MARYLAND DEPARTMENT OF HEALTH

Update on the HIV Epidemic in Maryland

Colin Flynn, ScM

Prevention and Health Promotion Administration

Center for HIV Surveillance, Epidemiology and Evaluation

April 8, 2019

MISSION AND VISION

MISSION

The mission of the Prevention and Health Promotion Administration is to protect, promote and improve the health and well-being of all Marylanders and their families through provision of public health leadership and through community-based public health efforts in partnership with local health departments, providers, community based organizations, and public and private sector agencies, giving special attention to at-risk and vulnerable populations.

VISION

The Prevention and Health Promotion Administration envisions a future in which all Marylanders and their families enjoy optimal health and well-being.

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2017 HIV Diagnosis Rates by Jurisdiction

1,040 HIV diagnoses, age 13+

Rate per 100,000

- 0.0
- 0.1 - 6.5
- 6.6 - 11.3
- 11.4 - 22.0
- 22.1 - 44.7

State Rate: 20.4 per 100,000

Garrett, Allegany, Washington, Carroll, Frederick, Baltimore, Harford, Cecil, Baltimore City, Howard, Kent, Montgomery, Queen Anne's, Anne Arundel, Caroline, Prince George's, Talbot, Calvert, Charles, Dorchester, St. Mary's, Wicomico, Worcester, Somerset, Somerset

Using data as reported through 6/30/2018
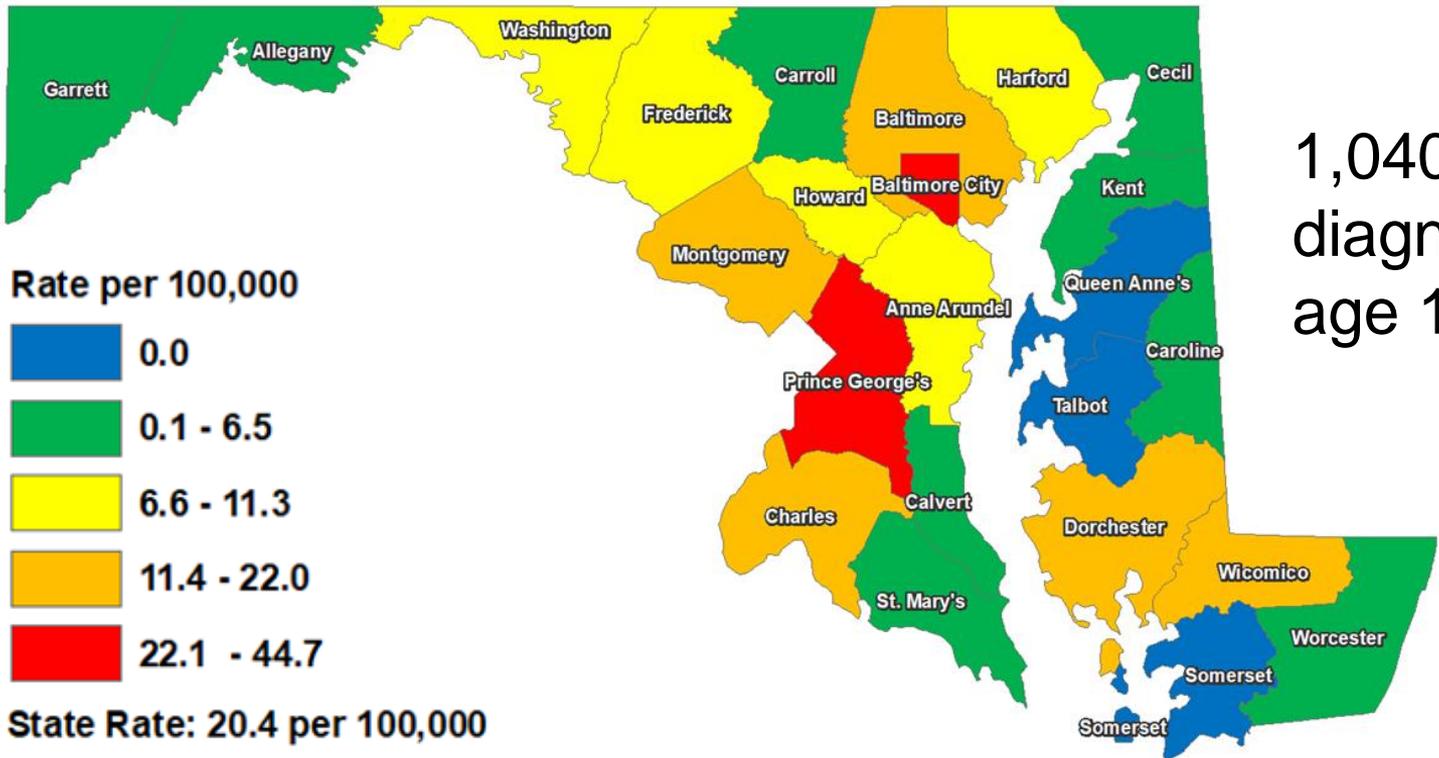
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Eliminating Perinatal HIV Transmission

- There were three babies diagnosed with HIV in Maryland and born in 2017

- So far, only one baby has been identified for 2018

- None of these four babies were born in a Maryland hospital

- Only one of the mothers lived in Maryland at the time of birth

- Elimination: <1 transmission per 100,000 live births

- Maryland had 71,589 live births in 2017

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Migration

- During 2017 there were 2,340 new people with HIV identified in Maryland

- However, there were only 1,043 new HIV diagnoses in Maryland residents

- The other 1,297 people (55%) either moved to Maryland after diagnosis or came to Maryland for medical care

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HIV Prevalence by Gender

Adult/Adolescent HIV Diagnoses, Current Address in Maryland and Alive on 12/31/2017, Current Gender, Reported through 6/30/2018

N = 30,566

Male, 19,905, 65%

Transfemale, 273, 1%

Transmale, 12, 0%

Female, 10,375, 34%

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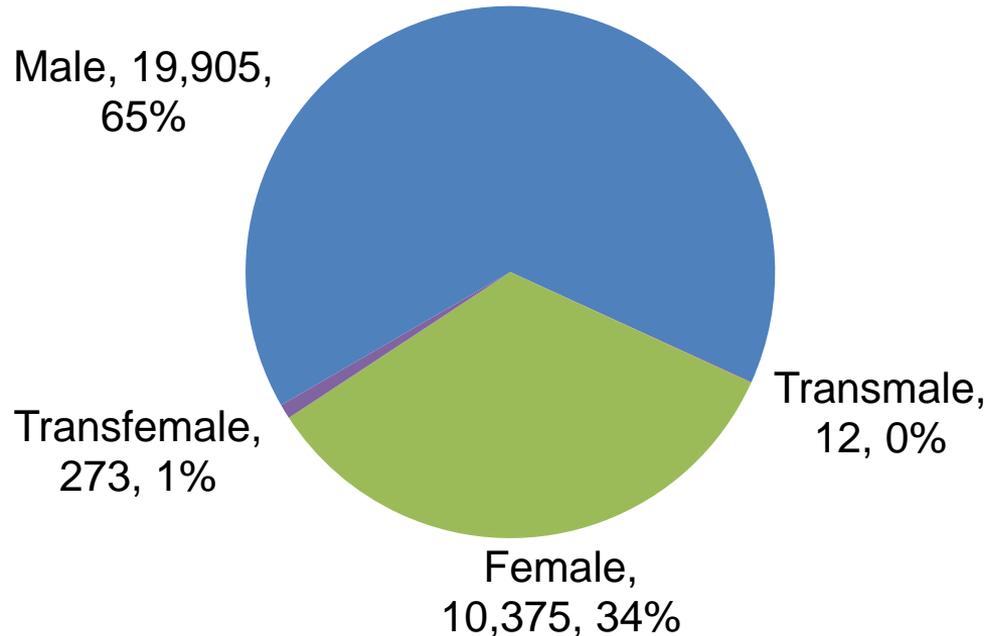
HIV Prevalence by Race/Ethnicity

Adult/Adolescent HIV Diagnoses, Current Address in Maryland and Alive on 12/31/2017, Rates per 100,000 by Race/Ethnicity, Reported through 6/30/2018

Race/Ethnicity	Rate of Living HIV Cases per 100,000
NH-White	146.5
NH-Other	442.3
Hispanic	433.2
NH-Black	1,509.8

