



# HIV in the United States and 95-95-95-95

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US Centers for Disease Control and Prevention**

**95-95-95-95 Targets Update, IAS 2024**

# HIV is costly to America

**700,000+**

American with HIV have lost  
their lives since 1981

**\$28 billion**

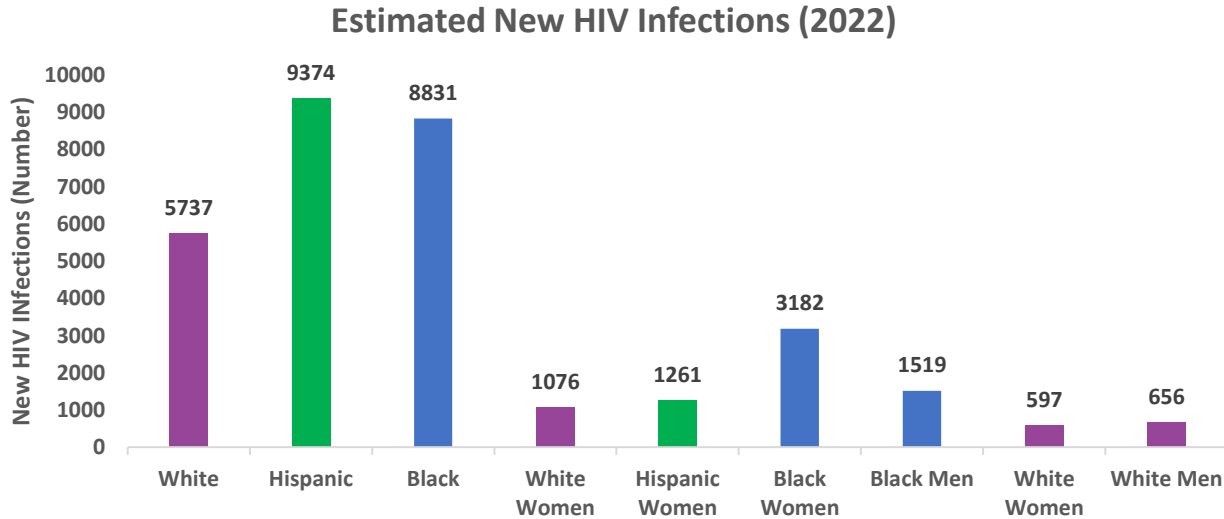
Spent on HIV by US government  
annually

**Without intervention**

**>300,000**

Americans will get HIV in  
next 10 years

# HIV affects everyone, but not equally



Prevalence of HIV is  
over  
**100 times**  
higher in men who  
have sex with men and  
transgender women  
than heterosexual men  
and women

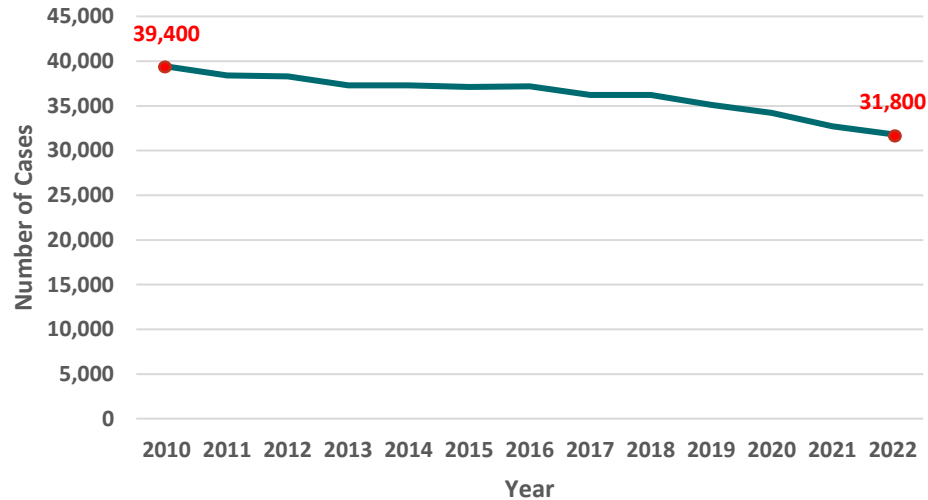
PWID: people who inject drugs

CDC: HIV Surveillance Report, 2022. [http://www.cdc.gov/hiv.library/reports/surveillance/](http://www.cdc.gov/hiv/library/reports/surveillance/). Published May 2024

HIV incidence is 8 times higher among African Americans and 3 times higher among Hispanics/Latinx than Whites

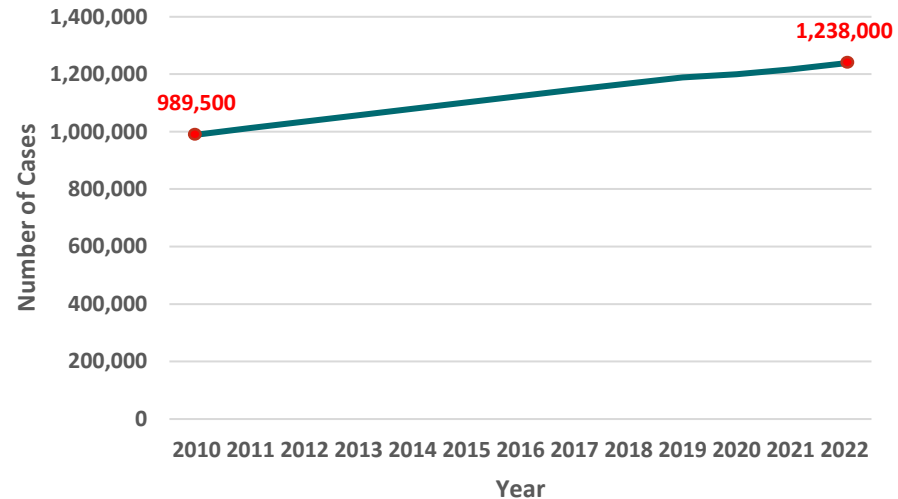
# In U.S. HIV incidence is declining; prevalence is increasing

## Estimated HIV Incidence 2010-2022



**Tens of billions of dollars saved**

## Estimated HIV Prevalence 2010-2022\*

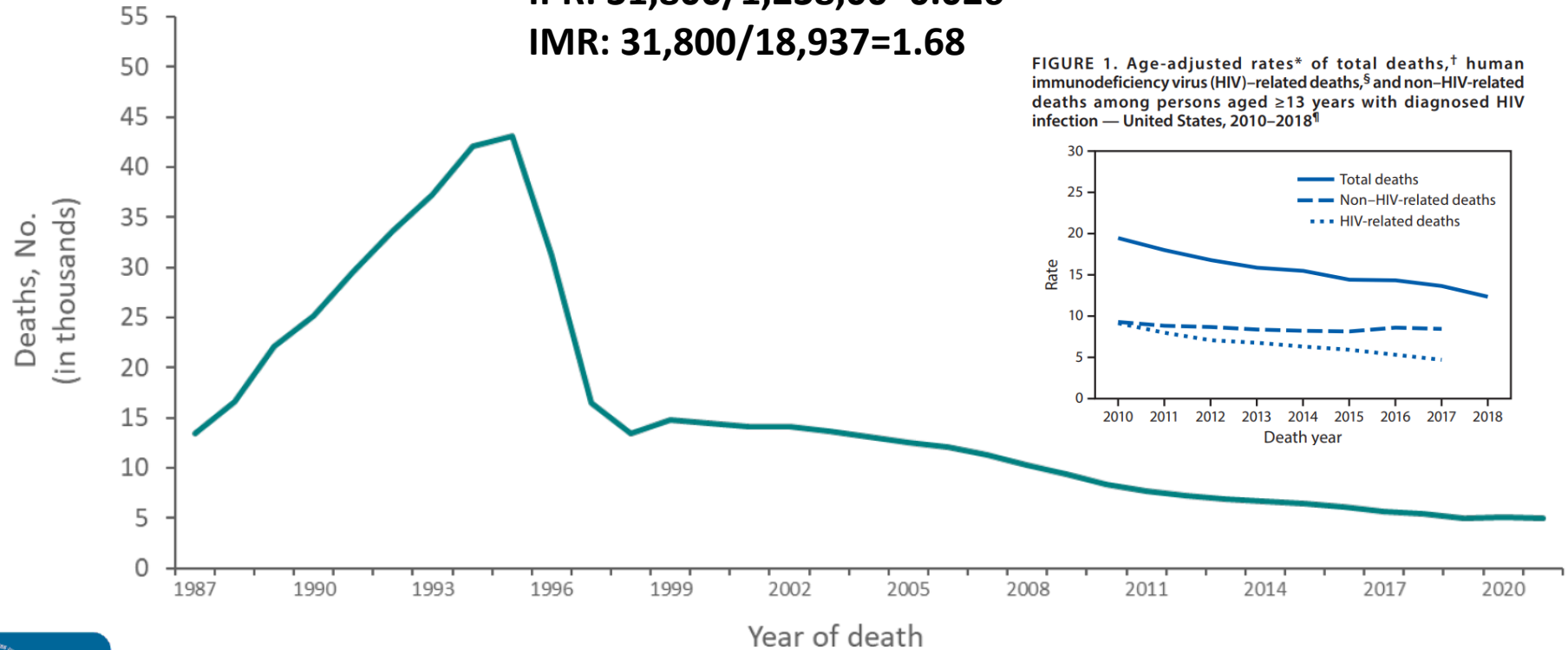


**Number of people with HIV increased  
>50% since 1996**

# Deaths in the General Population with HIV Disease as the Underlying Cause Reported on Death Certificates, 1987–2021—United States

