Research Priorities for HIV/STD Prevention and Treatment in Los Angeles County

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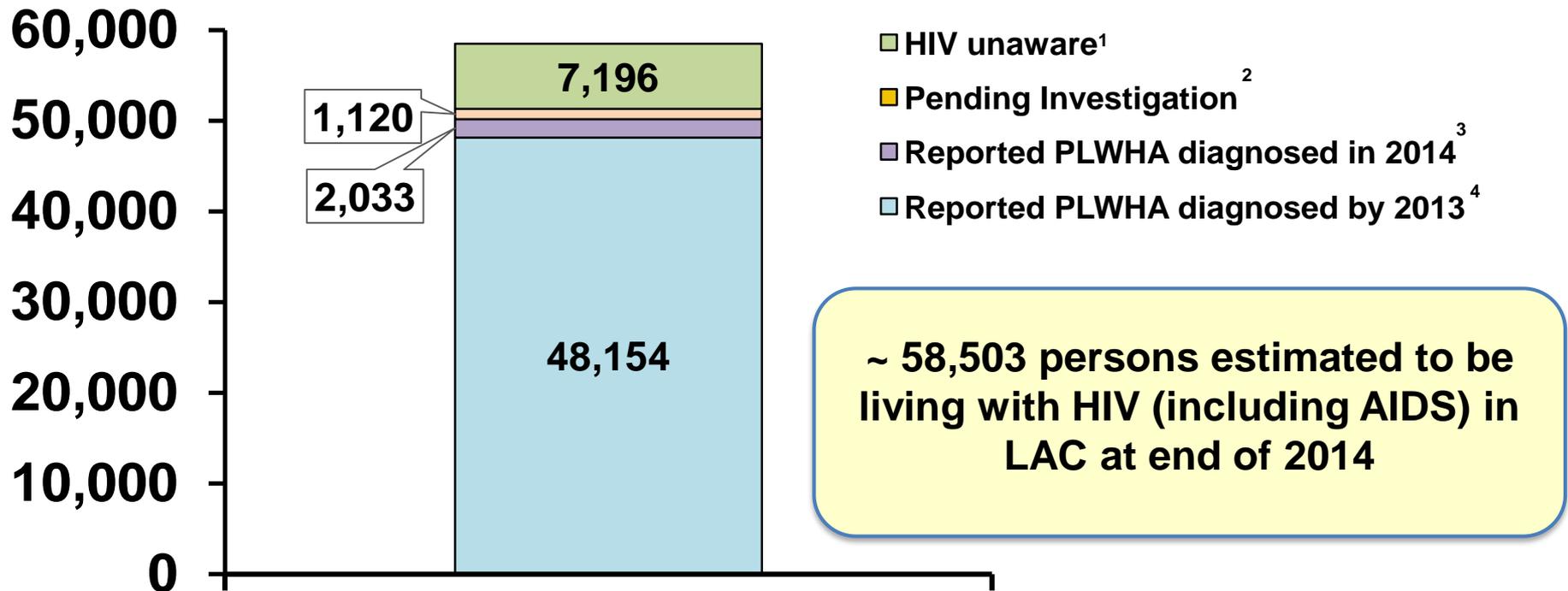
May 8, 2017 CHIPTS Retreat

Overview

- **HIV Landscape in Los Angeles County**

- **Preliminary HIV/AIDS Strategy Goals for Los Angeles County**

- **Priority Research Areas**

Estimated Number of Persons Living with HIV and AIDS in LAC at End of 2014

Chart legend:
- HIV unaware[1]
- Pending Investigation[2]
- Reported PLWHA diagnosed in 2014[3]
- Reported PLWHA diagnosed by 2013[4]

Bar values:
- 7,196
- 1,120
- 2,033
- 48,154

~ 58,503 persons estimated to be living with HIV (including AIDS) in LAC at end of 2014

