

A Syphilis Transmission Model at the State Level - Updates

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DSTDP-PPML Meeting

December 4, 2018

Major Research Questions

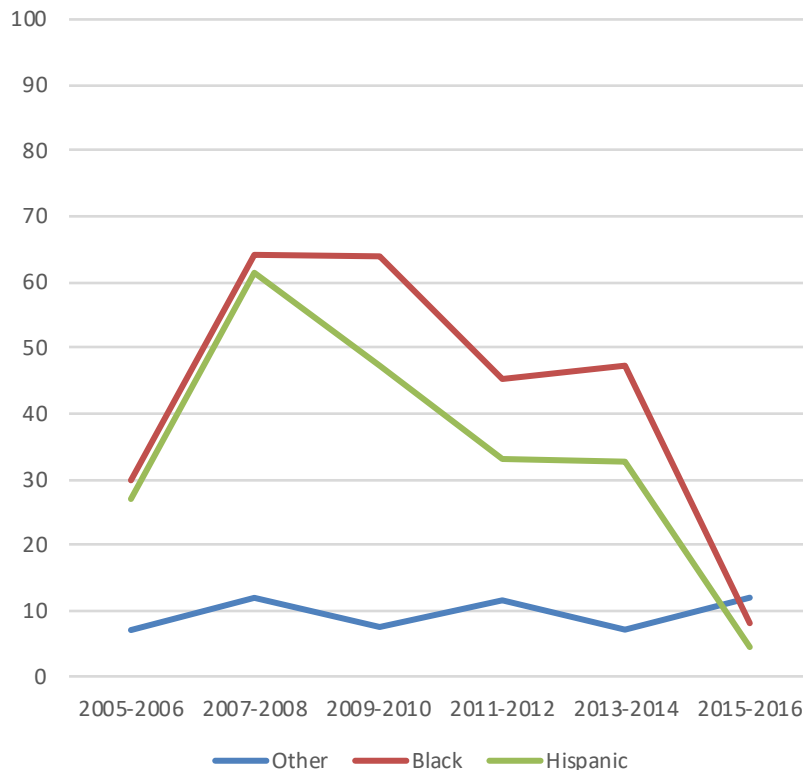
- In the face of limited resources, what approaches to **screening** would be most effective at reducing syphilis burden in the population?
- What levels of investment in contact tracing are most effective? Is this different for different population groups?
- What is the estimated impact of more frequent screening versus expanded screening coverage in different contexts, and how does this vary by population group?

Contact Tracing

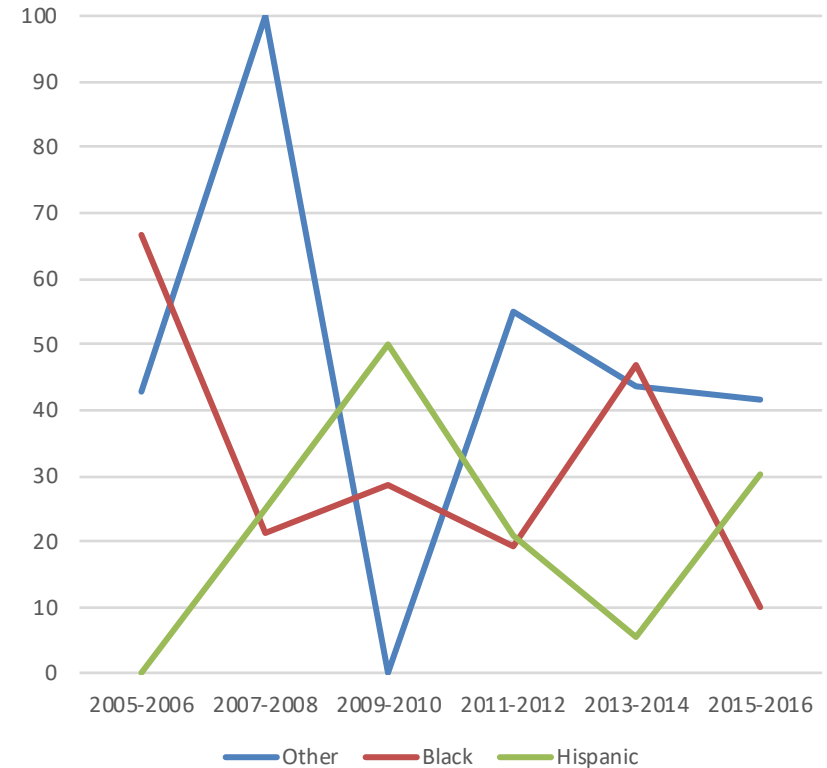
- Brought up by collaborators at Massachusetts DPH
- State departments of public health invest significant resources into syphilis contact tracing
 - Adjustable parameters for percentage of screening rate accounted for by contact tracing
 - Stratification of contact tracing rates by demographic group