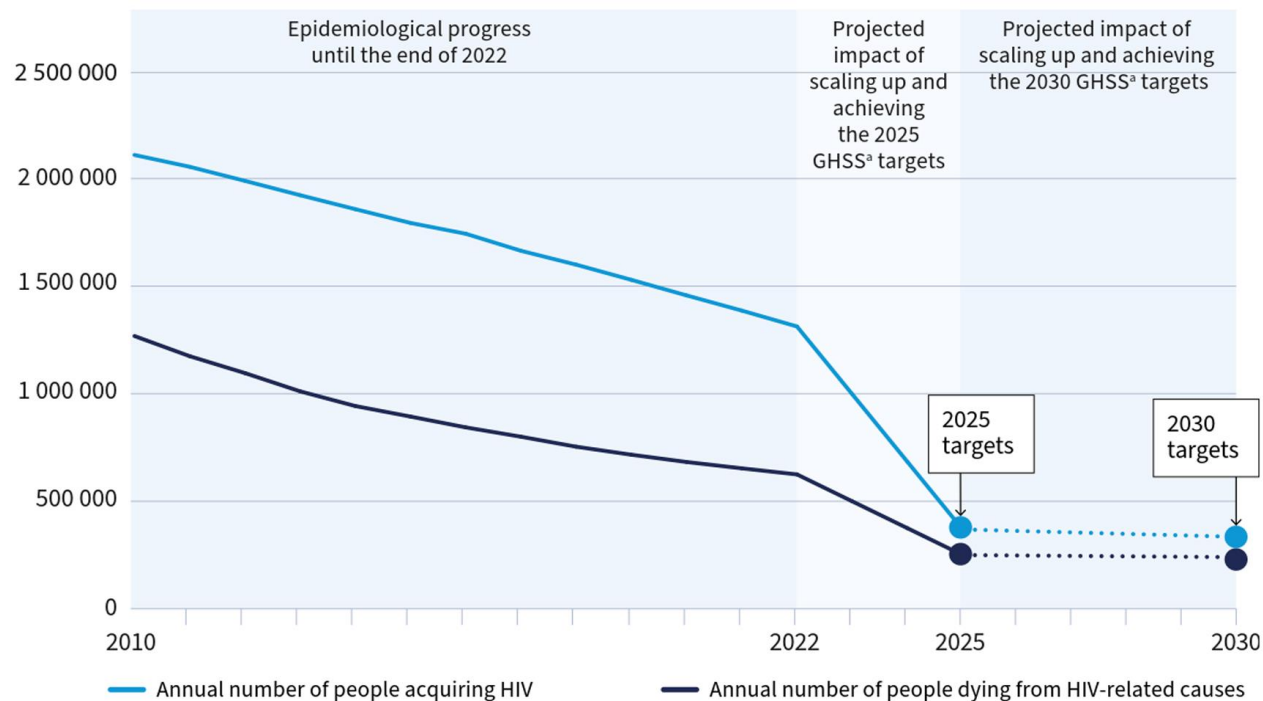
**IPR:  $31,800/1,238,00=0.026$**

**IMR:  $31,800/18,937=1.68$**



Note. Data from CDC WONDER Online Database based on death certificate data compiled by the National Center for Health Statistics.

## Global trends in people acquiring HIV and people dying from HIV-related causes, 2010–2022 and projections to 2030



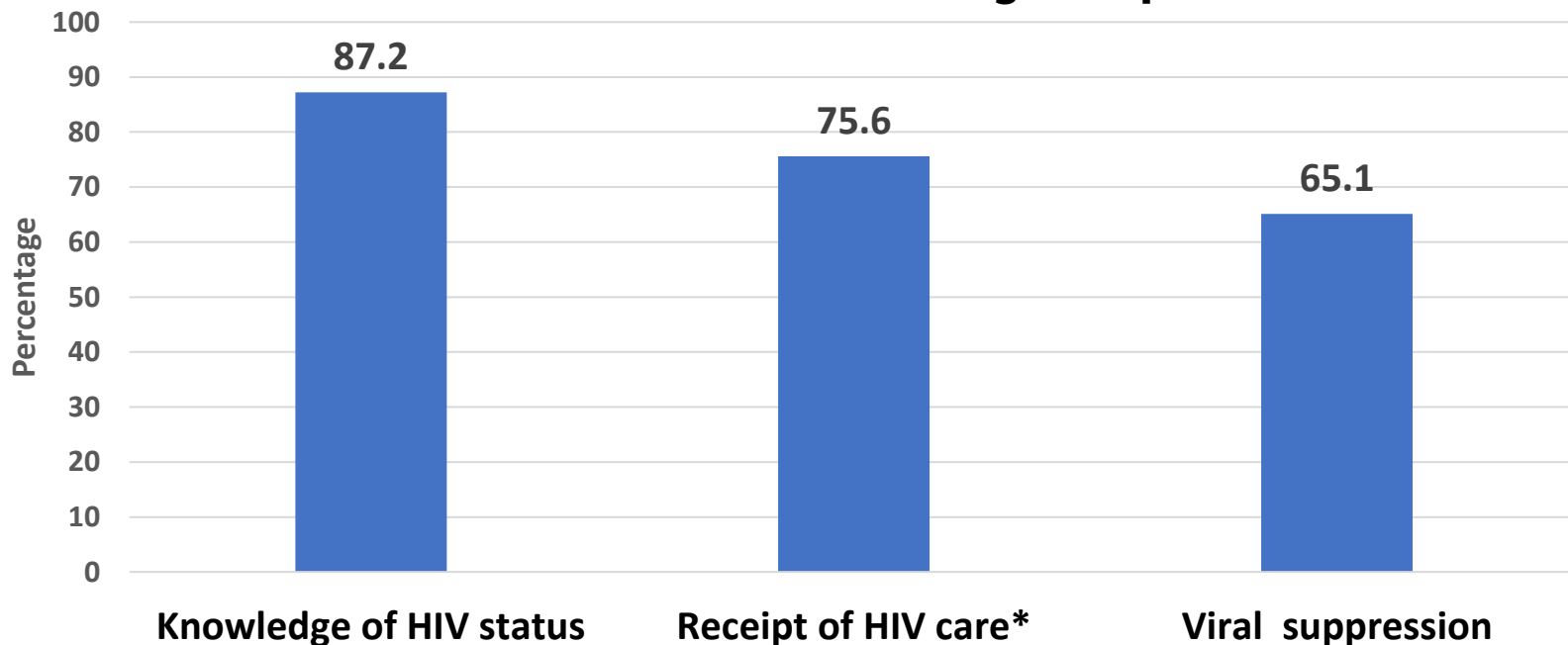
*Note:* The United Nations global targets for 2025 are twofold: reducing the number of people acquiring HIV to less than 370 000 and reducing the number of HIV-related deaths to less than 250 000. To end AIDS as a public health threat by 2030, the targets are a 90% reduction of the number of people acquiring HIV and dying from HIV using 2010 as the baseline.

*Sources:* Avenir Health using 2025 targets and UNAIDS/WHO epidemiological estimates, 2023.

<sup>a</sup> Global health sector strategies on, respectively, HIV, viral hepatitis and sexually transmitted infections for the period 2022–2030. Geneva: World Health Organization; 2022 (<https://apps.who.int/iris/handle/10665/360348>, accessed 7 July 2023).

