



# Collaboration between Howard Brown Health and Walgreens pharmacies for HIV pre-exposure prophylaxis: *Identifying usage patterns, patient characteristics, and geographic distribution in Chicago*

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Presented by Ron Hazen and Drew Halbur.

# Disclosures

Drew Halbur and Ron Hazen are employees of Walgreen Co. for whom this research was conducted.

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All disclosures have been resolved by the symposium planning committee.

# Presentation overview

- Background
- Study purpose
- Methods
- Results
- Discussion/Conclusion
- Questions

# Howard Brown and Walgreens

- Howard Brown Health (HBH) is one of the nation's largest lesbian, gay, bisexual, transgender, and queer (LGBTQ) organizations with multiple locations throughout the city of Chicago.<sup>1</sup>
- HBH serves a population of 27,000 adults and youth in a diverse health and social service delivery system focused around seven major programmatic divisions:
  - primary medical care, behavioral health, research, HIV/STI prevention, youth services, elder services, and community initiatives.<sup>1</sup>
- Howard Brown Health (HBH) and Walgreens HIV specialized pharmacies play a significant role in initiating and maintaining PrEP therapy by providing personalized support and adherence counseling.

1. Howard Brown Health. Mission and Overview – About Howard Brown.  
<https://howardbrown.org/mission-and-overview/>. Accessed August 2, 2018.

# PrEP is pre-exposure prophylaxis for HIV prevention

- Truvada®, once daily fixed-dose emtricitabine (FTC) 200 mg and tenofovir disoproxil fumarate 300 mg (TDF)
- FTC/TDF is the only FDA approved drug combination to prevent HIV<sup>1</sup>
- PrEP treatment guidelines include initial and regular (3 months) screenings for HIV/STI, and ≤ 90 day supply<sup>1</sup>
- Recommended for certain at-risk groups ~ 1.2 million at risk<sup>2</sup>:
  - 600K heterosexual, 500K MSM, and 100K IDU

1. Centers for Disease Control. Pre-Exposure Prophylaxis for the Prevention of HIV Infection in the US – 2014 Clinical Providers' Supplement. <https://www.cdc.gov/hiv/pdf/guidelines/PrEPProviderSupplement2014.pdf>. Accessed August 2, 2018.

2. Smith DK, Van Handel M, Wolitski RJ, et al. Vital signs: estimated percentages and numbers of adults with indications for preexposure prophylaxis to prevent HIV acquisition—United States, 2015. *MMWR Morb Mortal Wkly Rep.* 2015;64(46):1291-1295.

# PrEP has been shown to reduce HIV infection risk by up to 100%<sup>1,2,3</sup>

Study	Participants	N	Study Type	Drug	Adherence adjusted Efficacy
iPrEx <sup>1</sup>	MSM	2,499	Clinical trial	FTC/TDF	<b>92%</b>
TDF <sup>2</sup>	Heterosexual men/women	1,200	Clinical trial	FTC/TDF	<b>85%</b>
Partners PrEP <sup>1</sup>	Heterosexual +/- couples	4,747	Clinical trial	TDF; FTC/TDF	<b>86% / 90%</b>
Bangkok IDE <sup>1</sup>	IDU	2,400	Clinical trial	TDF	<b>74%</b>
Kaiser <sup>2</sup>	99% MSM	388 PY	Real-world observational	FTC/TDF	<b>100%</b>
SF Strut Clinic <sup>3</sup>	99% MEN	1,252	Real-world observational	FTC/TDF	<b>100%</b>