Rate of Living HIV Cases per 100,000

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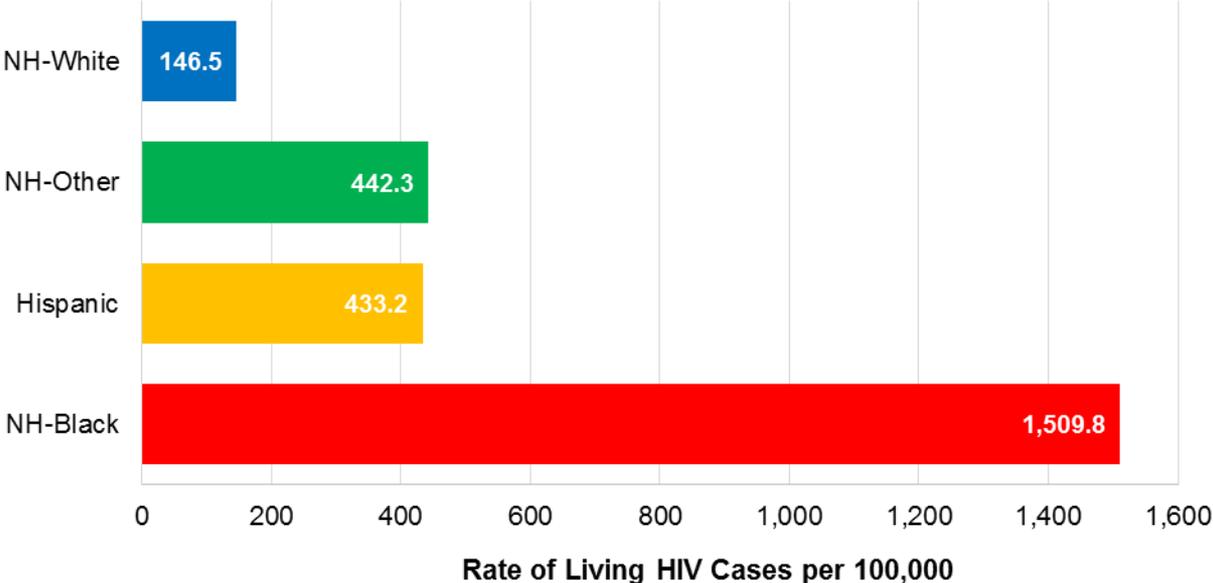
HIV Incidence and Prevalence by Age Group

**Age at Diagnosis of New 2017 HIV Diagnoses versus Age on 12/31/2017 of Persons Living with Diagnosed HIV or AIDS**
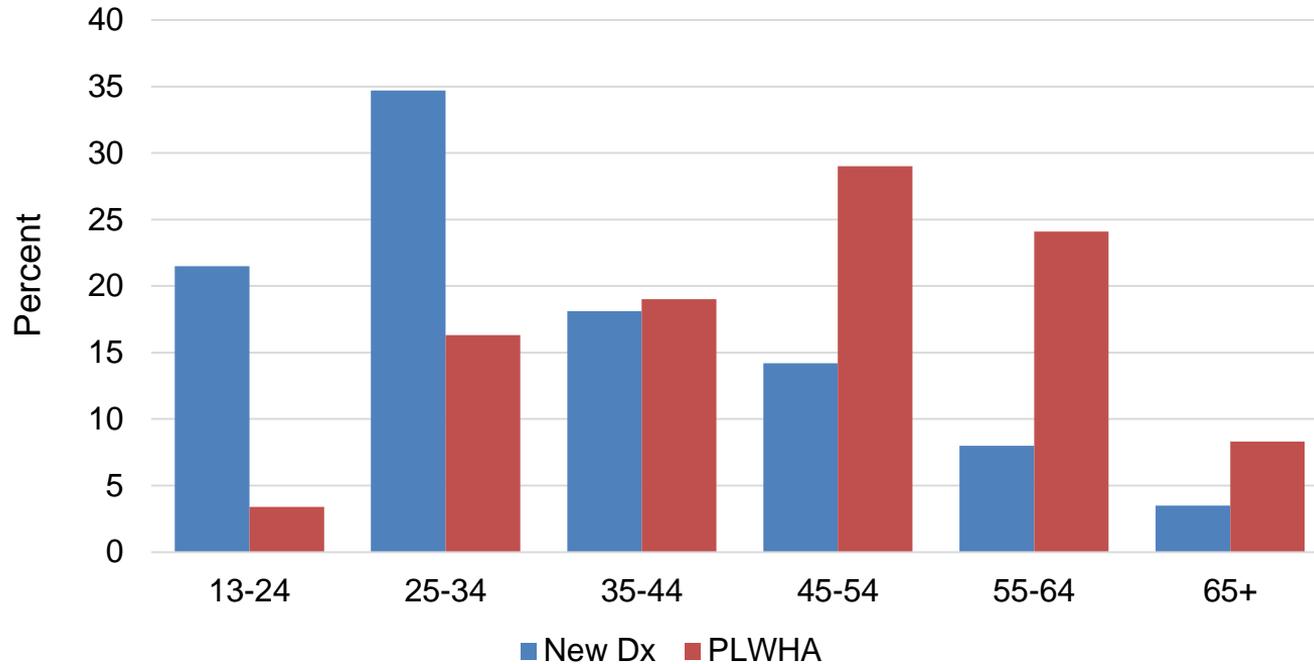
PLWHA are aging with HIV, while the new HIV diagnoses are getting younger

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HIV Diagnosis Age Trends

Trends in Maryland Adult/Adolescent Diagnoses by Age at Diagnosis, 2008-2017, Reported through 06/30/2018
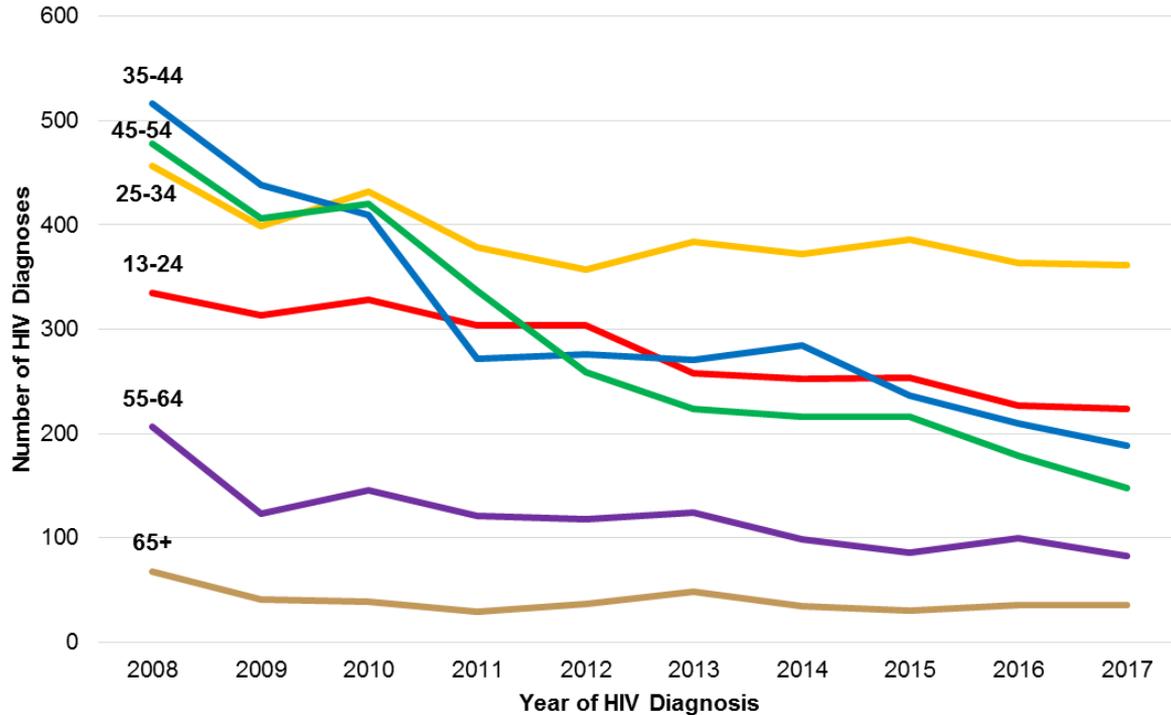
HIV Diagnosis Exposure Trends

Trends in Maryland Adult/Adolescent HIV Diagnoses by Exposure Category, 2008-2017, Reported through 06/30/2018

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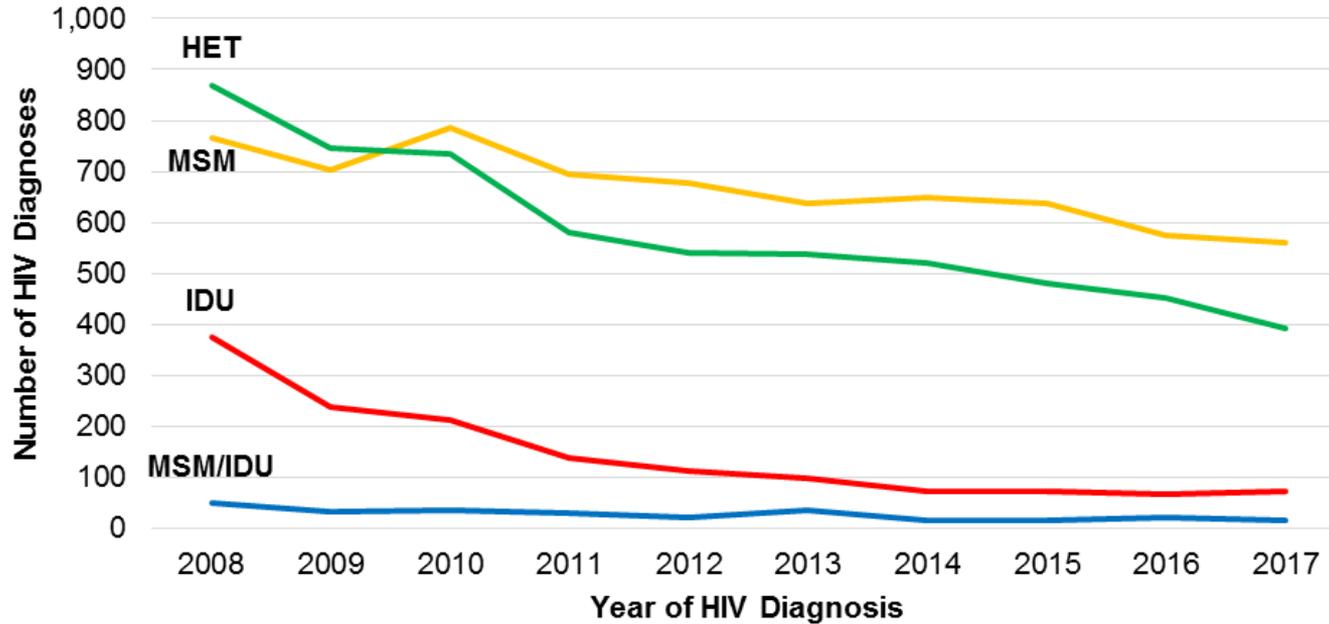
# What a difference a year makes