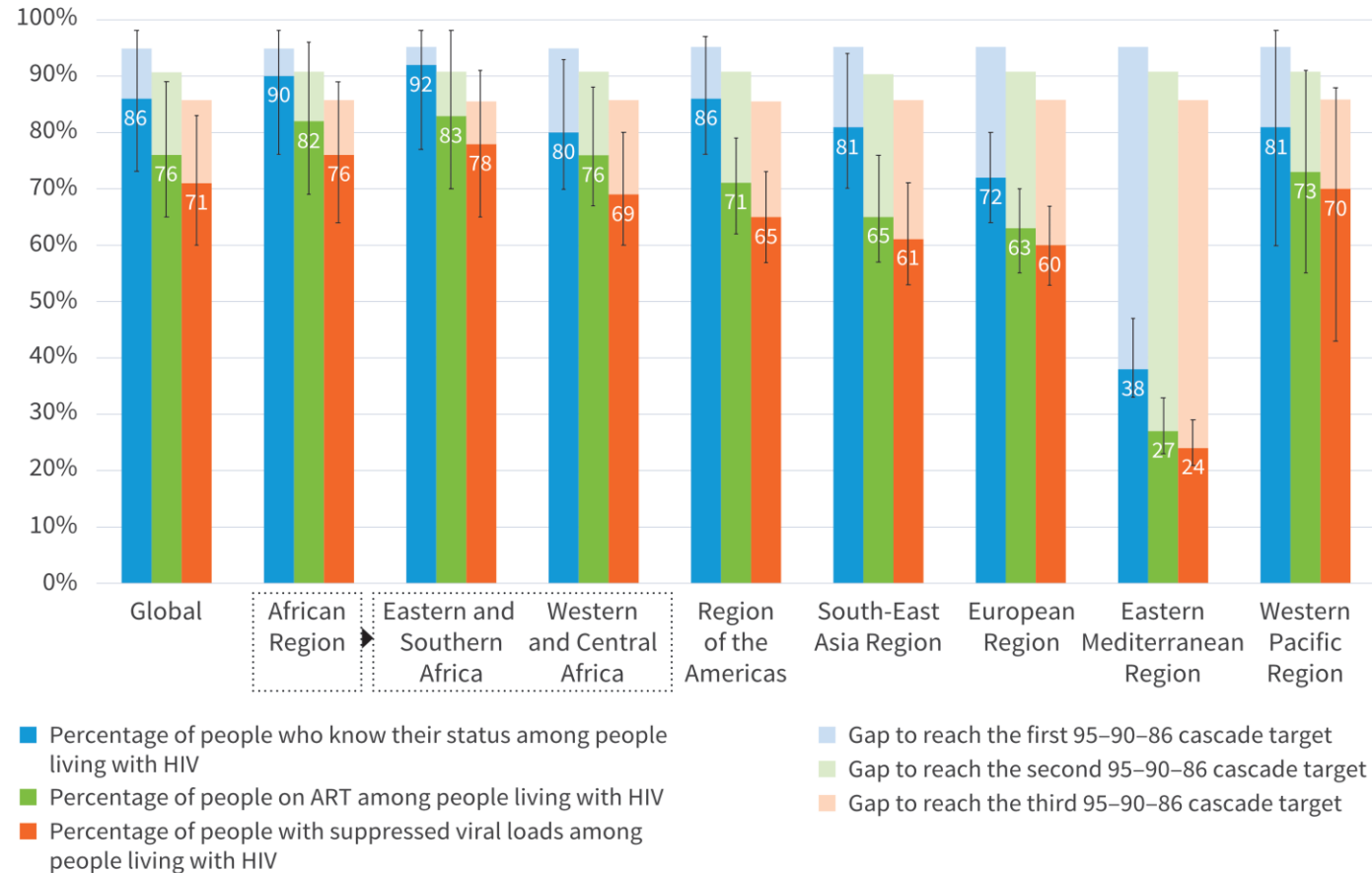
# HIV Care Continuum for the United States, 2022

**Target VS per 95-95-95 is 86%**



\* Receipt of HIV care is measured as  $\geq 1$  CD4 or VL test in 2022.

# Progress towards achieving the HIV testing, treatment and viral load suppression cascades targets among people living with HIV, globally and by WHO region, 2022





# Most transmissions are from people who don't know their status or aren't in care

HIV TRANSMISSIONS IN 2016		
% OF PEOPLE WITH HIV	STATUS OF CARE	ACCOUNTED FOR X% OF NEW TRANSMISSIONS*
<b>15%</b>	didn't know they had HIV	<b>38%</b>
<b>23%</b>	knew they had HIV but weren't in care	<b>43%</b>
<b>11%</b>	in care but not virally suppressed	<b>20%</b>
<b>51%</b>	taking HIV medicine and virally suppressed	<b>0%</b>

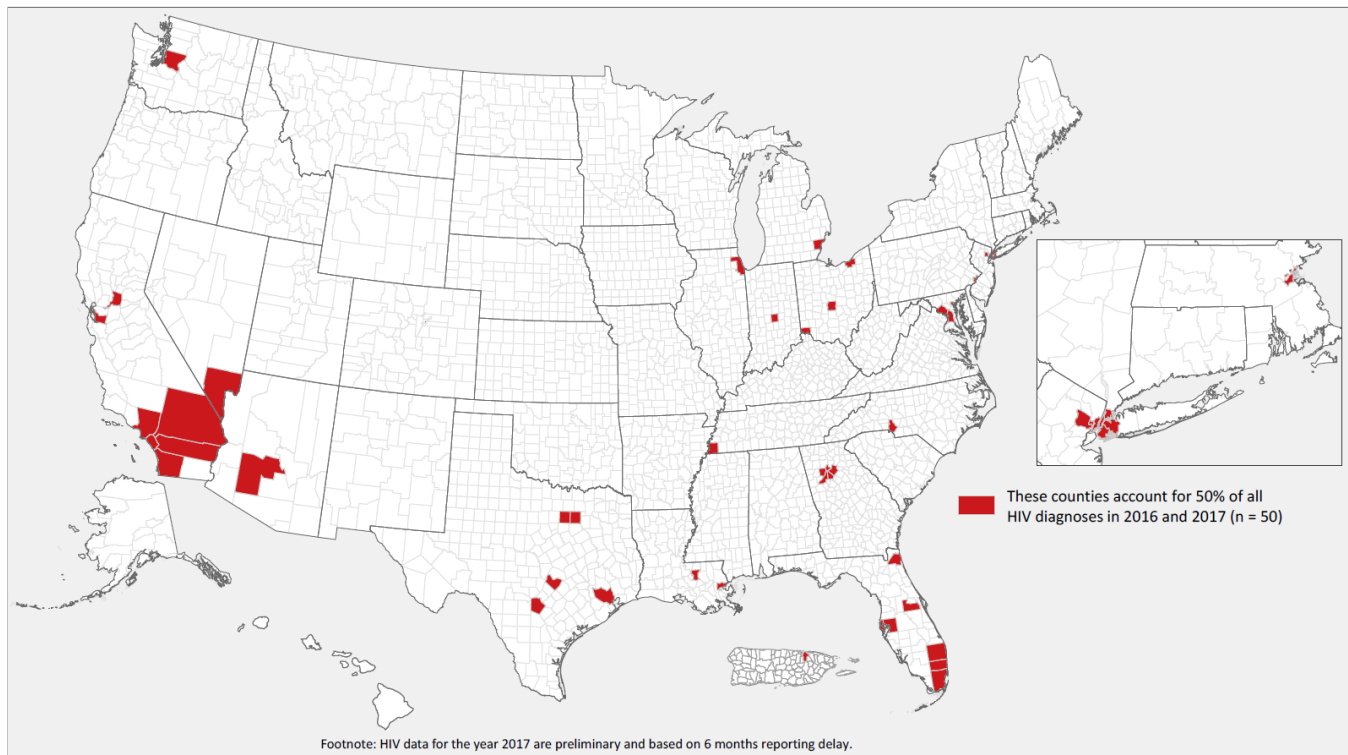
\*Values do not equal 100% because of rounding

SOURCE: Vital Signs, 2019

- Average time from infection to diagnosis is 3 years
- 81% of HIV infections are transmitted by people who don't know they have HIV or aren't in care