1. Local estimates indicate that 12.3% of PLWH are unaware of their infection.
2. Includes an estimated 1,120 lab reports pending investigation likely to result in unduplicated cases.
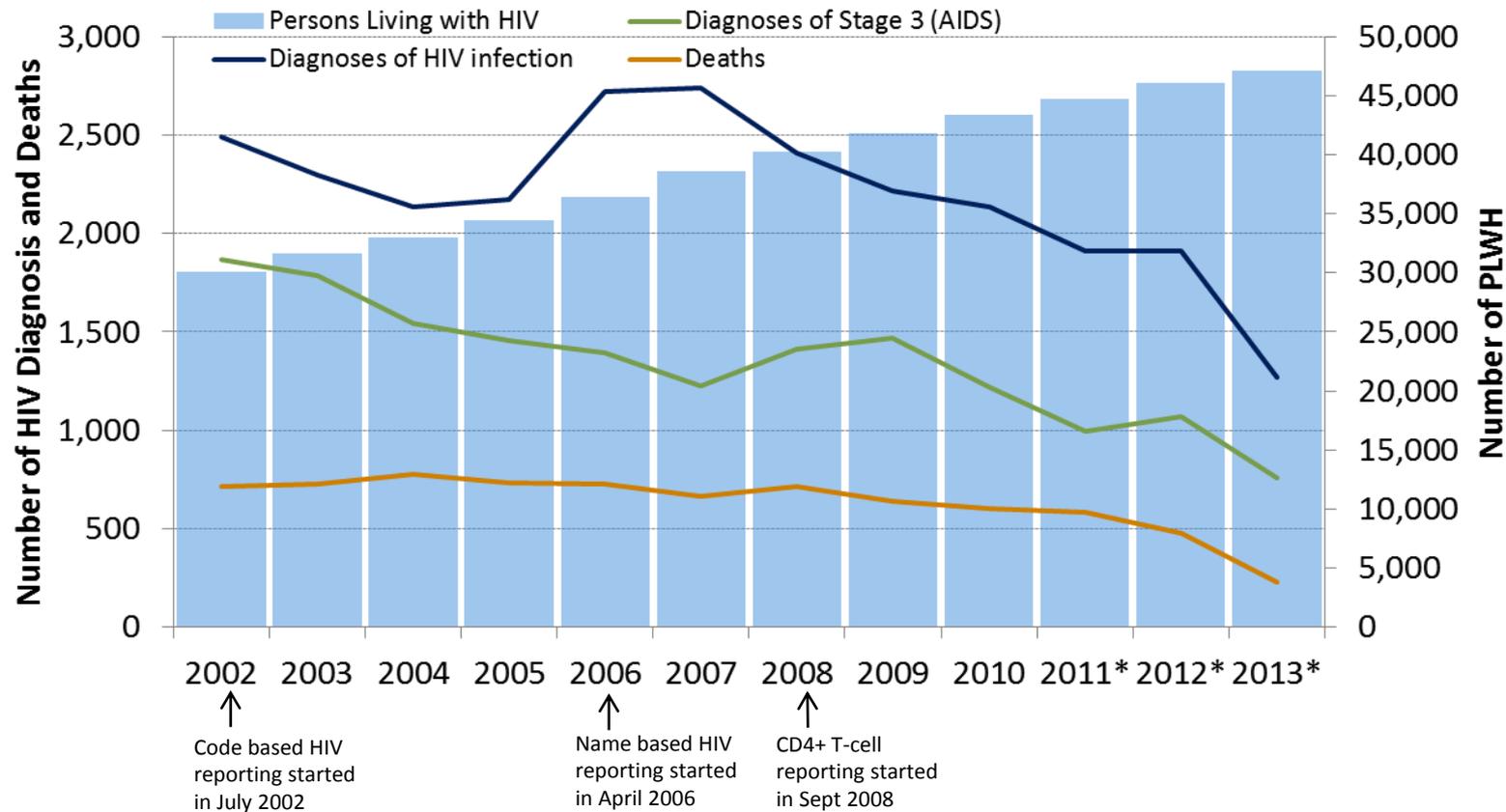3. Includes persons diagnosed with HIV in 2014 and living as of 12/31/2014. Data based on most recently reported residential address.
4. Includes persons diagnosed with HIV by 12/31/2013 and living as of 12/31/2014. Data based on most recently reported residential address.
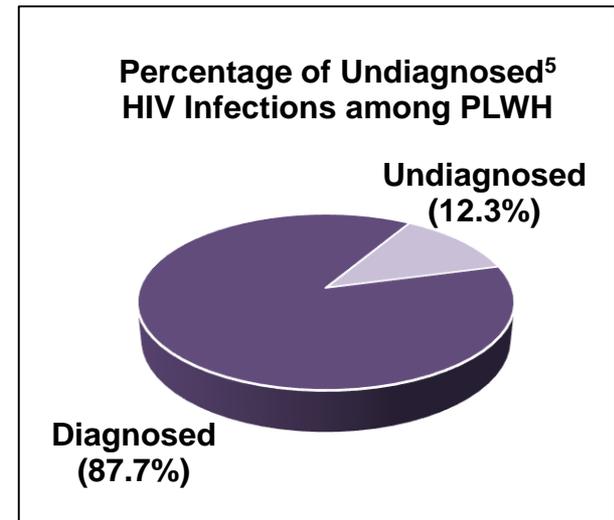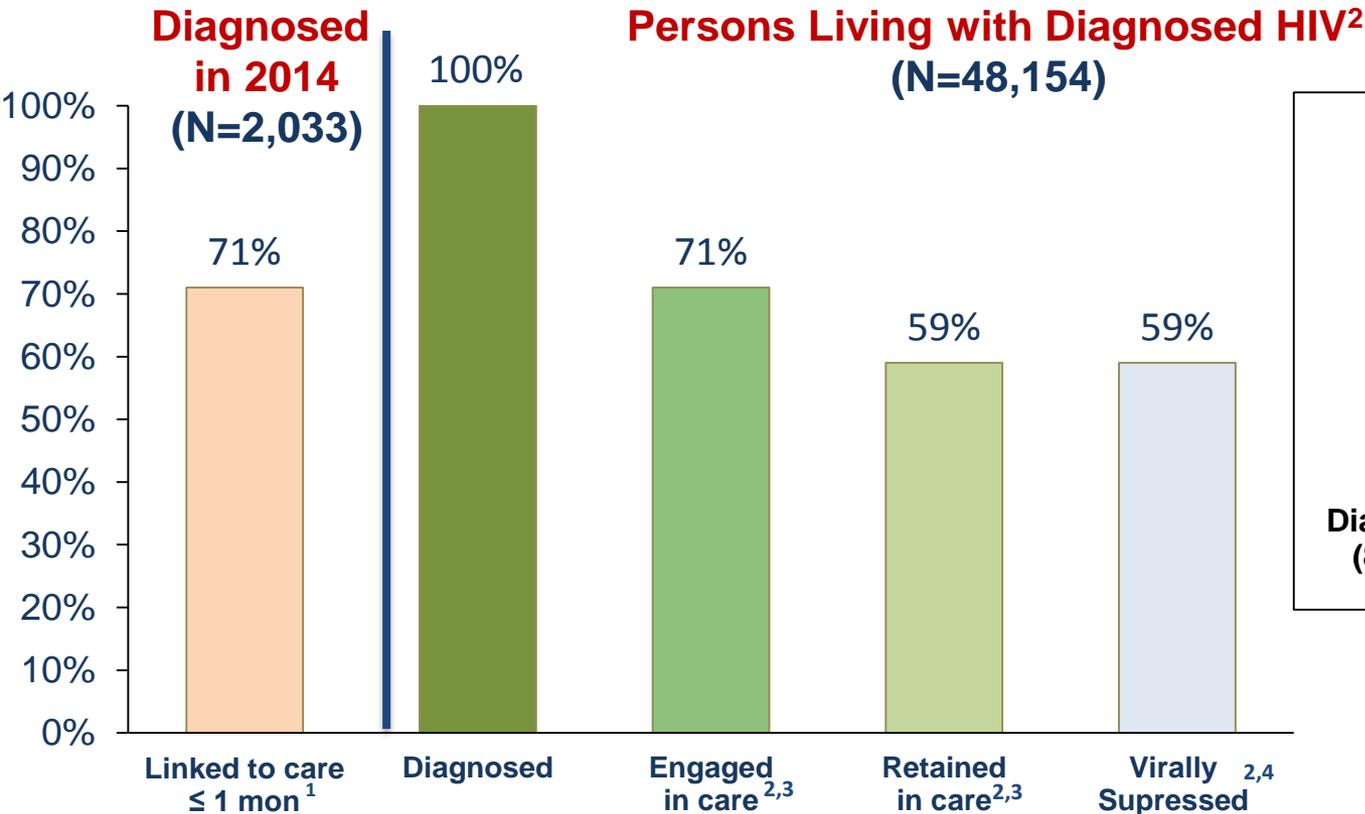Source: LAC Division of HIV and STD Programs, reported as of 12/31/15.

Annual Diagnoses of Stage 3 (AIDS) and HIV Infection[1] and Deaths[2] of PLWH[3], Los Angeles County, 2002-2013
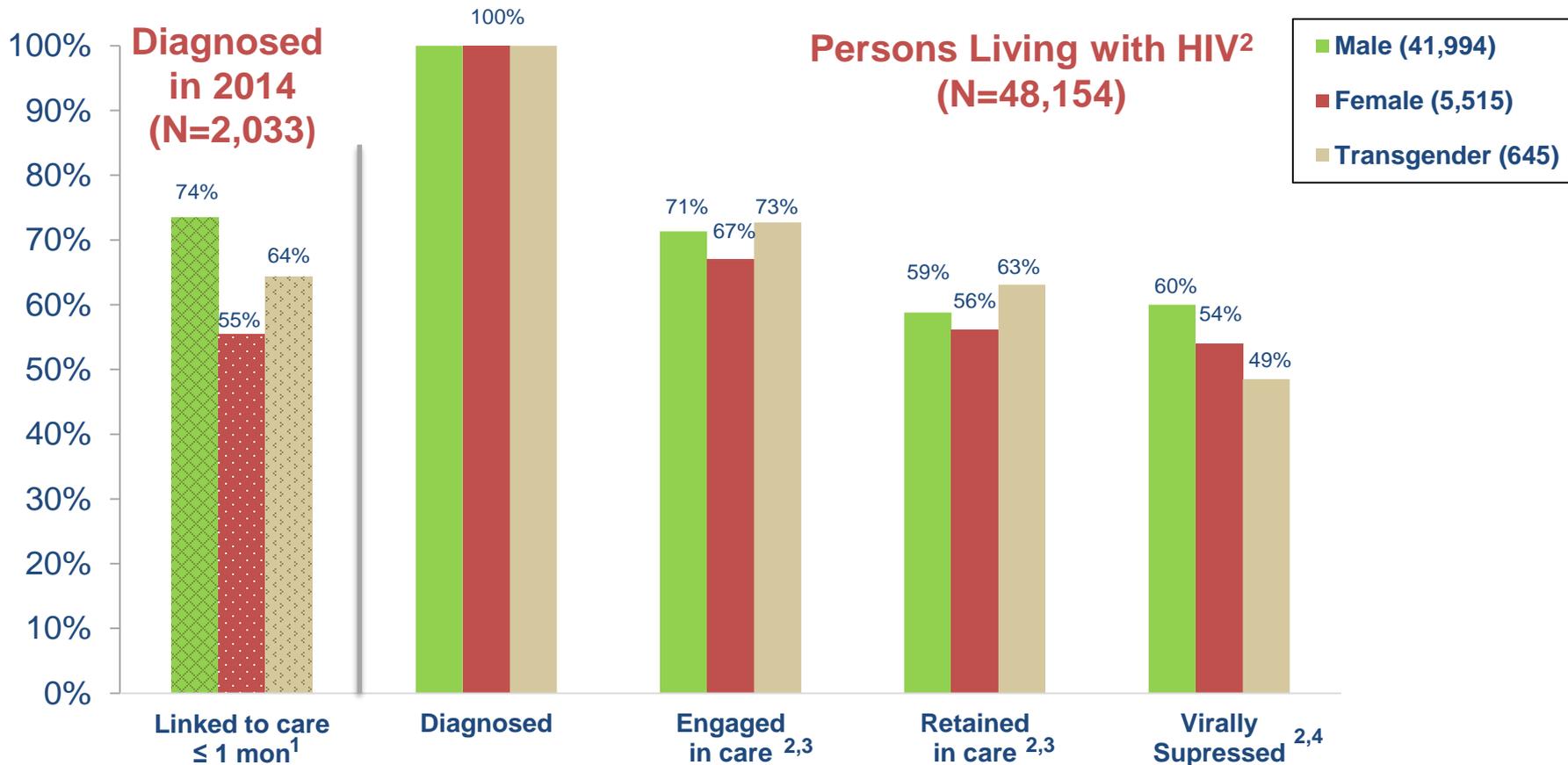

1. Based on named reports for persons with a diagnosis of HIV infection regardless of the disease stage at time of diagnosis.
2. The number of deaths among persons with HIV infection is based on the date of death report when the actual year of death is unknown.
* Data are provisional due to reporting delay.