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Using HIV Surveillance Data to End the Epidemic

Colin Flynn, ScM

Prevention and Health Promotion Administration

Center for HIV Surveillance, Epidemiology and Evaluation

April 10, 2018

CDC PS18-1802: Integrated HIV Surveillance and Prevention Programs for Health Departments
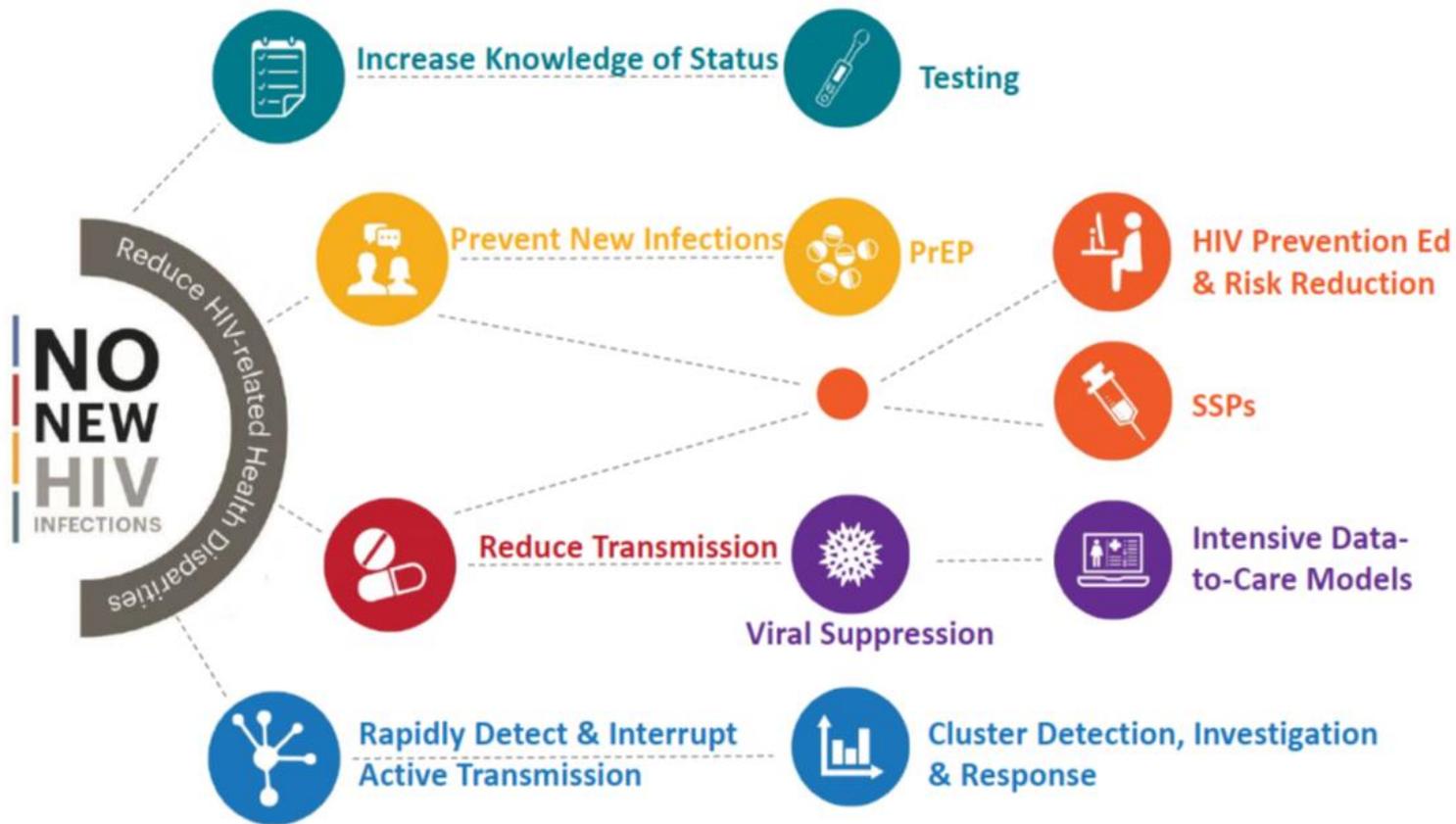
Ending the HIV Epidemic
A Plan for America – Feb. 2019

GOAL:

Our goal is ambitious and the pathway is clear –
employ strategic practices in the *places* focused on the right *people* to:

75% reduction in new HIV infections in 5 years and at least 90% reduction in 10 years.

Diagnose all people with HIV as early as possible after infection.

Treat the infection rapidly and effectively to achieve sustained viral suppression.

Protect people at risk for HIV using potent and proven prevention interventions, including PrEP, a medication that can prevent HIV infections.

Respond rapidly to detect and respond to growing HIV clusters and prevent new HIV infections.

HIV HealthForce will establish local teams committed to the success of the Initiative in each jurisdiction.

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Ending the HIV Epidemic
A Plan for America – Feb. 2019

The Initiative will target our resources to the 48 highest burden counties, Washington, D.C., San Juan, Puerto Rico, and 7 states with a substantial rural HIV burden.

Includes Baltimore City, Montgomery County, Prince George's County, and the District of Columbia

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75% reduction in new HIV infections in 5 years and at least 90% reduction in 10 years.

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HIV Incidence Trends

Estimated HIV Incidence for Maryland With 95% Confidence Intervals
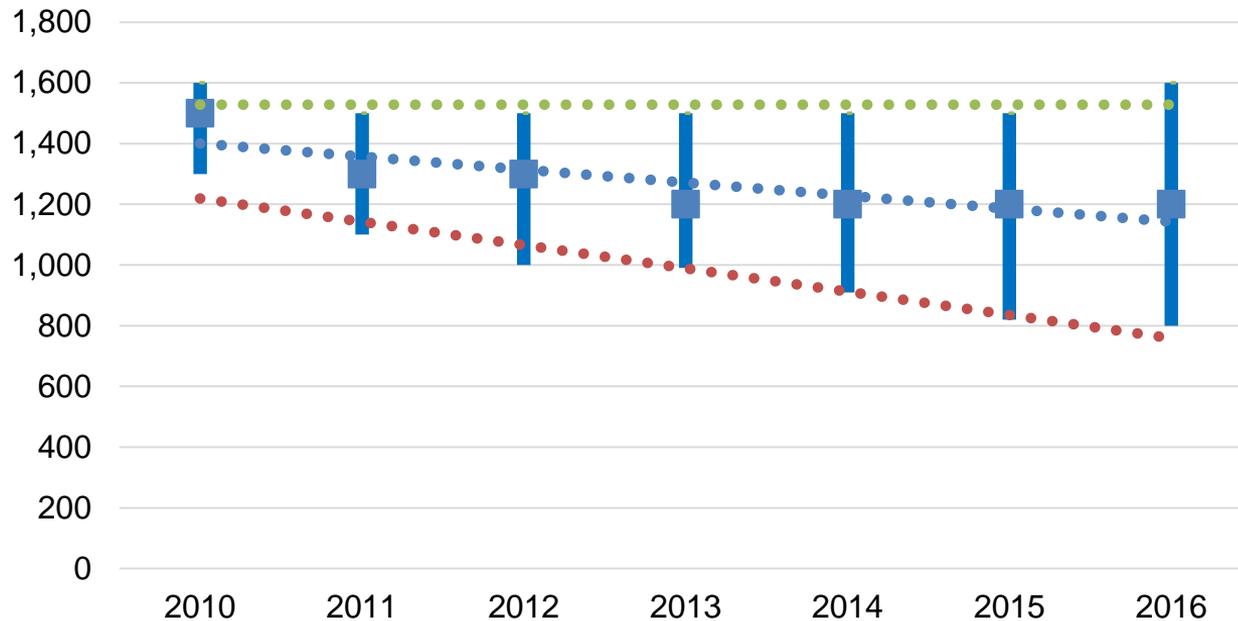
Estimated HIV incidence in Maryland decreased 20% from 1,500 in 2010 to 1,200 in 2016

CDC. HIV Surveillance Supplemental Report 2019; 24(1)