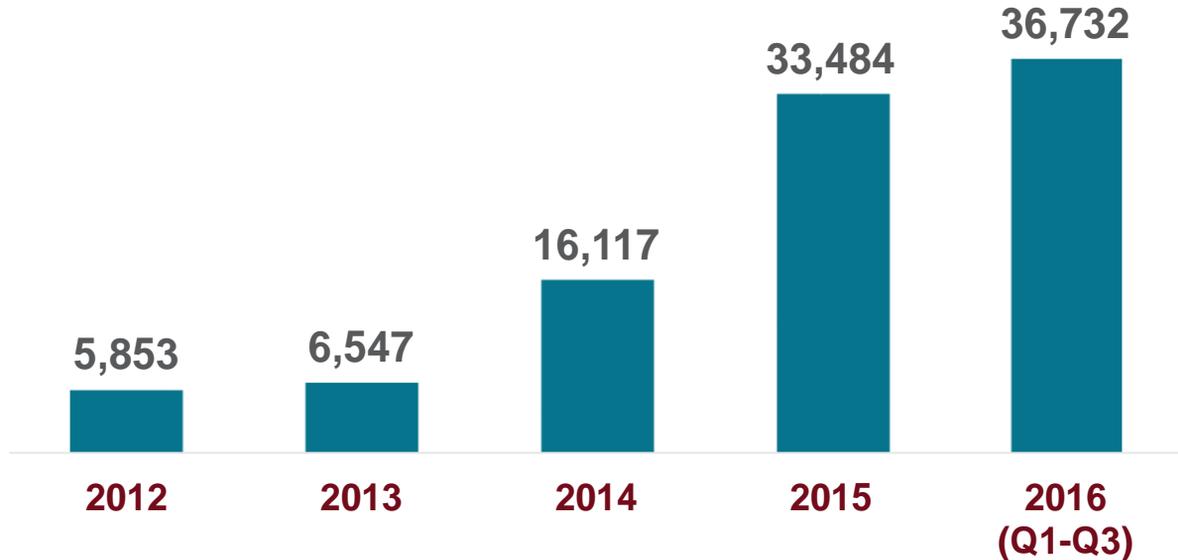
1. PreExposure Prophylaxis for the Prevention of HIV Infection in the United States, 2014 Clinical Practice Guidelines. Adapted from <http://www.cdc.gov/hiv/pdf/guidelines/PrEPguidelines2014.pdf>. Accessed July 13, 2018. Volk JE, Marcus JL, Phengrasamy T, et al.

2. No New HIV Infections With Increasing Use of HIV Preexposure Prophylaxis in a Clinical Practice Setting. Clinical Infectious Diseases: An Official Publication of the Infectious Diseases Society of America. 2015;61(10):1601-1603. doi:10.1093/cid/civ778.

3. Gibson S et al. (Crouch P-C presenting) Eliminating barriers to increase uptake of PrEP in a community-based clinic in San Francisco. 21st International AIDS Conference, Durban, abstract FRAE0104, 2016.

# PrEP users in US increased 6.9 times from 2012 to 2016<sup>1</sup>

- 98,732 Unique Individuals Starting PrEP from 2012-2016
- 1,715 in Q3 2012 to 11,827 in Q3 2016



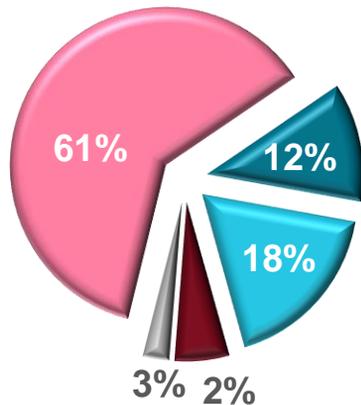
1. Mera R, et al. Changes in Truvada (TVD) for HIV pre-exposure prophylaxis (PrEP) utilization in the United States: (2012-2016). Poster presented at: 9<sup>th</sup> International AIDS Society Conference on HIV Science 2017; July 23-26, 2017; Paris, France. Poster #WEPEC0919. Accessed August 2<sup>nd</sup>, 2018.

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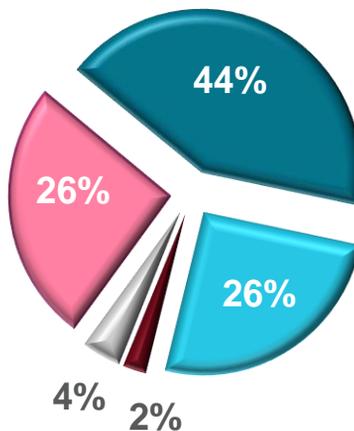
*Walgreens* Trusted since 1901<sup>®</sup>

# FTC/TDF for PrEP use among African Americans and Hispanics is low relative to the rate of new HIV infections

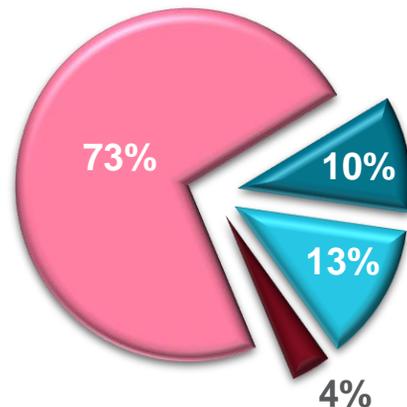
Estimated Population Distribution by Race/Ethnicity, 2016<sup>1</sup>