2014 LAC HIV Cascade for Persons Diagnosed and Living with HIV

Diagnosed in 2014 (N=2,033)

Persons Living with Diagnosed HIV[2] (N=48,154)

Percentage of Undiagnosed[5] HIV Infections among PLWH

Undiagnosed (12.3%)

Diagnosed (87.7%)

Linked to care ≤ 1 mon[1] — 71%
Diagnosed — 100%
Engaged in care[2,3] — 71%
Retained in care[2,3] — 59%
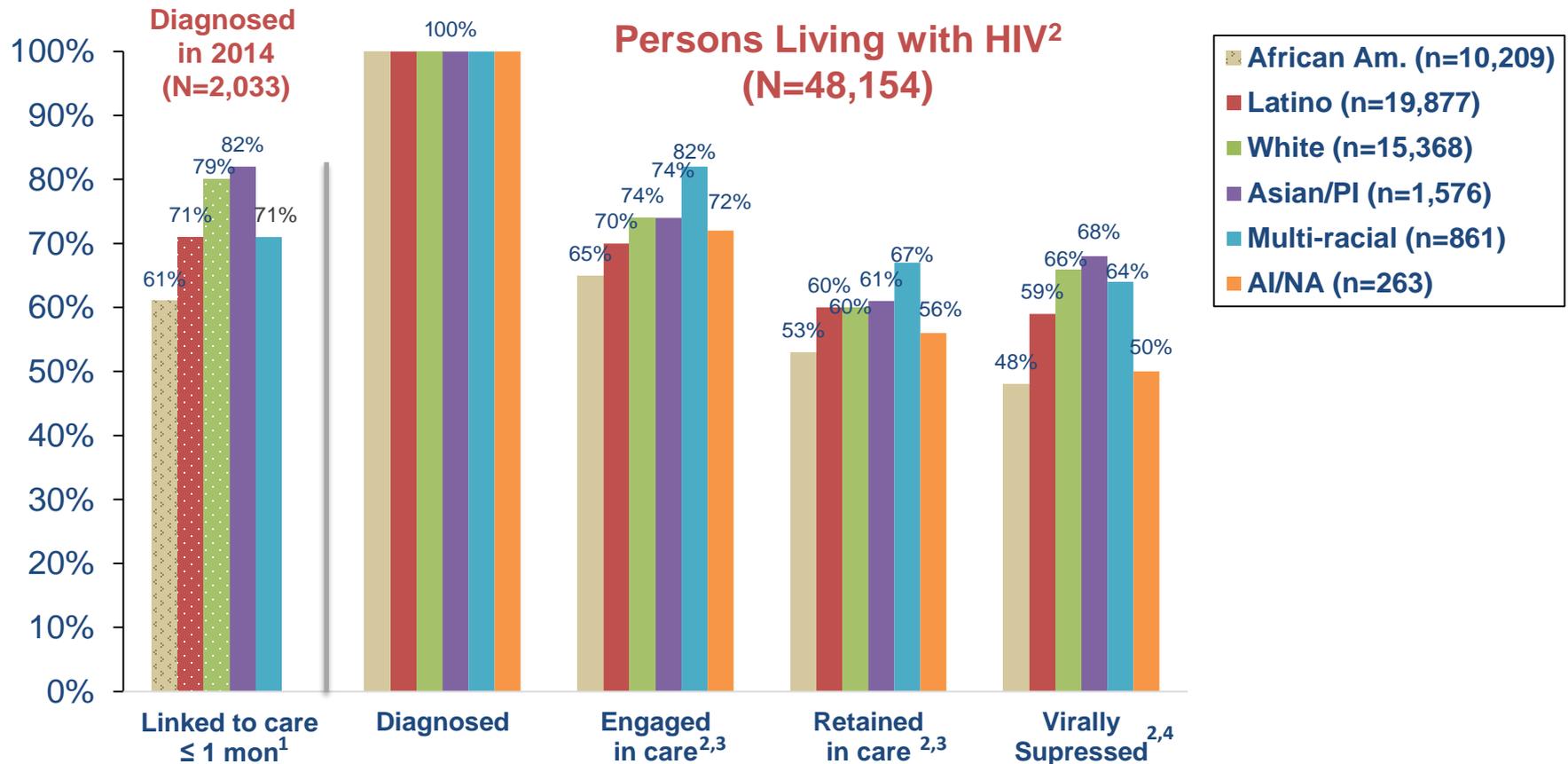Virally Supressed[2,4] — 59%

1. Denominator includes persons who were diagnosed with HIV in 2014; numerator includes persons reported with HIV in 2014 who linked to care within 1 month of HIV diagnosis;
2. Denominator includes persons diagnosed through 2013 and living in LAC as of 12/31/2014 based on most recent residence; excludes persons who no longer live in LAC and includes persons who moved to LAC after their initial HIV diagnosis
3. Engaged in care: ≥1 CD4/VL/Geno tests in 2014; retained in care: ≥2 CD4/VL/Geno tests at least 3 months apart in 2014
4. Viral suppression defined as <200 copies/ml
5. Based on a local estimate for undiagnosed PLWH in LAC

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HIV Care Continuum by Gender, LAC 2014

Diagnosed in 2014 (N=2,033)

Persons Living with HIV[2] (N=48,154)

Legend:
- ■ Male (41,994)
- ■ Female (5,515)
- ■ Transgender (645)

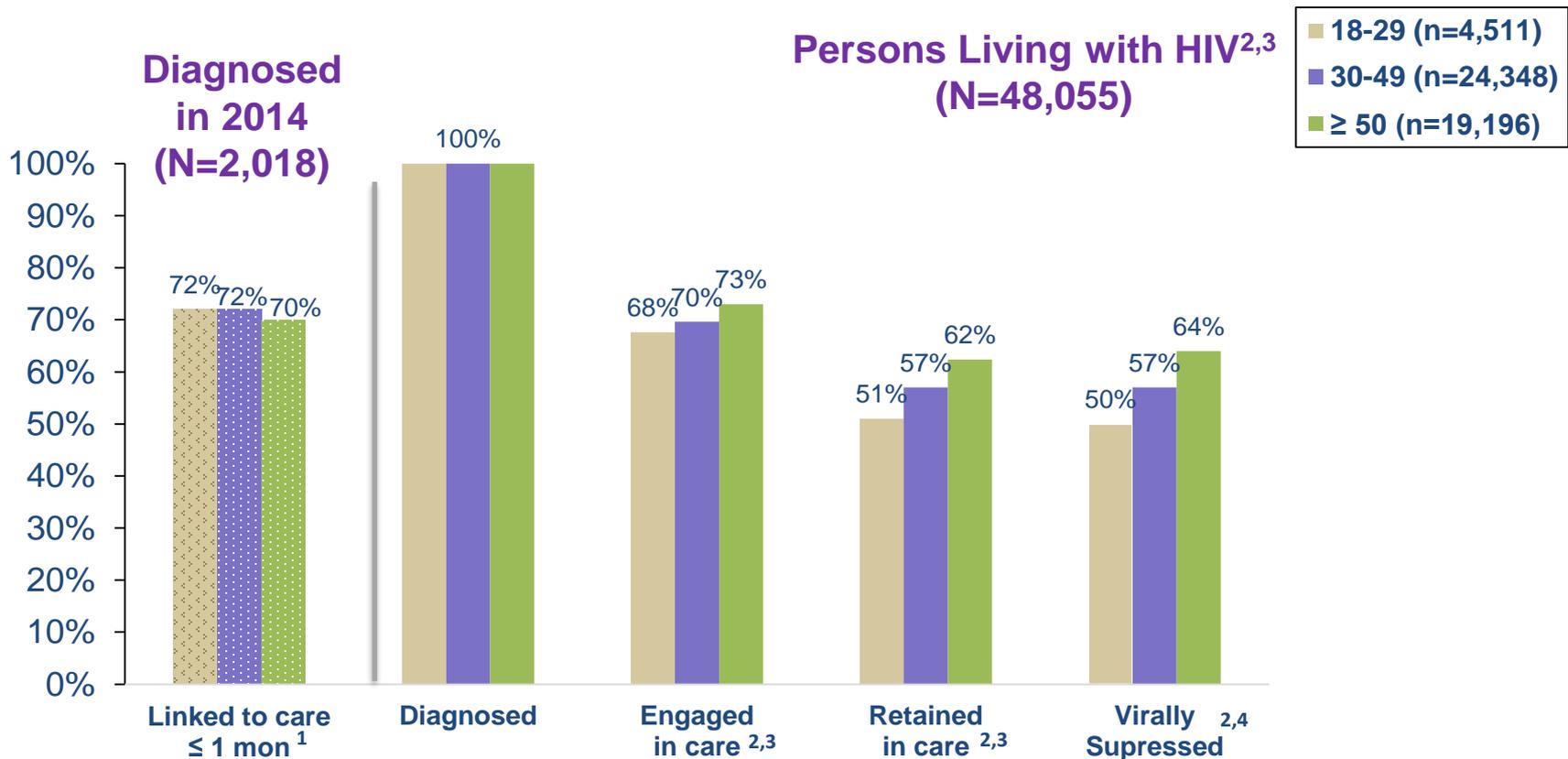| Category	Male	Female	Transgender
Linked to care ≤ 1 mon[1]	74%	55%	64%
Diagnosed	100%	100%	100%
Engaged in care [2,3]	71%	67%	73%
Retained in care [2,3]	59%	56%	63%
Virally Supressed [2,4]	60%	54%	49%