# HIV is concentrated geographically

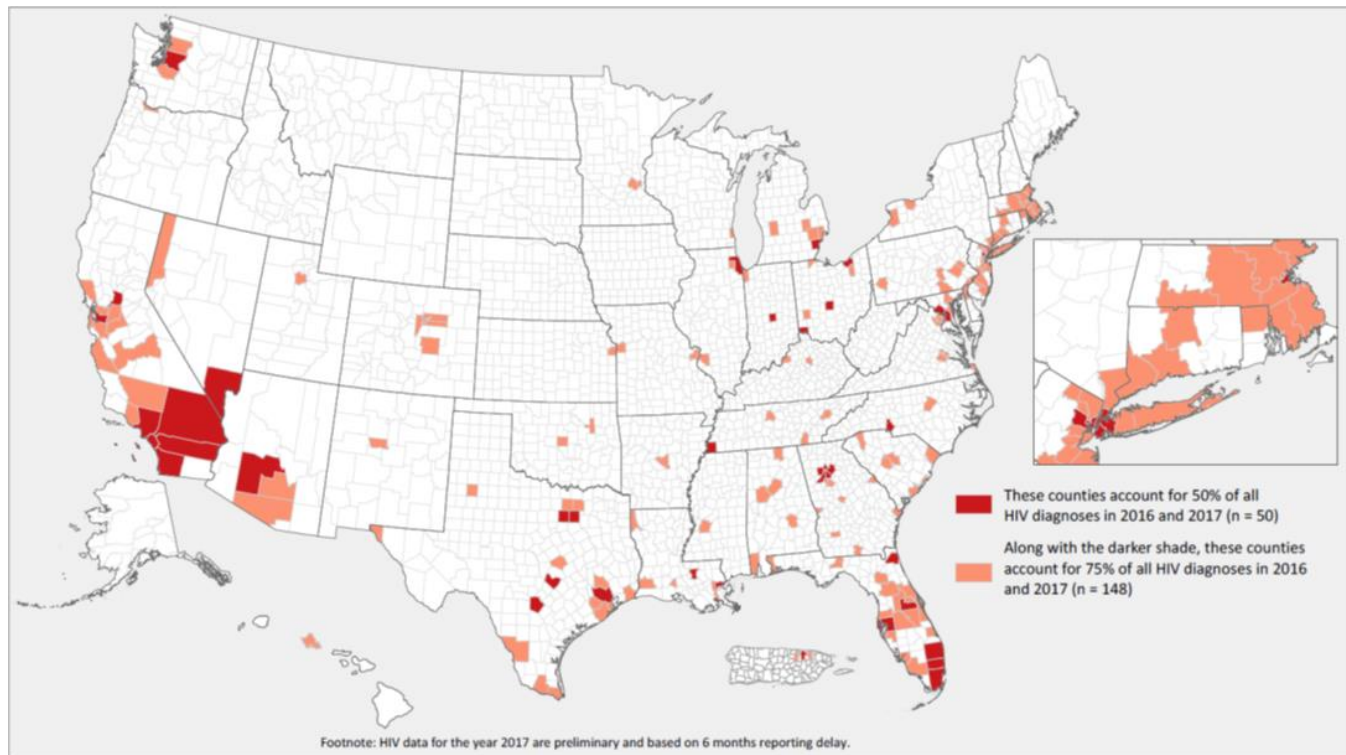
About 50% of new HIV diagnoses\* occurred in only 48 counties, Washington, D.C., and San Juan, Puerto Rico



\*2016-2017 data

# HIV is concentrated geographically

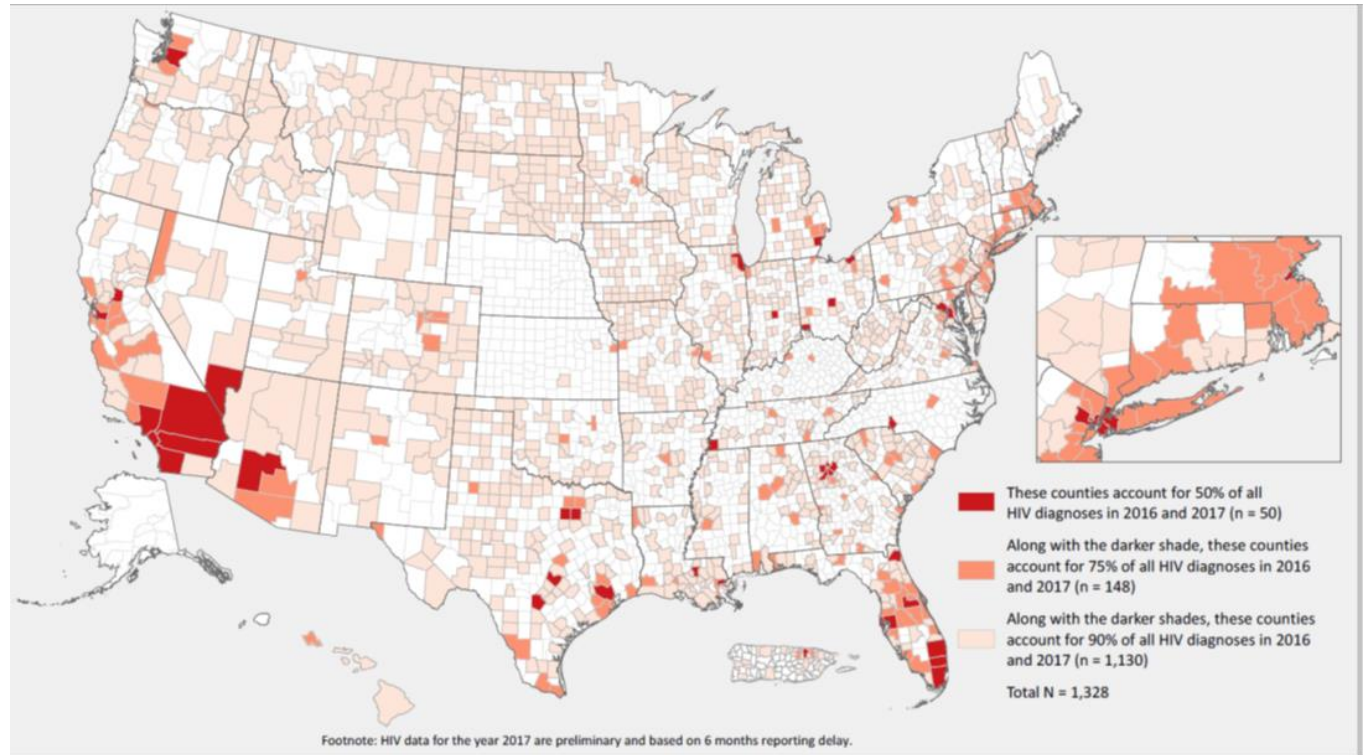
About 75% of new HIV diagnoses\* occurred in 148 counties Washington, D.C., and San Juan, Puerto Rico



\*2016-2017 data

# Align resources with epidemiology

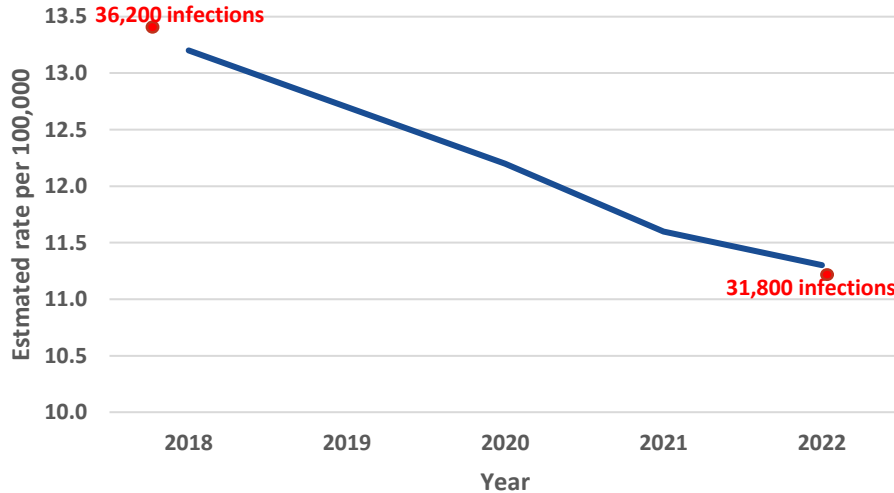
About 90% of new HIV diagnoses\* occurred in 1,130 counties Washington, D.C., and San Juan, Puerto Rico