Estimated New HIV Infections, 2016<sup>1</sup>



Total FTC/TDF for PrEP Utilization by Race/Ethnicity, Sept 2016<sup>2</sup>

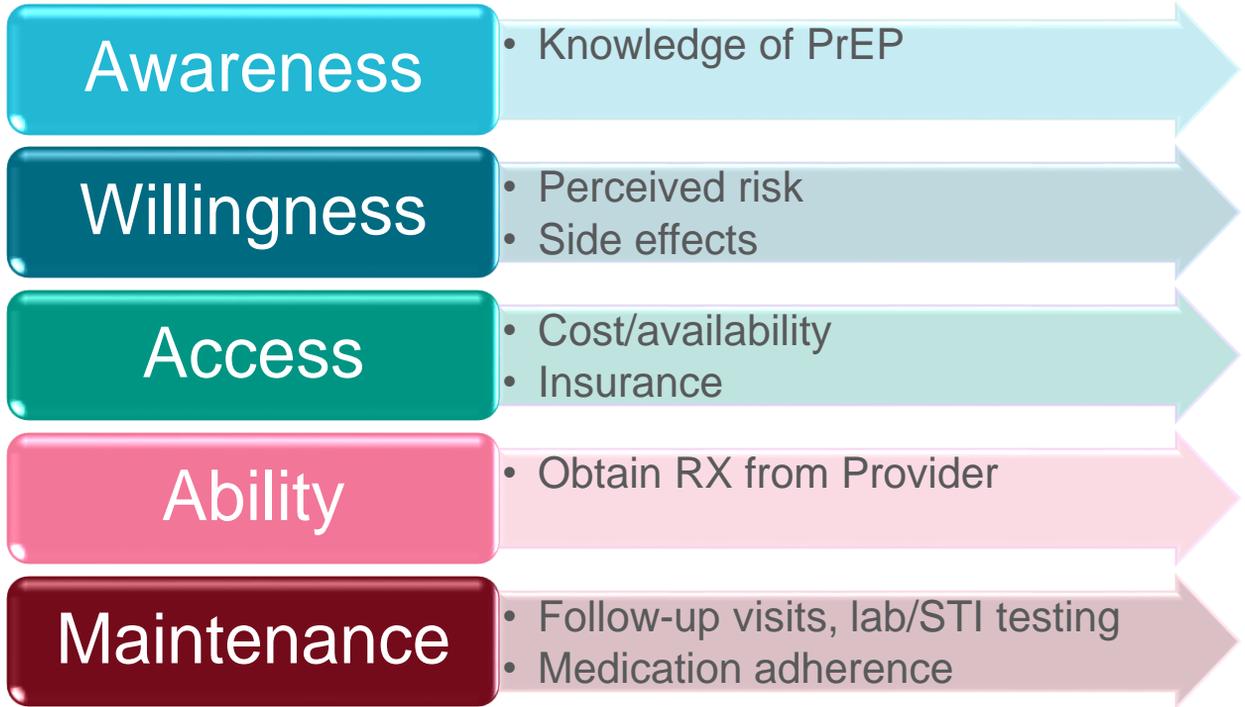


White
  African American
  Hispanic
  Asian
  Multiracial/Other

1. CDC. HIV Surveillance Report, *Diagnoses of HIV Infection in the United States and Dependent Areas, 2016*, Vol. 28; November 2017. KFF. State Health Facts; Accessed November 2017.

2. These data represent 41% of unique individuals who have started TVD for PrEP from 2012-3Q2016.

# HIV PrEP motivations and barriers<sup>1</sup>



1. Parsons JT, Rendina HJ, Lassiter JM, Whitfield TH, Starks TJ, Grov C. Uptake of HIV pre-exposure prophylaxis (PrEP) in a national cohort of gay and bisexual men in the United States. *J Acquir Immune Defic Syndr.* 2017;74(3):285-292.