1. Denominator includes persons who were diagnosed with HIV in 2014; numerator includes persons reported with HIV in 2014 who linked to care within 1 month of HIV diagnosis;
2. Denominator includes persons diagnosed through 2013 and living in LAC as of 12/31/2014 based on most recent residence; excludes persons who no longer live in LAC and includes persons who moved to LAC after their initial HIV diagnosis
3. Engaged in care: ≥1 CD4/VL/Geno tests in 2014; retained in care: ≥2 CD4/VL/Geno tests at least 3 months apart in 2014
4. Viral suppression defined as <200 copies/ml

2014 data are provisional due to reporting delay

HIV Care Continuum by Race/Ethnicity, LAC 2014

Diagnosed in 2014 (N=2,033)

Persons Living with HIV[2] (N=48,154)

Legend:
- African Am. (n=10,209)
- Latino (n=19,877)
- White (n=15,368)
- Asian/PI (n=1,576)
- Multi-racial (n=861)
- AI/NA (n=263)

Linked to care ≤ 1 mon[1]: 61%, 71%, 79%, 82%, 71%

Diagnosed: 100%

Engaged in care[2,3]: 65%, 70%, 74%, 74%, 82%, 72%

Retained in care[2,3]: 53%, 60%, 60%, 61%, 67%, 56%

Virally Supressed[2,4]: 48%, 59%, 66%, 68%, 64%, 50%

1. Denominator includes persons who were diagnosed with HIV in 2014; excludes AI/NA (n= <5) because numbers were too small; numerator includes persons reported with HIV in 2014 who linked to care within 1 month of HIV diagnosis;
2. Denominator includes persons diagnosed through 2013 and living in LAC as of 12/31/2014 based on most recent residence; excludes persons who no longer live in LAC and includes persons who moved to LAC after their initial HIV diagnosis
3. Engaged in care: ≥1 CD4/VL/Geno tests in 2014; retained in care: ≥2 CD4/VL/Geno tests at least 3 months apart in 2014
4. Viral suppression defined as <200 copies/ml
2014 data are provisional due to reporting delay

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HIV Care Continuum by Age, LAC 2014

Diagnosed in 2014 (N=2,018)

Persons Living with HIV[2,3] (N=48,055)

Legend:
- 18-29 (n=4,511)
- 30-49 (n=24,348)
- ≥ 50 (n=19,196)

Category	18-29	30-49	≥ 50
Linked to care ≤ 1 mon[1]	72%	72%	70%
Diagnosed	100%	100%	100%
Engaged in care[2,3]	68%	70%	73%
Retained in care[2,3]	51%	57%	62%
Virally Supressed[2,4]	50%	57%	64%

1. Denominator includes persons who were diagnosed with HIV in 2014; numerator includes persons reported with HIV in 2014 who linked to care within 1 month of HIV diagnosis;
2. Denominator includes persons diagnosed through 2013 and living in LAC as of 12/31/2014 based on most recent residence; excludes persons who no longer live in LAC and includes persons who moved to LAC after their initial HIV diagnosis; excludes persons < 18 years of age (n=99) were not included due to unstable estimates
3. Engaged in care: ≥1 CD4/VL/Geno tests in 2014; retained in care: ≥2 CD4/VL/Geno tests at least 3 months apart in 2014
4. Viral suppression defined as <200 copies/ml
2014 data are provisional due to reporting delay

