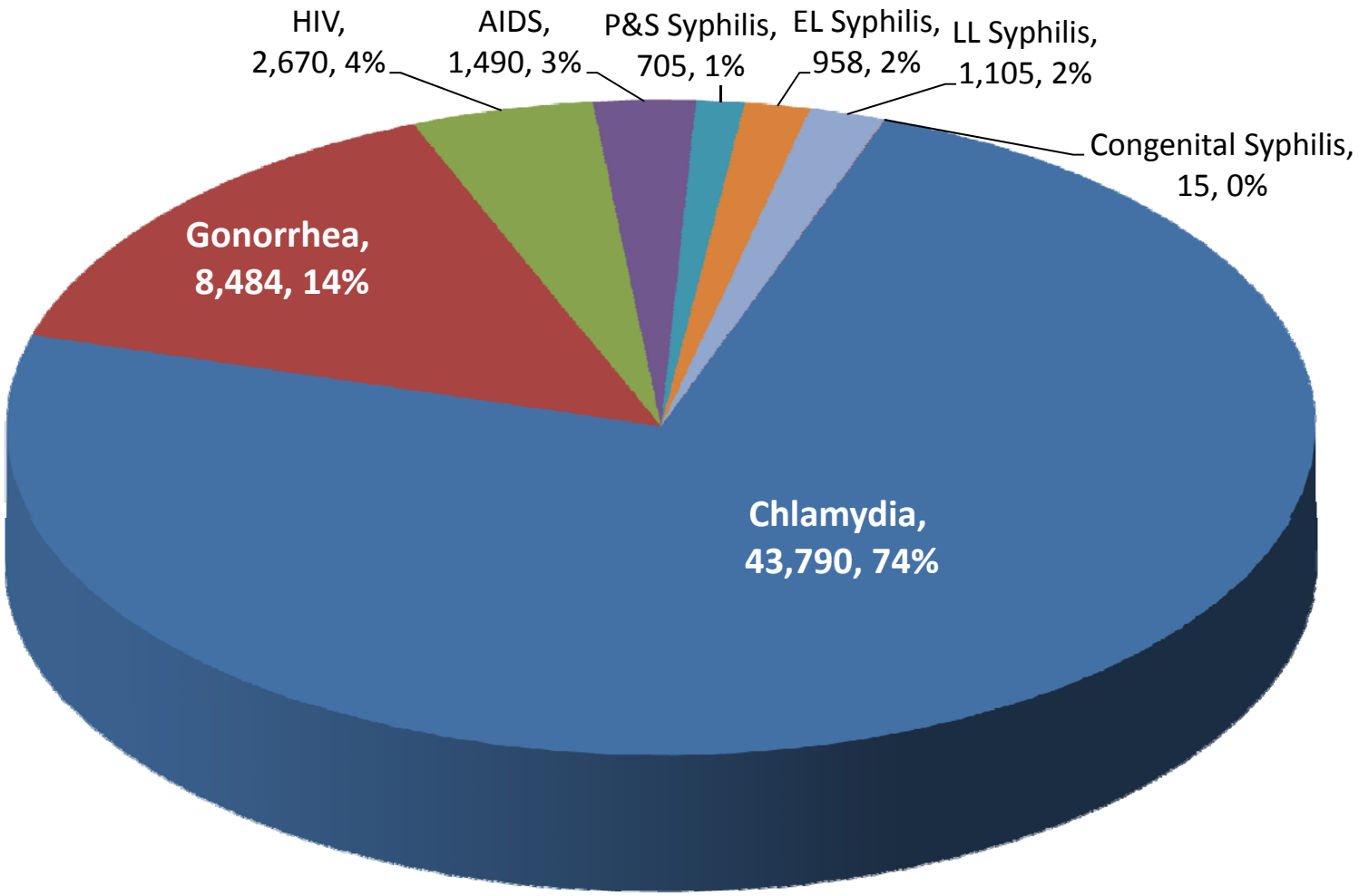
STD By Reporting Provider/Facility Type, HIV/STD Co-infection

&

HIV Partner Services (PS) Provided By STD Program in 2009

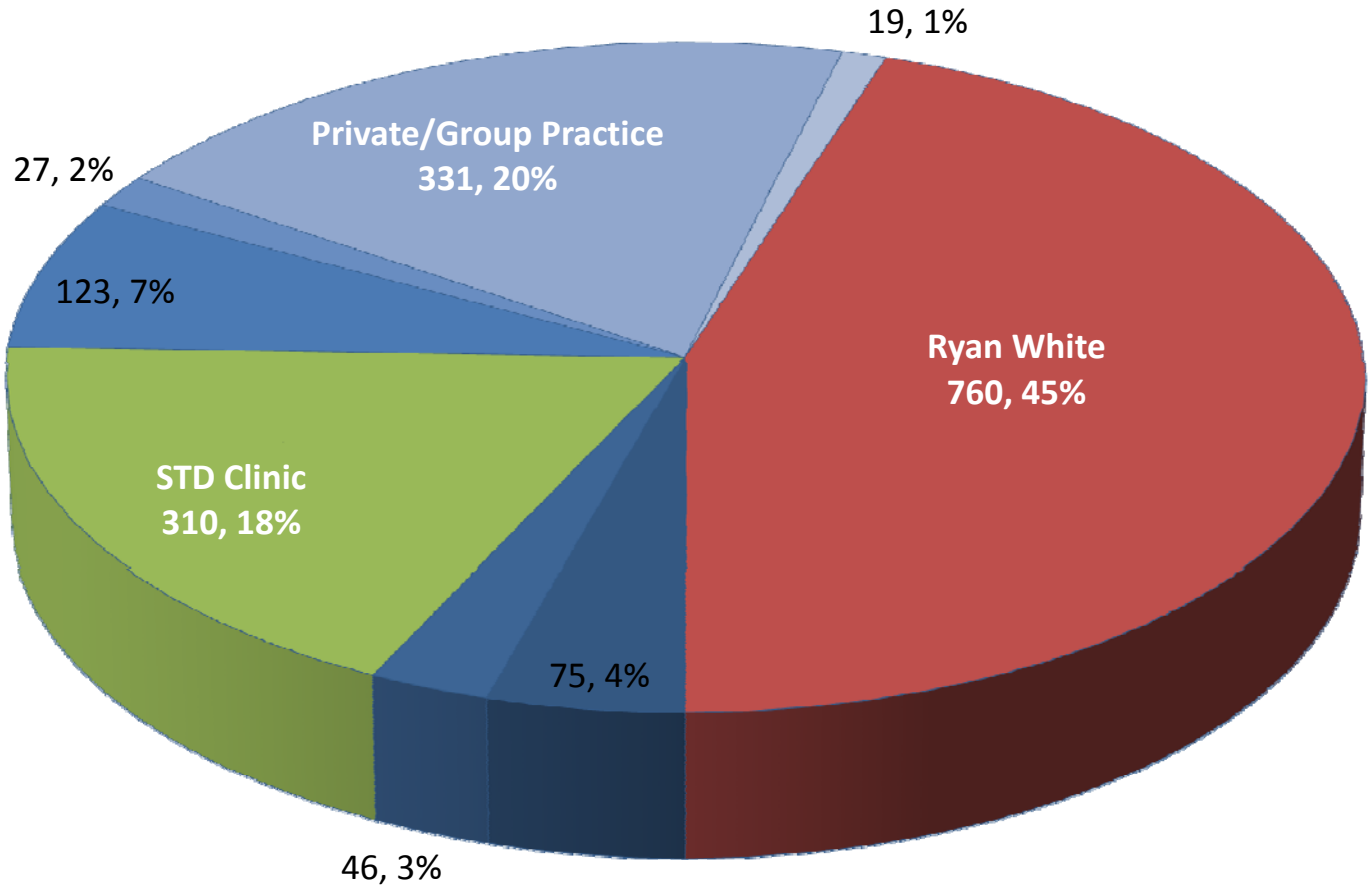
County of Los Angeles Department of Public Health
Sexually Transmitted Diseases (STD) Program
October 2010

Reported STDs and HIV/AIDS Cases
Los Angeles County, 2009

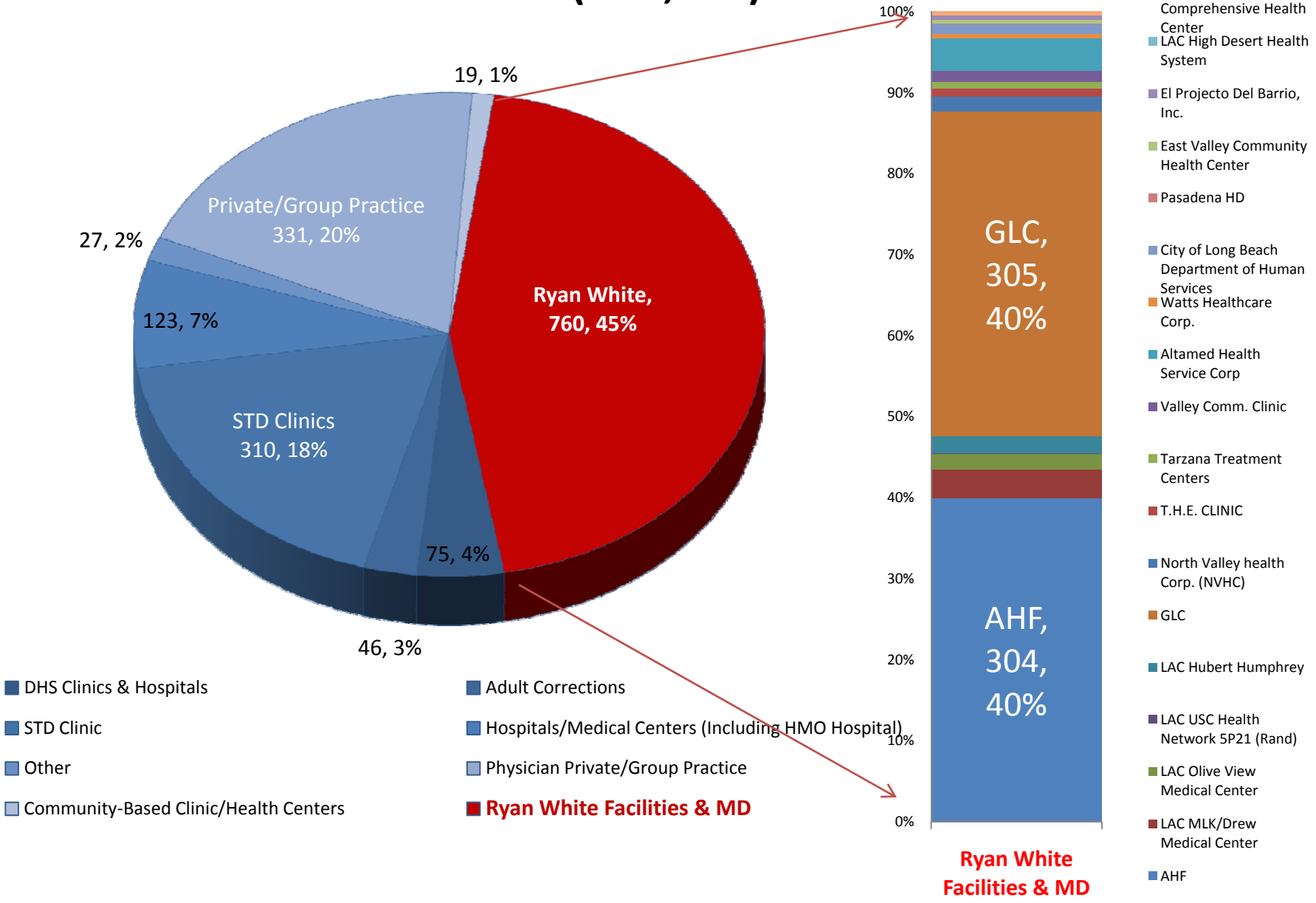


Source: STD Program/HIV Epidemiology Program Los Angeles County Department of Public Health

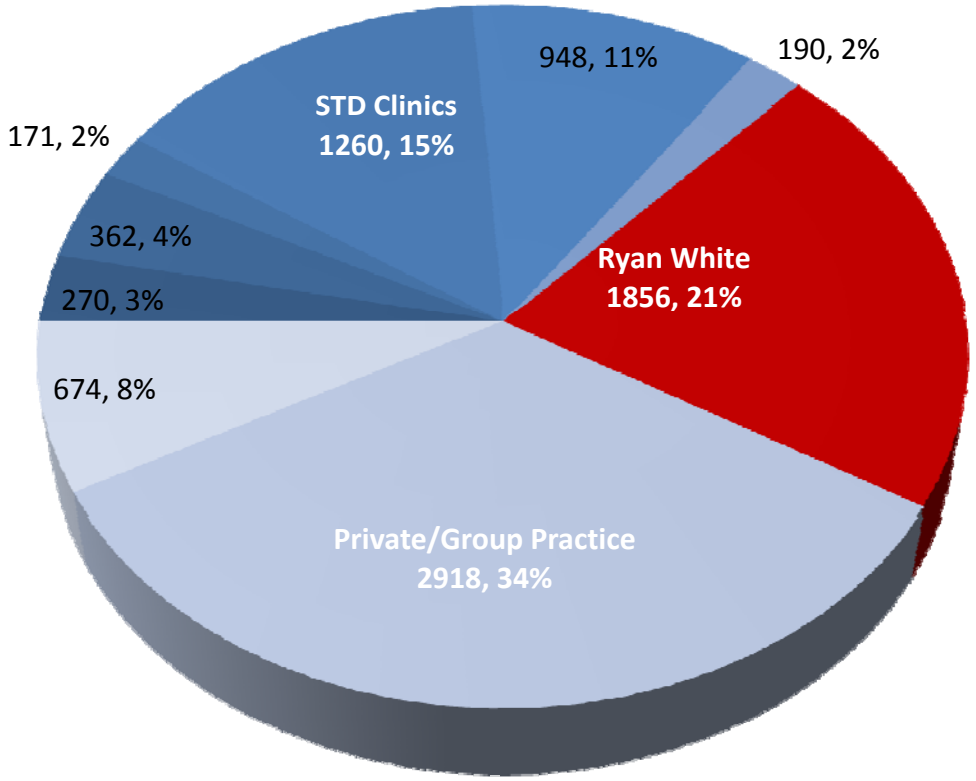
Early Syphilis Cases By Reporting Provider/Facility Type, 2009 (N=1,678)



Early Syphilis Cases By Reporting Provider/Facility Type, 2009 (N=1,678)