# PrEP adherence differs from HIV treatment adherence<sup>1</sup>

- May be used for high-risk periods (on demand)
- May provide protection if taken less than daily (i.e.  $\geq 4$  pills/week<sup>2</sup>)
- Users have other means (e.g. condoms) to prevent HIV
- PrEP reaches peak concentration in 9 days for rectal tissue in and 20 days for blood and vaginal tissue

<sup>1</sup> World Health Organization. WHO consultation on PrEP adherence – June 8, 2014; <http://www.who.int/hiv/pub/prep/Prep-June2014.pdf>. Accessed July 16, 2018.

<sup>2</sup> Buchbinder SP, Glidden DV, Liu AY, et al. HIV pre-exposure prophylaxis in men who have sex with men and transgender women: a secondary analysis of a phase 3 randomised controlled efficacy trial. *The Lancet infectious diseases*. 2014;14(6):468-475.

# Study purpose

To characterize:

- (1) medication usage patterns,
- (2) demographic characteristics, and
- (3) the geographic distribution

among Walgreens' PrEP users in Chicago with HBH providers.

# Study design and outcomes

## Study design

Retrospective cohort study using 2016 pharmacy claims data from Walgreens.

## Study population

N=1,105 PrEP patients in calendar year 2016 were included if they were prescribed PrEP by a HBH provider and were on PrEP therapy for  $\geq 90$  days, excluding those on combined ARV therapy, and were followed for 365 days.

## Primary outcome

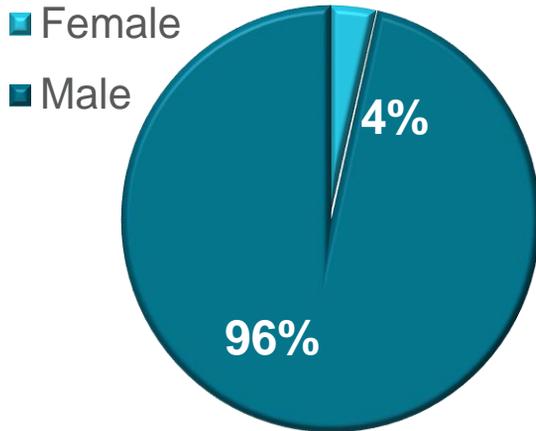
Medication adherence (PDC), length of use and geographic distribution.

## Analysis software

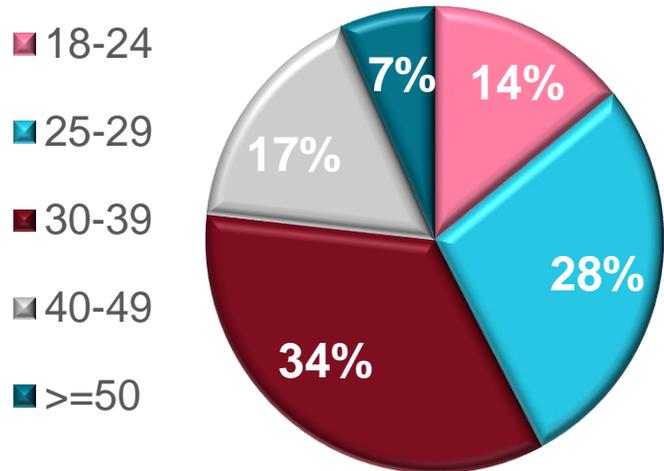
Statistics in SAS 9.3. Maps in ArcGIS.

# HBH PrEP users (N=1,105) were mostly male (96%) and ages 25-39 (62%)

## Gender\*



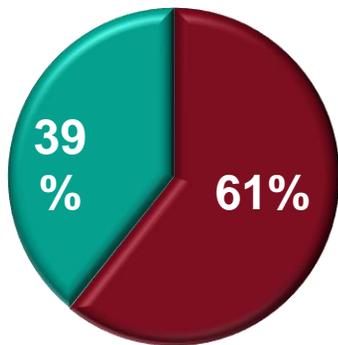
## Age groups



\*unable to identify transgender users

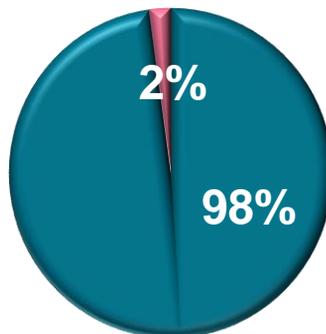
# HBH PrEP users (N=1,105) were more likely to be commercially insured (61%), have ≤\$20 copay (98%) and be new to therapy (56%)