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HIV Diagnosis Trends

New HIV Diagnoses for Maryland
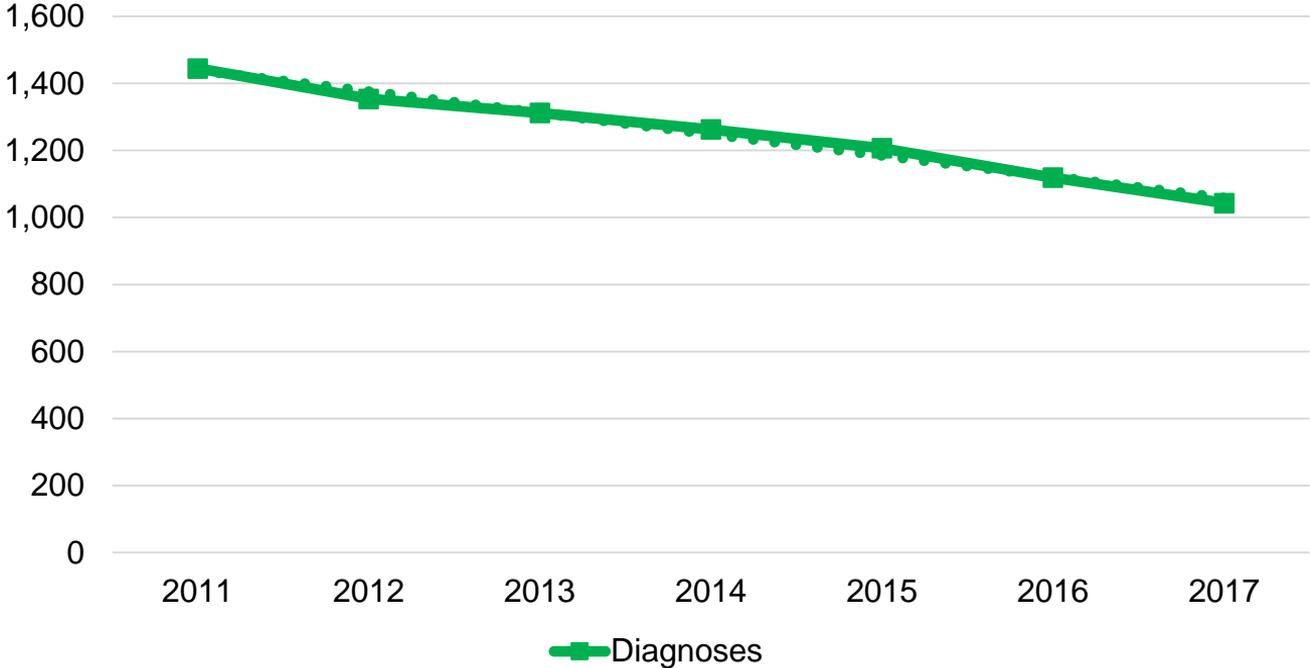
New diagnoses continue to trend downward, from 1,445 in 2011 to 1,043 in 2017 (28%)

Using data as reported through June 30, 2018.

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HIV Diagnosis Trends

Trends in Maryland and Baltimore City HIV Diagnoses, 2008-2017, Reported through 06/30/2018
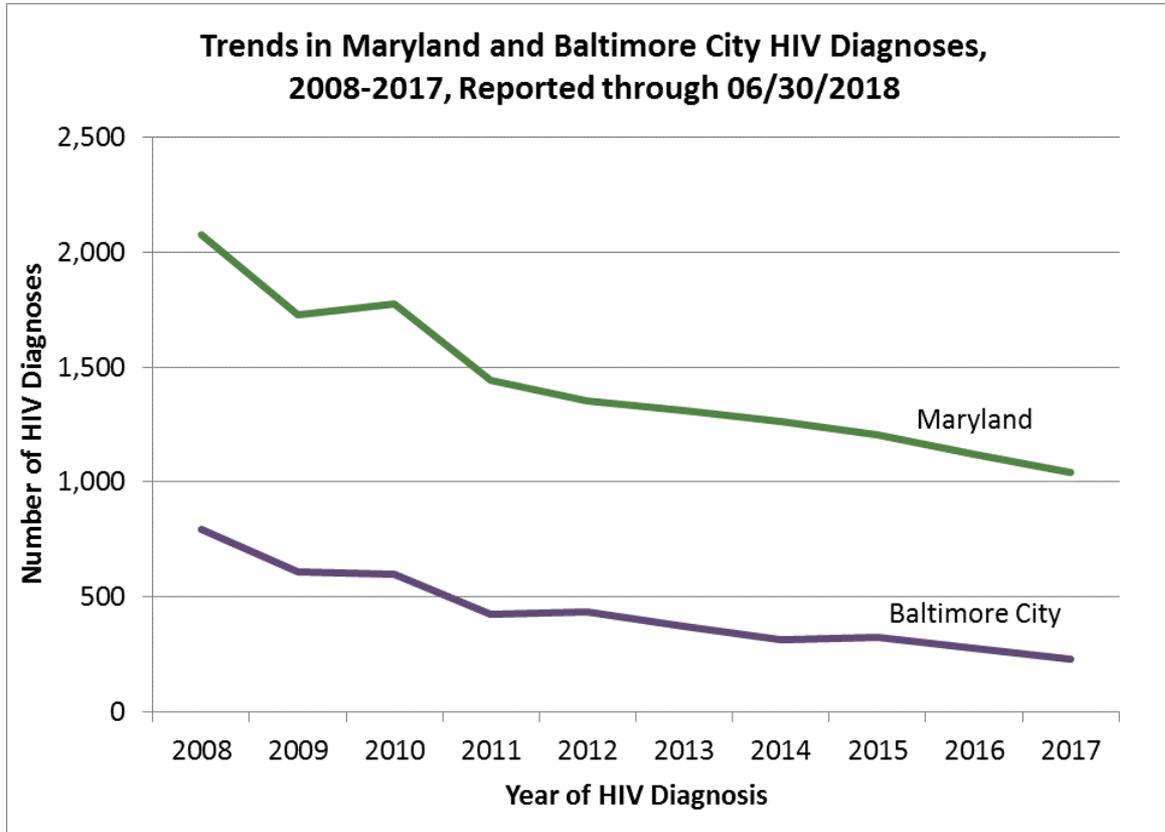
Percent of new Maryland cases in Baltimore City decreased from 38% to 22%

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HIV Diagnosis Trends by Geography

Trends in Maryland HIV Diagnoses by Metropolitan Area, 2008-2017, Reported through 06/30/2018
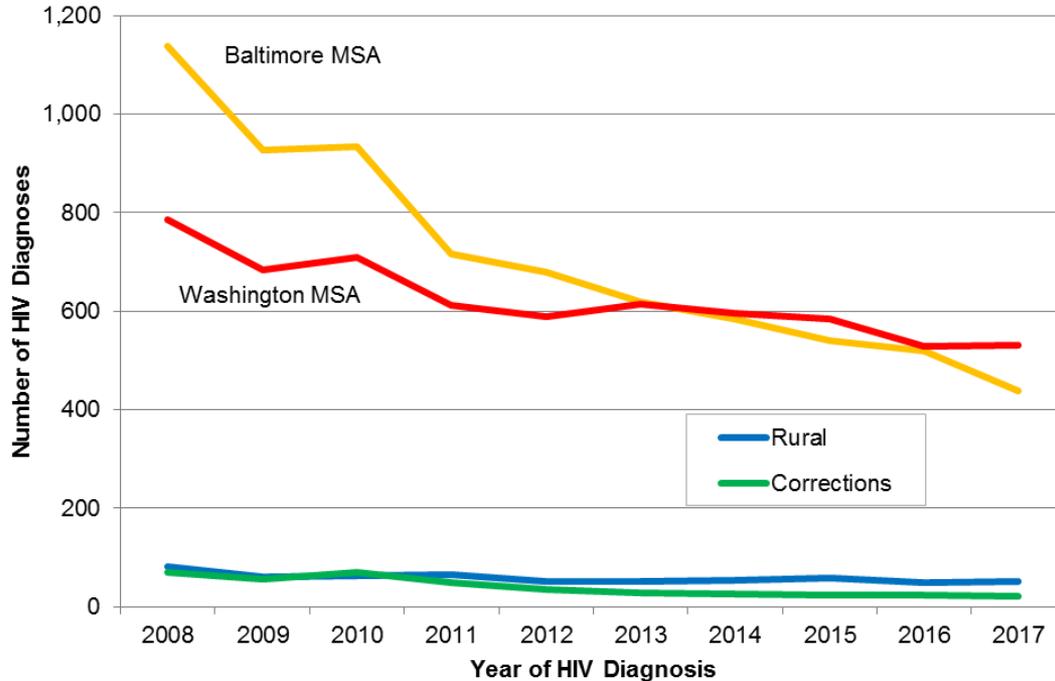
More cases now come from the Washington suburbs than from the Baltimore metropolitan area

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HIV Diagnosis Trends – EtHE Counties

