

## The Role of Internet Meet-up Sites and Mobile Device Applications in Facilitating an Early Syphilis Outbreak – Multnomah County, Oregon, 2014

**Author:** Malini DeSilva  
**Date:** Tuesday, April 21, 2015  
**Time:** 9:55 am/et  
**Location:** Dunwoody Suite

**Summary:** Are phone apps helping some diseases go viral? EIS officers looked at how technology is changing the way syphilis spreads -- and how it may offer new tools for intervention.

### **Abstract:**

**Background:** Early syphilis (primary, secondary, early latent) in Multnomah County, Oregon increased from 1.9 cases/100,000 persons in 2007 to 31.3/100,000 in 2013. Most (95%) cases occurred among men who have sex with men (MSM); 55% were human immunodeficiency virus (HIV) co-infected. We conducted a case-control study of risk factors, including meeting sex partners through Internet meetup sites or mobile telephone applications, together defined as “online.”

**Methods:** We defined cases as Multnomah County resident MSM aged  $\geq 18$  years with laboratory confirmed early syphilis, reported January 1–December 31, 2013. We recruited 2 control participants (no syphilis during the previous 2 years) per case-participant, frequency-matched by HIV status and age, from MSM enrolled in the HIV Medical Monitoring Project, and MSM attending medical clinics. Participants completed self-administered questionnaires; information included demographics, venues for meeting partners, and sexual risk behaviors during a 3-month recall period. We performed multivariable logistic regression.

**Results:** We enrolled 57 case-participants and 119 control-participants. No significant differences existed in race/ethnicity or education; 70% (40/57) of case-participants and 42% (50/119) of control participants reported meeting partners online ( $P < .001$ ). Case-participants reported more partners (median: 5; range: 1–70) than control-participants (median: 2; range: 1–50;  $P < .001$ ). Case participants had higher odds of meeting partners online (adjusted odds ratio = 3.7; 95% confidence interval [95% CI]: 1.7–8.0), controlling for age, HIV status, race/ethnicity, education, income; this decreased to 1.4 (95% CI: 0.5–3.7) when including number of partners.

**Conclusions:** Early syphilis was associated with meeting partners online, an association explained by number of partners. The high percentage of participants reporting meeting partners online suggests future research is needed to determine the utility of online interventions for syphilis prevention.