## Payer Type\*



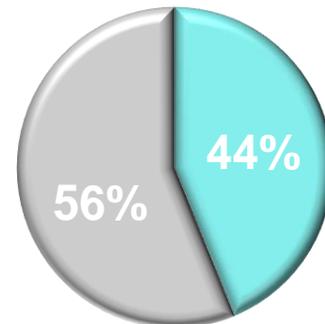
- Commercial
- Non-Commercial

## Copay Category



- 20 or less
- More than 20

## New-to-therapy

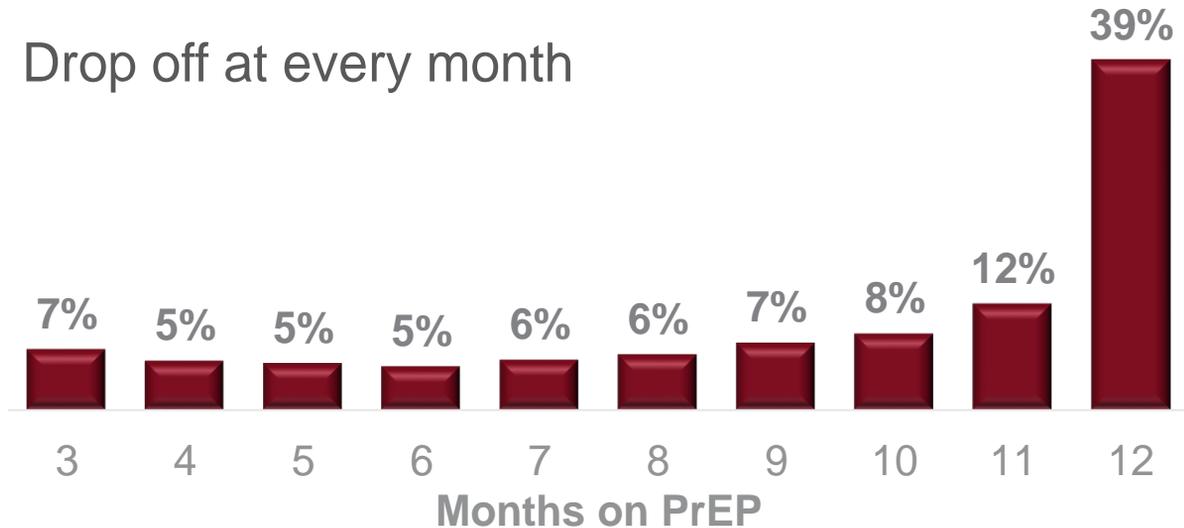


- No
- Yes

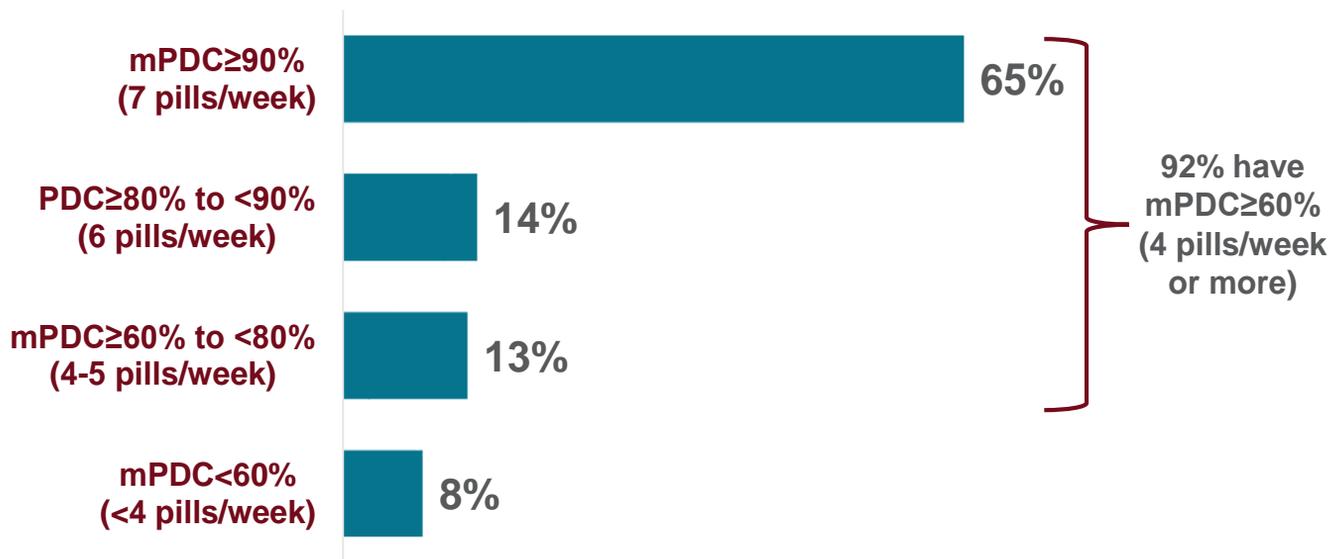
\* Commercial insurance = commercial prescription insurance