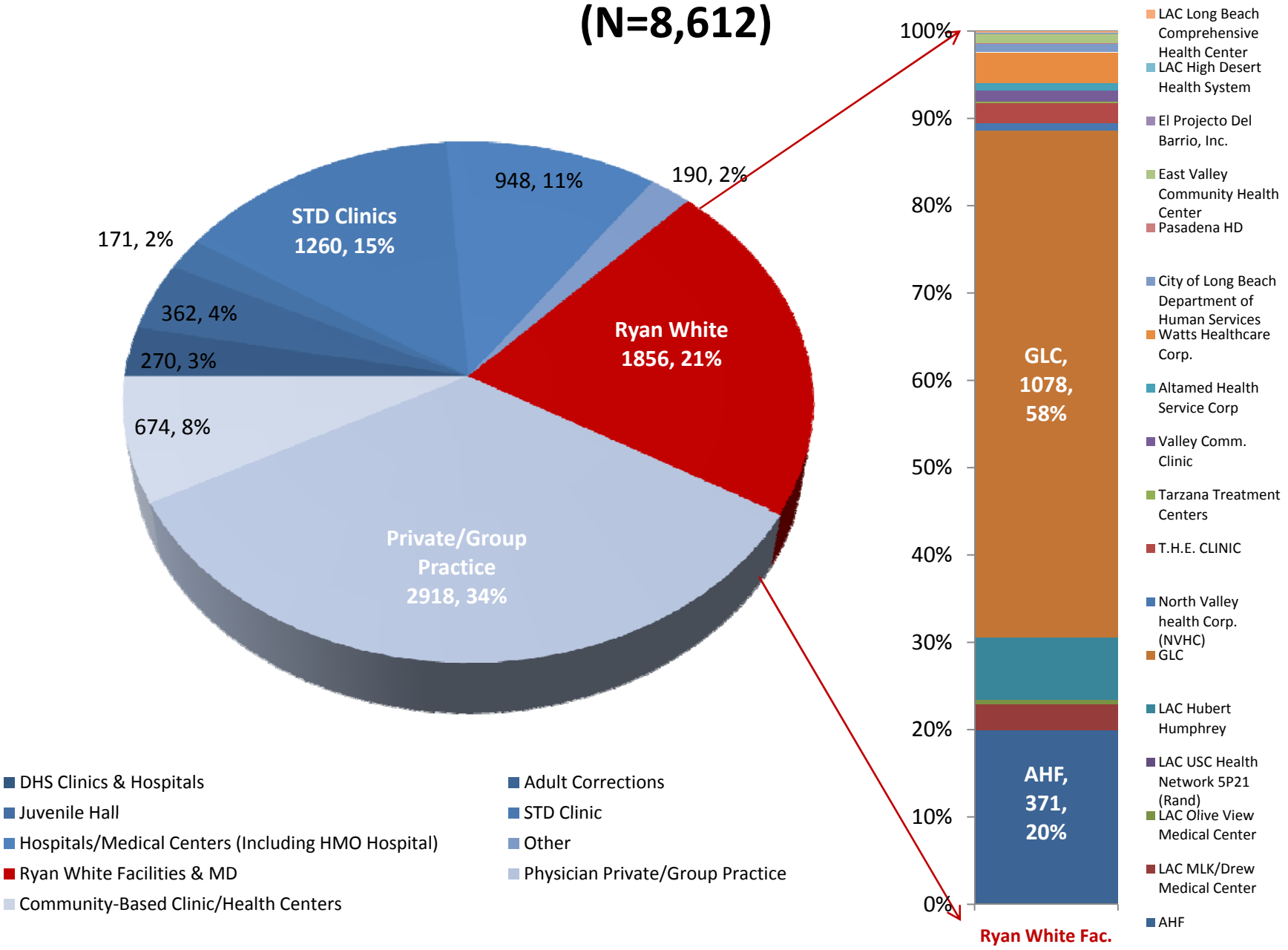


Gonorrhea Cases By Reporting Provider/Facility Type, 2009 (N=8,612)

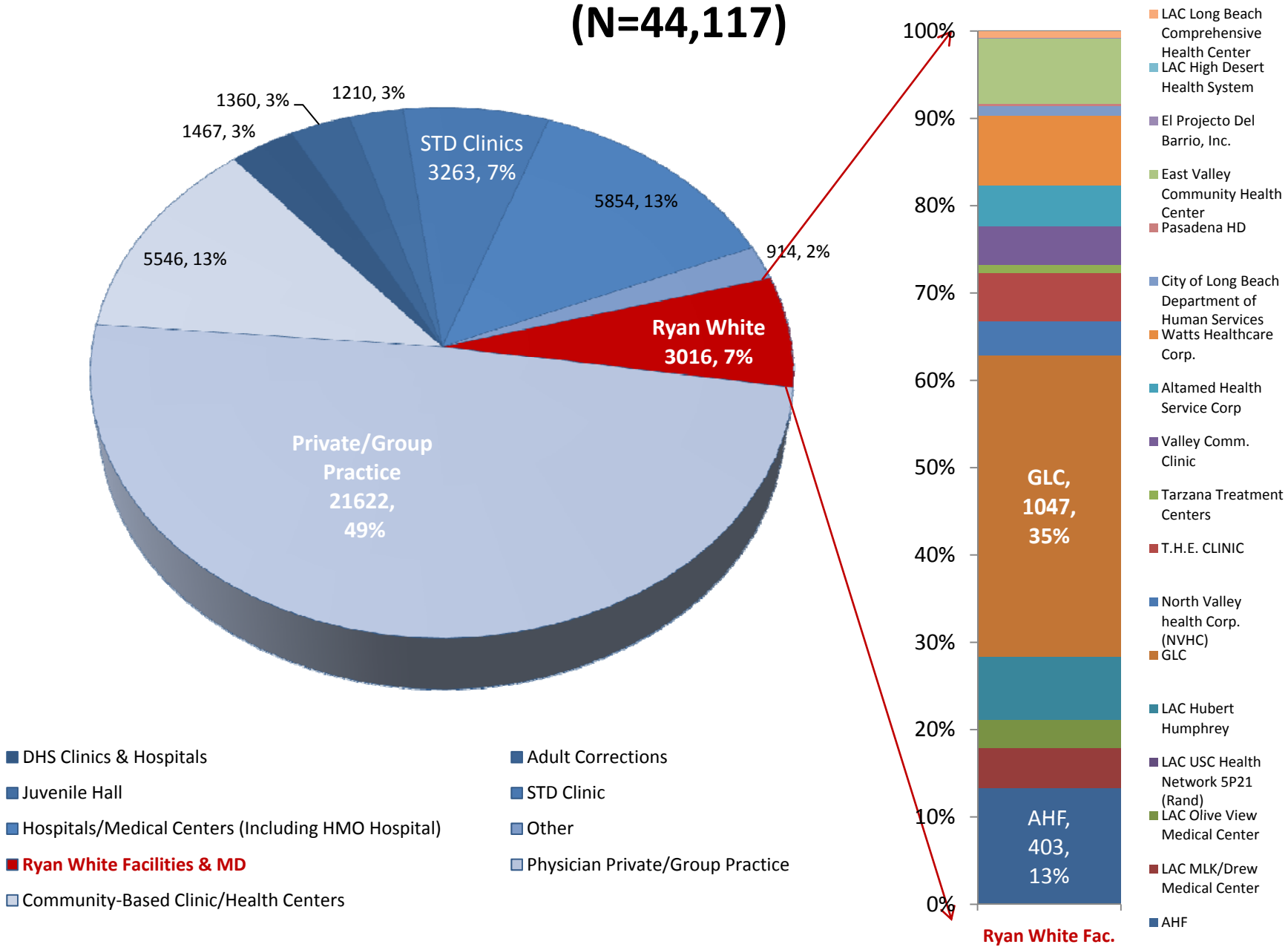


- DHS Clinics & Hospitals
- Adult Corrections
- Juvenile Hall
- STD Clinic
- Hospitals/Medical Centers (Including HMO Hospital)
- Other
- Ryan White Facilities & MD
- Physician Private/Group Practice
- Community-Based Clinic/Health Centers

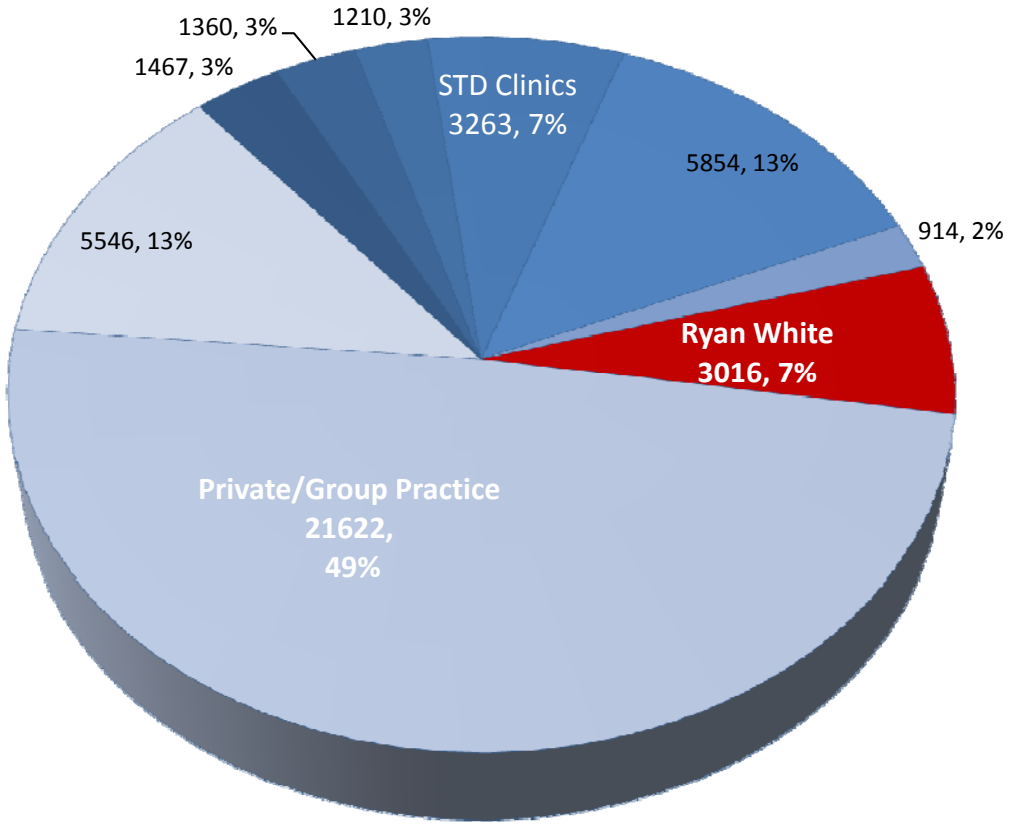
Gonorrhea Cases By Reporting Provider/Facility Type, 2009 (N=8,612)



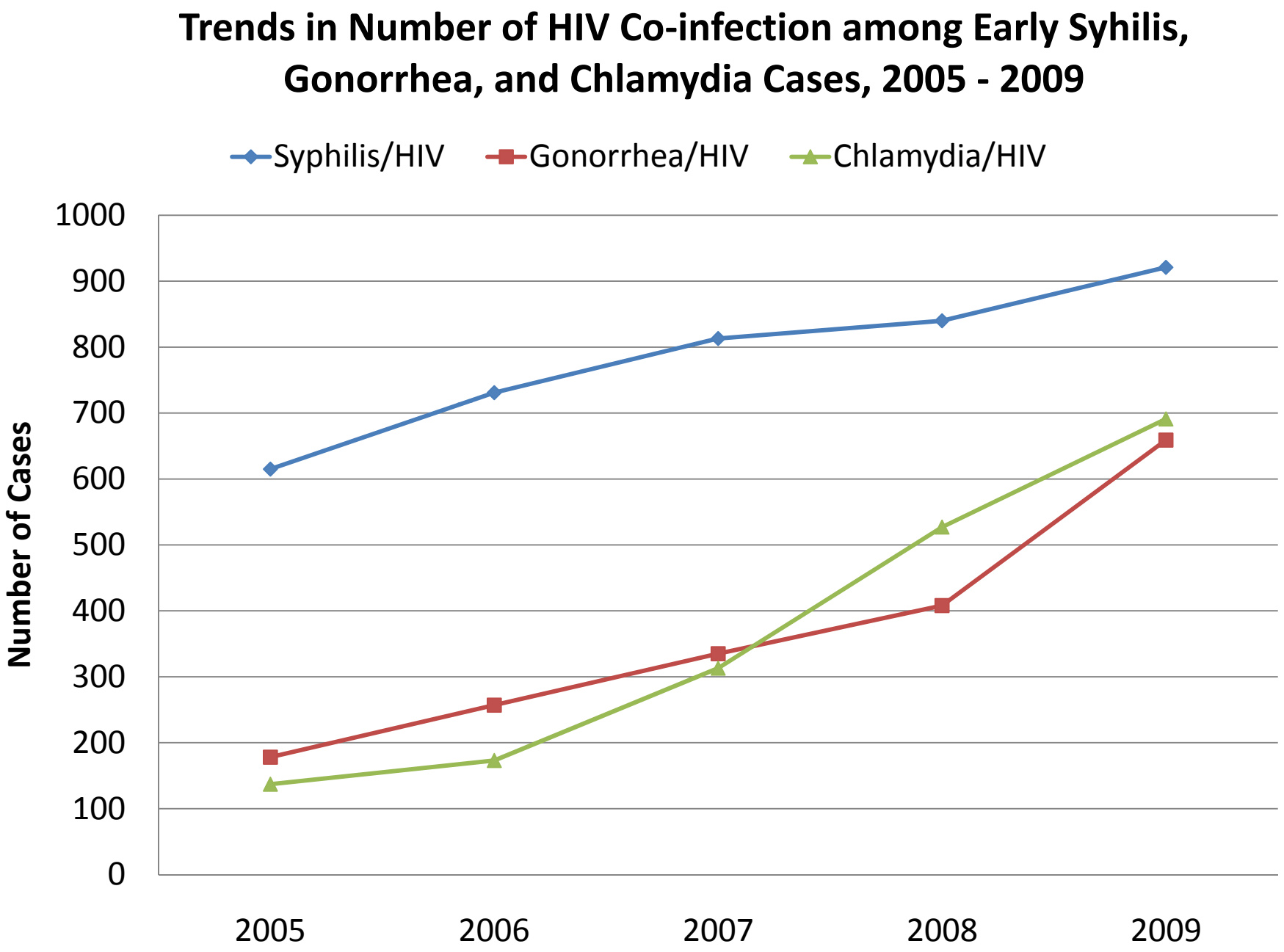
Chlamydia Cases By Reporting Provider/Facility Type, 2009 (N=44,117)



Chlamydia Cases By Reporting Provider/Facility Type, 2009 (N=44,117)



DHS Clinics & Hospitals
Adult Corrections
Juvenile Hall
STD Clinic
Hospitals/Medical Centers (Including HMO Hospital)
Other
Ryan White Facilities & MD
Physician Private/Group Practice
Community-Based Clinic/Health Centers

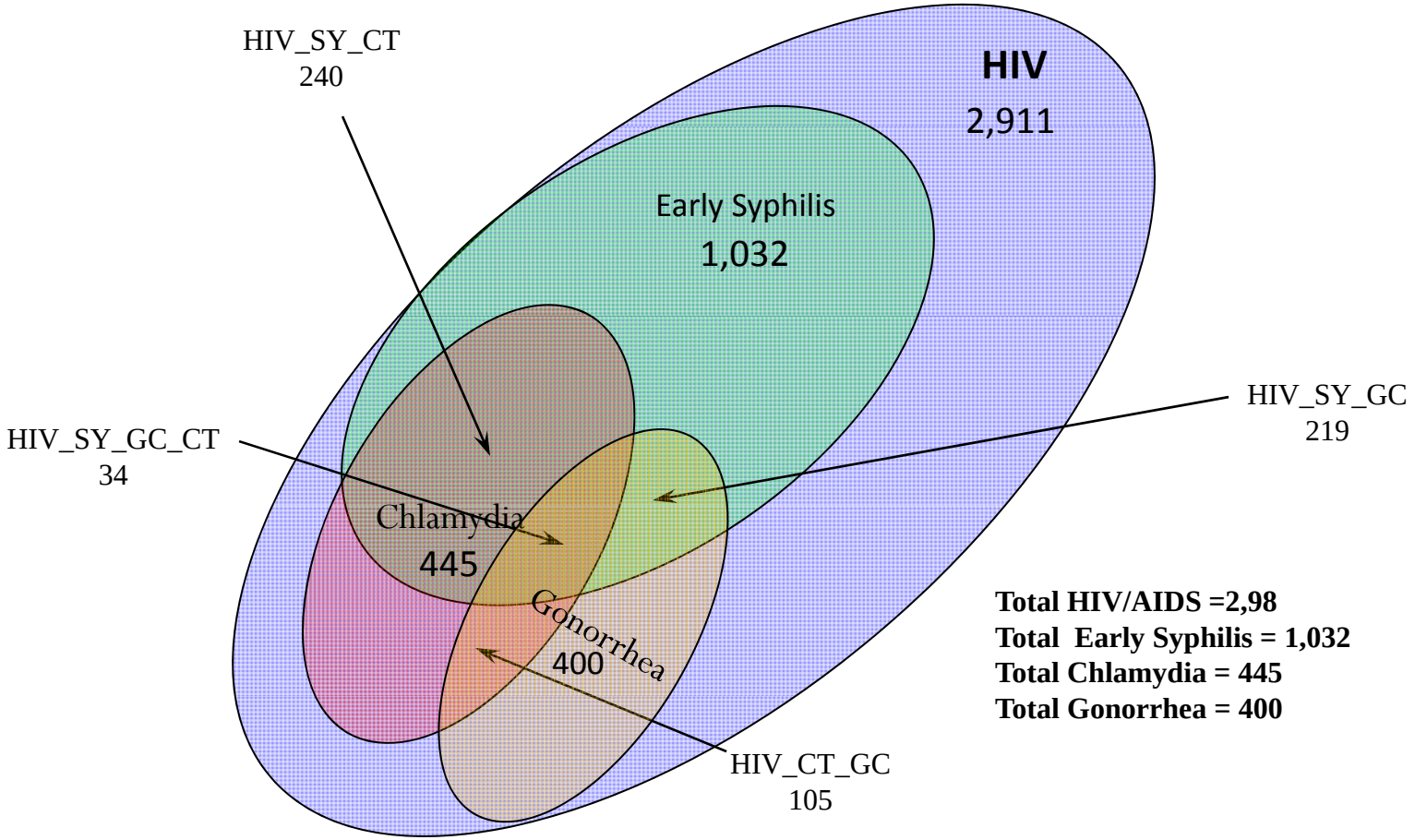

Trends in Number of HIV Co-infection among Early Syhilis, Gonorrhea, and Chlamydia Cases, 2005 - 2009
Syphilis/HIV
Gonorrhea/HIV
Chlamydia/HIV
Number of Cases
1000
900
800
700
600
500
400
300
200
100
0
2005
2006
2007
2008
2009