\*2016-2017 data

# HIV incidence is decreasing in the United States

Estimated HIV Incidence Rate, 2010-2022



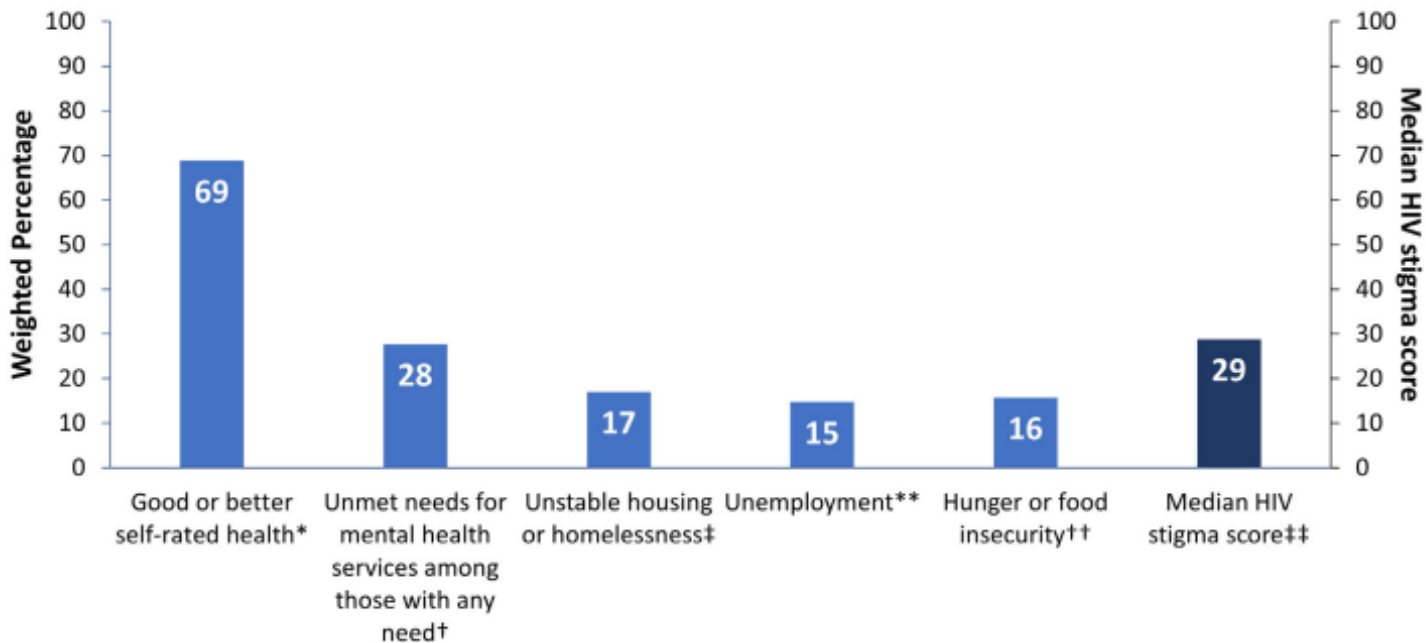
- Nationally, 12% reduction in HIV incidence between 2018 and 2022
- In EHE local jurisdictions, 21% reduction in HIV incidence
- 4,145 deaths attributed to HIV in 2022; lowest number in decades

**In EHE jurisdictions, 9,500 fewer infections saving \$5.1 billion in lifetime medical costs**

# PrEP

- **Important prevention tool**
- **About 400,000 people received PrEP prescriptions in the United States in 2024**
- **Long-acting agents at 4 and 6-month intervals present remarkable opportunity**
- **95% coverage goal is challenging to estimate and not scientifically stable**

# NHAS stigma and quality of life indicators among adults with diagnosed HIV— Medical Monitoring Project, United States, 2021



\* “Good or better self-rated health” defined as rating one’s health as good, very good, or excellent (as opposed to poor or fair) at the time of interview.

† “Unmet need for mental health services from a mental health professional” defined as needing, but not receiving, services from a mental health professional among those who indicated needing mental health services (i.e., receiving or needing but not receiving) during the past 12 months.

‡ “Unstable housing or homelessness” defined as experiencing unstable housing (i.e., moving in with others due to financial issues, moving 2 or more times, or being evicted) or homelessness (living on the street, in a shelter, in a single-room–occupancy hotel, or in a car) at any time during the past 12 months.

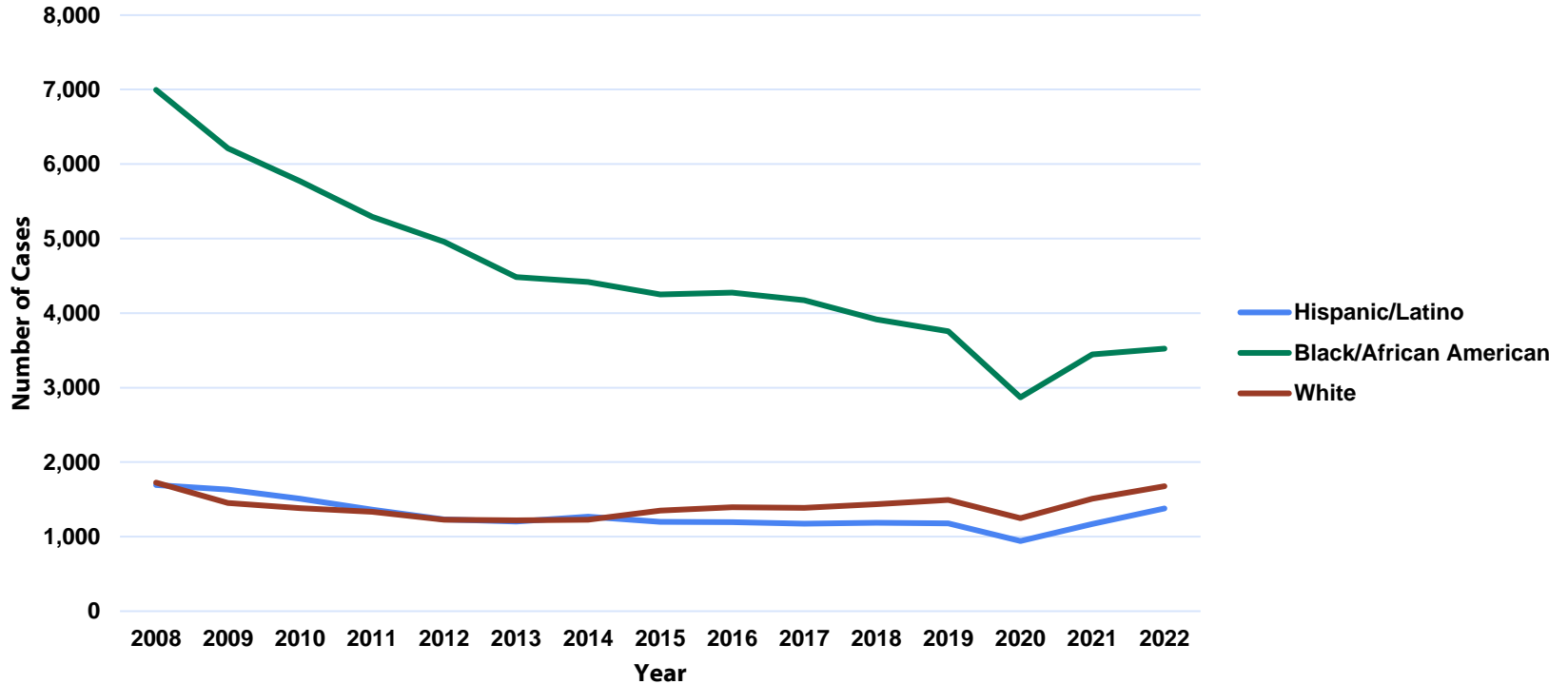
\*\* Unemployed persons included those who reported being unemployed at the time of interview, excluding persons who are unable to work, calculated among all adults with HIV.

†† “Hunger/food insecurity” defined as going without food due to lack of money during the past 12 months.

‡‡ “Median HIV stigma score” defined as the weighted median score on a 10-item scale ranging from 0 (no stigma) to 100 (high stigma) that measures 4 dimensions of HIV stigma: personalized stigma during the past 12 months, current disclosure concerns, current negative self-image, and current perceived public attitudes about persons living with HIV, measured among persons aged ≥18 years with diagnosed HIV infection living in the United States and Puerto Rico.