# HBH PrEP users averaged 9 months of therapy and 39% had 1 year of coverage

- Average of 9 months
- 39% had PrEP coverage for the entire year
- Drop off at every month



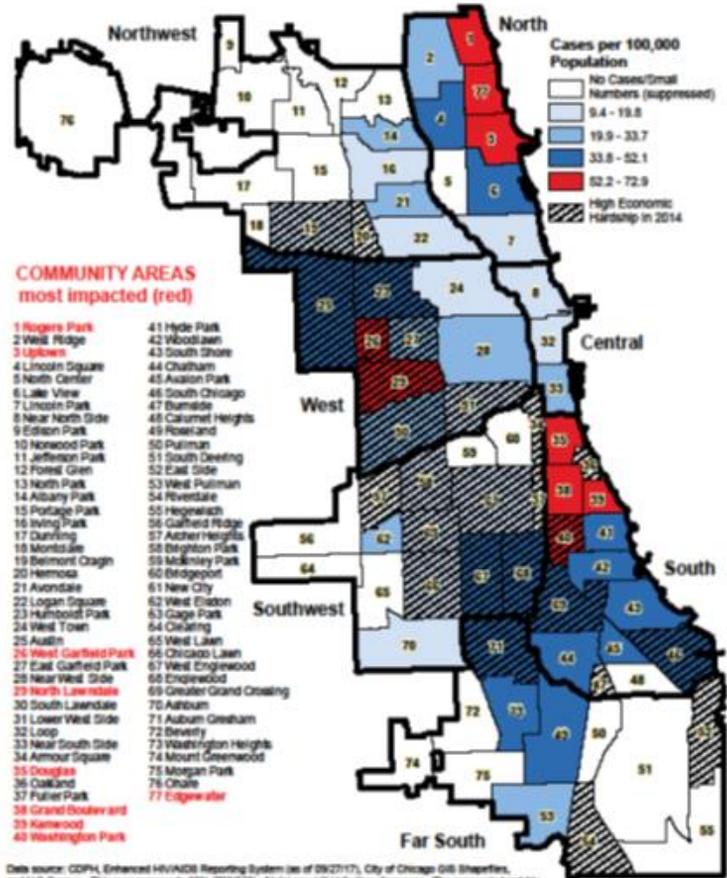
# PrEP adherence, or modified proportion of days covered (mPDC), was 88%; most had mPDC ≥ 90% (65%)



$$mPDC = \frac{\text{Days with medication in period}}{(\text{Last fill date} + \text{days supply}) - \text{first fill date}}$$