REPORTED HIV CASES FOR PARTNER SERVICES BY STD CO-MORBIDITY

SEXUALLY TRANSMITTED DISEASE PROGRAM (STDP), 2009

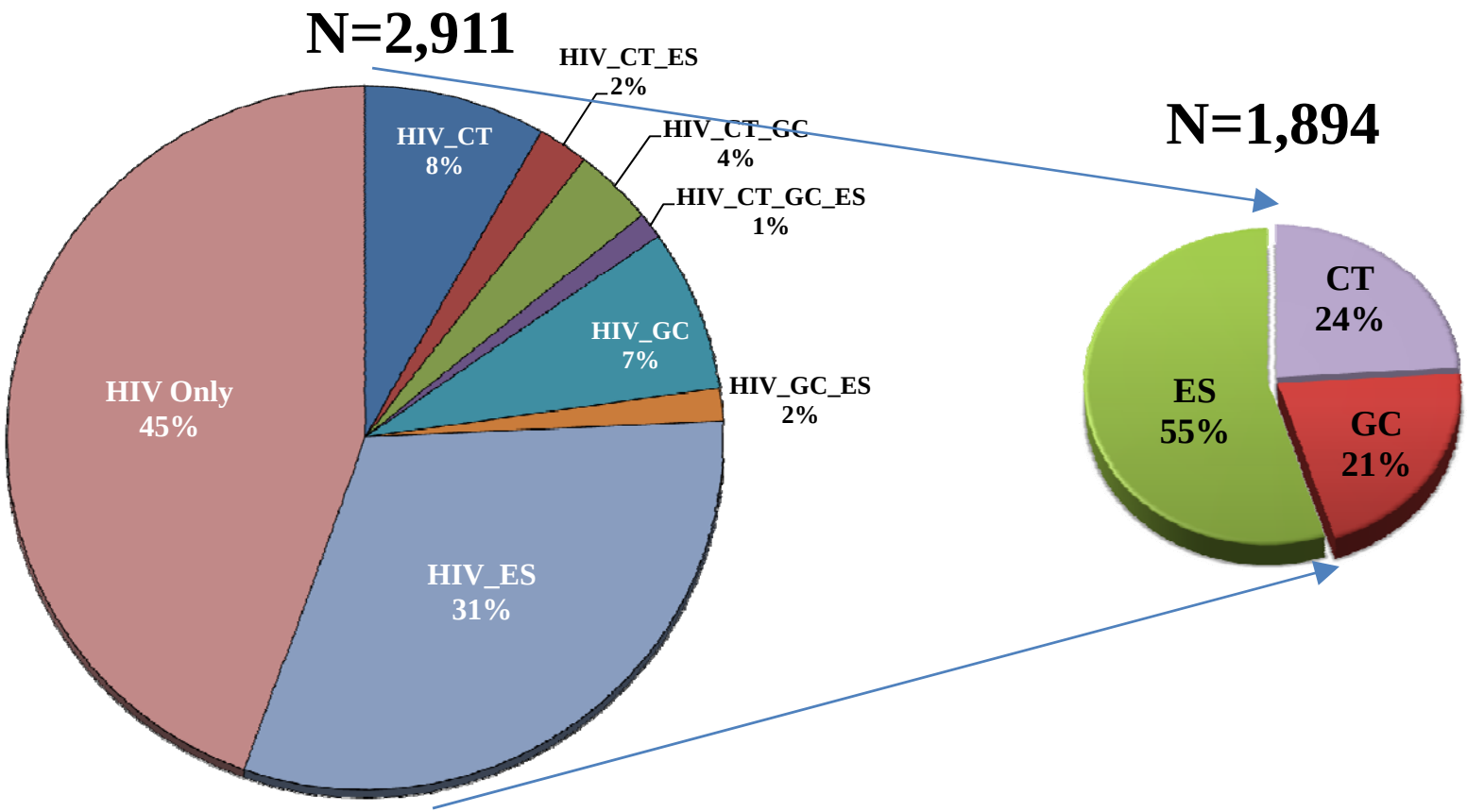
	2009	
	N	**%**
HIV/STD Confections		
HIV_CT	240	8.24
HIV_GC	219	7.52
HIV_SY	907	31.16
HIV_CT_GC	105	3.61
HIV_SY_CT	66	2.27
HIV_SY_GC	42	1.44
HIV_SY_GC_CT	34	1.17
HIV_ONLY	1298	44.59
TOTAL	**2911**	**100**

HIV/STD Co-morbidity Pattern Among HIV Cases Reported for PS: LAC, 2009



A total of 2,911 HIV positive reported to STD Program for PS in 2009, 1,032 (36%%) had HIV and syphilis co-infection; 445 (15%) had HIV and Chlamydia co-infection;400 (14%) had HIV and Gonorrhea co-infection; 105 (4%) had HIV, Chlamydia and Gonorrhea co-infection; 66 (2%) had HIV, Chlamydia and syphilis co-infection, 42 (1.4%) had HIV, syphilis and Gonorrhea co-infection; and 34 (1.2%) had all HIV, Chlamydia, Gonorrhea, and syphilis co-infection.

STD/HIV Co-Infection Among Persons Referred for PS , LAC, 2009

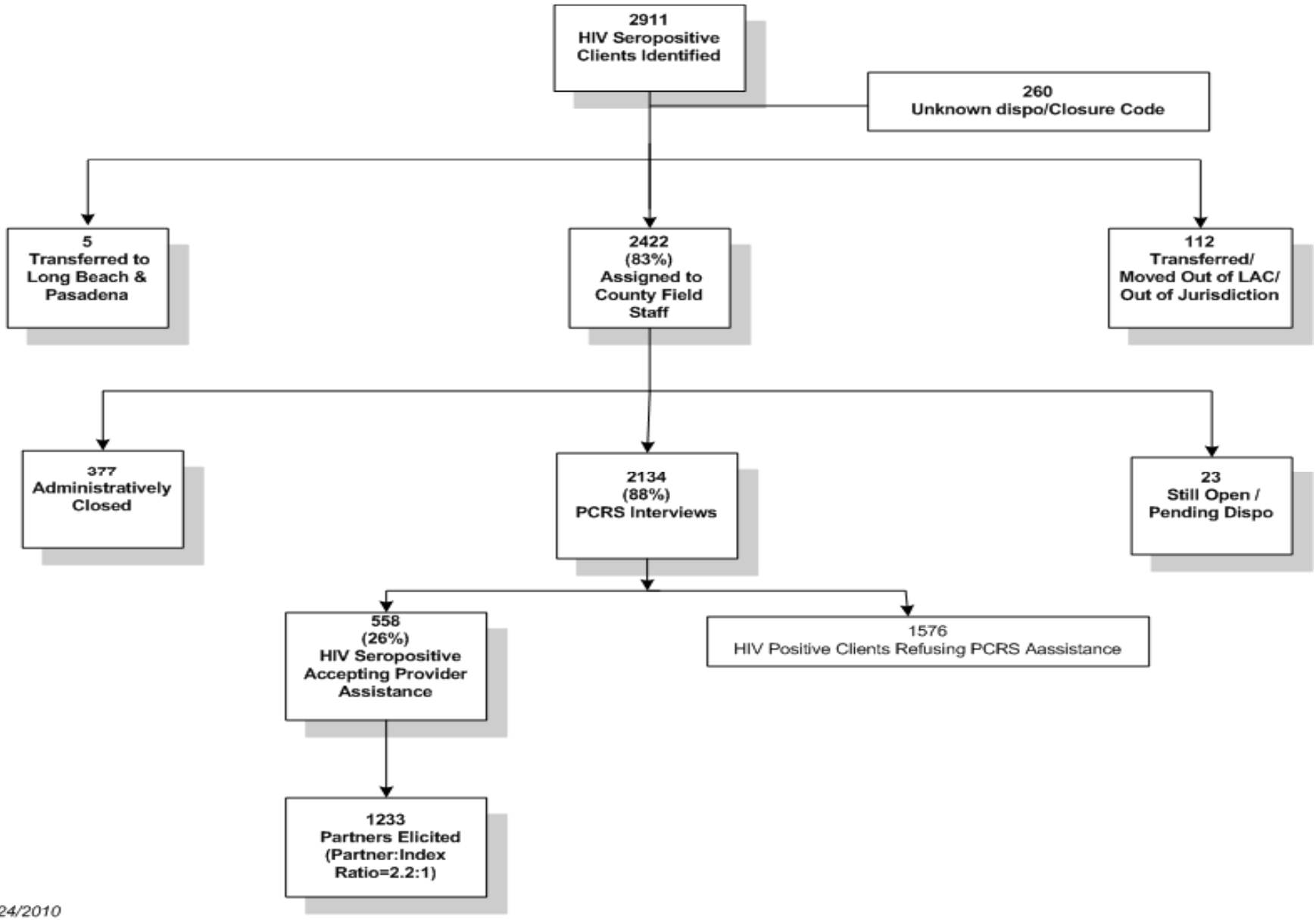


55% had one or more, 9**%** had two or more, and 1**%** had three STDs .

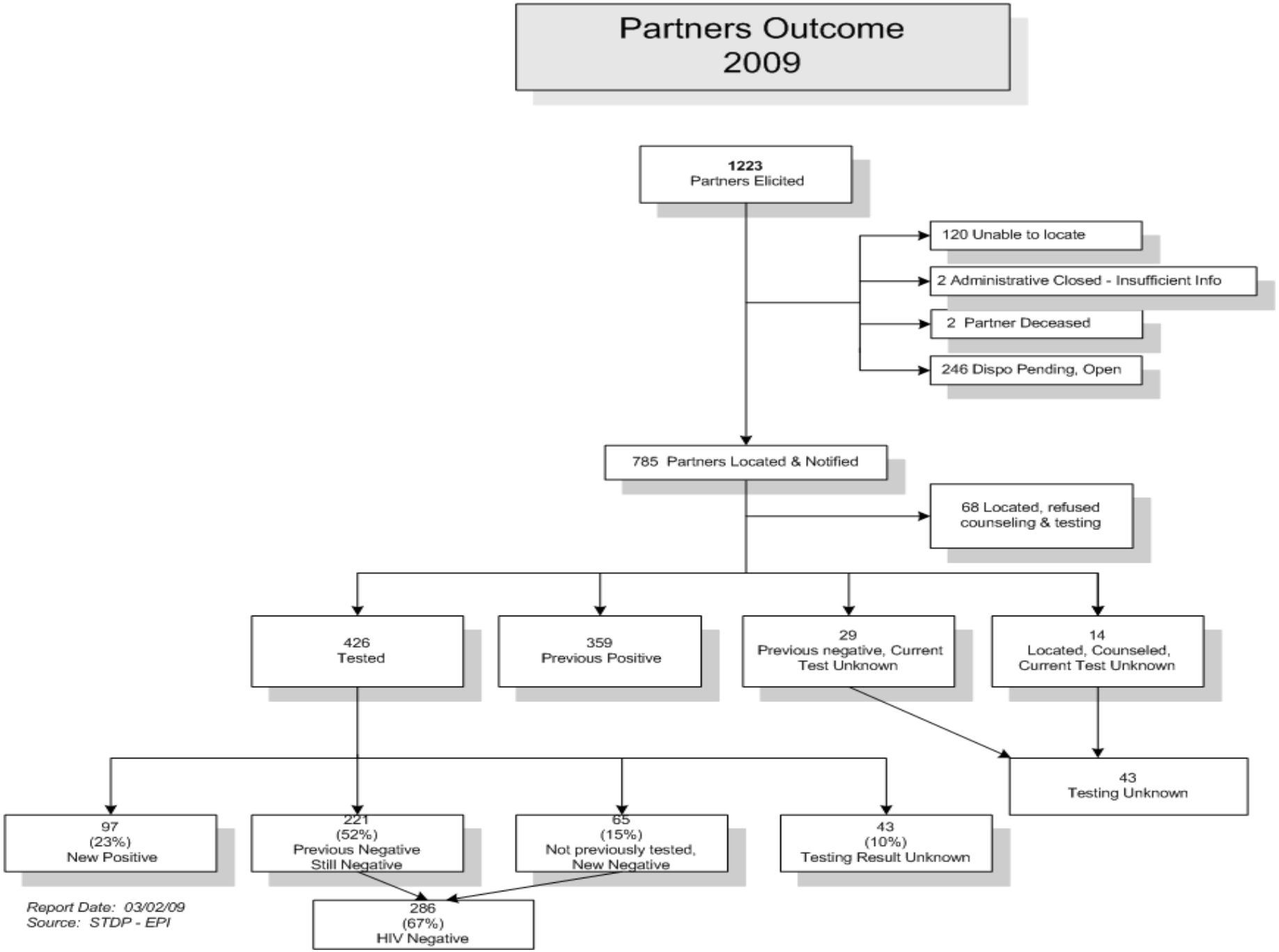
Outcomes of HIV Partner Services, 2009

Outcome	No.	%
Index Patient		
Identified	2911	-----
Assigned	2422	-----
Interviewed	2134	-----
Assigned / Identified	2422/2911	83%
Interviewed / Assigned	2134/2422	88%
Accepted	588	-----
Accepted / Interviewed	588/2134	26%
Partners		
Elicited	1223	-----
Accepted : Elicited (Ratio)	558:1223 (1:2.2)	-----
Partner / Index	1223/2134	57%
Previous HIV Positive	359	-----
Eligible	864	-----
Current HIV tested / Eligible	426/864	49%
Current HIV Test Result	426	-----
HIV Positive	97	23%
HIV Negative	286	67%
HIV Testing Result Unknown	43	10%

