Methods:

The initial study population included 1,175 people diagnosed with either Primary or Secondary Syphilis from 2005-2012 inclusive. After eliminating subjects having HIV Cases diagnosed within 60 days of Syphilis diagnosis, and age 12 years or older than 65 years old. Syphilis Cases, 992 unique Syphilis patients were matched against new HIV Cases (2005 – 2012). The Enhanced HIV/AIDS Reporting System in 2015-2016 was conducted in SARS 3.3, including descriptive epidemiology. Kaplan–Meier survival analysis was performed to identify differences in HIV free survival between the risk factors, and multivariate Cox proportional hazards models were conducted to identify determinants of survival. To probe the relationship between risk factors and subsequent HIV infection, multivariate logistic regression analyses were conducted. Data were represented graphically and in tabular form with estimates and calculated 95% confidence intervals.

Results:

Between January 1, 2005 and December 31, 2012, 100 Black P&S Syphilis patients who did not have evidence of prior HIV infection were identified for the matched case study. 92 were subsequently diagnosed with HIV in 25 months compared with 4.1% of White P&S Syphilis patients who did not have evidence of prior HIV infection. The adjusted odds ratio for the main effect in logistic regression model (Figure 2) shows that Black P&S Syphilis patients who did not have evidence of prior HIV infection are at extremely high risk to subsequently be diagnosed with HIV compared with those without evidence of prior HIV infection (95% CL: 4.1 – 14.8).

Adapted code for use in other logistic regression model (Figure 3) show that after controlling for sex, P&S Syphilis Diagnosed Age, in black with other bacterial STDs, being MSM with P&S Syphilis are 4 times (95% CI: 1.1 – 16.6) more likely; and being older (35+ years old) are 3.7 times (95% CI: 1.8 – 7.2) more likely. Between 2005 and 2012, 100 Black P&S Syphilis patients who did not have evidence of prior HIV infection were identified for the matched case study.

Conclusions:

HIV negative MSM patients diagnosed with P&S Syphilis are at extremely high risk to subsequently be diagnosed with HIV. Disease incidence is particularly for young (≤35 years old) Black MSM, the risk may exceed 10-fold in the first 24 months compared with those without evidence of prior HIV infection.

References:
