



Recent increase in early syphilis among heterosexuals in Philadelphia County, 2006-2009

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BACKGROUND

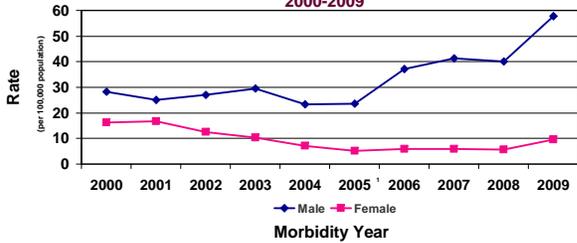
- Rates of early syphilis have been stable in Philadelphia County from 2006-2008.
 - Approximately 163 cases were reported every 6 months.
 - Since 2002, most of the cases were among men, with 75-80% identifying as MSM.
 - In 2007, New York City reported an increase in syphilis cases, followed by Washington, DC in 2008.
- In 2009, a dramatic increase of early syphilis cases occurred (Table 1).
 - Most of the cases are still among MSM.
 - However, a heterosexual outbreak was identified.

Table 1: Early Syphilis Case Counts³ by gender/sexual behavior, 2006-2009

	P&S Syphilis Diagnoses					Early Latent Diagnoses				
	2006	2007	2008	2009	% increase ²	2006	2007	2008	2009	% increase ²
MSM	101	100	109	129	18.3%	74	95	76	121	59.2%
Female	1	7	8	27	237.5%	46	42	38	49	28.9%
MSW	17	23	30	46	53.3%	47	41	46	51	10.9%
Males, unknown ¹	6	6	3	16	433.3%	17	25	18	35	94.4%
TOTAL	125	136	150	218	45.3%	184	203	178	256	43.8%

1. Males, unknown are men who did not disclose their sexual behavior.
 2. % increase was calculated as: (#2009 cases-#2008 cases)/# 2008 cases
 3. Excludes 12 cases diagnosed as Unknown Duration in 2009. Unknown duration was not used prior to 2009.

Figure 1: Rate of Early Syphilis by Gender in Philadelphia County, 2000-2009



METHODS

- All early syphilis cases identified during 2006-2009 who lived in Philadelphia County were included.
 - Early syphilis was defined as cases diagnosed with either primary, secondary, early latent, or unknown duration syphilis diagnoses.
- Cases were grouped according to gender and sexual behavior.
 - Females, Men who have sex with men ("MSM"), Men who have sex with women ("MSW"), and Men with unknown sexual behavior ("Unknown").
- Variables explored included: % of cases self identifying as non-Hispanic Black; % of cases self identifying as HIV-positive; and median age.
- Geo-mapping was utilized to explore trends of early syphilis by half year from 2006-2009. Rates by zip code were calculated with the location of female early syphilis cases depicted on each map.
 - Denominator for rates were taken from the 2000 Census.

RESULTS

- Overall, all race/ethnicity groups had an increase in early syphilis.
 - 82% of female cases self identified as non-Hispanic Black in 2009.
 - More MSM cases identify as non-Hispanic Black in 2009 (76%) compared to 2006 (53%) (data not shown).
- The median age of early syphilis cases in 2009 was 29 years (range:12-70 years).
 - Female cases have seen a significant decline in median age (p<0.01) (Figure 2).

Figure 2: Median Age by gender/sexual behavior, 2006-2009

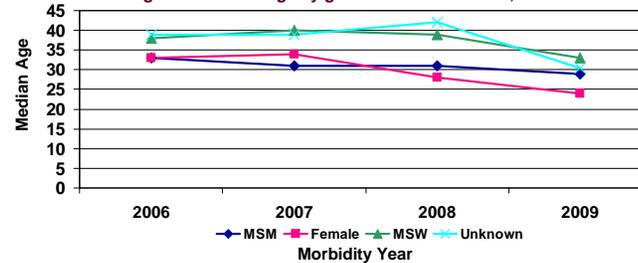
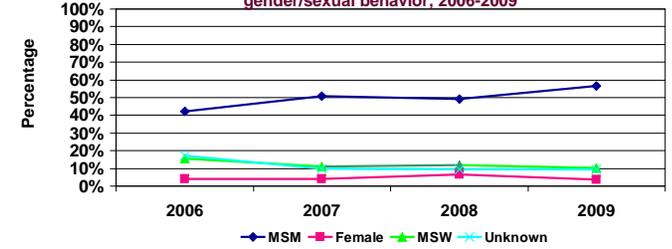


Figure 3: Percentage of early syphilis cases who self-identify as HIV+ by gender/sexual behavior, 2006-2009

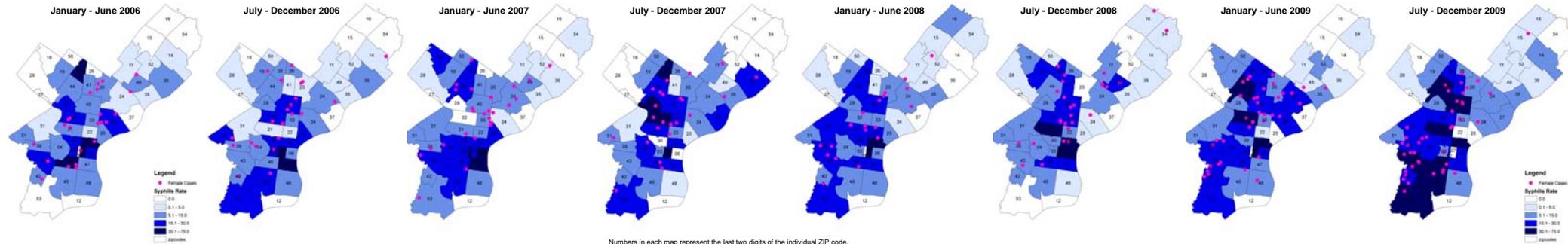


- Since 2006, MSM who self identify as HIV+ has increased from 42% to 60% of all MSM early syphilis cases, while other gender/sexual behavior did not exceed 10% in 2009 and have not exceeded 20% in the past 4 years (Figure 3).
 - Denominator for % HIV positive includes those with unknown or undisclosed HIV status, which is about 20% of early syphilis cases each year.
- Visual examination of mapping output shows areas of interest but no consistent trend over time.
 - From July-December 2009, syphilis among females living in West Philadelphia increased compared to prior 6 month periods (Figure 4).

DISCUSSION/CONCLUSION

- MSM continue to account for most of the early syphilis cases in Philadelphia County, but the recent increase among female cases suggest that syphilis is on the rise in the heterosexual community.
 - Currently, it is unclear whether there is a link between the MSM and heterosexual outbreaks.
 - Spike in female cases occurred in 2009, which is two years after a noted increase in congenital syphilis (2007).
- While there is not a visual trend over time geographically for early syphilis cases, the recent explosion in West Philadelphia suggests an area of focus.

Figure 4: Trend of Early Syphilis in Philadelphia County by Zip Code, 2006-2009



Numbers in each map represent the last two digits of the individual ZIP code.