Syphilis transmission model: current status

* Model is built
* Currently finalizing the calibration
* Plan is to calibrate the model to the 5 years for which we have data and then evaluate screening interventions projecting 10 years into the future
* Have begun building in the screening interventions
  + Scenarios include: keeping screening at 2016 levels (estimated from model calibration), increasing screening in MSM according to guidelines, and increased screening in those with a prior treated syphilis infection (scenarios described in Documents/syph\_MS\_draft.docx)
* Methods, parameter tables, and technical appendix are written

Some outstanding issues/considerations

* Using prior history of syphilis infection
  + Model has the ability to track infections in those with a prior history of infection, but not using any repeat infection data for model fitting
    - Did not request these data in the initial asks to Louisiana and Massachusetts, as decided to add in prior infection state later on in the model development process
    - Kathy has said she can likely get this for Massachusetts if we decide this is important
  + Currently begin moving people to the prior infection part of the model 5 years before model calibration start but can change this as necessary
  + People are staying in the prior infection stages for the remainder of their time in the model
* Late latent syphilis burden relative to early syphilis
  + Did not get data on rates of late latent infection, so using overall state estimates from CDC to include proportion of all reported syphilis cases that are primary, secondary, or early latent as a calibration target
* Parameters for immunity after treatment
  + No decision made with respect to how to model this
  + Currently have different durations for primary and secondary, early latent, and late latent (and allowing these to vary in calibration)
  + Sent a document to Tom, Harrell, and Andres (Documents/immunity\_params.docx) asking for guidance from their colleagues at DSTDP but have not heard back