Prince George's Co. EAPC -2.9%

Baltimore City EAPC -10.3%

Montgomery Co. EAPC -4.0%

EAPC= Estimated Annual Percent Change
As reported through 3/31/2019

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Diagnose all people with HIV as early as possible after infection.
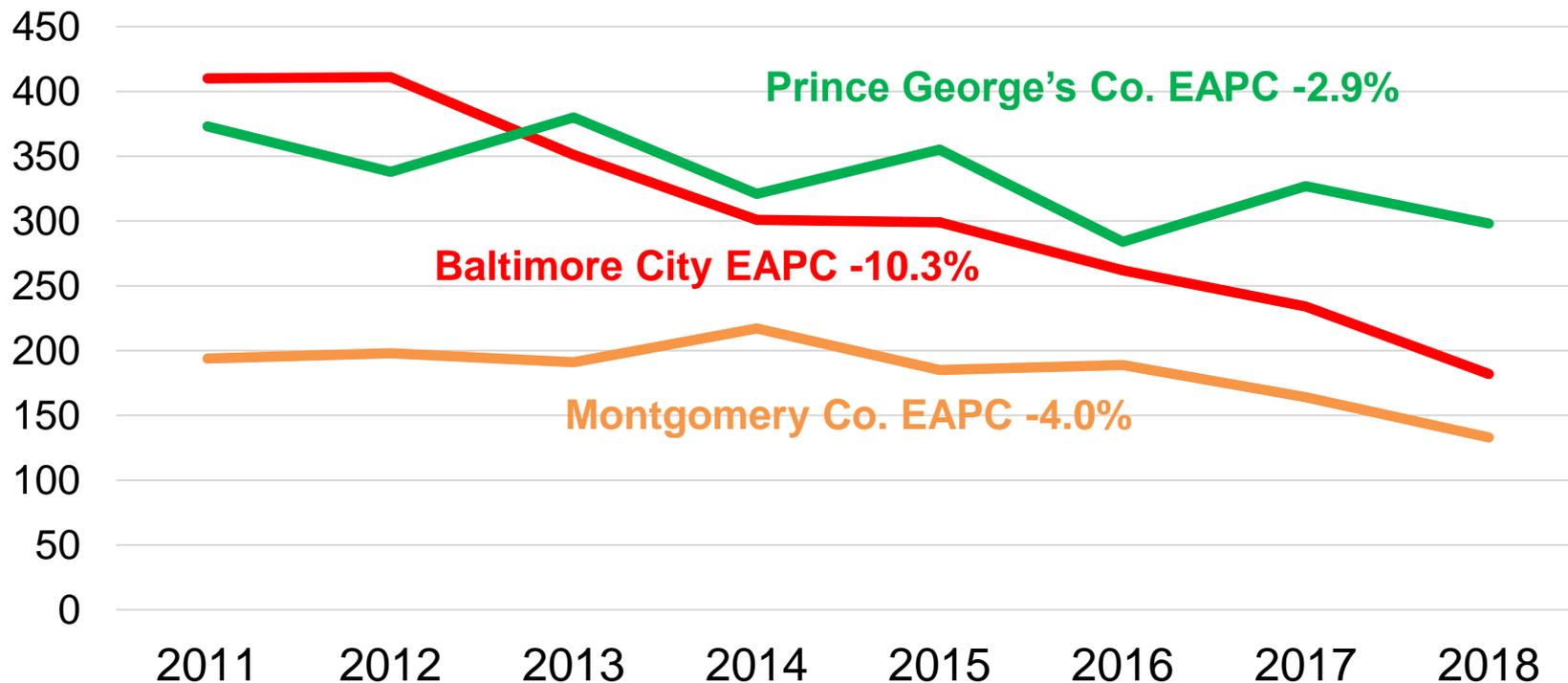
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CDC HIV Prevalence Estimates

HIV SURVEILLANCE REPORT

SUPPLEMENTAL REPORT

Volume 24, Number 1

Estimated HIV Incidence and Prevalence in the United States 2010–2016

Age 13+	United States	Maryland
Persons Living with HIV on 12/31/2016	1,140,400	37,200
Percent Undiagnosed	14.2%	13.8%

National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention
Division of HIV/AIDS Prevention

CDC

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Estimated Percent Undiagnosed

Estimated Percent HIV Undiagnosed, United States, 2016
Total = 14.2%

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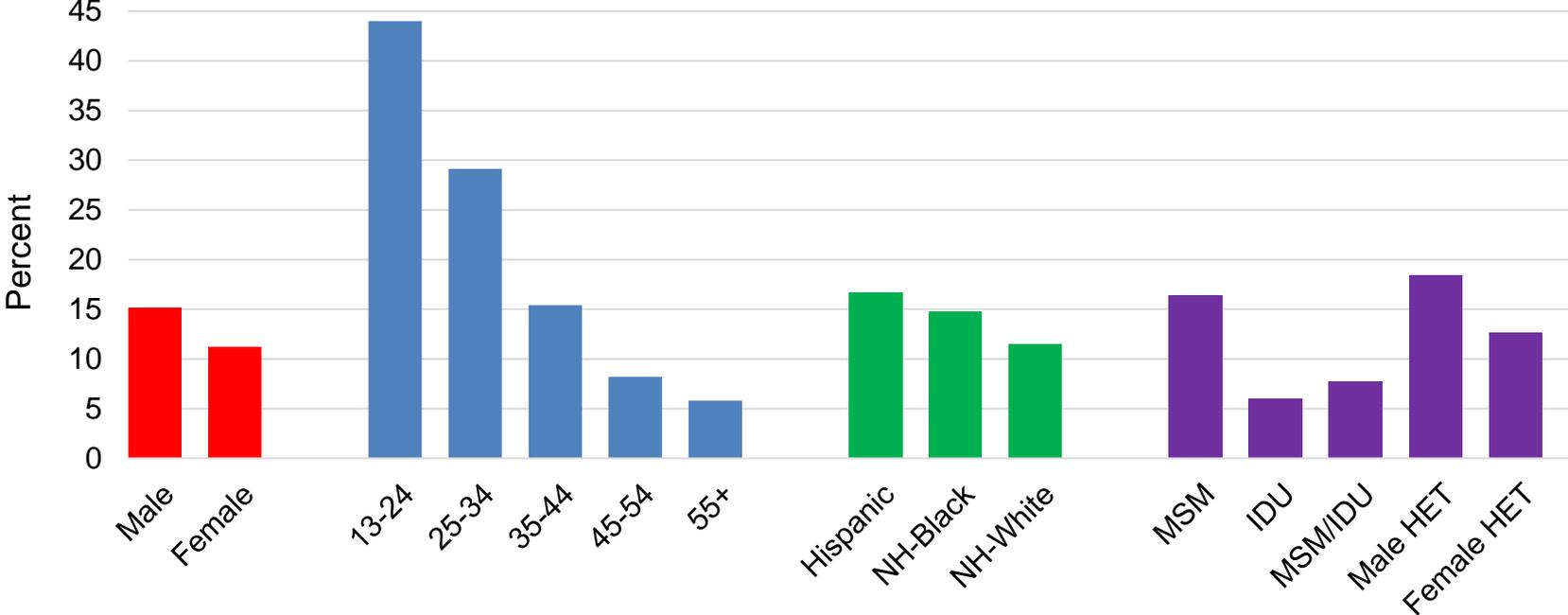
Estimated Time to Diagnosis

Estimated Time from HIV Infection to Diagnosis, Maryland, 2016
Total = 6.7 years
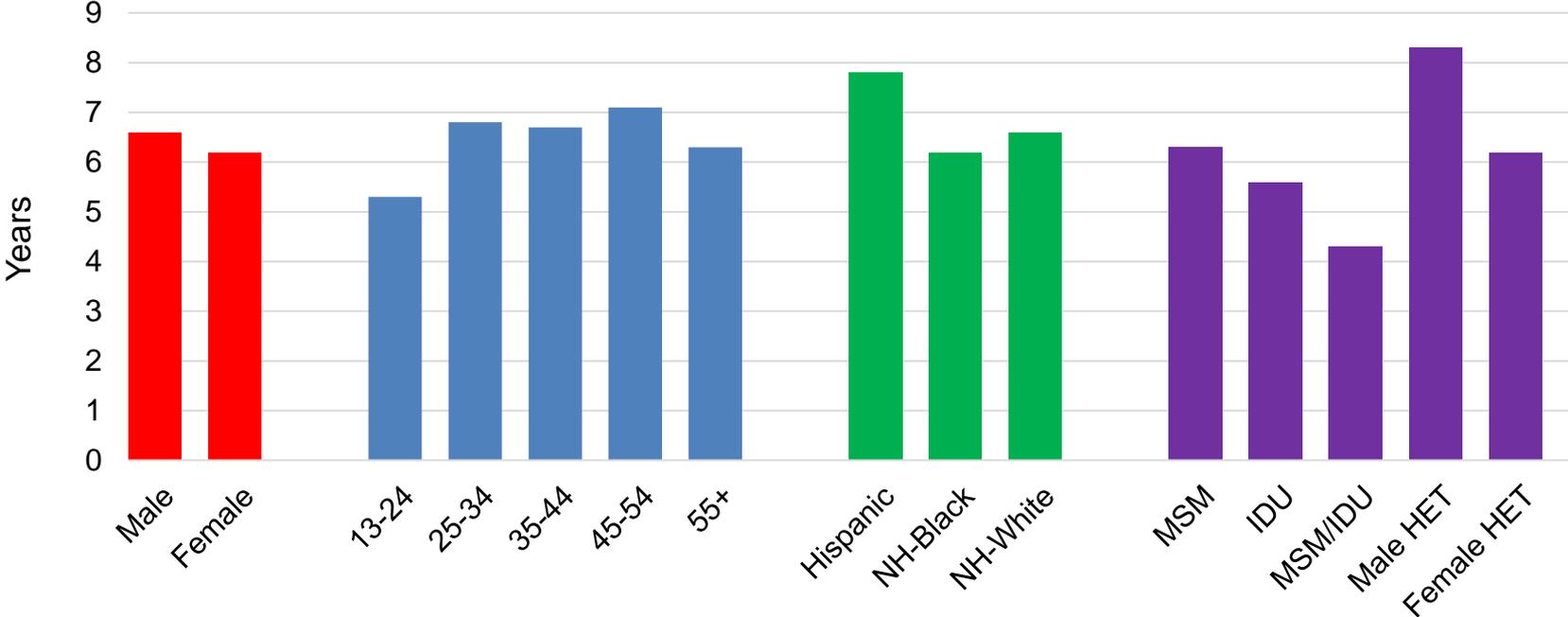
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Treat the infection rapidly and effectively to achieve sustained viral suppression.