PCRS Outcomes - Index Cases 2009

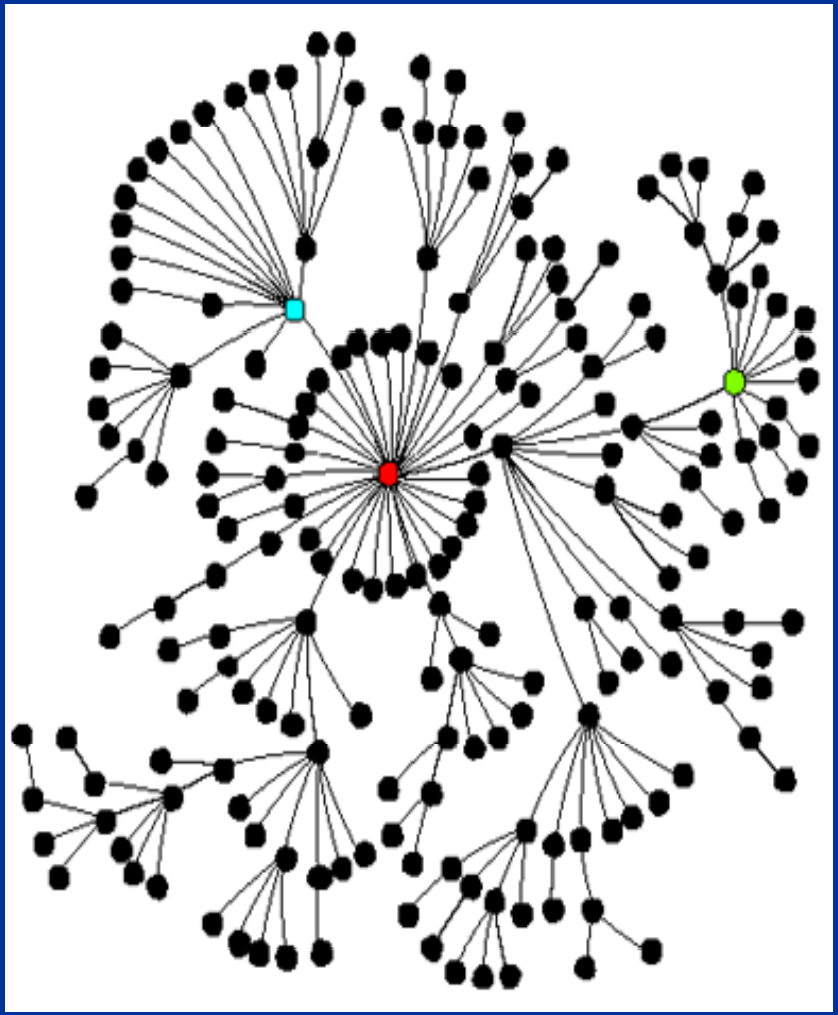


Report Date: 02/24/2010
Source: STDP - EPI


Partners Outcome
2009
1223
Partners Elicited
120 Unable to locate
2 Administrative Closed - Insufficient Info
2 Partner Deceased
246 Dispo Pending, Open
785 Partners Located & Notified
68 Located, refused counseling & testing
426
Tested
359
Previous Positive
29
Previous negative, Current Test Unknown
14
Located, Counseled, Current Test Unknown
43
Testing Unknown
97
(23%)
New Positive
221
(52%)
Previous Negative Still Negative
65
(15%)
Not previously tested, New Negative
43
(10%)
Testing Result Unknown
286
(67%)
HIV Negative
Report Date: 03/02/09
Source: STDP - EPI

Sexual Networks & STD/HIV Transmission

- Infections come from unambiguous relations
- Core transmitters are easily identified
- “Bridges” readily apparent
- Easier to determine best way to interrupt
- Use other data to determine specific STD exposure; Refine



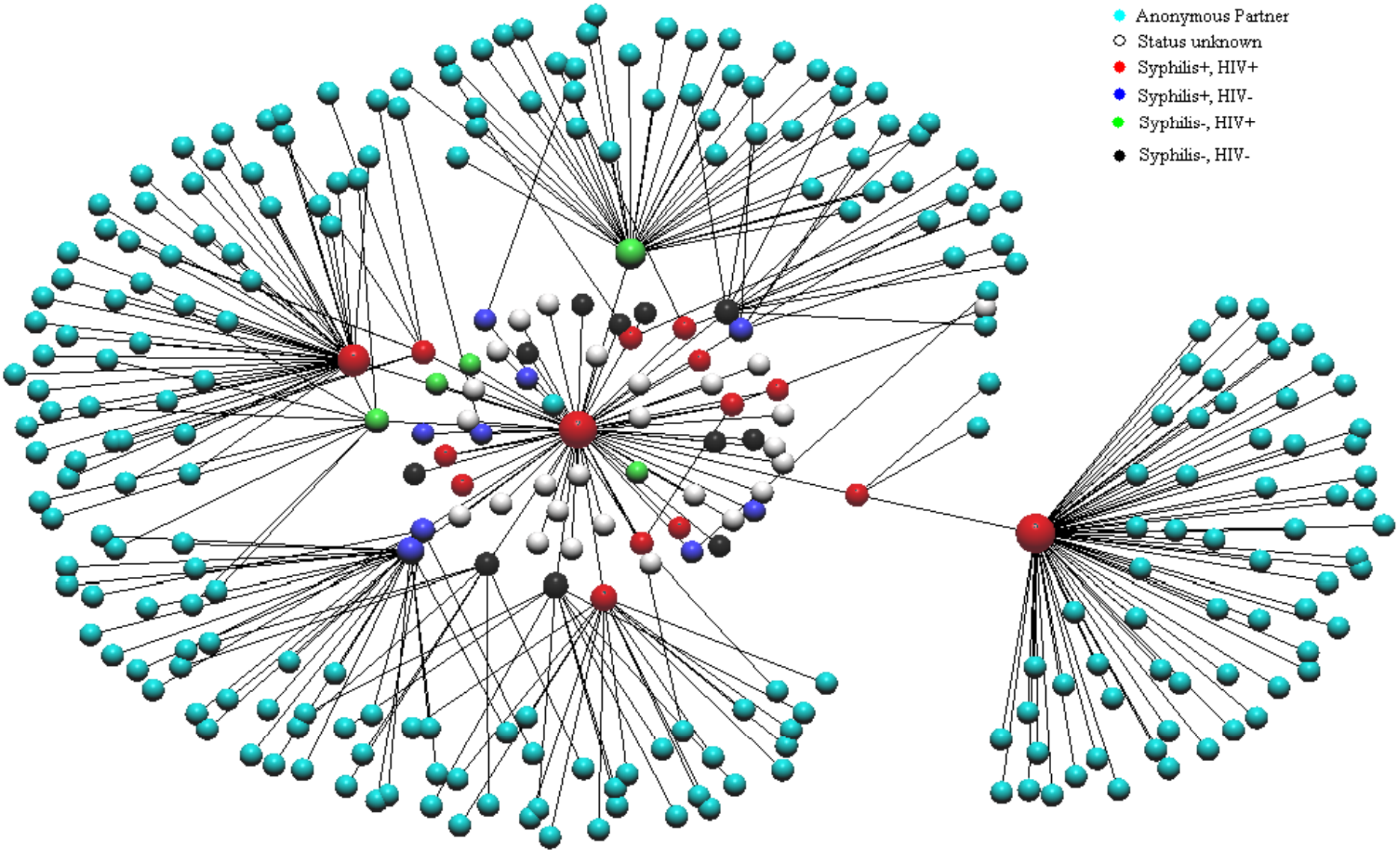
Methodology

1. Elicit contacts
2. Find contacts
3. Repeat…until exhaustion
4. *Additionally*
   - ✓ **Critical period for syphilis, defines likely exposure**
   - ✓ **Analyzed with UCINet → <u>Graphical result</u>**

Internet Sexual Network

- 1 person with syphilis with **66 partners b/w July and August 2007 (2 prior syphilis infections)**
- Field staff investigation led to 319 partners (280 anonymous)
  - **Met online**
  - **Limited data on demographics, drug use**
- Average age=37.4 (n=29)
- Syphilis history (n=22)
  - Average 2.2 previous syphilis infections
- 17 “Bridges”

Internet Sexual Network



Diseases & Exposure in Internet Network

Diseases

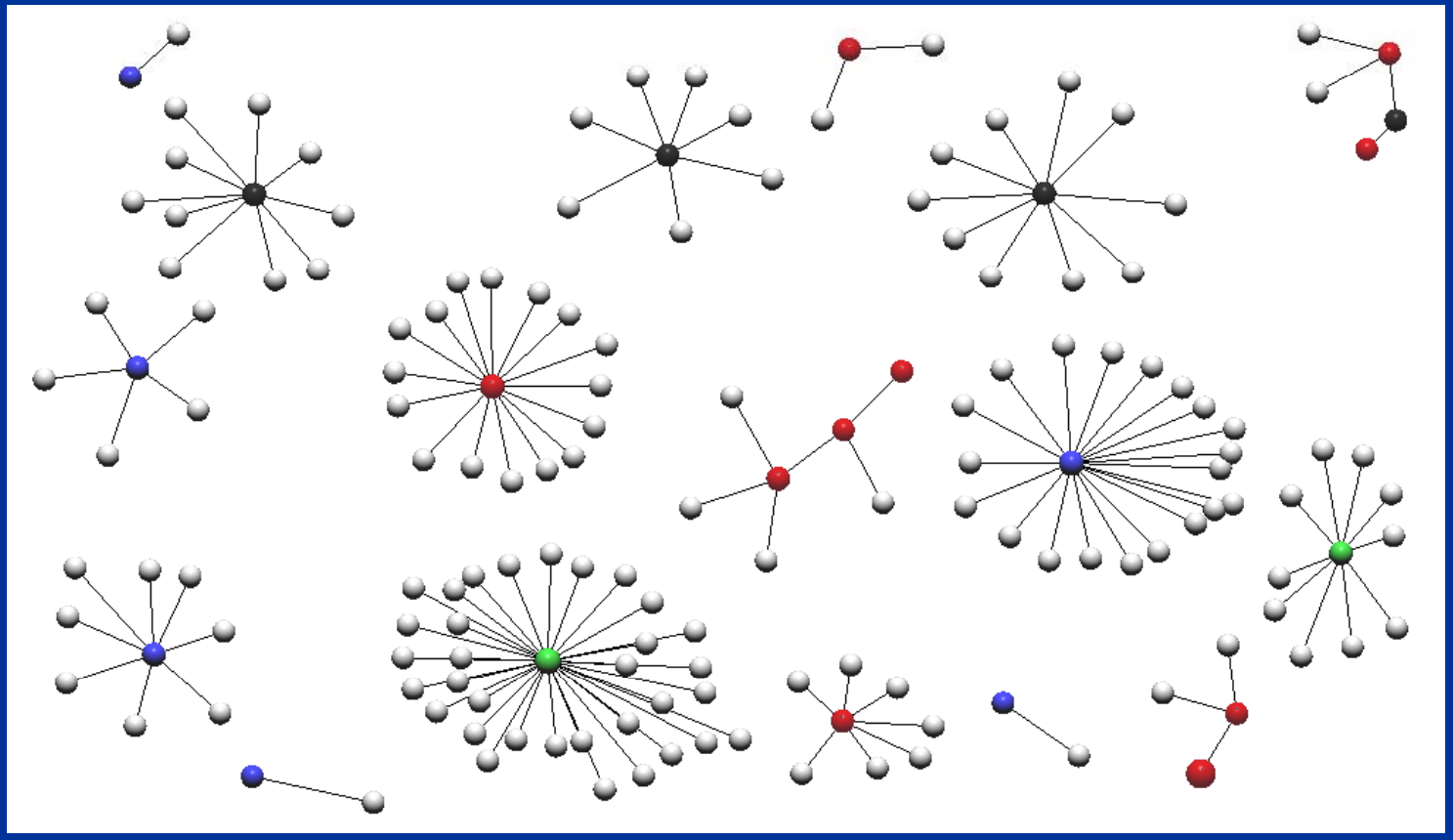
- **11 (3%) no disease, or out of time period**
- **9 (3%) syphilis (primary and secondary)**
- **5 (2%) HIV only**
- **15 (5%) syphilis/HIV**
- ***279 (87%) unknown***

Exposure

- 1 degree (sex with infected person)
  - **24 (8%) no known exposures**
  - **36 (11%) syphilis only**
  - **44 (14%) HIV only**
  - **217 (68%) to syphilis/HIV**
- 2 degrees (sex with somebody who had sex with somebody)
  - ***100% syphilis/HIV***

Maximize Disruption of Internet Network

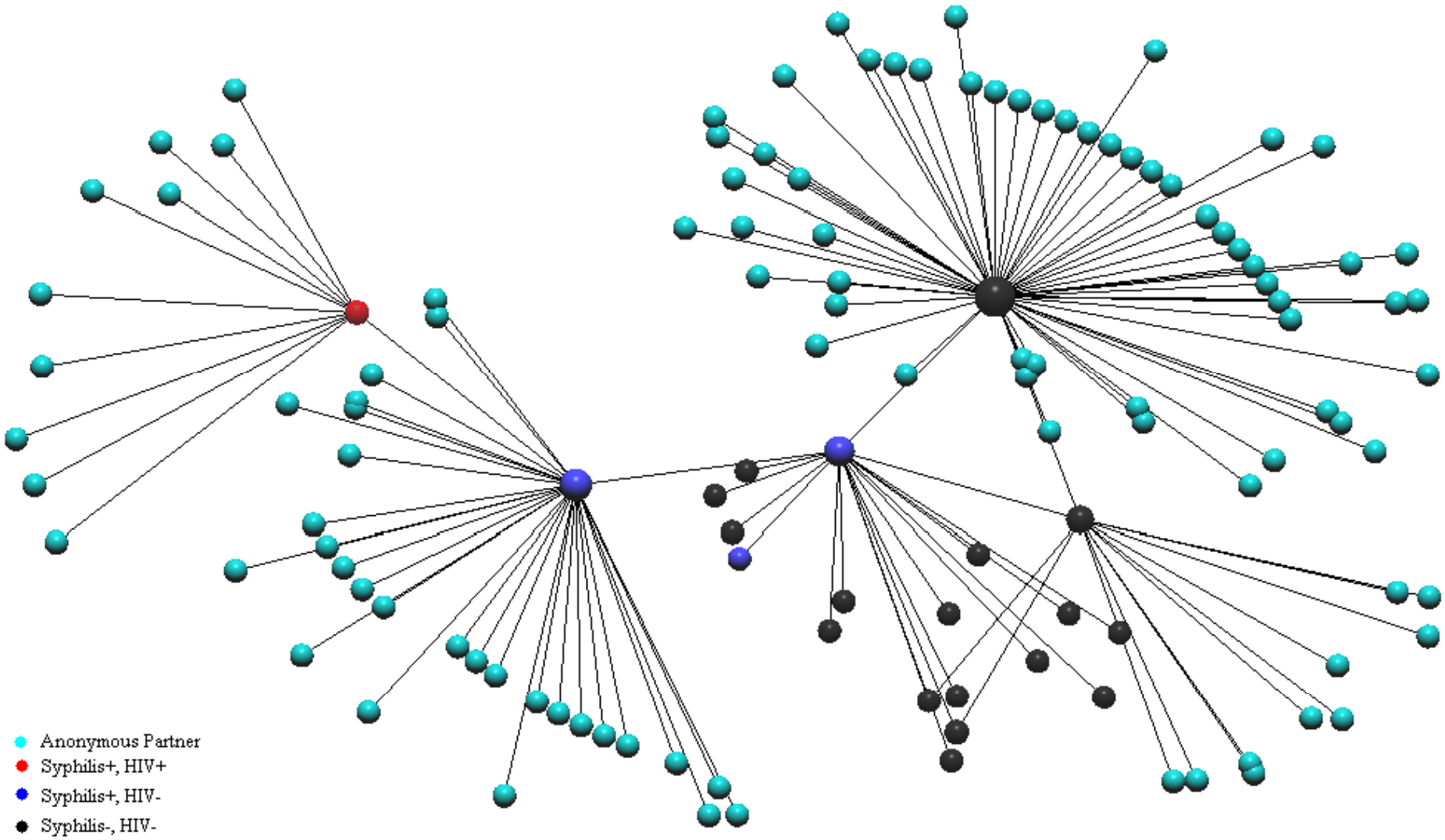
- Remove ONLY three individuals
  - Network=159 members (50% drop)—17 unconnected clusters



Bar Sexual Network

- 1 person with syphilis with **19 partners (July-August 2007)**
- Field staff investigation led to 123 partners (**102 anonymous)**
  - **Mostly through bars, some online**
  - **Some drug use**
- Avg. age=24.3 (n=19)
- Syphilis history (n=5)
  - Average 1.4 previous syphilis infections
- 5 “Bridges”