# Some HIV disparities have improved, but persist

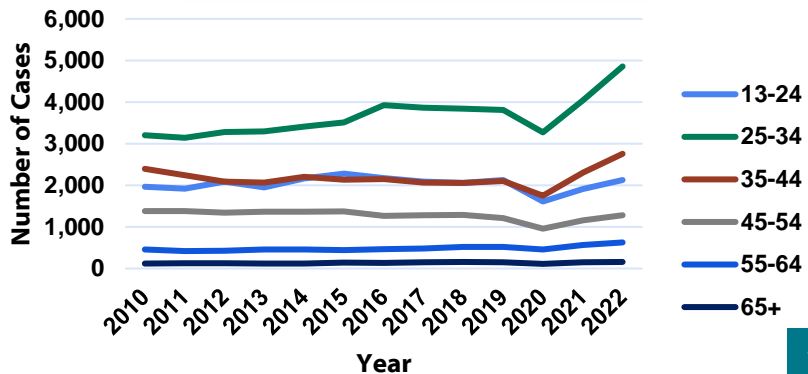
## HIV Diagnoses among Women by Race/Ethnicity



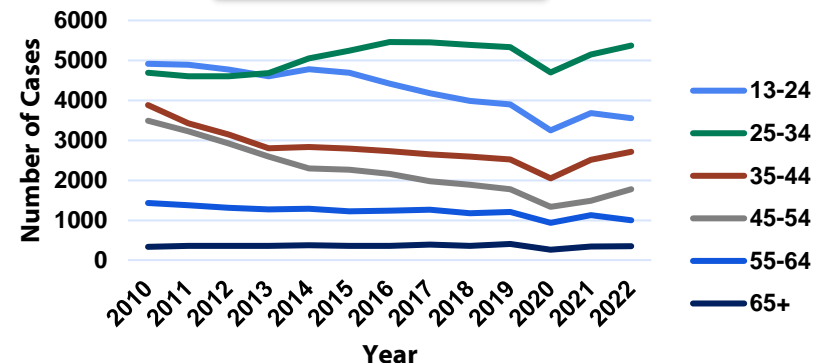


# HIV incidence among MSM

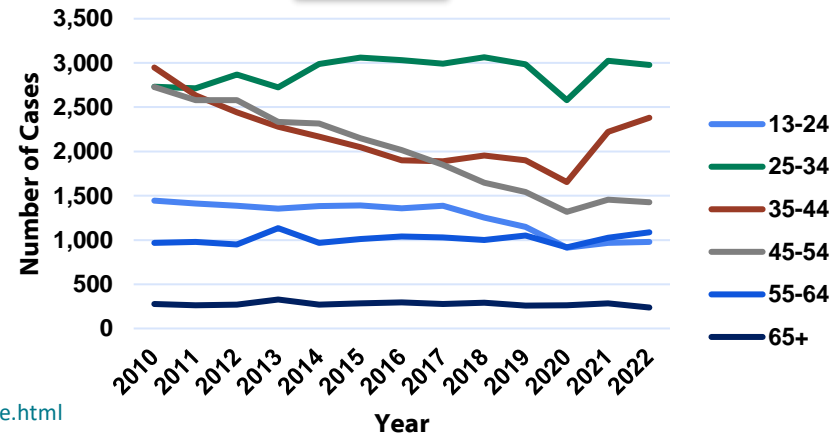
## Black/African American



## Hispanic/Latino



## White



# Questions

- **What theoretically is the best use of resources?**
- **What works in the real world?**
- **What can we do about social and economic determinants of health?**
- **Do syndemic approaches to prevention work?**
- **What about behavior?**

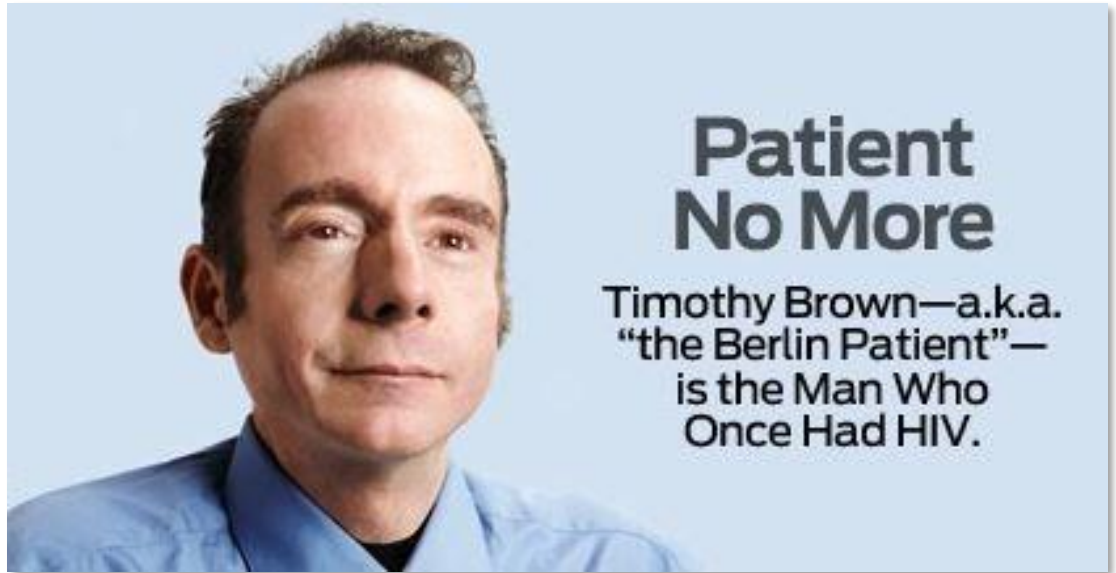
**What is the best use of resources?**

# Ideal prevention and treatment

Vaccine



Cure

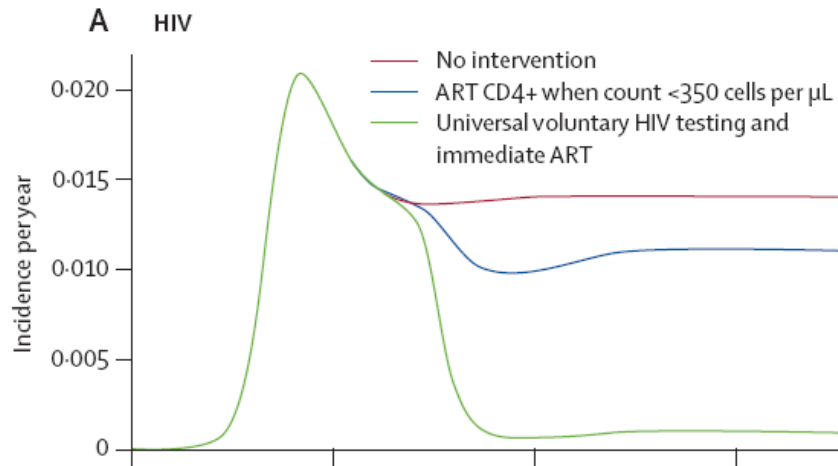


# We should be able to test and treat ourselves out of the epidemic

Lancet 2009; 373: 48-57

## Universal voluntary HIV testing with immediate antiretroviral therapy as a strategy for elimination of HIV transmission: a mathematical model

Reuben M Granich, Charles F Gilks, Christopher Dye, Kevin M De Cock, Brian G Williams