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Retention in HIV Care and Viral Load Suppression among LAC Ryan White-Funded Patients, 2009-2013
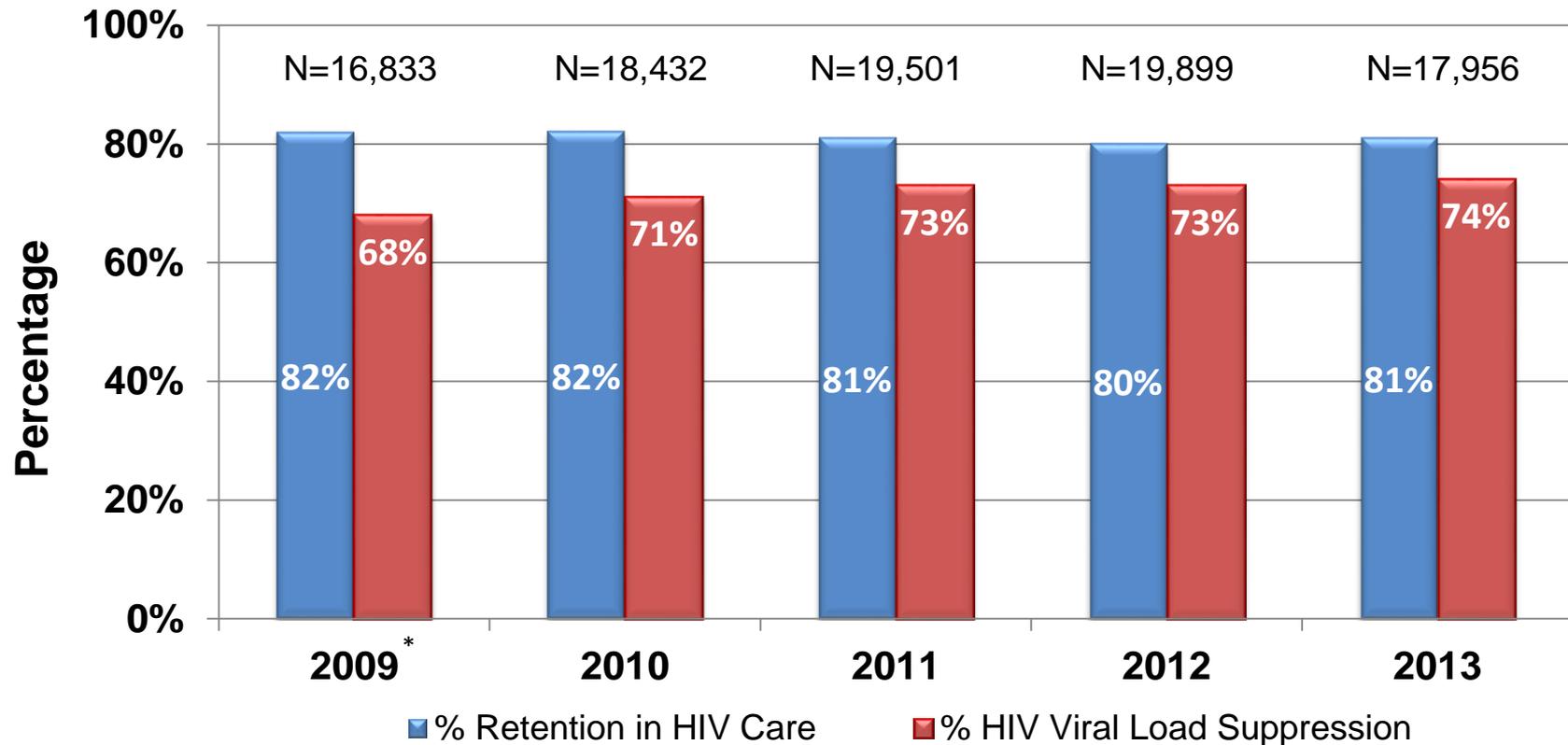
Data Source: Casewatch as of 5/1/15; iHARS as of 6/3/15.
* 2009 time frame: 3/1/2009-12/31/2009
N: HIV clients receiving Ryan White funded services during the report year.
Retention in Care ≥2 CD4/VL/genotype tests or medical visits at least 3 months apart during the report year. Labs reported in HIV CaseWatch system or HIV surveillance were included.
Viral Load Suppression is defined as most recent VL in the report year <200 copies/ml. Labs reported in HIV CaseWatch system or HIV surveillance were included.
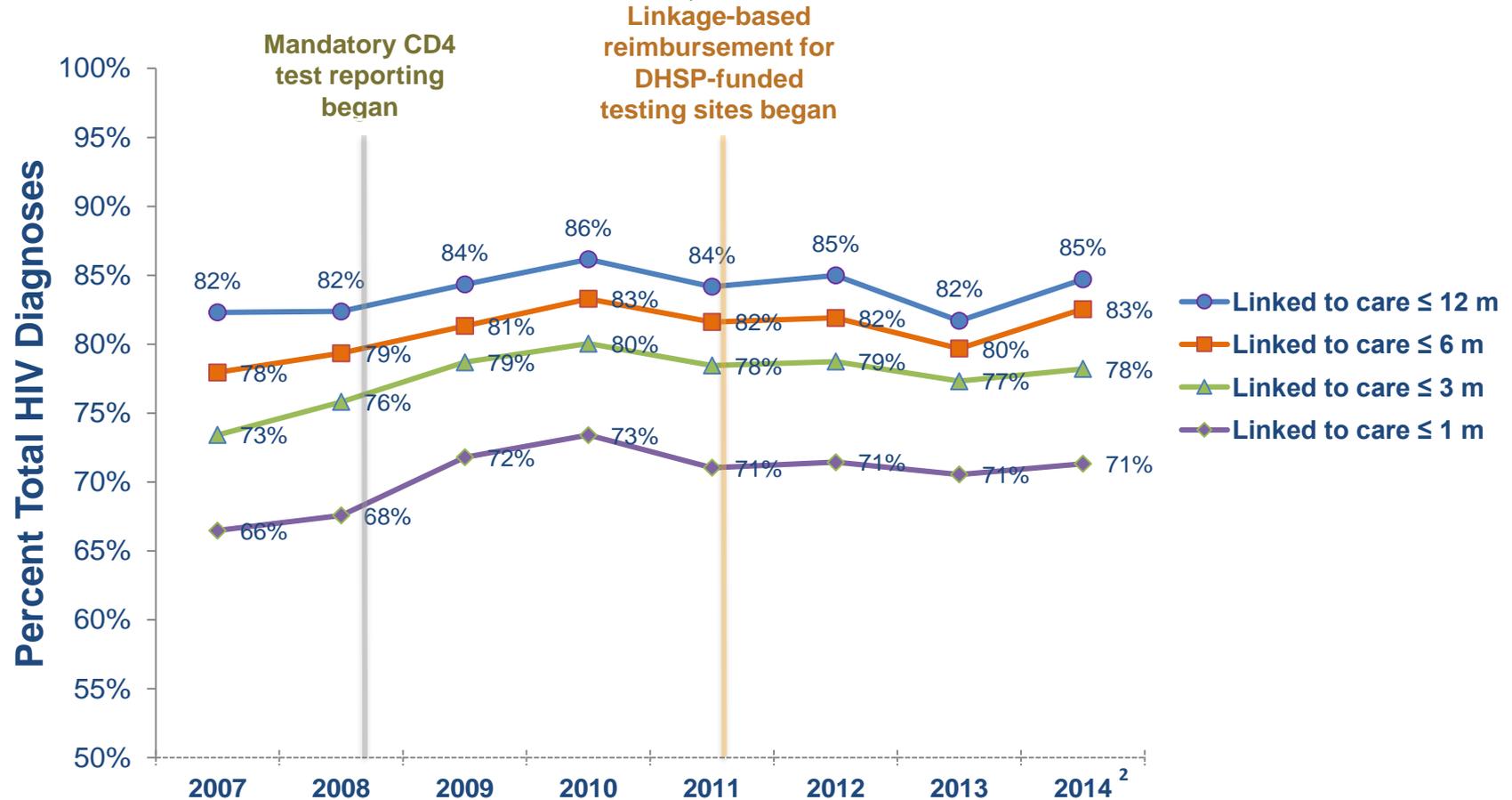
Engagement, Retention and Viral Load Suppression for Persons Living with HIV[1], LAC 2007-2014
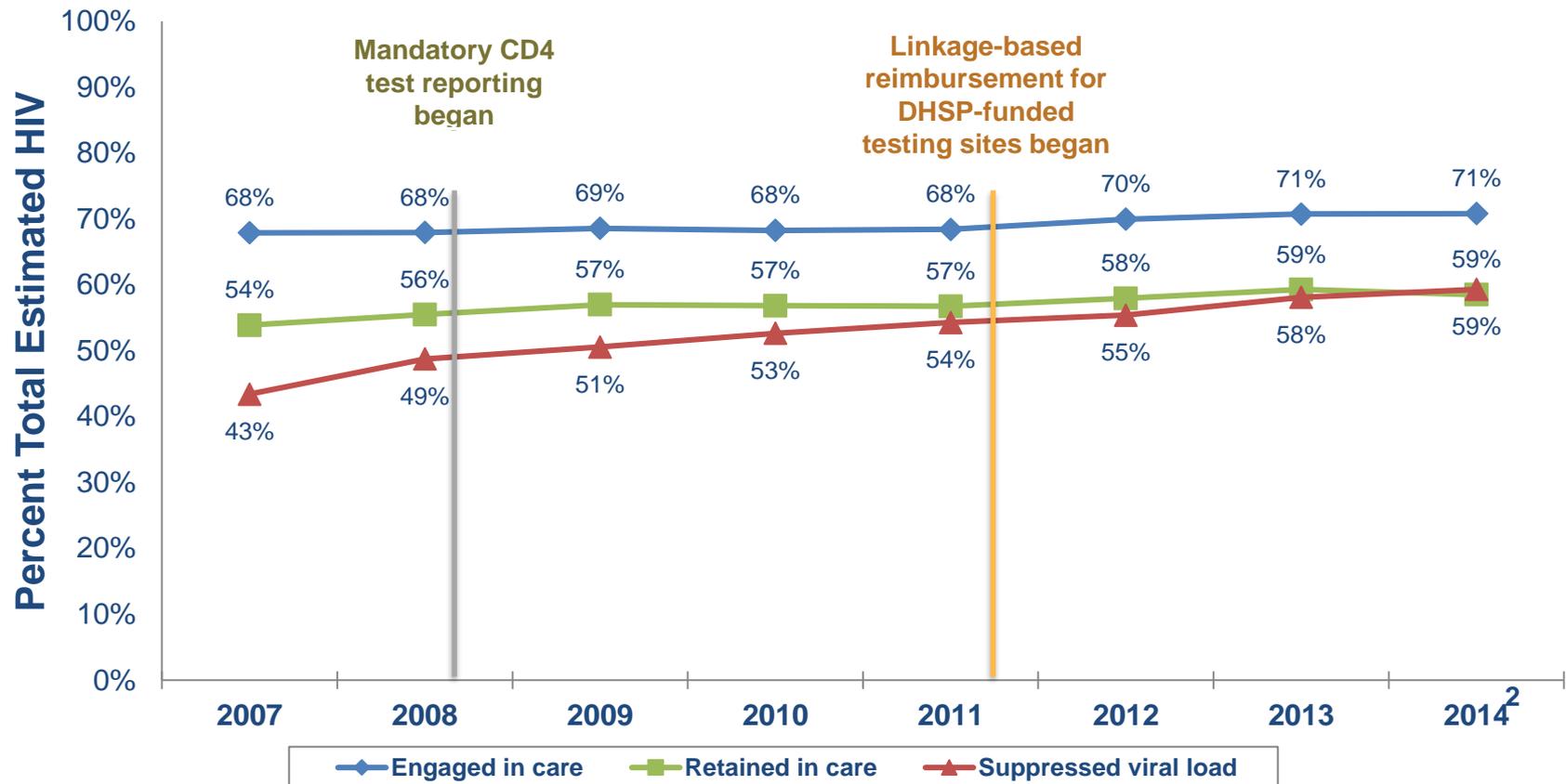
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Linkage to Care for Persons Diagnosed with HIV[1] in LAC, 2007-2014
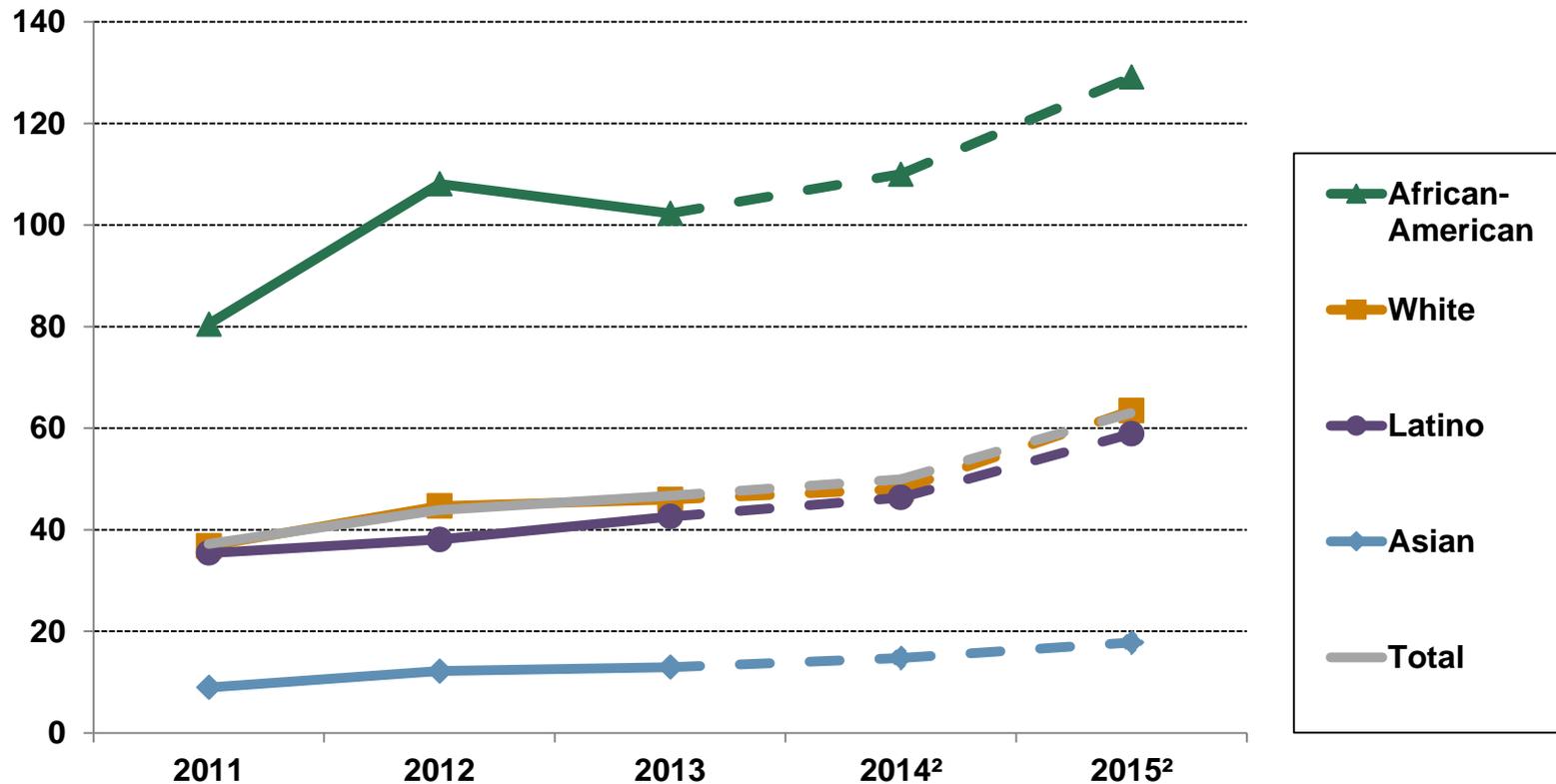
[1] Includes persons diagnosed with HIV infection in each calendar year and living through the following 12 months; as of 12/31/15