Contact Tracing Data - Massachusetts

Proportion Contact-Traced -
P&S+Early (Males)



Proportion Contact-Traced -
P&S+Early (Females)



2014 data omitted for unreliability

Contact Tracing Data - Louisiana

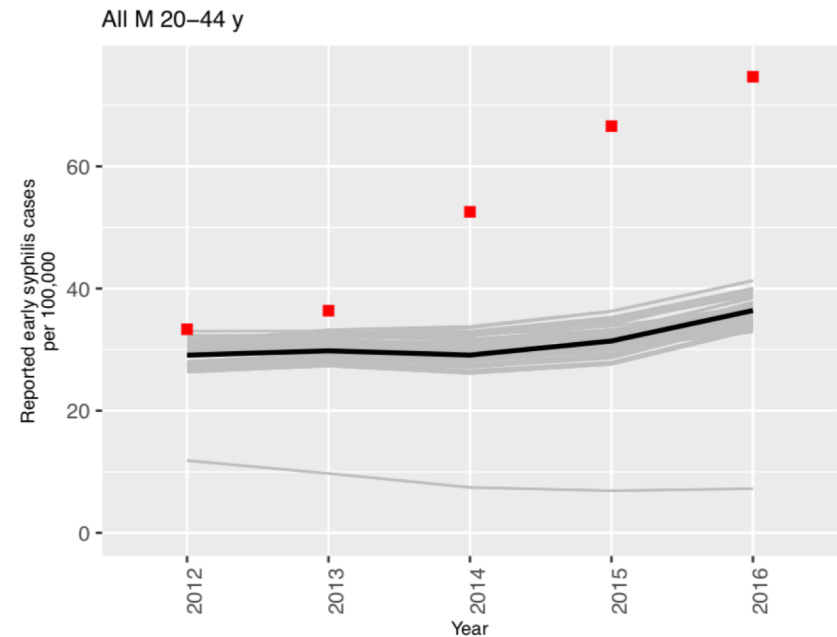
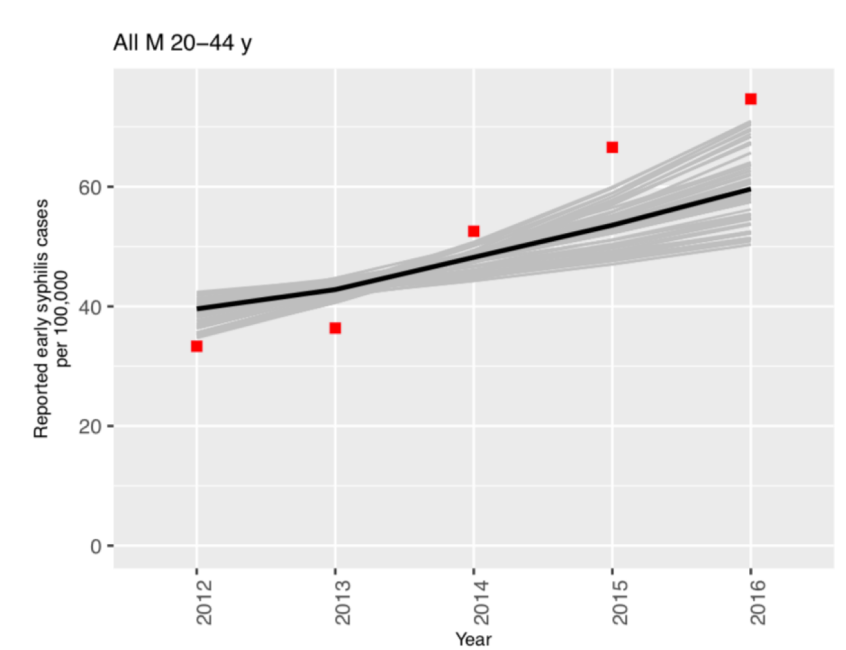
Year	P&S					Early Latent				
	Total Cases	Contact Traced		Non-Contact Traced		Total Cases	Contact Traced		Non-Contact Traced	
		N	%	N	%		N	%	N	%
2011	447	274	61%	173	39%	488	245	50%	243	50%
2012	339	181	53%	158	47%	343	176	51%	167	49%
2013	424	233	55%	191	45%	275	148	54%	127	46%
2014	575	316	55%	259	45%	372	201	54%	171	46%
2015	696	347	50%	349	50%	439	229	52%	210	48%
2016	750	399	53%	351	47%	568	285	50%	283	50%

