, and sexual identity

‡ At last visit with personal doctor or health care provider

Bold indicates statistically significant at the alpha = 0.05 level

Summary of Results

- Results estimate only 1 in 4 sexually active New Yorkers were aware of PrEP
- Among priority populations:
 - ▣ Awareness was high among MSM; suggesting positive impact of efforts by NYC Health Department and others
 - ▣ Awareness was lower among Black and Latina women
- Among the general population, awareness was lower among
 - ▣ Latinos and Asian-Pacific Islanders (API)
 - ▣ Those with less education, lower household income and the uninsured; suggesting socioeconomic inequities
- Awareness higher among those who reported sexual health engagement; though only 1 in 3 who had a sexual history taken were aware of PrEP

Considerations

Limitations

- ❑ Self-reported data subject to recall error and social desirability bias
- ❑ Only sexually active New Yorkers
- ❑ Cross-sectional

Strengths

- ❑ Large sample size
- ❑ Generalizable to New York City population



Implications and Next Steps

- New PrEP messaging is needed to reach groups in addition to MSM
 - ▣ Women - LivingSure campaign launched March, 2018
 - ▣ Latinos - Listos campaign launched May, 2018
 - ▣ Asian-Pacific Islander -have begun internal and community input



#PLAYSURE

**FIERCE
FABULOUS &
LIVING SURE**

**ENJOY SEX WITH ONE LESS WORRY.
PrEP CAN KEEP YOU HIV NEGATIVE.**

If you are HIV negative, PrEP is a safe, daily pill that protects you from HIV. PrEP will not interfere with your hormonal birth control or hormone therapy. Condoms offer additional protection against other sexually transmitted infections and unintended pregnancy.

PLAYSURE: Talk to your doctor or visit nyc.gov/health and search for "PrEP".

NYC Health
Bill de Blasio
Mayor
Mary T. Bassett, MD, MPH
Commissioner



PrEP

¡listos!

**TOMAR PrEP
PREVIENE EL VIH**

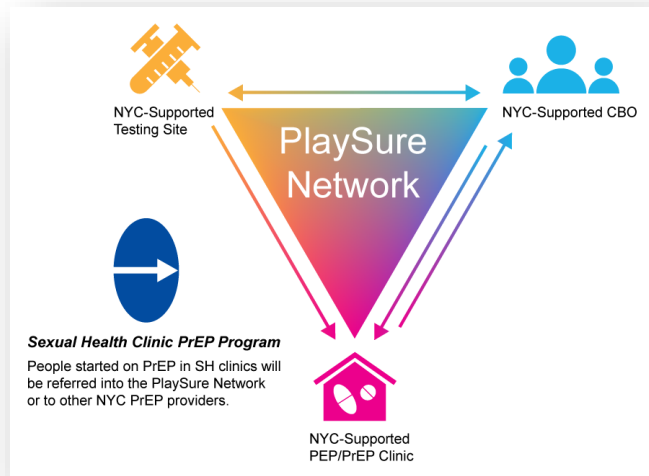
PrEP es una pastilla segura que se toma todos los días para reducir el riesgo de contraer una infección por el VIH. Usa condones para protegerte contra otras infecciones de transmisión sexual.

Consigue PrEP independientemente de tu capacidad de pago. Habla con tu médico o visita nyc.gov/health/PrEPenEspanol.

basis NYC

Implications and Next Steps- continued

- Socioeconomic inequities found appear to mirror those found in PrEP use among MSM
 - ▣ To address these the NYC Department of Health has funded navigation programs that seek to increase access to PrEP at no cost to the consumer
- Imperative to raise PrEP awareness among general population
 - ▣ Especially among potential social and family networks of those that may benefit from PrEP



Implications and Next Steps- continued

- That sexual health engagement appear correlated with PrEP awareness is encouraging; further work should be done to ensure that providers leverage these interactions
 - ▣ Provider education materials on sexual history highlight PrEP and vice versa
 - ▣ Promote HIV test as an opportunity to discuss PrEP



BOX 1. WHY YOU SHOULD TAKE A ROUTINE SEXUAL HISTORY^{2,3}

Incorporating the sexual history into primary care

- Makes discussion about sexual health an expected part of primary care.
- Affirms patients' identities and experience.
- Guides individual screenings for
 - o HIV and other STIs,
 - o HPV-related cancers.
- Helps determine appropriate vaccinations (including hepatitis A and B, HPV, and meningococcal disease).
- Opens opportunities for counseling on
 - o reducing risk of HIV and STIs (including PrEP, PEP, and condom use),
 - o pregnancy planning and prevention,
 - o sexual risk behavior.
- Allows patients to raise concerns about sexual function or pleasure.
- Can inform related screenings, including those for
 - o mental health,
 - o alcohol and drug use,
 - o food and housing security,
 - o intimate partner violence, including reproductive coercion.
- Strengthens the provider-patient relationship.



#PLAYSURE

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LIVING SURE



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Thank you!

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Questions?



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