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Continuum of Care Maryland, 2017

Prevalence-Based Estimated Adult/Adolescent HIV Continuum of Care, 2017

Among current Maryland residents living with HIV:
- HIV Infected: 100.0% (34,577)
- HIV Diagnosed: 88.4% (30,566)
- Retained in HIV Care: 68.7% (23,743)
- Suppressed VL: 54.7% (18,914)

Among 2017 HIV diagnoses:
- HIV Diagnoses: 100.0% (1,040)
- Linked to HIV Care - 1 month: 86.5% (900)
- Linked to HIV Care - 3 months: 92.0% (957)

Using data as reported through 6/30/2018

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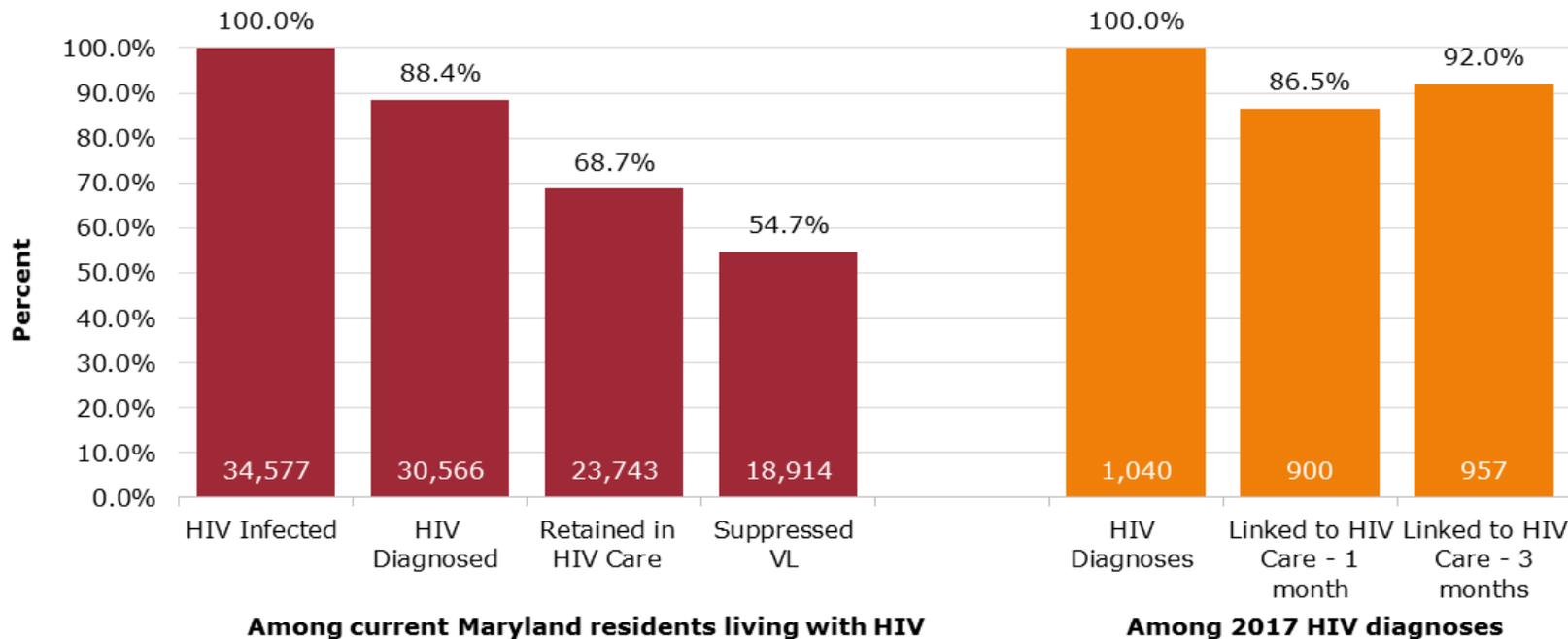
Continuum of Care by Age Group Maryland, 2017

Prevalence-Based Estimated Adult/Adolescent HIV Continuum of Care by Age on December 31, 2017, 2017

Using data as reported through 6/30/2018

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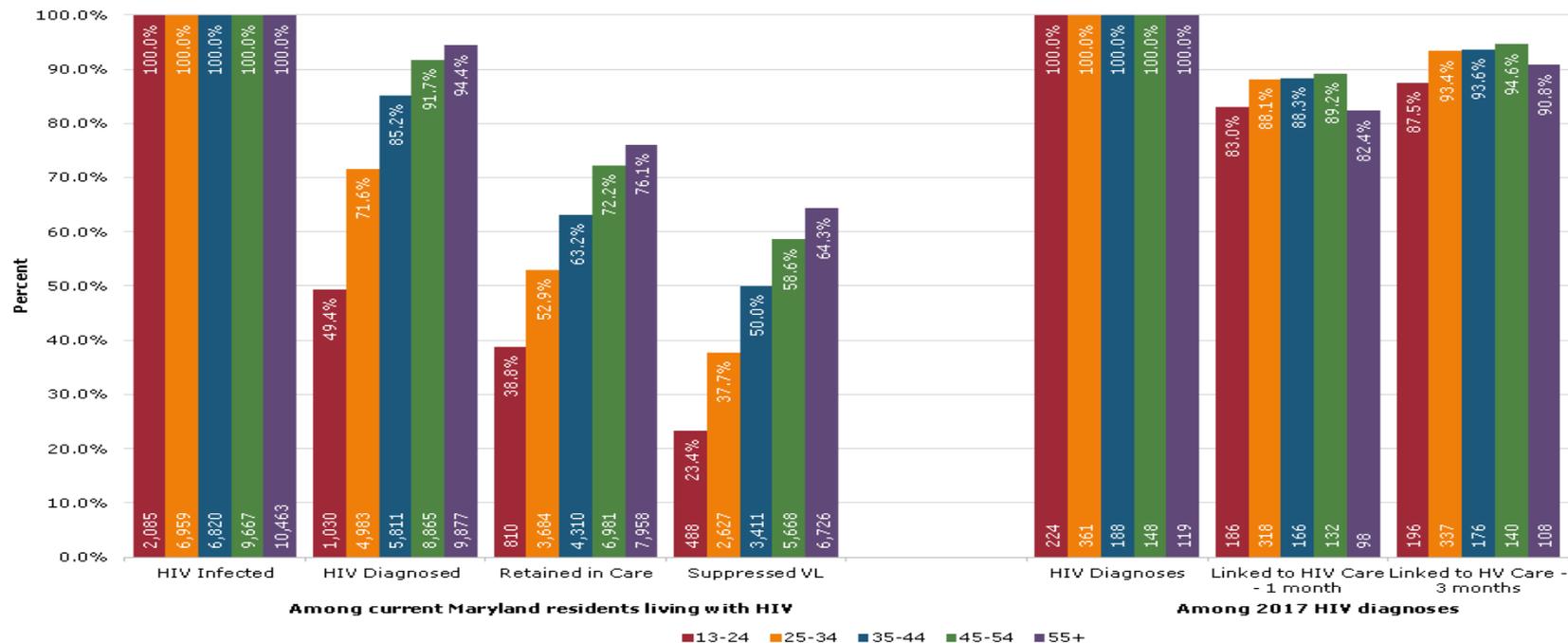
People Living with HIV with Suppressed Viral Load, 2017
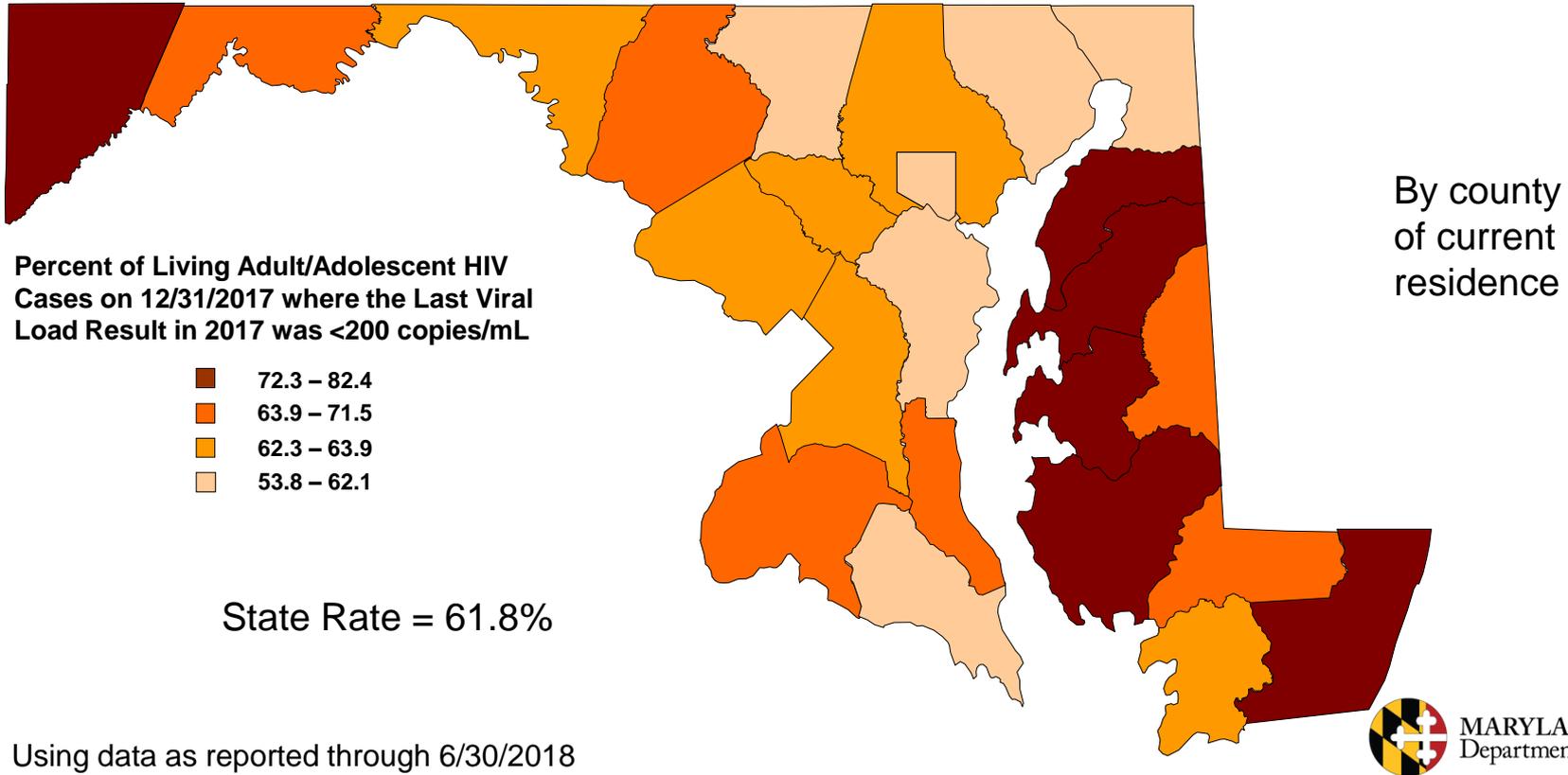
By county of current residence