# 2016 Rate of HIV Infection Diagnoses in Chicago by Community Area<sup>1</sup>

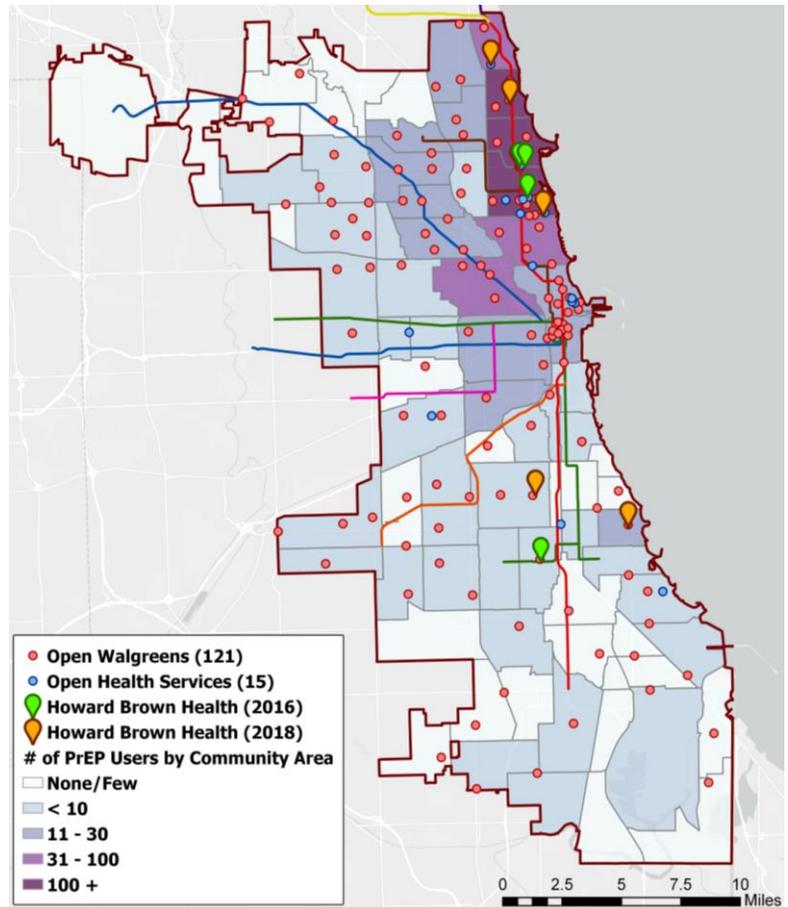
- Community areas with highest the highest rates of HIV infection diagnoses were clustered on the north, west and south sides
  - Rogers Park, Uptown, Edgewater
  - West Garfield Park, North Lawndale
  - Douglass, Grand Boulevard, Kenwood and Washington Park
- There remains a need for greater PrEP uptake in community areas on south and west sides, in Black and Latino communities



1. Chicago Department of Public Health. HIV/STI Surveillance Report 2017. Chicago, IL: City of Chicago, December 2017.

# Walgreens PrEP users with HBH Providers in Chicago, 2016

- There are ~136 Walgreens throughout the city of Chicago, ~15 of which are health system/specialty pharmacies.
- In 2016, HBH primarily located on north side; now there are 9 locations located throughout the city.
- By location, PrEP users with HBH providers resided throughout Chicago, but were predominately located on the north side.



# Conclusions

- HBH PrEP users:
  - High adherence (65%  $\geq$ 90% PDC; 7 pills/week); 92% have mPDC $\geq$ 60% (4 pills/week or more)
  - 39% used for entire year period; average time was 9 months
  - Located throughout Chicago, but many on Northside.
- Although a high proportion of PrEP patients had non-commercial insurance, almost none had pharmacy copays of more than \$20.

# Conclusions

- Through close collaboration, community-based pharmacies and community health centers are able to effectively initiate PrEP for patients and eliminate medication-related financial barriers to accessing therapy.
- Future research should investigate improved methods for PrEP adherence, persistence, and access among all communities, including those most impacted by HIV infection.
- There remains a need to address PrEP disparities throughout Chicago.

# Limitations

- Observational design; 2016 data only. Additional HBH locations opened after study period.
- PrEP users from Walgreens' pharmacy claims data (no clinical data). Cannot confirm HIV status.
- Limited demographics available.
- Unable to determine if a patient fills scripts at another pharmacy.
- Missing data, etc.

# Disclaimer

Presented at the Midwest LGBTQ Health Symposium, September 14-15, Chicago, IL.

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Thank you  
&  
Questions?

# PrEP resources - patients

[Preplocator.org](https://preplocator.org)

[Greaterthan.org/get-prep](https://greaterthan.org/get-prep)

[Truvada.com](https://truvada.com)

[Gileadadvancingaccess.com](https://gileadadvancingaccess.com)

[WhatisPrEP.org](https://whatisprep.org)

[Prepfacts.org](https://prepfacts.org)

# PrEP resources - providers

[Cdc.gov/hiv](https://www.cdc.gov/hiv)

Risk reduction tool: [cdc.gov/hivrisk](https://www.cdc.gov/hiv/risk)

[Truvadaprep.com](https://www.truvadaprep.com)