Bar Network Diagram



Disease and Exposure

Disease

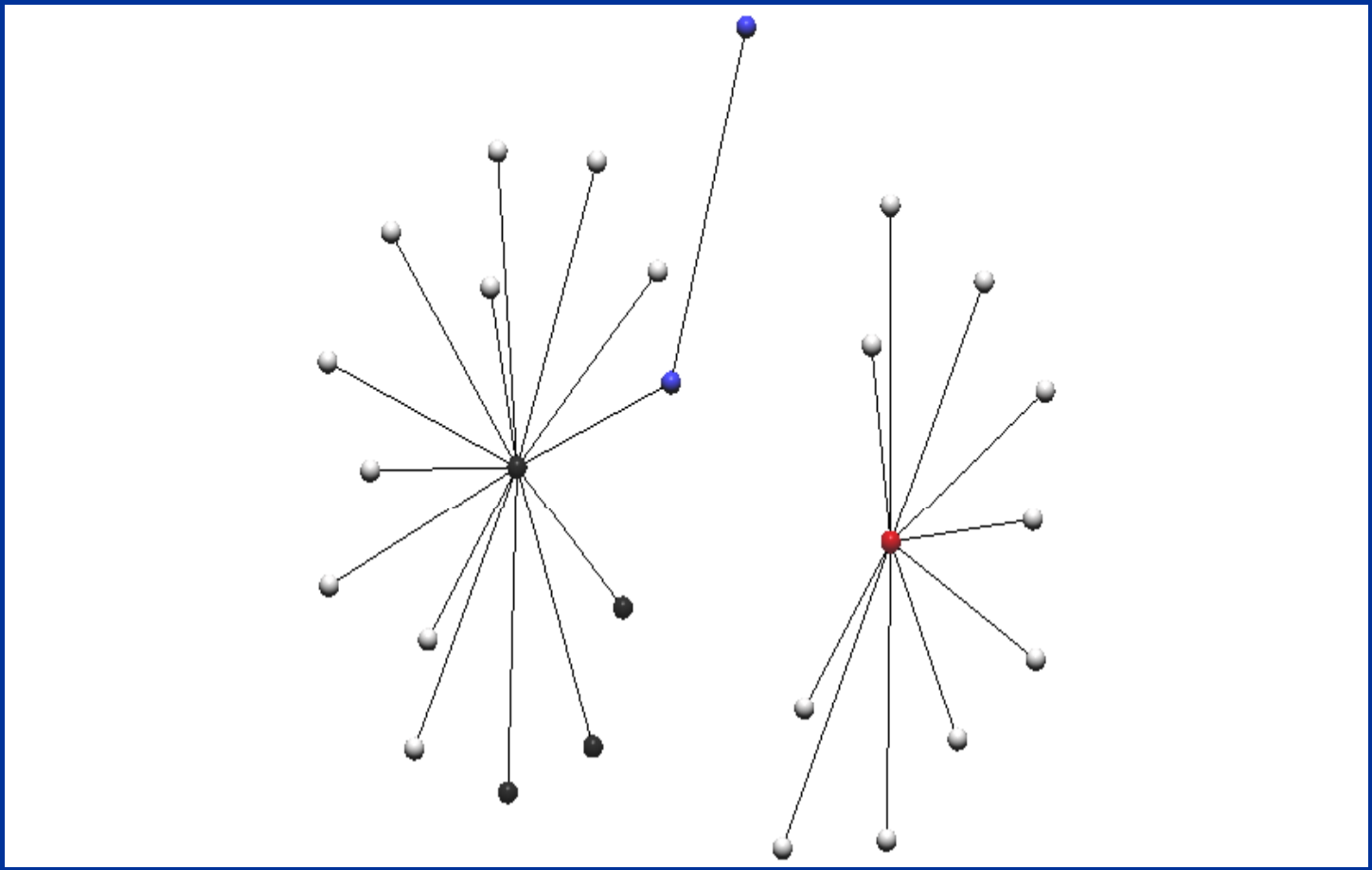
- **17 (14%) no disease, no contact during critical period**
- **3 (2%) syphilis**
- **0 HIV only**
- **1 (1%) syphilis/HIV**
- ***102 (83%) unknown***

Exposure

- 1 degree (sex with infected person)
  - **69 (58%) no known exposures**
  - **50 (42%) syphilis only**
  - **11 (9%) to syphilis/HIV**
- 2 degrees (sex with somebody who had sex with somebody)
  - **42 (34%) syphilis/HIV**
  - *100% syphilis*

Disrupting the Bar

- Remove three actors
  - Network=26 members (79% drop)—2 unconnected clusters



STD/HIV Co-infections: Contribution to HIV Incidence/Local epidemic

Estimated HIV Incidence*—United States, 2006

56,300 new HIV infections in 2006

95% Confidence Interval:
48,200 to 64,500

*Based On Stratified Extrapolation Approach

Ref: *JAMA, Vol 300, No. 5, August 6, 2008*

Estimates of New HIV Infections in the United States

CDC HIV/AIDS Facts — August 2008

Accurately tracking the HIV epidemic is essential to the nation's HIV prevention efforts. Yet monitoring trends in new HIV infections has historically posed a major challenge, in part because many HIV infections are not diagnosed until years after they occur.

Now, new technology developed by the Centers for Disease Control and Prevention (CDC) can be used to distinguish recent from long-standing HIV infections. CDC has applied this advanced technology to develop the first national surveillance system of its kind that is based on direct measurement of new HIV infections. This new system represents a major advance in HIV surveillance and allows for more precise estimates of HIV incidence (the annual number of new infections) than ever before possible.

CDC's first estimates from this system reveal that the HIV epidemic is—and has been—worse than previously known. Results indicate that approximately 56,300 new HIV infections occurred in the United States in 2006 (95% CI: 48,200–64,500). This figure is roughly 40% higher than CDC's former estimate of 40,000 infections per year, which was based on limited data and less precise methods (see box on page 5, "Historical Challenges in Tracking HIV Infections").
It is important to note that the new estimate does not represent an actual increase in the annual number of new HIV infections. In fact, CDC's analysis suggests that the epidemic has been roughly stable since the late 1990s, though the number of new HIV infections remains unacceptably high. These findings underscore the ongoing challenges in confronting this disease and the urgent need to expand access to effective HIV prevention programs.

Breakthrough Technology Allows Clearest Picture to Date

CDC's new HIV surveillance system is based on an approach known as STARHS (serologic testing algorithm for recent HIV seroconversion), which uses innovative testing technology to determine, at the population level, which positive HIV test results indicate new HIV infections (those that occurred within approximately the past 5 months). Before the widespread availability of this technology, HIV diagnosis data provided the best indication of recent trends in key populations. However, diagnosis data indicate when HIV infection is diagnosed, not when a person becomes infected (infection can occur many years before a diagnosis).

Definitions

HIV incidence: The number of people who become newly infected with HIV in a given period.

HIV diagnoses: The number of HIV diagnoses during a given period, regardless of when the persons became infected.

AIDS diagnoses: The number of AIDS diagnoses during a given period. AIDS is diagnosed when an HIV-infected person's immune system becomes severely compromised (measured by CD4 cell count) and/or the person becomes ill with an opportunistic infection. In the absence of treatment, AIDS usually develops 8 to 10 years after initial HIV infection. With early HIV diagnosis and treatment, an AIDS diagnosis may be delayed by many years.

1-800-CDC-INFO (232-4636)
In English, en Español
24 Hours/Day
cdcinfo@cdc.gov
http://www.cdc.gov/hiv

CDC

Note: Data have been adjusted for reporting delay and cases without risk factor information were proportionately redistributed.

CDC

The challenge

- 56,000 incident infections
  - ➢2-3,000 in LAC
- 240,000 infected untested

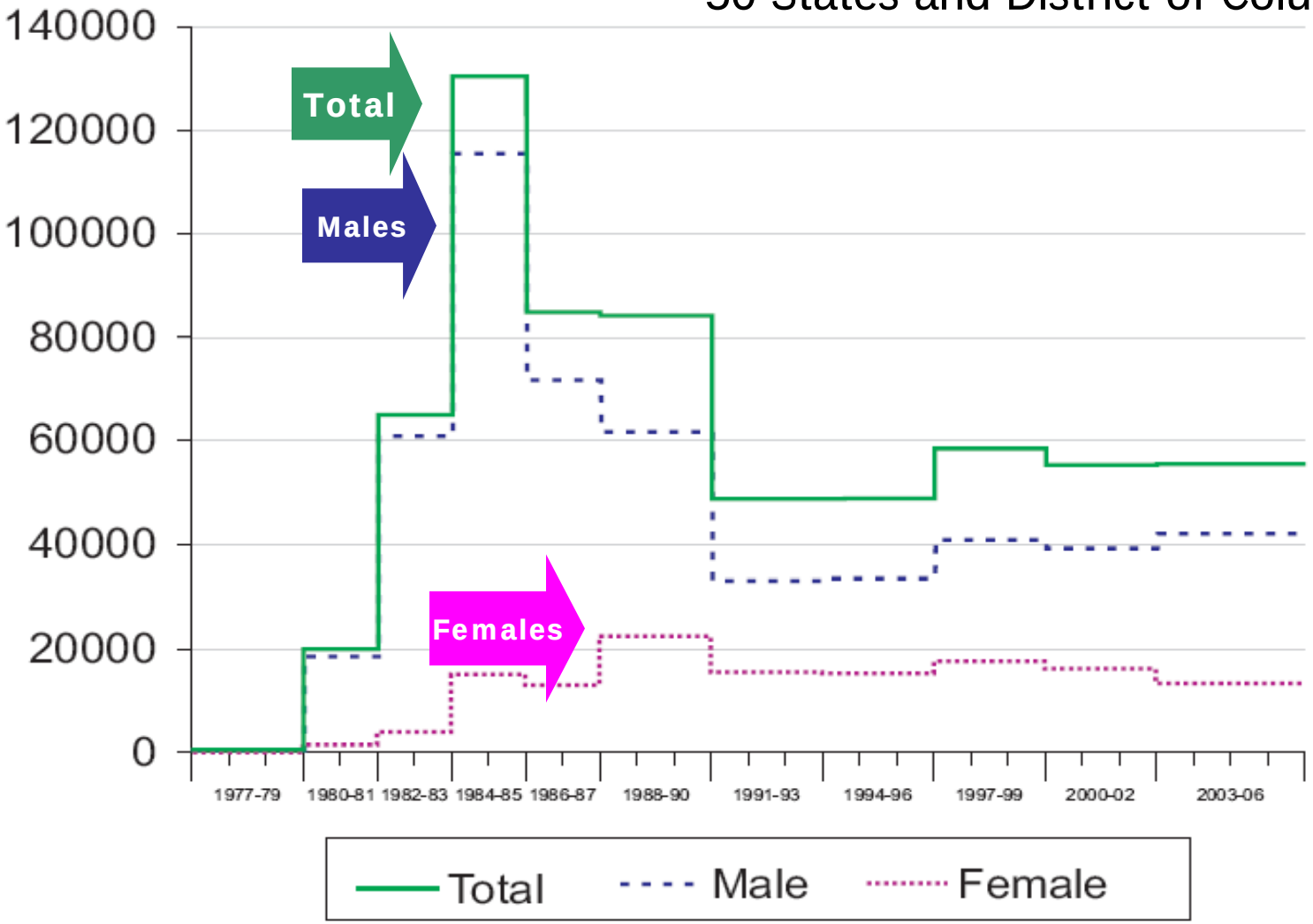
CDC Goal

➲By 2020:

- Reduce the rate of HIV transmission by 50%
- Reduce the proportion of persons who do not know their status by 50%
- Cut disparities in the Black-to-white ratio of HIV/AIDS diagnoses in half
- Cut disparities in the Hispanic-to-white ratio in half

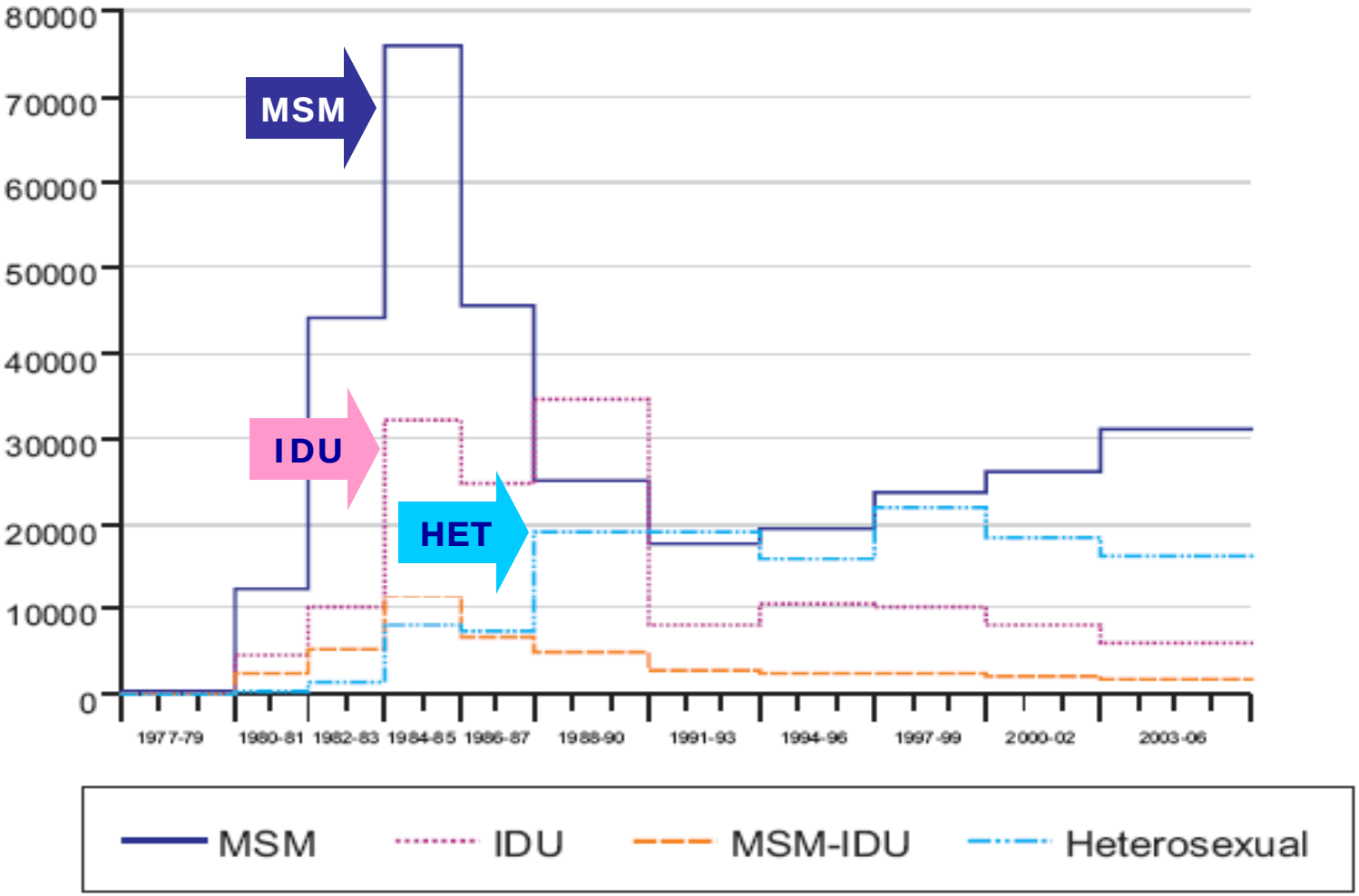
Estimated Number of New HIV Infections, by Sex, 1977-2006*