[2] 2014 data are provisional

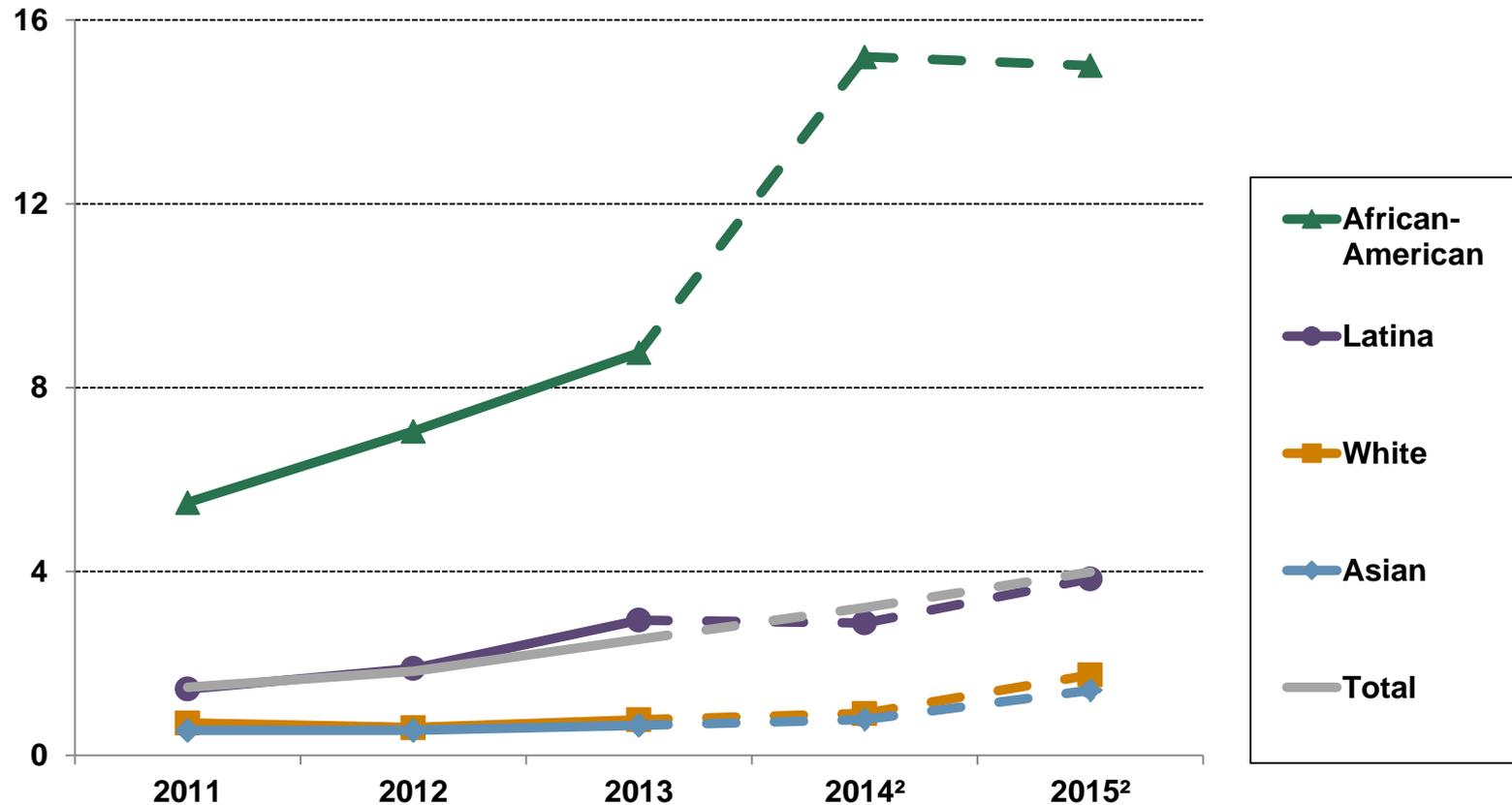# Early Syphilis among Males by Race/Ethnicity, Los Angeles County, 2011-2015[1]

[1] Data excludes cases with unknown race/ethnicity; Early Syphilis includes all cases staged as primary, secondary, or early latent; rates for Pacific Islanders and American Indians/Alaskan Natives are not presented due to small numbers that may cause unstable estimates.