HIV treatment and prevention are cost-saving

# We should be able to prevent all new HIV infections

## Pre-Exposure Prophylaxis (PrEP)

- PrEP is ~99% effective at preventing HIV acquisition through sex

## Syringe Services Programs (SSPs)

- SSPs reduce new HIV and hepatitis C infections by ~50%

## Behavior Change

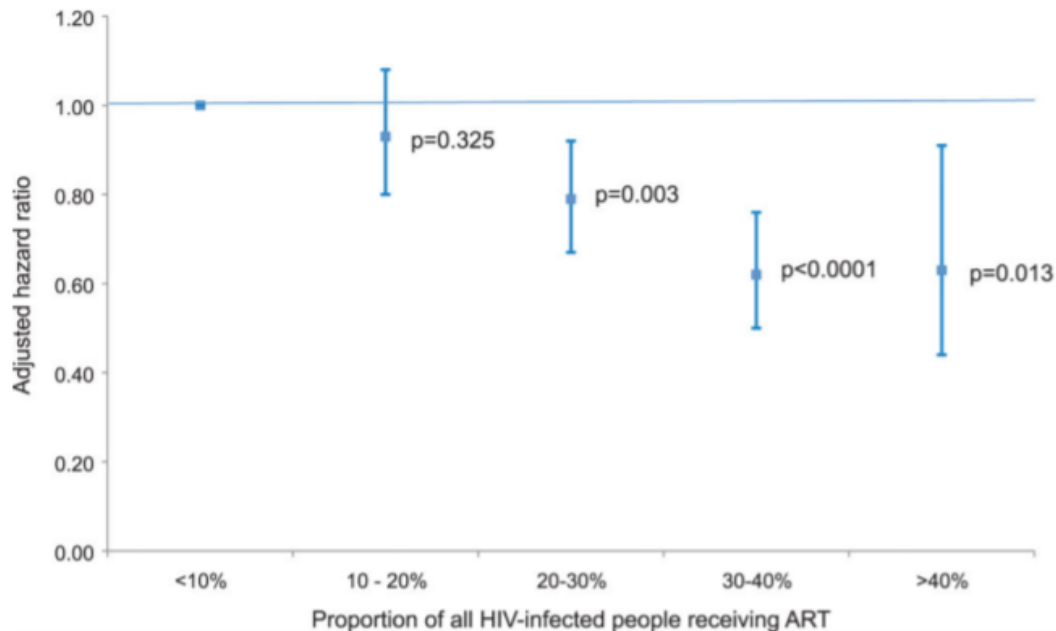
- Condoms prevent HIV acquisition



Good HIV prevention is cost-saving

**What works in the real world?**

# Correlation between HIV incidence and treatment



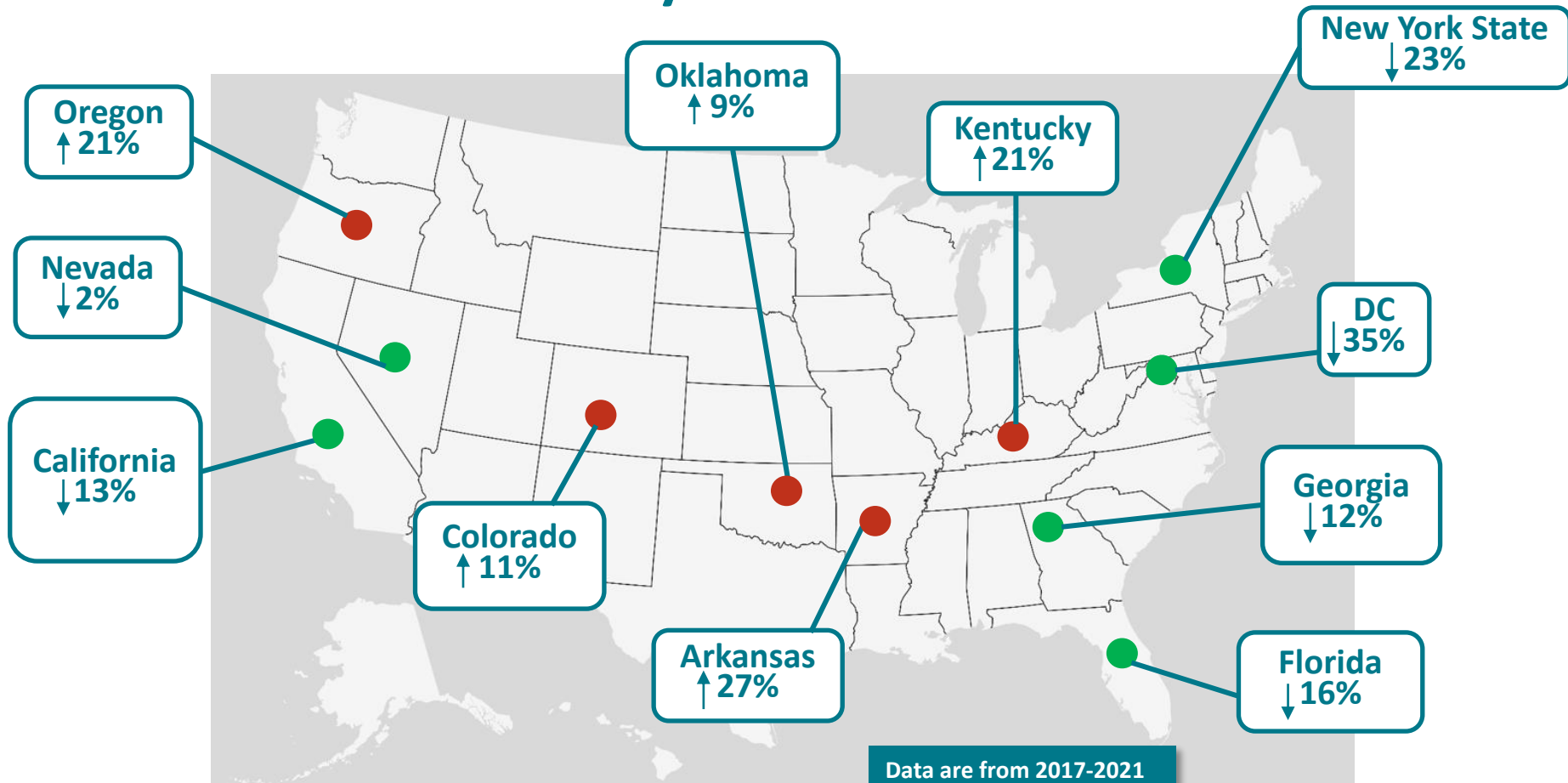
	Countries	Reduction in HIV incidence
TasP (ANRS 12249)	South Africa	ns*
PopART (HPTN 071)	South Africa/Zambia	20%
SEARCH	Uganda/Kenya	ns*
BCPP/YaTsie	Botswana	30%

\* not significant

**For every 1% increase in ART coverage, 1.1% reduction in HIV incidence**



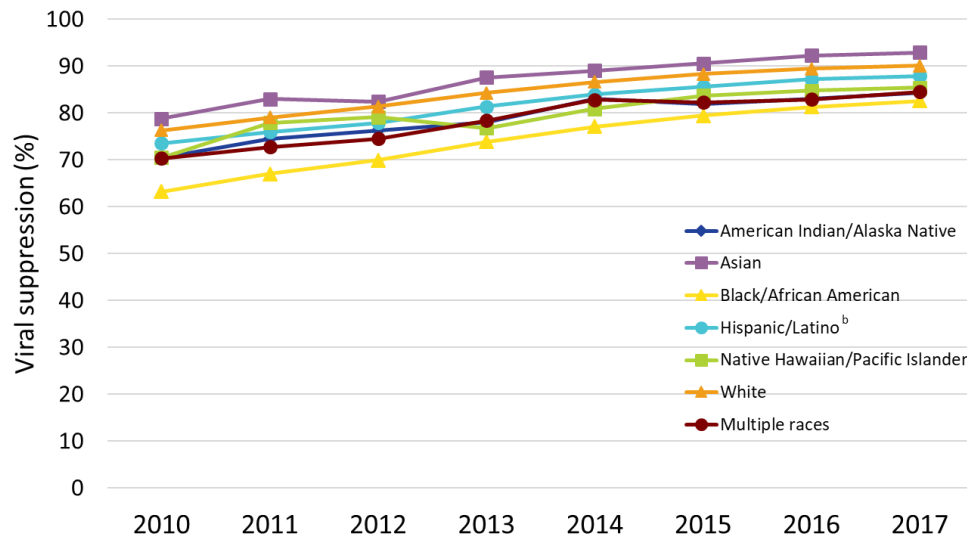
# HIV incidence trends vary across cities and states



**What about social and economic determinants of health?**

# Social determinants of health and HIV care outcomes

- Being homeless associated with 2.5 higher odds of detectable viral load
- For uninsured patients, Ryan White services associated with viral suppression (77% vs 39%)
- Patients in Ryan White were 5% more likely to be virally suppressed than those with private insurance



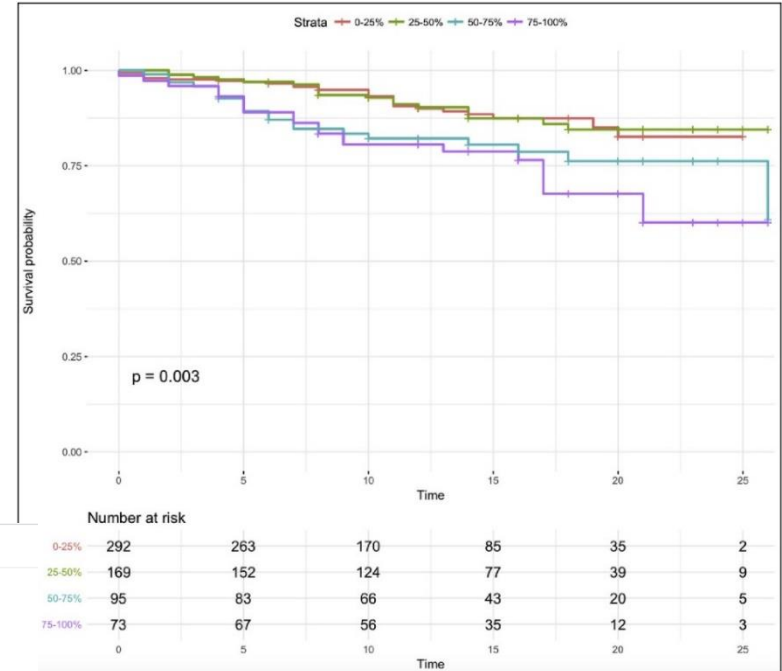
# Structural stigma and policies affect health

