



# 2015 National HIV Prevention Conference

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*Accelerating Progress:*  
Prevent Infections. Strengthen Care. Reduce Disparities.

**Background:** As part of a panel presentation on a CDC/NCHHSTP-funded modeling initiative, we plan to discuss small-area estimation of MSM populations in the United States. In the US, male-to-male sexual transmission continually accounts for the greatest number of incident HIV infections and substantial numbers of annual STI infections. Since men who have sex with men (MSM) are a minority population, we can infer that prevalence and incidence rates are highest among MSM compared to other groups. However, demographic data on sexual behavior are not currently collected by the Census or American Community Surveys (ACS), and we cannot approximate rates without this denominator.

**Methods:** Recent estimates of the total population size of MSM in the United States were reported as part of a meta-analysis by Purcell and colleagues (2012). In addition, Lieb and colleagues (2009) developed methods for estimating populations of MSM within smaller geographic areas, including an “MSM Index” to apportion the overall percentage of MSM according to the relative representation of same-sex male households (SSMH) in a given area. The MSM Index is computed using the following formula:  $MSM\ Index_i = (SSMH_i / total\ SSMH) \div (households_i / total\ households)$ . Using pooled data from ACS (2009-2013), we multiplied Purcell et al.’s estimated percentage of US men who had sex with men in the past five years (3.9%) by a) the MSM Index and b) the number of men aged 18 and over, in order to estimate the number of MSM in US states and counties.

**Results:** We found that the number of MSM ranged from 2,851 (Wyoming) to 818,501 (California) among states. Approximately 35% (n=1,112) of US counties had no MSM, according to our method, while the top five largest populations of MSM were located in Los Angeles County, California (n=236,670); New York County, New York (n=123,023); Cook County, Illinois (n=114,036); San Francisco County, California (n=101,428); and Riverside County, California (n=81,683). Although California and Los Angeles County had the largest MSM populations of states and counties, the New York City metropolitan statistical area (MSA) had the most MSM of all MSAs (n=365,243). Finally, using these data, we were able to generate maps showing the distribution of MSM in the United States at the state and county levels.

**Conclusions/Implications:** Small-area estimates of MSM populations such as these provide a useful tool to local public health practitioners and policy makers for determining the burden of HIV and STIs in local contexts. The resulting incidence and prevalence rates would allow for better resource allocation, intervention development, and service delivery.