*50 States and District of Columbia



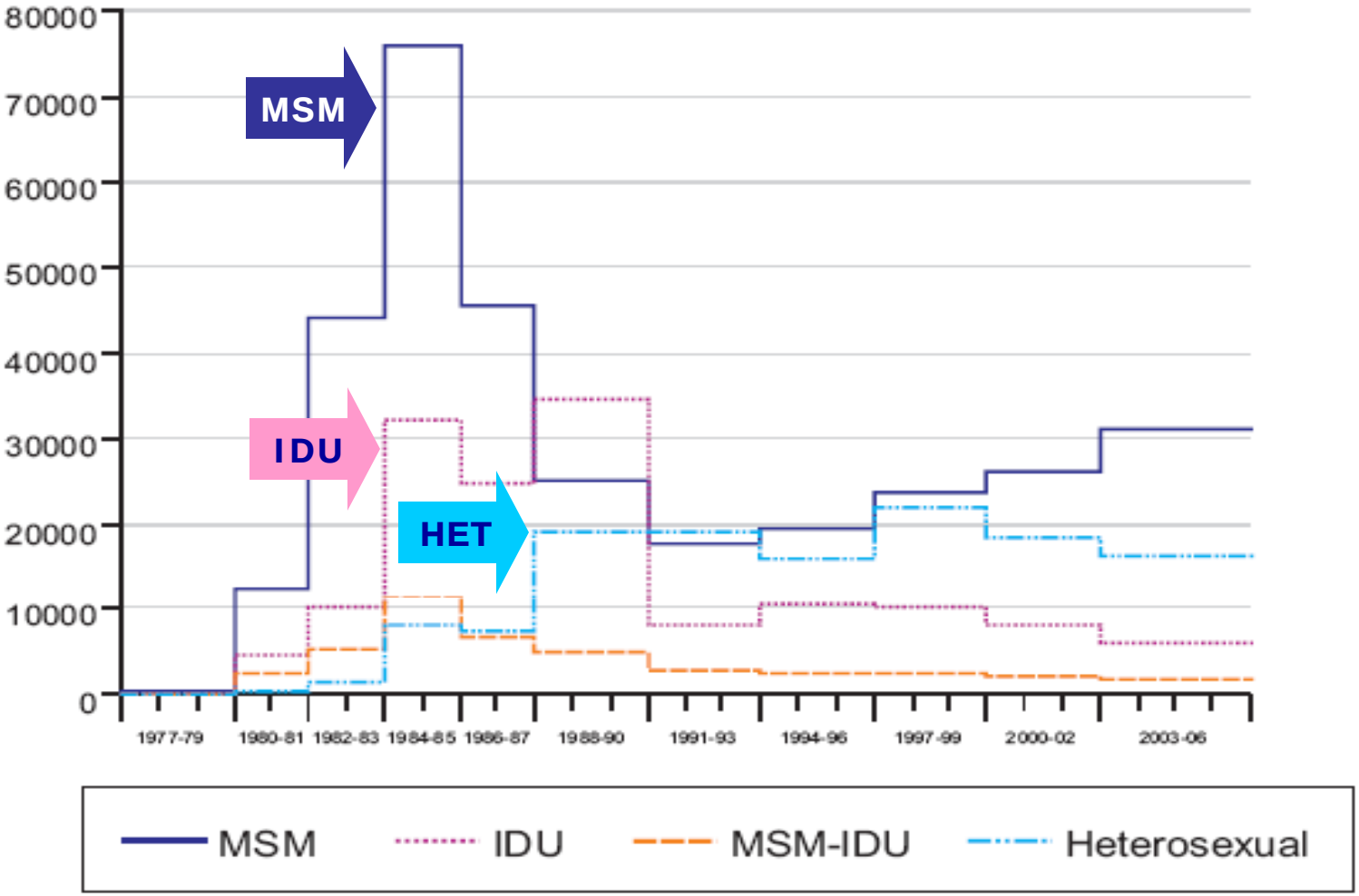
Estimated Number of New HIV Infections by Transmission Category, 1977-2006

*50 States and District of Columbia



Estimated Number of New HIV Infections by Transmission Category, 1977-2006

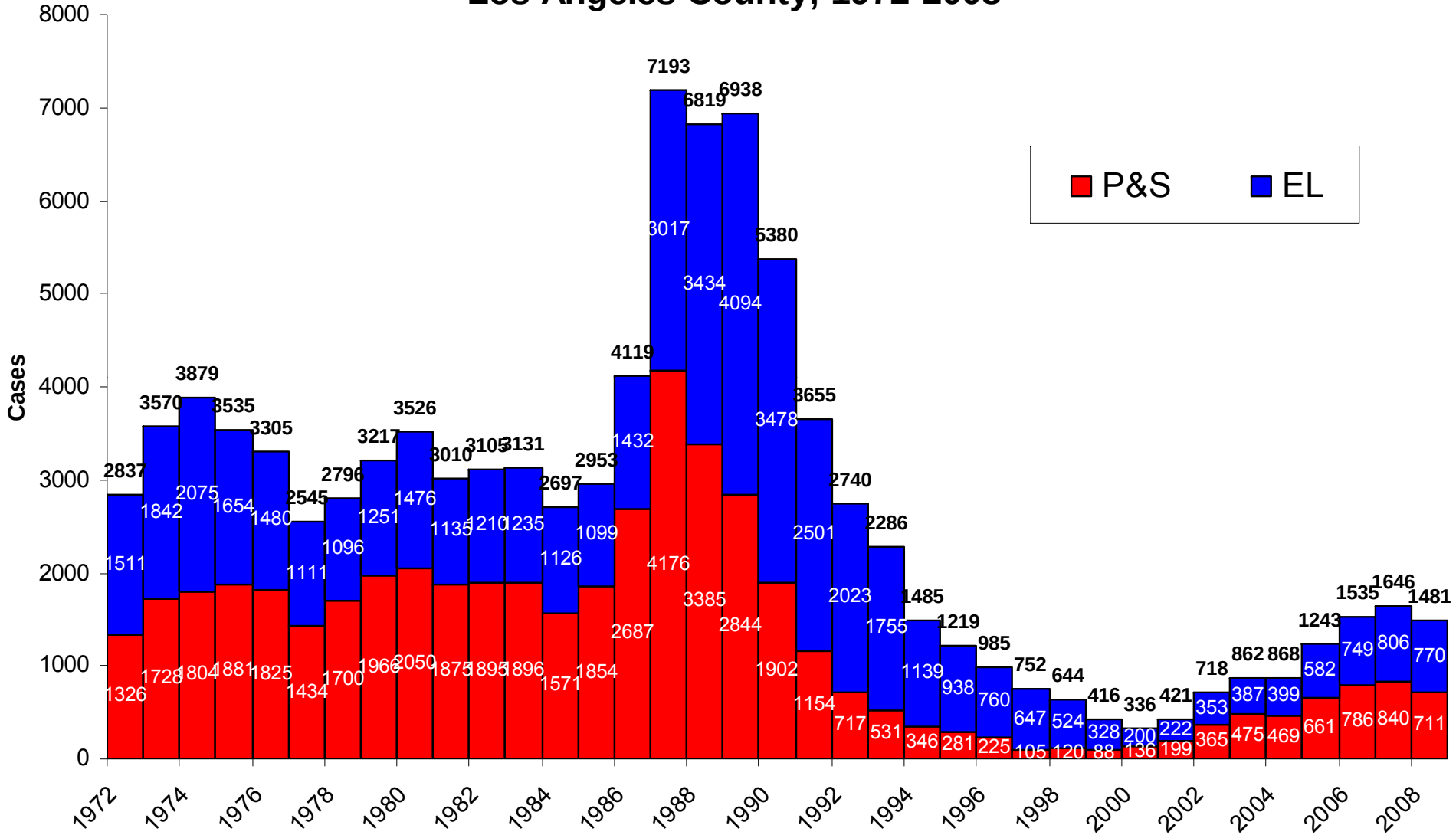
*50 States and District of Columbia



STD/HIV Co-infections: Contribution to HIV Incidence/Local epidemic

Syphilis/
CT/GC by anatomic site

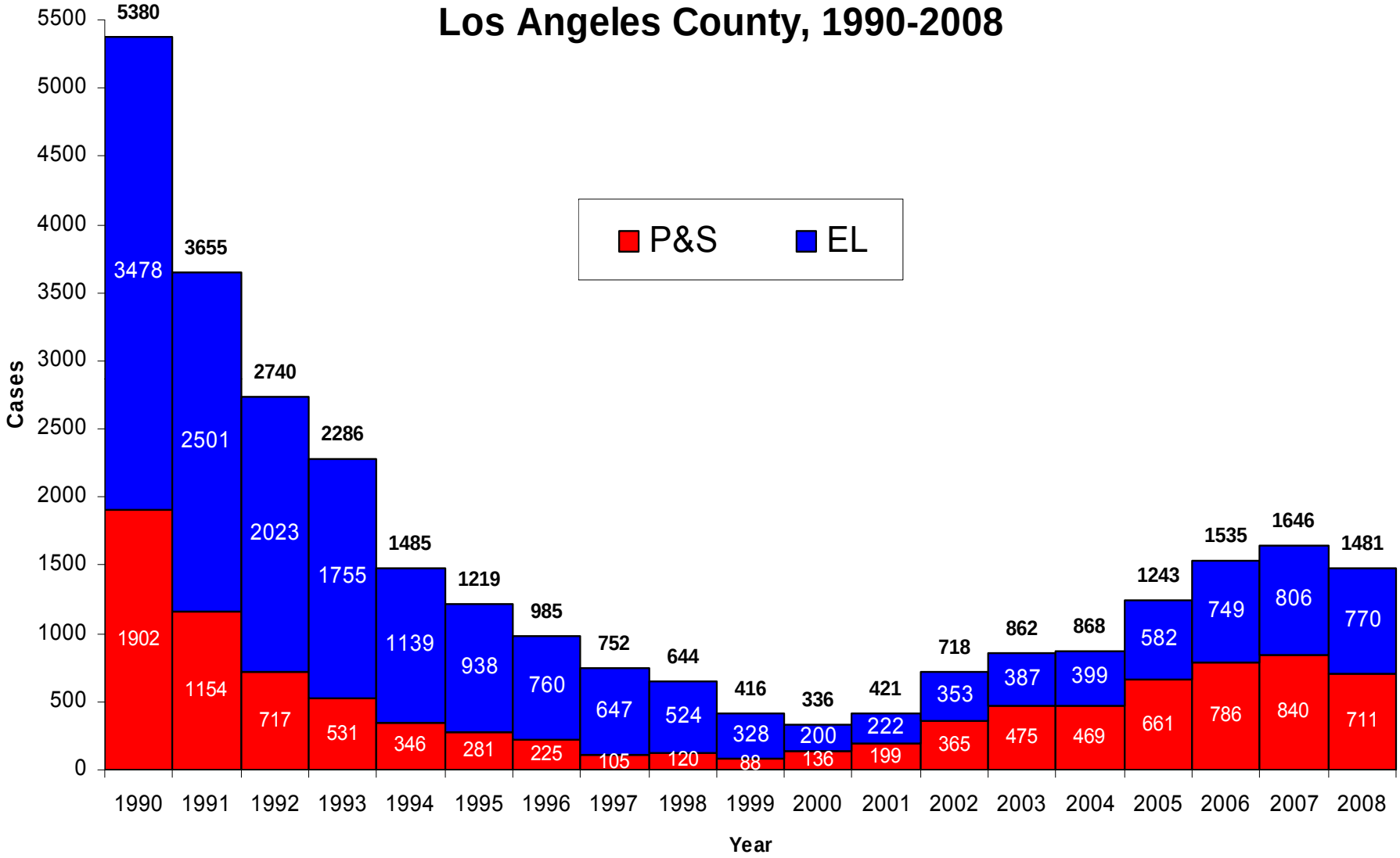
Reported primary, secondary, and early latent syphilis cases, Los Angeles County, 1972-2008



*Data reported prior to 1986 include Pasadena and Long Beach cases.

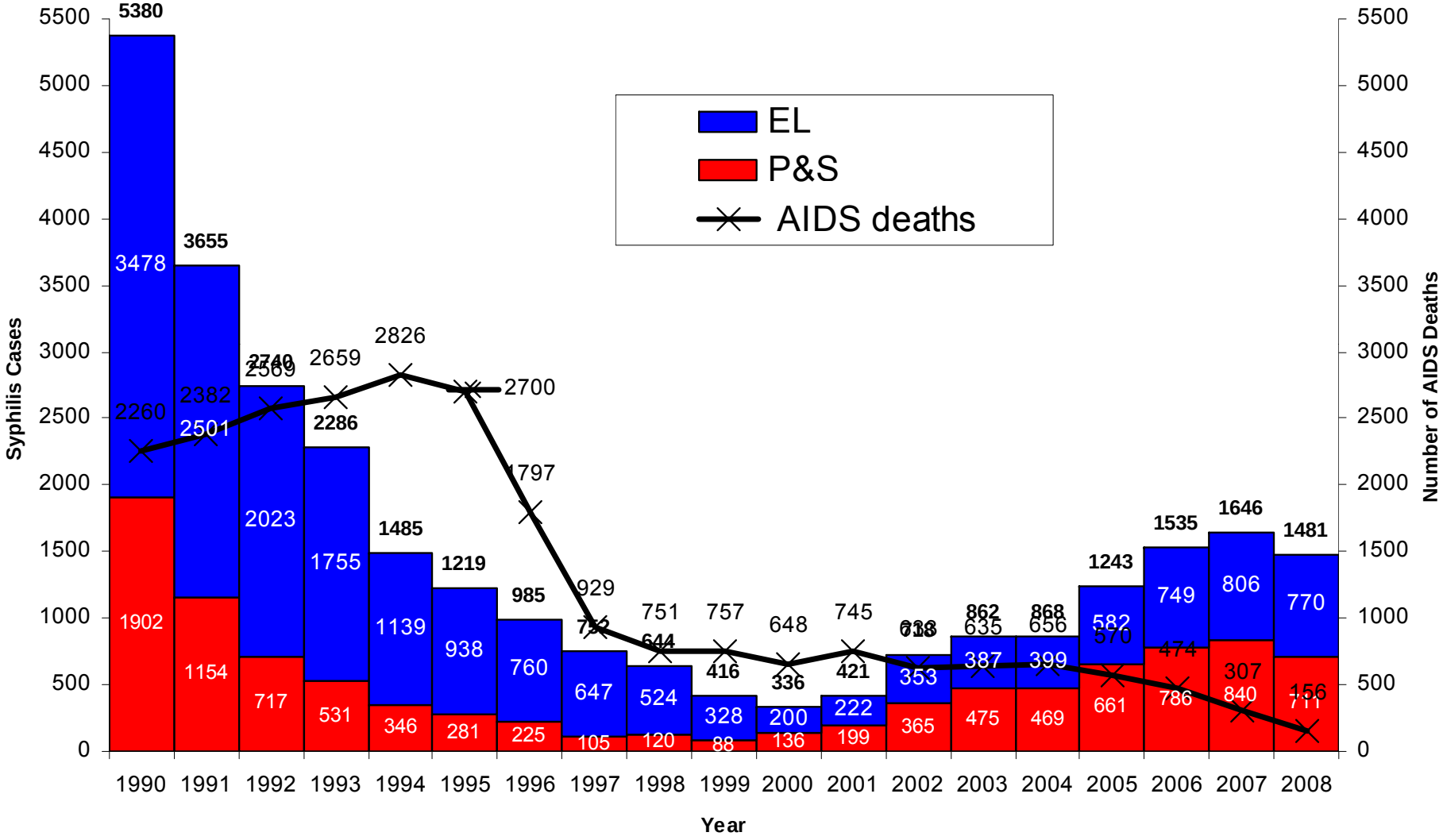
Source: State of California, Department of Health Services Morbidity Report, 1972-1997 and Los Angeles County Department of Public Health, Sexually Transmitted Disease Program, Morbidity Report , 1998-2003, 2004-2008.