[2] 2014-2015 data are provisional due to reporting delay.

Early Syphilis among Females by Race/Ethnicity, Los Angeles County, 2011-2015[1]

[1] Data excludes cases with unknown race/ethnicity; Early Syphilis includes all cases staged as primary, secondary, or early latent; rates for Pacific Islanders and American Indians/Alaskan Natives are not presented due to small numbers that may cause unstable estimates.

[2] 2014-2015 data are provisional due to reporting delay.

Preliminary Goals
for Los Angeles County's HIV/AIDS Strategy

GOAL 1: Reduce the number of new infections from 1,850 in 2015 to 500 in 2021 (73% decrease)

GOAL 2: Ensure that 90% of all PLWHA living in LAC are diagnosed

GOAL 3: Increase the proportion of diagnosed PLWHA who are virally suppressed to 90%

GOAL 4: Reduce the number of HIV/AIDS related deaths to no more than 100 per year

Research Priorities

1. How do we target service and resources to those populations most likely to transmit HIV? How can we better prevent HIV acquisition among women of color?

2. How can we more efficiently use partner services to reach persons unaware of their HIV and /or STD infection?

3. How do Ryan White wraparound services support retention in care and viral suppression among PLWH in LAC?

Reducing Transmission Along the Cascade

- Despite declines in overall rates, HIV diagnoses rates continue to rise among African Americans and Latinos

- In 2014 Lower proportions of African Americans in LAC are linked, engaged and retained in HIV care and virally suppressed (vs. White)

- Robust decision-making model predicted that additional resource allocation to access to ART and ART adherence could reduce new and undiagnosed HIV infections and to increase viral suppression in LAC (Ryan 2013)

Reducing Transmission Along the Cascade

- Using national data, Skarbinski (2015) estimated 91.5% of HIV transmissions in 2009 were attributable to HIV+ but undiagnosed and HIV diagnosed and not retained in care

- Replicate analysis by Skarbinski using local data to estimate the number of HIV transmissions along steps of care cascade to:

  o Support resource allocation for targeted services and policies

  o Monitor efforts to reduce new infections over time

Reducing Transmission Along the Cascade

- Use local surveillance data to estimate number of HIV transmissions along 5 steps of the HIV cascade
    - National HIV Behavioral Surveillance (NHBS)
    - LAC HIV/AIDS Reporting System (HARS)
    - Medical Monitoring Project (MMP)

- Stratify data by gender, race, age, and HIV acquisition risk category
- Identify geographic areas most heavily impacted

Reducing HIV Acquisition among Women

- Women of color continue to be disproportionately impacted by HIV in LAC

- Reaching women who are at risk for HIV because of their partner's behavior is a continuing challenge

- The prevention portfolio for women is outdated

Reducing HIV Acquisition among Women

- Literature review and strength of evidence

  - Risk behaviors

  - Interventions

- Data triangulation using surveillance data:

  - National HIV Behavioral Surveillance (NHBS)

  - Medical Monitoring Project (MMP)

  - HIV/AIDS Reporting System (HARS)

  - STD Surveillance and Partner Services data

Reducing HIV Acquisition among Women

- Stakeholder feedback on literature review and data synthesis:
    - Commission on HIV Women's Caucus
    - Women's Task Force
    - Community Advisory Coalition
- Recommendations to inform the development of evidence-based services for women at risk and living with HIV

Using Networks to Interrupt HIV/STD Transmission

- MSM represent approximately 94% of new HIV diagnoses among males and 88% of males living with HIV in LAC (2013-14)

- MSM highest rate and number of HIV diagnoses in LAC compared to other transmission categories, with MSM of color most heavily impacted (2015)

- Early syphilis rates among men in LAC increased from 49% to 63% in 2013 to 2015
    - Approximately 89% of early syphilis was among MSM/MSMW
    - An estimated 59% of MSM/MSMW were co-infected with HIV

Using Networks to Interrupt HIV/STD Transmission

- In partnership with the LA-LGBT, applied for Epidemiologic and Laboratory Capacity grant from Centers for Disease Control and Prevention to:

- Describe and use social, sexual and phylogenic networks to improve HIV/STD management

- Identify MSM of color and transgender women who are HIV+ or at risk of HIV or syphilis for high-impact prevention interventions

Using Networks to Interrupt HIV/STD Transmission

- Key activities will include:
  - Testing a partner elicitation strategy standard of care vs. online survey
  - Using community embedded disease intervention specialists (CEDIS) to interview target population ("seeds") and partners to obtain social and sexual network data
  - Link seeds and partners to HIV care or PrEP services and screen and provide treatment for syphilis
  - Construct networks and use in real-time to identify members of high risk networks refer cases for partner services
  - Evaluate partner elicitation strategy

Using Networks to Interrupt HIV/STD Transmission

- Application of finding from this study can:
  - Leverage the networks developed will help to prioritize cases for partner services interventions
  - Support replication of the model in county and other STD clinics in LAC
  - If successful, online partner elicitation strategy would represent an added efficiency for partner services where CEDIS staff could be deployed for more complex cases

Improving Retention and Viral Suppression

- In LAC, approximately 59% of PLWH were retained in care and 59% were virally suppressed

- Retention in care and viral suppression in LAC have increased over time but have not yet met the NHAS targets of 90% and 80% respectively

- In 2014 retention in care and viral suppression in LAC was lower among:
  - Younger PLWH (vs. aged 50 and older)
  - African –Americans (vs. Whites)
  - Transgender persons (vs. males)
  - People who inject drugs (vs. MSM)

Improving Retention and Viral Suppression

- Ryan White patients in LAC have higher retention and viral suppression compared to all PLWH in LAC

- Ryan White services are intended to facilitate and support retention in HIV care

- Unclear which Ryan White services are supporting retention and viral suppression