Percent of Living Adult/Adolescent HIV Cases on 12/31/2017 where the Last Viral Load Result in 2017 was <200 copies/mL

- 72.3 – 82.4
- 63.9 – 71.5
- 62.3 – 63.9
- 53.8 – 62.1

State Rate = 61.8%

Using data as reported through 6/30/2018

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Protect people at risk for HIV using potent and proven prevention interventions, including PrEP, a medication that can prevent HIV infections.

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Maryland PrEP Programs
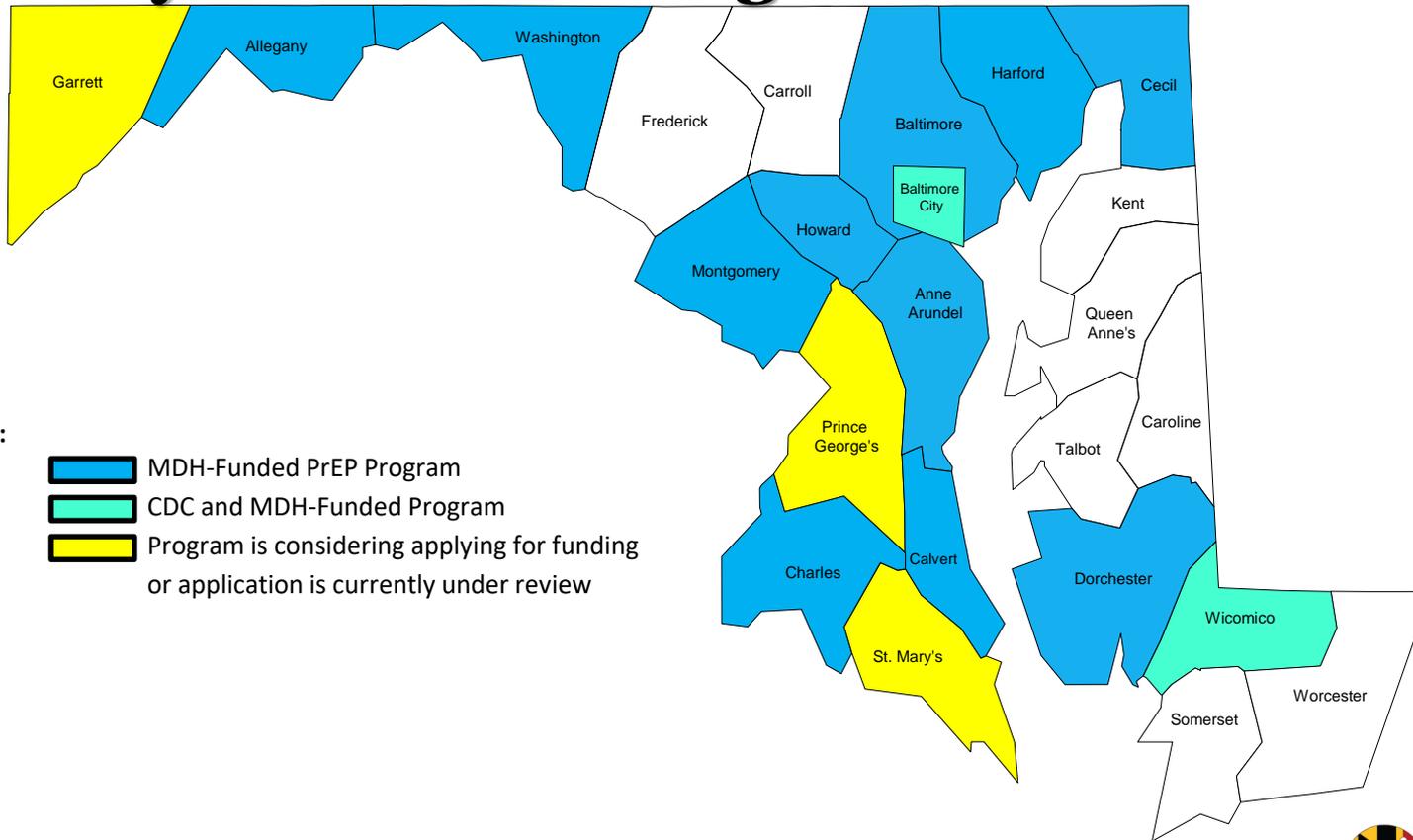
Key:

- ■ MDH-Funded PrEP Program
- ■ CDC and MDH-Funded Program
- ■ Program is considering applying for funding or application is currently under review

Garrett, Allegany, Washington, Carroll, Frederick, Harford, Cecil, Baltimore, Baltimore City, Kent, Howard, Montgomery, Anne Arundel, Queen Anne's, Caroline, Prince George's, Talbot, Charles, Calvert, Dorchester, Wicomico, Worcester, St. Mary's, Somerset

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Maryland Syringe Services Programs

Legend:
- Program Currently Operating (green)
- Approved for Implementation (yellow)
- Approved for Capacity Development (blue-gray)
- Expressed Interest and/or Committed to Moving Forward (orange)