Sexual minorities who live in areas with the most structural LGBT stigma experience higher mortality than heterosexual counterparts

LGBT-protective laws associated with 2-3% lower mortality among persons with HIV

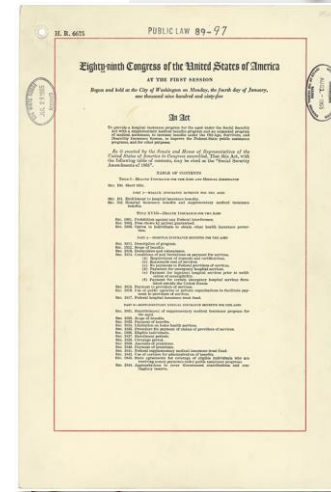
The New York Times

*Ugandan President Signs Anti-Gay Law That Includes Death Penalty as a Punishment*



# Social Security, Medicare, and Medicaid

- Introduction of Social Security associated with large decreases in poverty and mortality among older persons
- Medicaid expansion associated with improved health outcomes related to HIV, cancer, maternal and neonatal health, and reduced health disparities
- Medicare associated with reduced mortality, hospitalization rates, and healthcare expenditures



# Syndemic framework for prevention



**What about behavior?**

# 100% (almost) effective solutions



**JUST WEAR IT.**



# STDs are part of solution for HIV

- **STDs associated with 2-times increase in acquisition and transmission of HIV**
- **About half of men diagnosed with syphilis have HIV in U.S.**
- **Routinely screening and treating people for STDs will decrease new HIV infections**
- **Doxy PEP could prevent HIV by preventing STIs**

# Advances in PrEP and ART

NIAID is funding research on 4 types of long-acting HIV prevention.

## INTRAVAGINAL RING (IVR)



Polymer ring inserted into the vagina releases antiretroviral drug over time.

## IMPLANT



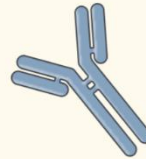
Device implanted in the body releases antiretroviral drug over time.

## INJECTABLE



Long-acting antiretroviral drug is injected into the body.

## ANTIBODY



Antibody is infused or injected into the body.

COMMENT | [VOLUME 390, ISSUE 10101, P1468-1470, SEPTEMBER 23, 2017](#)

## Long-acting injectable ART: next revolution in HIV?

[Mark A Boyd](#) ✉ • [David A Cooper](#)

Published: July 24, 2017 • DOI: [https://doi.org/10.1016/S0140-6736\(17\)31962-1](https://doi.org/10.1016/S0140-6736(17)31962-1)

# Talk about sex and use digital media and apps

### Know the HIV Risk

**Person 1**

Status:  HIV -  HIV +

Activity: Choose an activity

Factor:  Condom  PrEP  STD

**Person 2**

Status: HIV+

Activity:

Factor:  Condom  ART  STD  Acute HIV

### Get Tested

Find an HIV testing site near you.

Enter ZIP code or City

**Go**

Help CDC NPIN Share

### Small Talks ABOUT Regular, Ongoing Care

How health care providers can help keep patients engaged in HIV care

PREVENTION BY CARE

Google Ads

With great teeth...

**WHATEVER YOU'RE INTO, GMHC IS HERE TO HELP YOU.**

For hook-up and more info about PrEP and HIV testing, contact GMHC.

Dismiss Learn More

### Find Condoms

Condoms can protect you against STDs and HIV. Get them near you.

Search within

25 miles of Zip Code...

**Find**

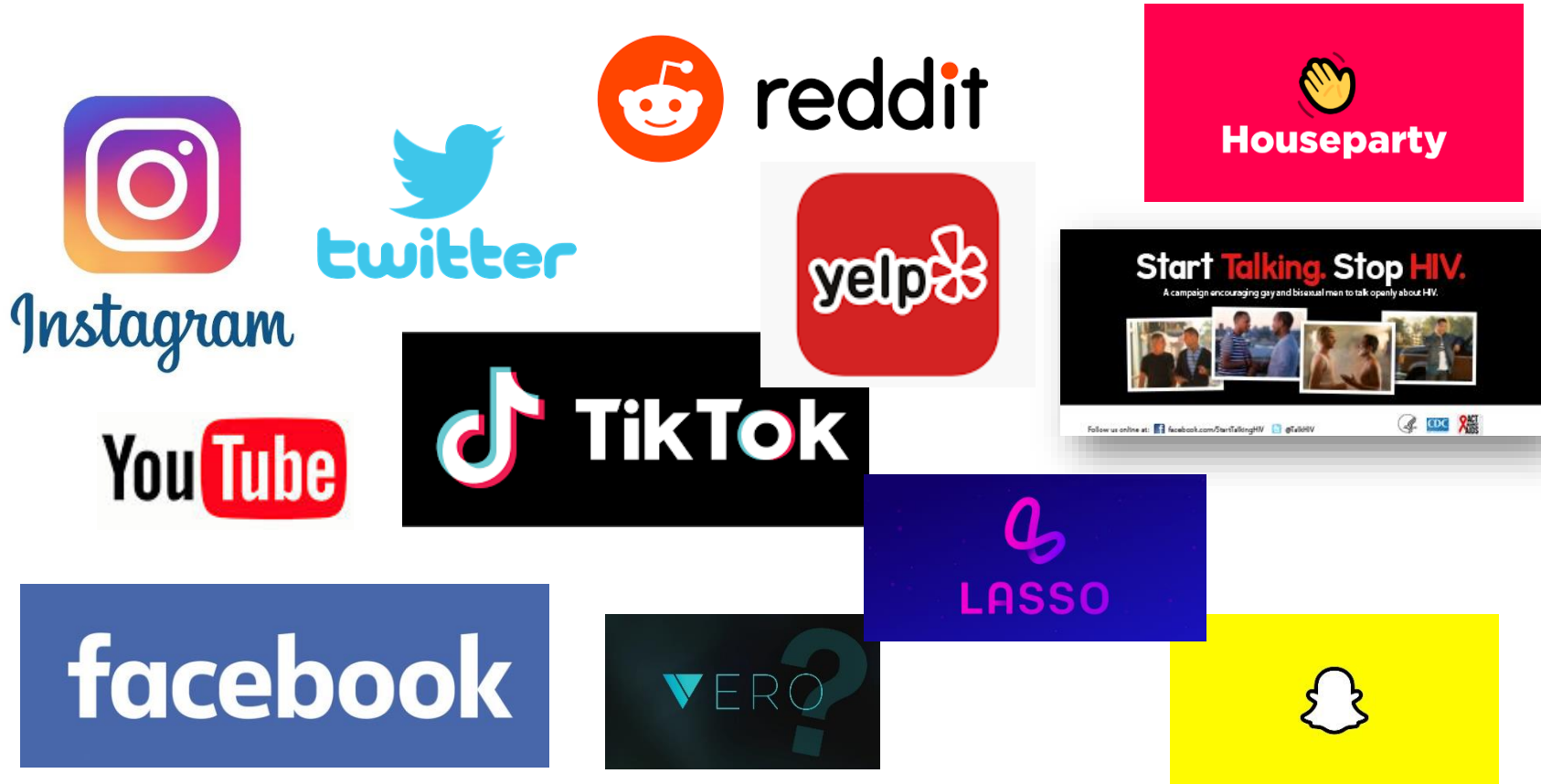
### Find a PrEP provider near you.

Search within 25 miles of Zip Code... **Find**

The cost of PrEP may be covered by health insurance. Contact your nearest provider to discuss payment options.

NPIN PrEP Locator

# Influencers, information, disinformation, misinformation



# Conclusions

- Large reductions in HIV incidence is theoretically possible and practically achievable
  - HIV incidence has decreased in the world and the U.S. overall, with greater success in some geographic areas and populations
  - We can address social determinants, improve outcomes, and decrease disparities
  - We need thoughtful, innovative science and implementation
  - Success requires community, provider, and government leadership and energy
- 