- Limited defined outcome measures limit evaluation of services

- DHSP has developed the Outcomes Project, a cross-divisional collaboration to establish a common framework for defining, measuring and evaluating program and system-level outcomes for Ryan White–funded HIV services.
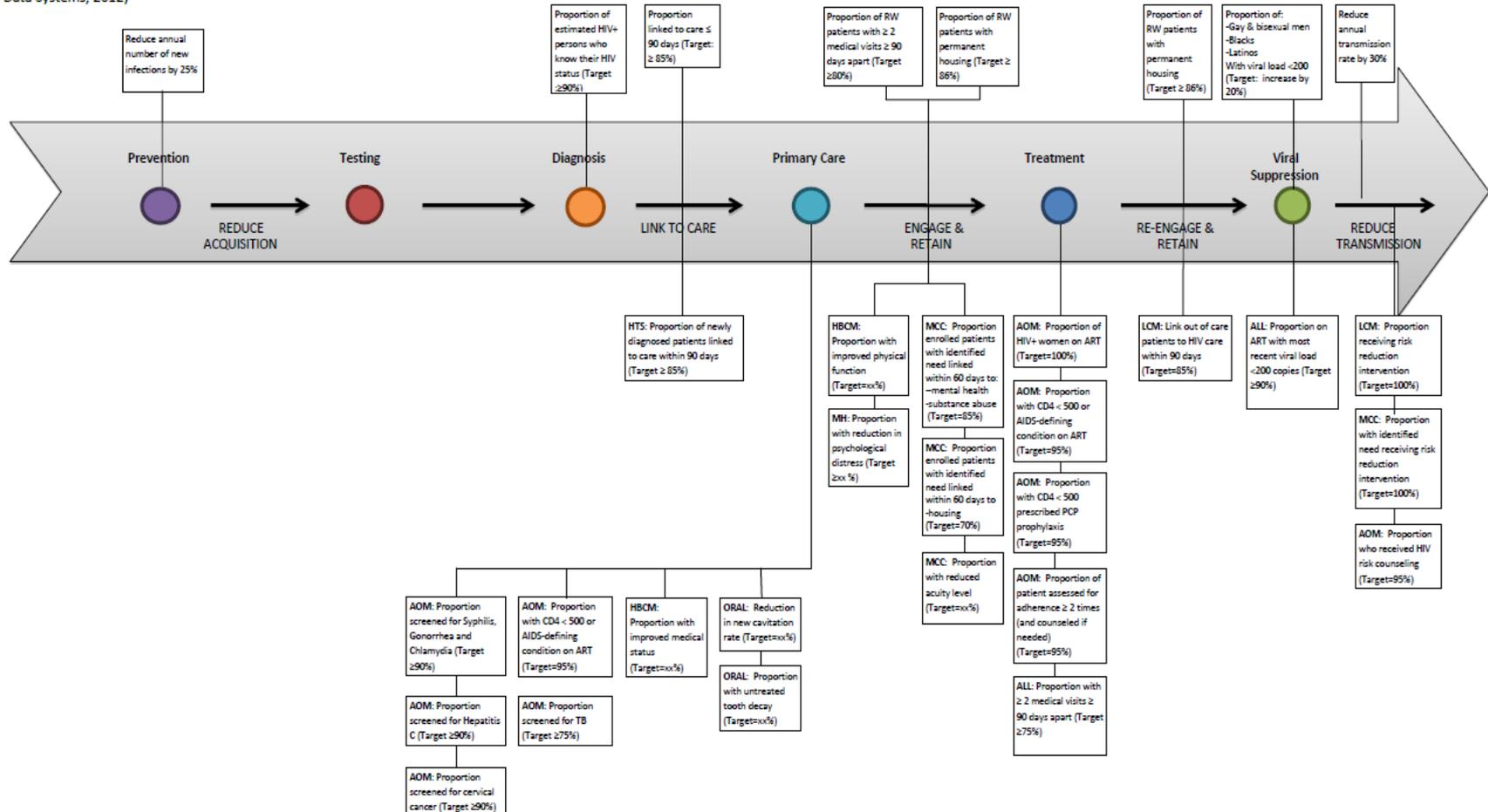
Improving Retention and Viral Suppression

- Key activities include:
  - Defining main service components and key process and outcome indicators for each service using logic models
    - Service-level outcomes vs. system level outcomes
  - Determining benchmarks for indicators
  - Inventory data availability for indicators
  - Sharing logic models and outcome data across DHSP

Continuum of HIV Care with Outcome Measures

Figure 1. Continuum of HIV care arrow-mapped to NHAS and service category indicators of DHSP-funded HIV care and support services in Los Angeles County (adapted from the Institute of Medicine, Monitoring HIV Care in the United States: Indicators and Data Systems, 2012)

Improving Retention and Viral Suppression

- The Outcomes project will provide a better understanding of how specific service categories contribute to and support key steps along the care continuum in LAC

- The result of the Outcomes project will be used to support:
  - Outcomes-based program management
  - Systematic data collection and program evaluation
  - Collaborative quality improvement
  - Innovative program development
  - Evidence-based planning and resource allocation

Projected Annual HIV Diagnoses[1], Stage 3 HIV Infection (AIDS), Persons Living with HIV[2], and Deaths[3] of PLWH, Los Angeles County, 2006-2021
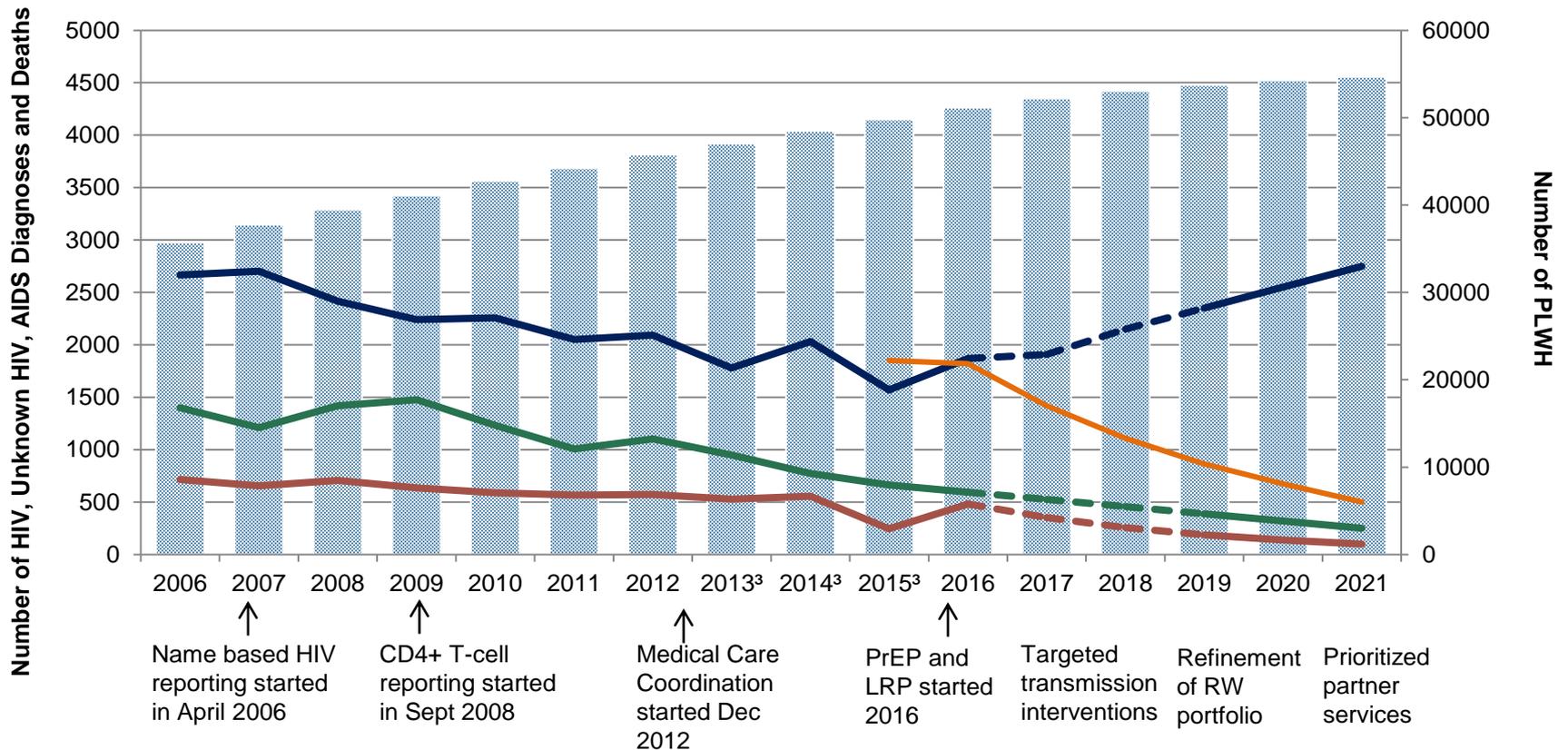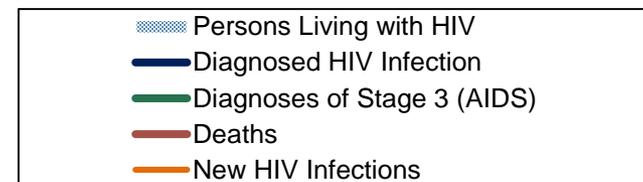

[1] Based on named reports for persons with a diagnosis of HIV infection regardless of the disease stage at time of diagnosis.
[2] Based on residence at the time of HIV diagnosis.
[3] The number of deaths among persons with HIV infection is based on the date of death report when the actual year of death is unknown.
[4] Data are provisional due to reporting delay.

Legend:
- Persons Living with HIV
- Diagnosed HIV Infection
- Diagnoses of Stage 3 (AIDS)
- Deaths
- New HIV Infections

Annotations on chart:
- Name based HIV reporting started in April 2006
- CD4+ T-cell reporting started in Sept 2008
- Medical Care Coordination started Dec 2012
- PrEP and LRP started 2016
- Targeted transmission interventions
- Refinement of RW portfolio
- Prioritized partner services

Acknowledgments

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