Reported primary, secondary, and early latent syphilis cases, Los Angeles County, 1990-2008



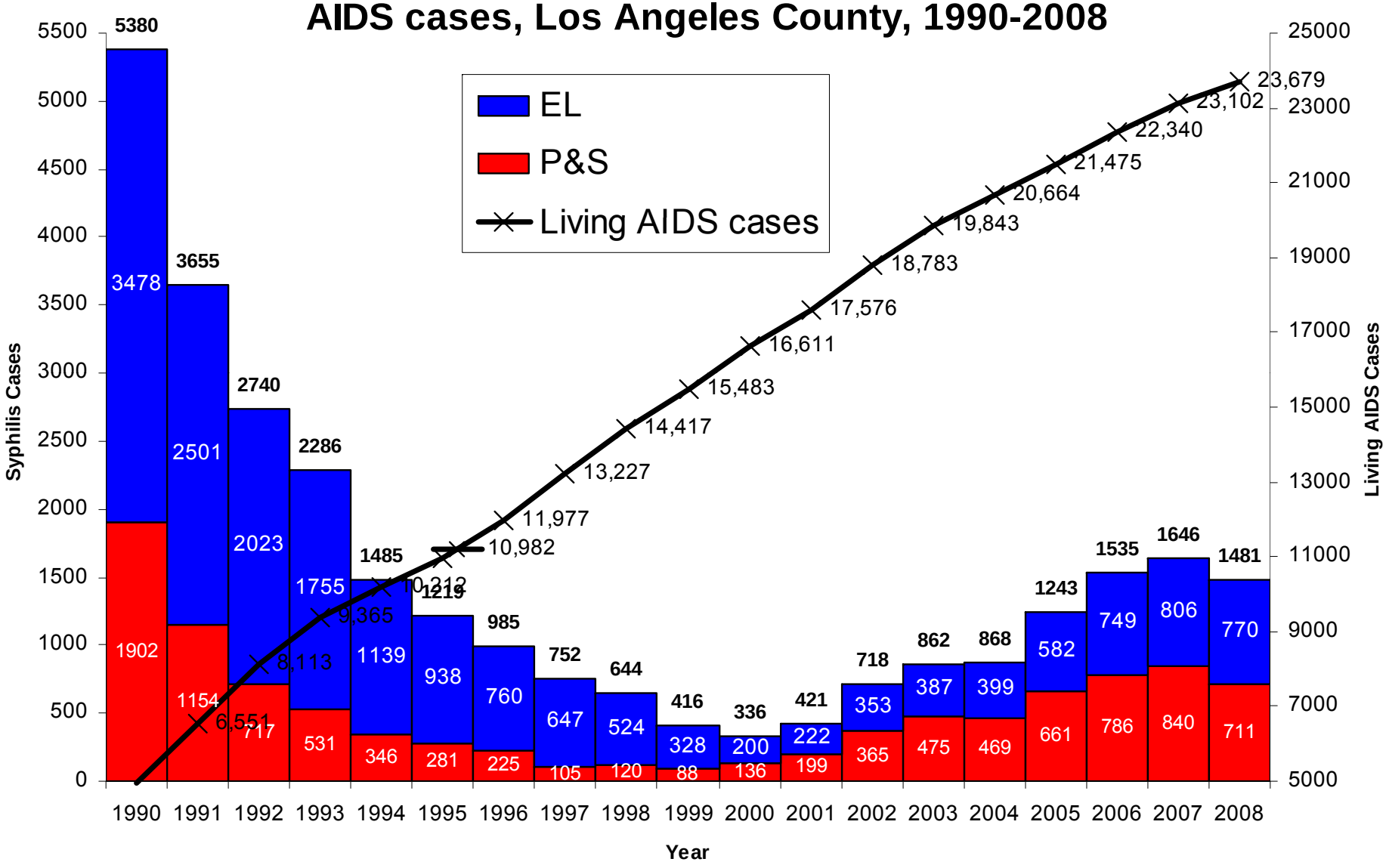
*Data reported prior to 1986 include Pasadena and Long Beach jurisdictions.
Source: State of California, Department of Health Services Morbidity Report, 1972-1997 and Los Angeles County Department of Public Health, Sexually Transmitted Disease Program, Morbidity Report , 1998-2003, 2004-2008.

Reported primary, secondary, and early latent syphilis cases, and AIDS deaths Los Angeles County, 1990-2008



Source: Los Angeles County Department of Public Health, Sexually Transmitted Disease Program/HIV Epidemiology Program

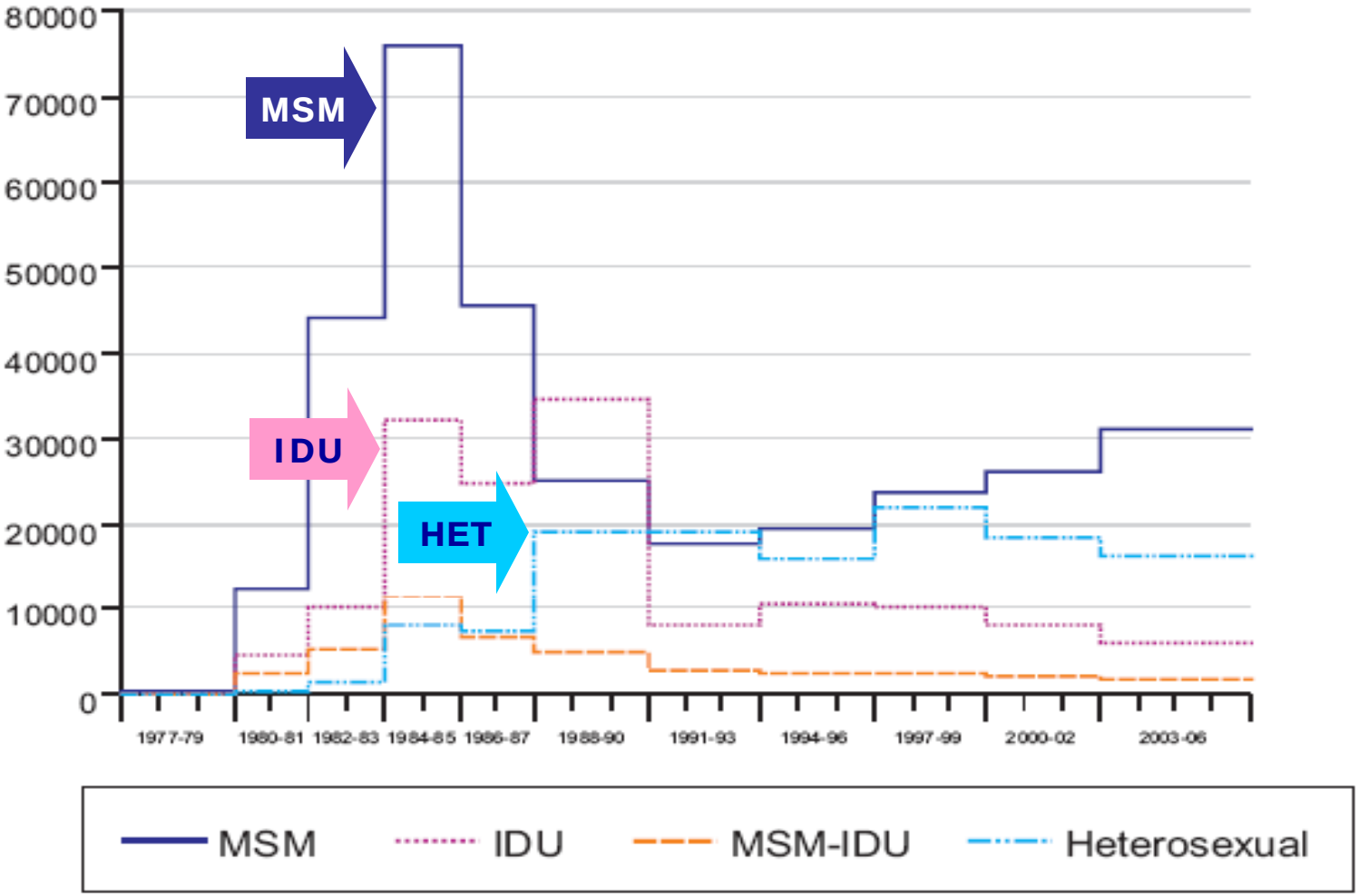
Reported primary, secondary, early latent syphilis and living AIDS cases, Los Angeles County, 1990-2008



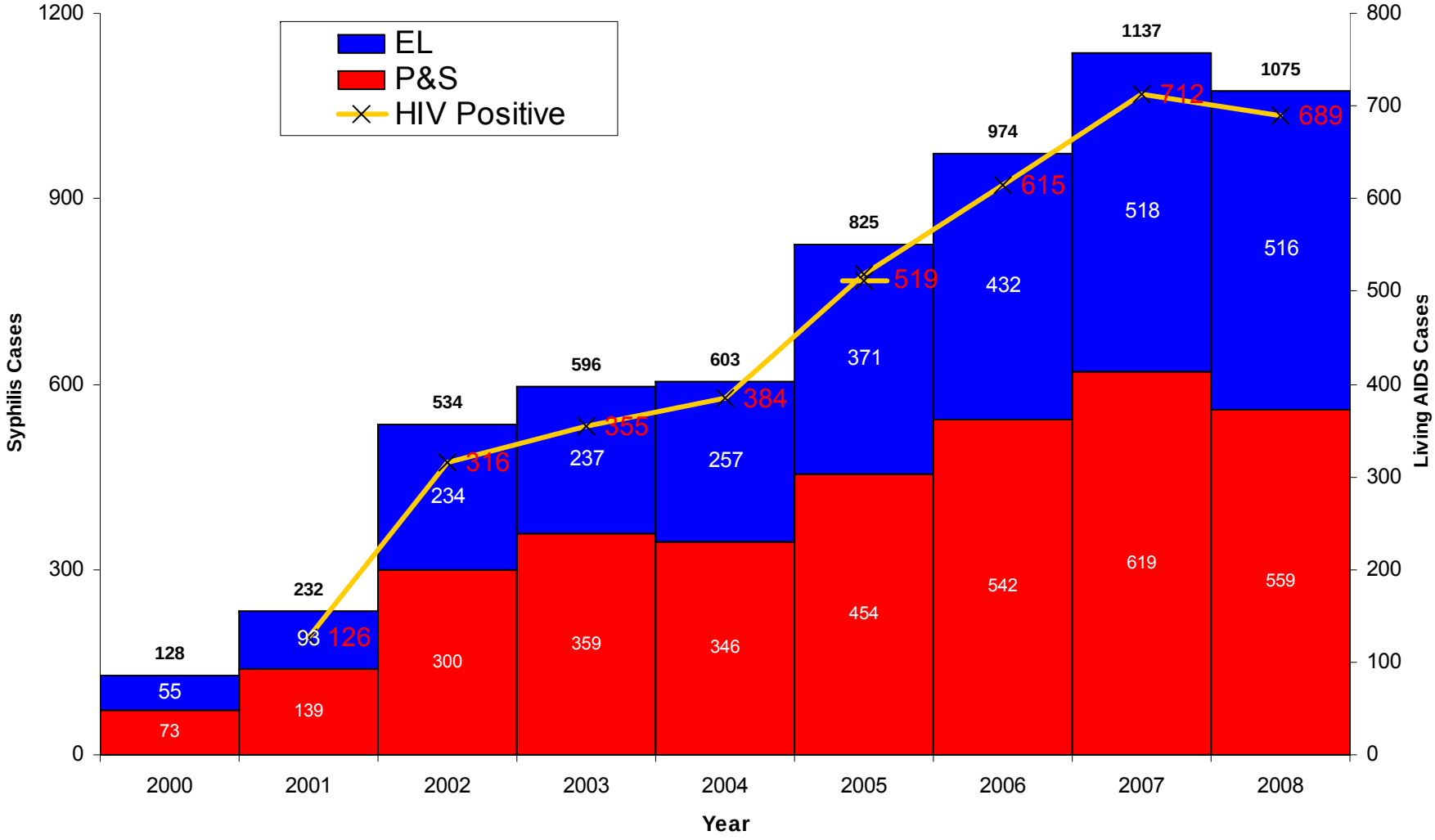
Source: Los Angeles County Department of Public Health, Sexually Transmitted Disease Program; HIV Epidemiology Program

Estimated Number of New HIV Infections by Transmission Category, 1977-2006

*50 States and District of Columbia



REPORTED PRIMARY, SECONDARY, EARLY LATENT SYPHILIS AND HIV POSITIVE CASES AMONG MEN WHO HAVE SEX WITH MEN (MSM), Los Angeles County, 2000-2008



Source: Los Angeles County Department of Public Health, Sexually Transmitted Disease Program; HIV Epidemiology Program

K6 CT/GC Testing Morbidity Among Inmates Tested at All Anatomic Sites (2/4/08 - 1/31/10)				
Total Tested (N) =	**4253**			
	CT		**GC**	
	Positive	**(%)**	**Positive**	**(%)**
Total Inmates Infected	**371**	**8.7%**	**283**	**6.7%**
Site of infection**				
Urine only	64	1.5%	5	0.1%
Pharyngeal only	--	--	72	1.7%
Rectal only	270	6.3%	152	3.6%
Urine and Rectal	*37*	*0.9%*	*19*	*0.4%*
Urine and Pharyngeal	--	--	*3*	*0.1%*
Pharyngeal and Rectal	--	--	*21*	*0.5%*
Urine/Phary./Rectal	--	--	11	0.3%

*Tested for Urethral/Rectal CT and Urethral/Pharyngeal/Rectal GC

**Categories for anatomic site of infection are mutually exclusive

Note: 1407 inmates were not tested for CT/GC at all possible anatomic sites

K6 CT/GC Testing and Morbidity by Anatomic Site, HIV Positive† (2/4/08 - 1/31/10)						
Total Inmates (N) =	**515**					
	CT/GC Tests		**CT**		**GC**	
	No. of tests	**%tested CT/GC**	**Positive**	**(%)**	**Positive**	**(%)**
Overall*	**500**	**97.1%**	**43**	**8.6%**	**39**	**7.8%**
Urine	*431*	*83.7%*	*9*	*2.1%*	*4*	*0.9%*
Pharyngeal	*477*	*92.6%*	*--*	*--*	*11*	*2.3%*
Rectal	*447*	*86.8%*	*37*	*8.3%*	*31*	*6.9%*
At least 2 Sites**	**470**	**91.3%**	**3**	**0.6%**	**5**	**1.1%**
All 3 Sites***	**385**	**74.8%**	**--**	**--**	**2**	**0.5%**

*At least one anatomic site tested

**CT/GC positives represent positive tests at 2 or more sites

***GC positives represent positive tests at all 3 sites

†HIV positive status determined by positive HIV test at time of screening or a previous K6 screening

Note: 15 inmates were not tested for CT/GC

K6 CT/GC Testing and Morbidity by Anatomic Site (2/4/08 - 1/31/10)						
Total Inmates (N) = 5660						
	CT/GC Tests		**CT**		**GC**	
	No. of tests	**%tested CT/GC**	**Positive**	**(%)**	**Positive**	**(%)**
Overall*	**5537**	**97.8%**	**421**	**7.6%**	**313**	**5.7%**
Urine	*4916*	*86.9%*	*120*	*2.4%*	*44*	*0.9%*
Pharyngeal	*5258*	*92.9%*	*–*	*–*	*122*	*2.3%*
Rectal	*4822*	*85.2%*	*338*	*7.0%*	*214*	*4.4%*
At least 2 Sites**	**5206**	**92.0%**	**37**	**0.7%**	**45**	**0.9%**
All 3 Sites***	**4253**	**75.1%**	**–**	**–**	**11**	**0.3%**

*At least one anatomic site tested

**CT/GC positives represent positive tests at 2 or more sites

***GC positives represent positive tests at all 3 sites

Note: 123 inmates were not tested for CT/GC

K6 CT/GC Testing and Morbidity by Anatomic Site, HIV Negative† (2/4/08 - 1/31/10)						
Total Inmates (N) = 2723						
	CT/GC Tests		**CT**		**GC**	
	No. of tests	**%tested CT/GC**	**Positive**	**(%)**	**Positive**	**(%)**
Overall*	**2627**	**96.5%**	**177**	**6.7%**	**118**	**4.5%**
Urine	*2390*	*87.8%*	*59*	*2.5%*	*17*	*0.7%*
Pharyngeal	*2491*	*91.5%*	*--*	*--*	*61*	*2.4%*
Rectal	*2218*	*81.5%*	*131*	*5.9%*	*68*	*3.1%*
At least 2 Sites**	**2469**	**90.7%**	**13**	**0.5%**	**26**	**1.1%**
All 3 Sites***	**2003**	**73.6%**	**--**	**--**	**2**	**0.1%**