Initial Implementation of Contact Tracing

- Percentage of cases contact-traced per stage per year
- Impute contact tracing coverage, create new screening matrix, run counterfactual without contact tracing

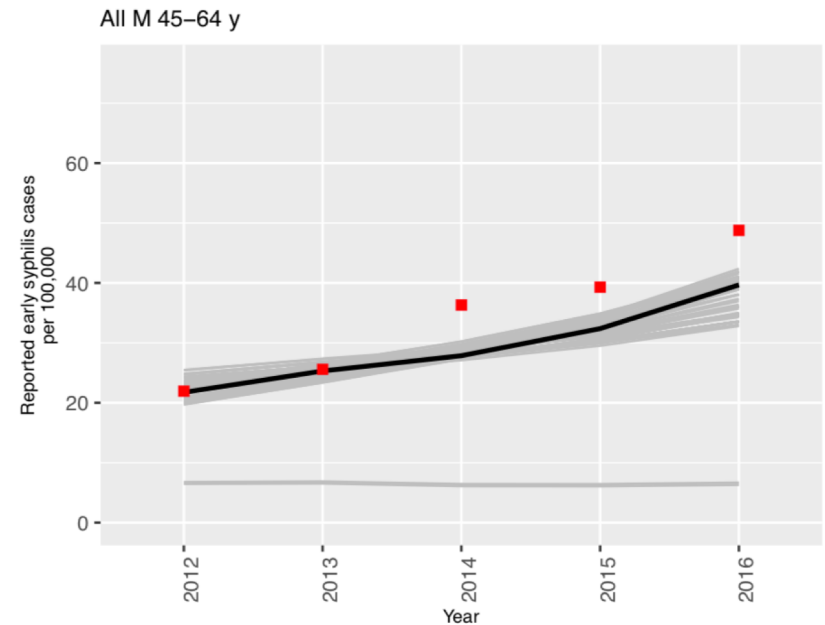
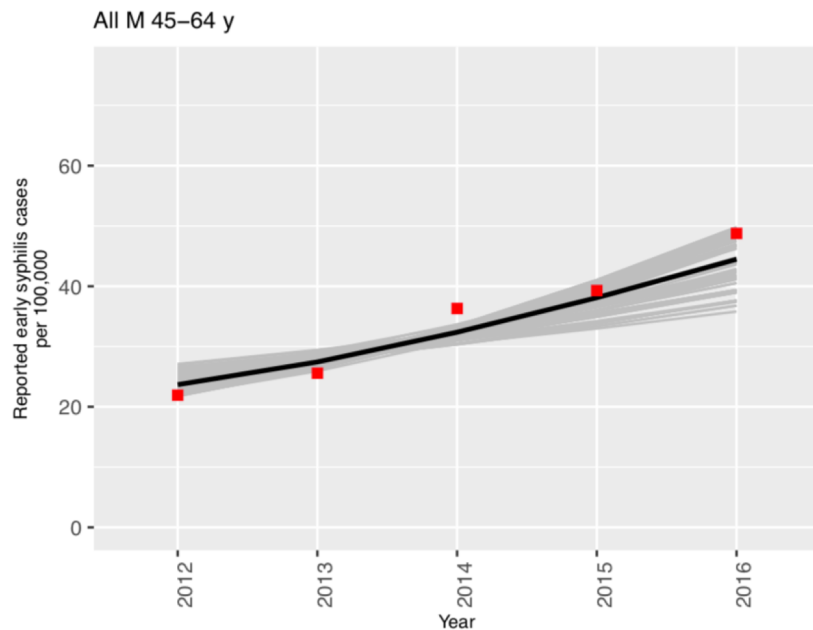
The next slides are case reports – without contact tracing, we'd expect to see **fewer** case reports!

Contact Tracing Case Report Effects - Louisiana



Contact tracing vs Counterfactual – Young Men

Contact Tracing Case Report Effects - Louisiana



Contact tracing vs Counterfactual – Old Men

Next Steps on Contact Tracing

- Look at results for both states
- Plots for prevalence or incidence, cases averted
- Increase stratification