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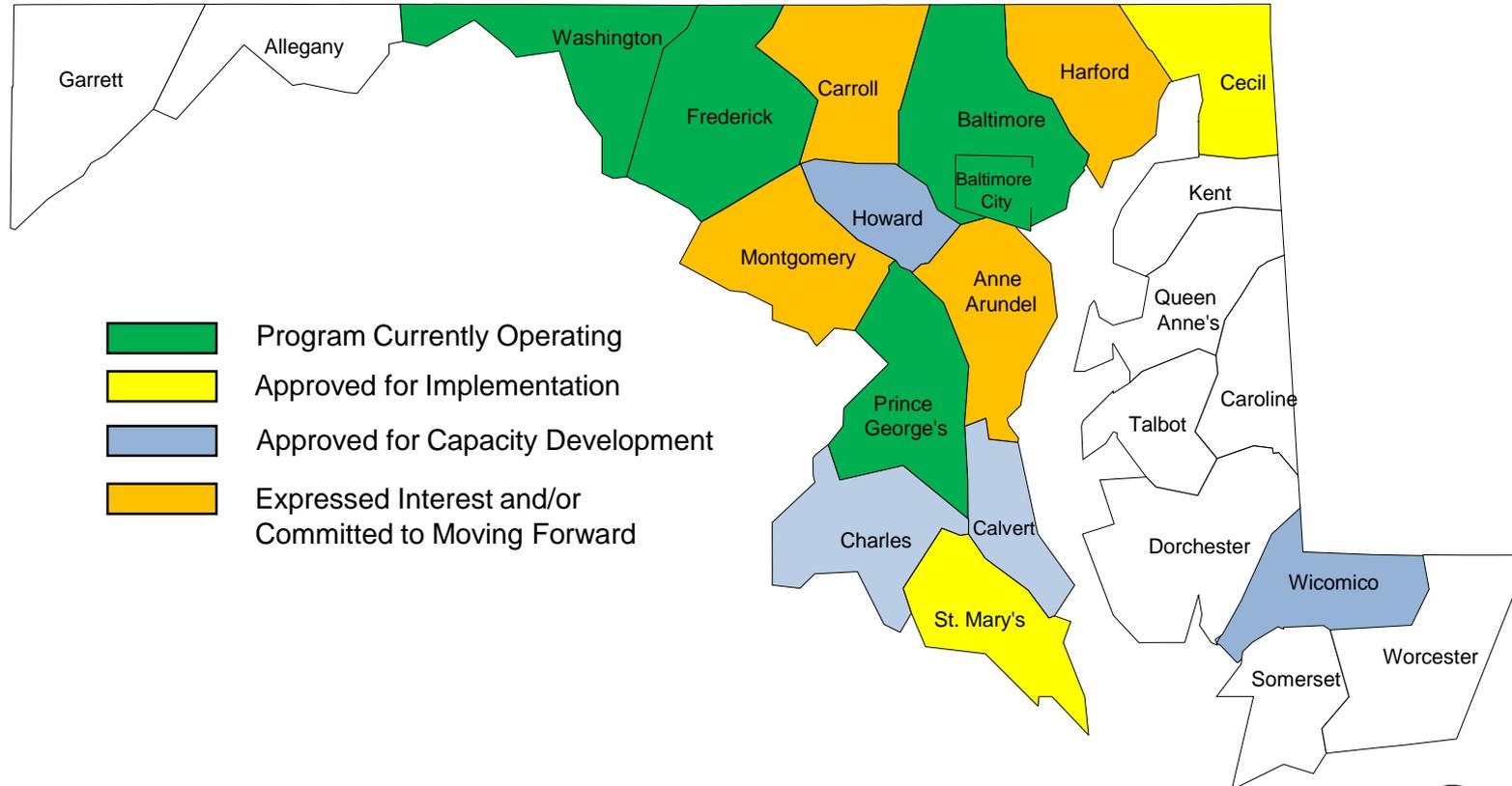
Indiana Outbreak

Community Outbreak of HIV Infection Linked to Injection Drug Use of Oxymorphone — Indiana, 2015

Caitlin Conrad[1], Heather M. Bradley[2], Dita Broz[2], Swamy Buddha[1], Erika L. Chapman[1], Romeo R. Galang[2,3], Daniel Hillman[1], John Hon[1], Karen W. Hoover[2], Monita R. Patel[2,3], Andrea Perez[1], Philip J. Peters[2], Pam Pontones[1], Jeremy C. Roseberry[1], Michelle Sandoval[2,3], Jessica Shields[4], Jennifer Walthall[1], Dorothy Waterhouse[4], Paul J. Weidle[2], Hsiu Wu[2,3], Joan M. Duwve[1,5] (Author affiliations at end of text)

3 reported diagnoses of HIV in a small rural town, upon investigation, were found to be 150+ cases of IDU-associated HIV and HCV

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Prevention of Indiana Outbreak

Dynamics of the HIV outbreak and response in Scott County, IN, USA, 2011–15: a modelling study

Gregg S Gonsalves, Forrest W Crawford

Summary

Background In November, 2014, a cluster of HIV infections was detected among people who inject drugs in Scott County, IN, USA, with 215 HIV infections eventually attributed to the outbreak. This study examines whether earlier implementation of a public health response could have reduced the scale of the outbreak.

"... had the interventions deployed in Scott County in 2014-15 [testing, syringe services, HIV clinic] been available earlier, the outbreak might have been substantially blunted."

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Respond rapidly to detect and respond to growing HIV clusters and prevent new HIV infections.

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Cluster Identification

- Five types of clusters of HIV cases

  - Clusters of diagnoses reported by clinicians

  - Clusters of cases with named partners identified from partner services interviews

  - Co-infections with other disease outbreaks (Hepatitis A, Shigella, Tuberculosis)

  - Geospatial (time-space) clusters identified using epidemiological data

  - Sequence-linked clusters identified using results from genotypic resistance tests

- Can identify networks of people with active transmission of HIV

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Importance of Clusters

- The overall U.S. HIV transmission rate was 4 new HIV diagnoses per 100 person-years of people living with diagnosed HIV infection

- CDC analyzed the first 13 identified sequence-linked HIV clusters in the U.S.

- Among the sequence-clusters, the transmission rate ranged from 21 to 132 per 100 person-years with a median of 44 per 100 person-years

- **<u>Clusters had a transmission rate 11 times that of the average</u>**

- France, et al. CROI, March 2018.

Cluster Response

- Clusters are a way to target data-to-care (D2C) activities and other services to communities at greatest risk

- Three level response:

  - Cases – link to services, move to viral suppression

  - Contacts – screen for HIV, treat for HIV or provide PrEP

  - Community – identify social networks, provide resources as needed

- Prioritize people in clusters and communities with clusters for interventions

- Have responded to 40 clusters since the Indiana outbreak (4 years)

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HIV HealthForce will establish local teams committed to the success of the Initiative in each jurisdiction.

Awaiting more details ...

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HIV Transmission

Percentage of People Living with HIV and Percentage of HIV Transmissions at Each Stage of the Care Continuum, United States and Puerto Rico, 2012

Frieden, et al., NEJM, Dec 2015
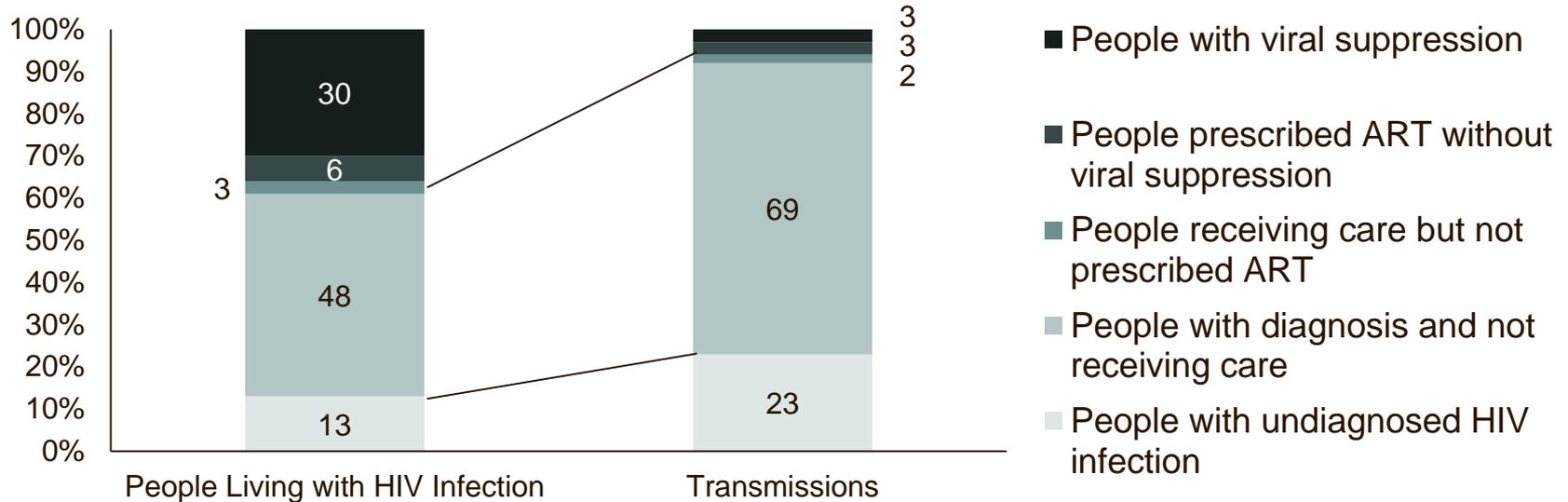
Maryland HIV Plan

General Population	Vulnerable Populations	Full Diagnosis of HIV Infection	Care Engagement	Viral Suppression
Educate all Marylanders to heighten HIV awareness and reduce stigma.	*Protect* individuals and communities at highest risk for HIV infection in Maryland.	*Diagnose* all Marylanders living with HIV who are unaware of their HIV status.	*Engage* all Marylanders living with HIV in high quality HIV care.	*Achieve* viral suppression for all Marylanders living with HIV.

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https://phpa.health.maryland.gov