*At least one anatomic site tested

**CT/GC positives represent positive tests at 2 or more sites

***GC positives represent positive tests at all 3 sites

†HIV negative status determined by negative HIV test at time of screening

Note: 96 inmates were not tested for CT/GC

Pooled Testing - Acute HIV Detection Studies
Los Angeles, 02/06 – 01/08

Site	EIA +/Total EIA	(%)	NAAT pos. EIA neg. (n)	% increased HIV infection detected (%)
Site A	140 / 7,830	1.8%	28	20%
Site B	61 / 1,793	3.4%	4	7%
Jail	172 / 1,595	10.8%	0	0%
STD Clinics	236 / 27,861	0.8%	9	4%
MTU	31 / 2,708	1.1%	1 false+	0%
---	---	---	---	---
Total	**640 / 41,787**	**1.5%**	**41**	**6%**

Pooled Testing - Acute HIV Detection Studies
Los Angeles, 02/06– 01/08

HIV NAAT testing led to:

- 6% increase in HIV detection
  - 20% increase (Site A)
  - 7% increase (Site B)
- 1 in 1000
  - 1 in 275 (Site A)
  - 1 in 433 (Site B)

Patients with Acute HIV Infection (AHI)

VL (cp/ml) at time of initial HIV-1 Ab negative test:

- 6 <100,000 (lowest 1,502;1,827 to >500,000 in 9 days)
- 10 >100,000
- 19 >500,000
- 6 w/ invalid quantitative assay
- 1 <75 (false positive)

25/41 (61%) patients presented with symptoms

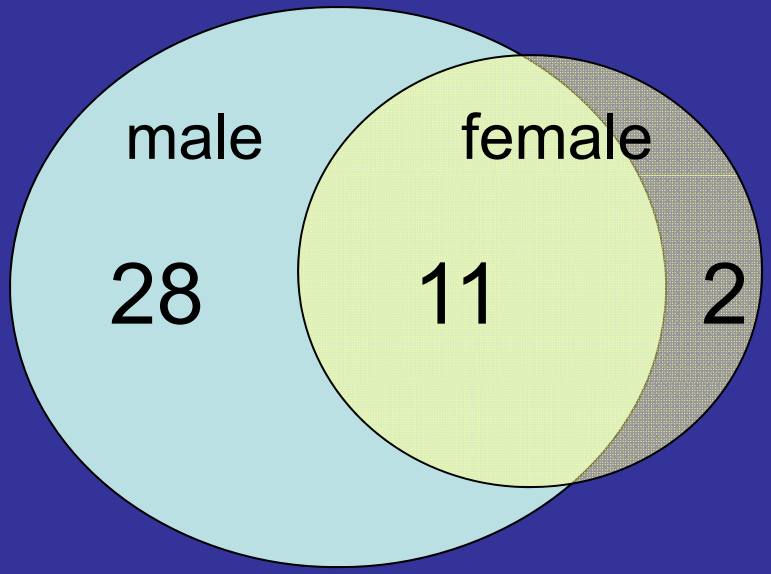
- 10 AHI symptoms only (flu-like &/or rash &/or fever)
- 4 AHI and STD symptoms
- 10 STD symptoms
- 1 cervical lymphadenopathy

N=41

Gender of Cases and Sex Partners

Gender of AHI cases

- 39 male
- 1 transgender M to F
- 1 female



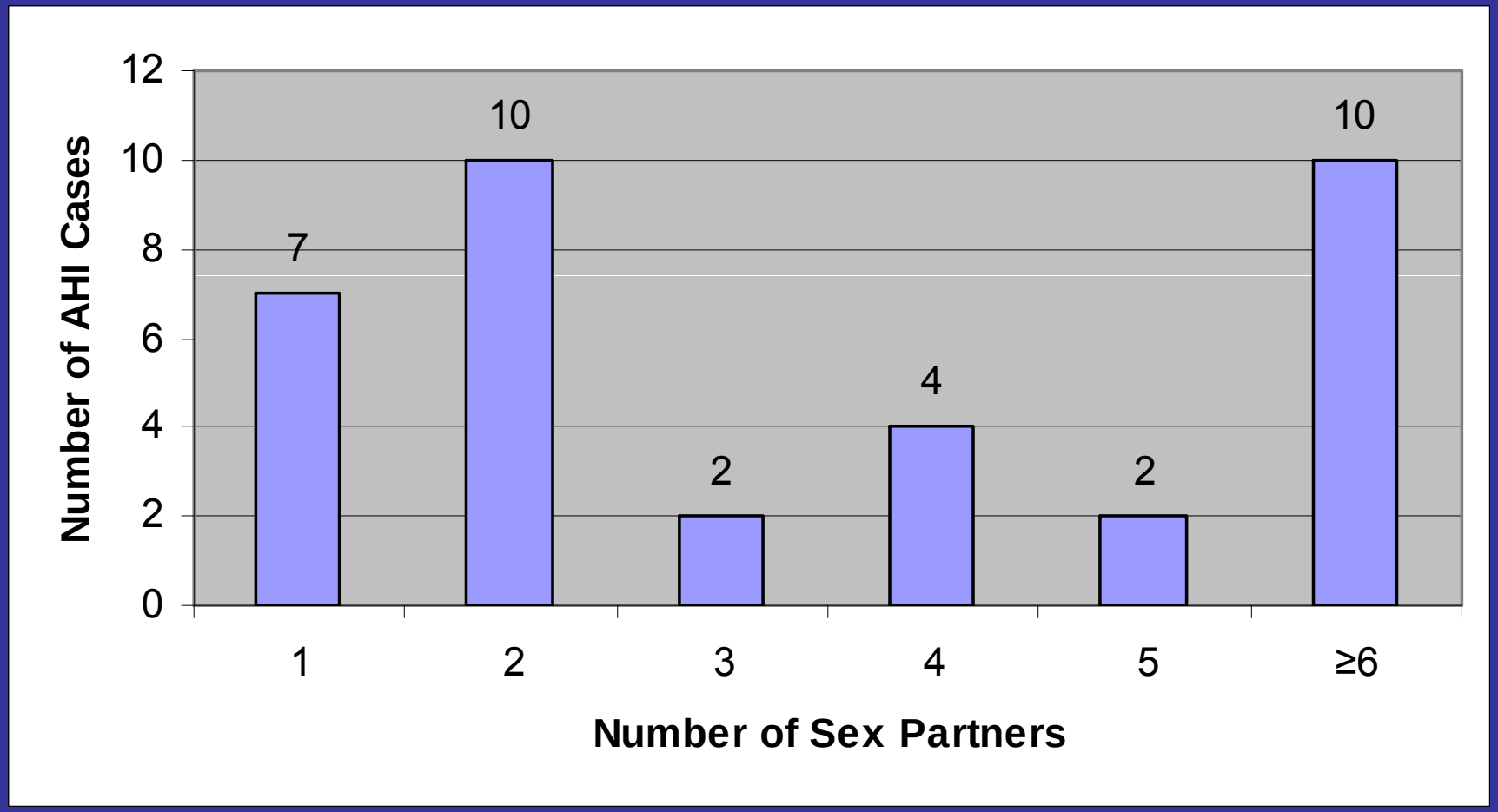
Gender of sex partner

- 27 (66%) MSM only
- 11 (27%) MSMW/W
- 2 (5%) MSW only
- 1 (2%) WSM

N=41

Number of Sex Partners

3 months prior to diagnosis



N=41, range=1 to 72 partners

*6 with no information on gender of sex partner

Anal Intercourse & Condom Use

3 months prior to diagnosis

- 38 (93%) reported anal intercourse
  - 29 insertive & receptive (incl. 2 who reported vaginal sex)
  - 5 receptive only (incl. 1 who reported vaginal sex)
  - 4 insertive only N=41

- 11 (30%) never used condoms for anal intercourse
  - 5 (13%) always use condoms
  - 21 (57%) sometimes / mostly N=37

AHI and STD Co-infection

- 39 / 41 AHI were tested for at least one STD
- 18/39 (46%) co-infected
  - 4/37 (11%) early syphilis
  - 7/39 (18%) CT
  - 14/39 (36%) GC
- 6 co-infected with more than 1 STD
  - 3 CT/GC
  - 2 early syphilis/GC
  - 1 early syphilis/CT/GC

Drug Use
1 year prior to diagnosis

- 20 (56%) used one or more drugs
- 15 (41%) methamphetamines
  - 9 used meth with at least 1 other drug (ecstasy, nitrates, viagra, ketamine, poppers)
- 5 viagra
  - All used in combination with at least one other drug (meth, ecstasy, nitrates, ketamine, cocaine, marijuana)
- 4 marijuana
- 3 alcohol only
- 3 nitrates only

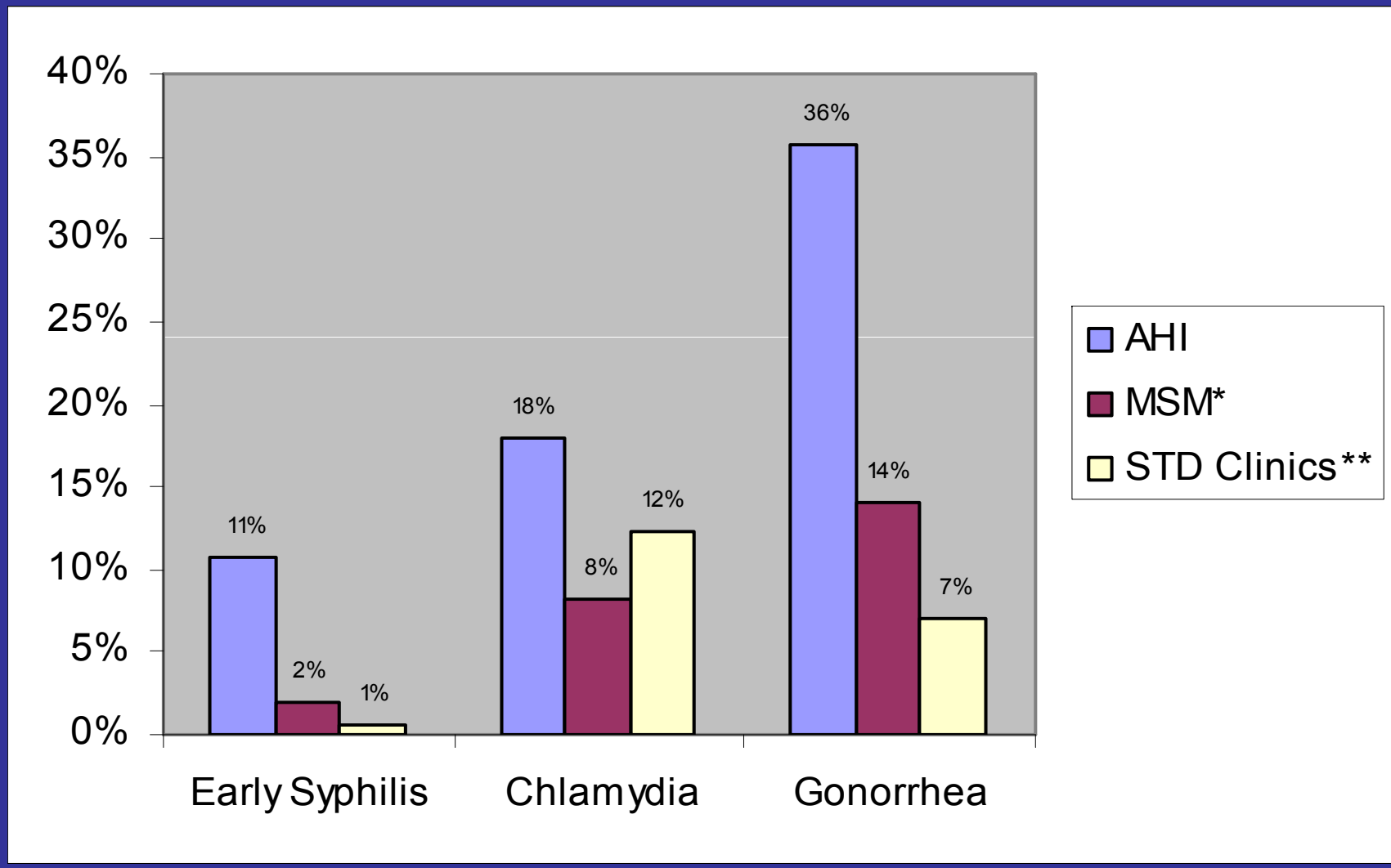
N=41

Sex Partner Risks

- 30 (73%) reported having ever met anonymous sex partners:
  - 14 internet
  - 9 bar/clubs
  - 6 bathhouse/sex club
- 5 (12%) reported sex with IDU in the year prior to diagnosis
- 8 (20%) reported sex with HIV positive partner(s) in the year prior to diagnosis

N=41

STD Prevalence



*MSM visiting 12 LAC STD Clinics in 2006
**All visits to 12 LAC STD Clinics in 2006

Recommendations

- Any MSM presenting for evaluation of an STD with a negative HIV Ab test should be tested for acute HIV infection.
- Any individuals with acute HIV should be tested for other STD's.
- Patients in HIV care should have a sex history and routine STD screening at all anatomic sites.

Conclusion

- STD co-infection in the acute stage of HIV infection is common.

- Increased likelihood of AHI among MSMs w/
  - Diagnosis of an STD
  - Recent high risk sexual exposures (eg. anonymous parters, sex with IDU, sex with HIV positive partner)
  - Other risk history, including methamphetamine use, viagra use and meeting of partners from the internet

  - Individuals with acute HIV and an STD co-infection provide a target for intervention to reduce HIV transmission.

Conclusions

- PS will identify persons that have not received HIV/STD counseling and testing services
- PS will identify persons with previously undetected HIV infection
- PS creates opportunities for linking HIV infected to care
- PS provides opportunities for accessing previously diagnosed, high-risk, HIV-positive persons for referral into prevention case management
- PS encourages/supports HIV-negative partners to change risky behaviors

Conclusions

- PS is an important component of PH response
- Integrated systems that provide PS are likely to be most effective
- Innovative strategies that use new technologies will be required to reach subpopulations
- CBO-based PS may increase the number of contacts identified and the timeliness of referral to treatment
- CBO-based PS may increase community support for PS

Best Practices: HIV/Syphilis Partner Services

Peter R. Kerndt, MD, MPH
Director, Sexually Transmitted Disease Program
Los Angeles County Department of Public Health

Traditional PN approaches

- **Provider Disclosure**
  - **Health department (DIS\PHI)**
  - **Clinician or case manager**
- **Patient (Self) Disclosure**
- **Dual Disclosure**
  - **Client + Provider**
- **Contract Disclosure**
  - **Client + Provider**

Barriers\Challenges to PN\PS

- **CDC guidelines**
  - **POGs *vs.* PCRS; PN *vs.* PS**
- **Data systems**
  - **STD MIS; PEMS; eHARS vs local reporting and case management systems**
- **Resources**
  - **Personnel**
  - **Training**
- **Community perception**
  - **Normative *vs.* cohesive**

Partner Notification Authority

Health & Safety Code Section 121015

Permits (but does not require) a treating physician to disclose an individual's confirmed HIV positive test to the local health officer, or any person reasonably believed to be a sex or needle sharing partner of the infected individual.

Partner Notification Authority

Health & Safety Code Section 121015

Requires that the provider:

1. Discusses the test results w/ patient
2. Offers appropriate educational and psychological counseling
3. Notifies the patient of intent to notify partner(s)
4. Refers partner(s) for appropriate care, counseling, and followup

Intentional Exposure to HIV

Health & Safety Code Section 120291

Any person who intentionally exposes another to HIV by engaging in unprotected sexual activity is guilty of a felony, punishable in state prison by 3, 5 or 8 years.

Intentional Exposure to HIV

Health & Safety Code Section 120291

The person must:

- Knows at the time that they are infected with HIV; and,
- Did not disclose their HIV-pos status; and,
- Acted with the specific intent to infect the other person with HIV.

Note: Evidence that the person has knowledge of their HIV-positive status, without additional evidence, shall not be sufficient to prove specific intent.