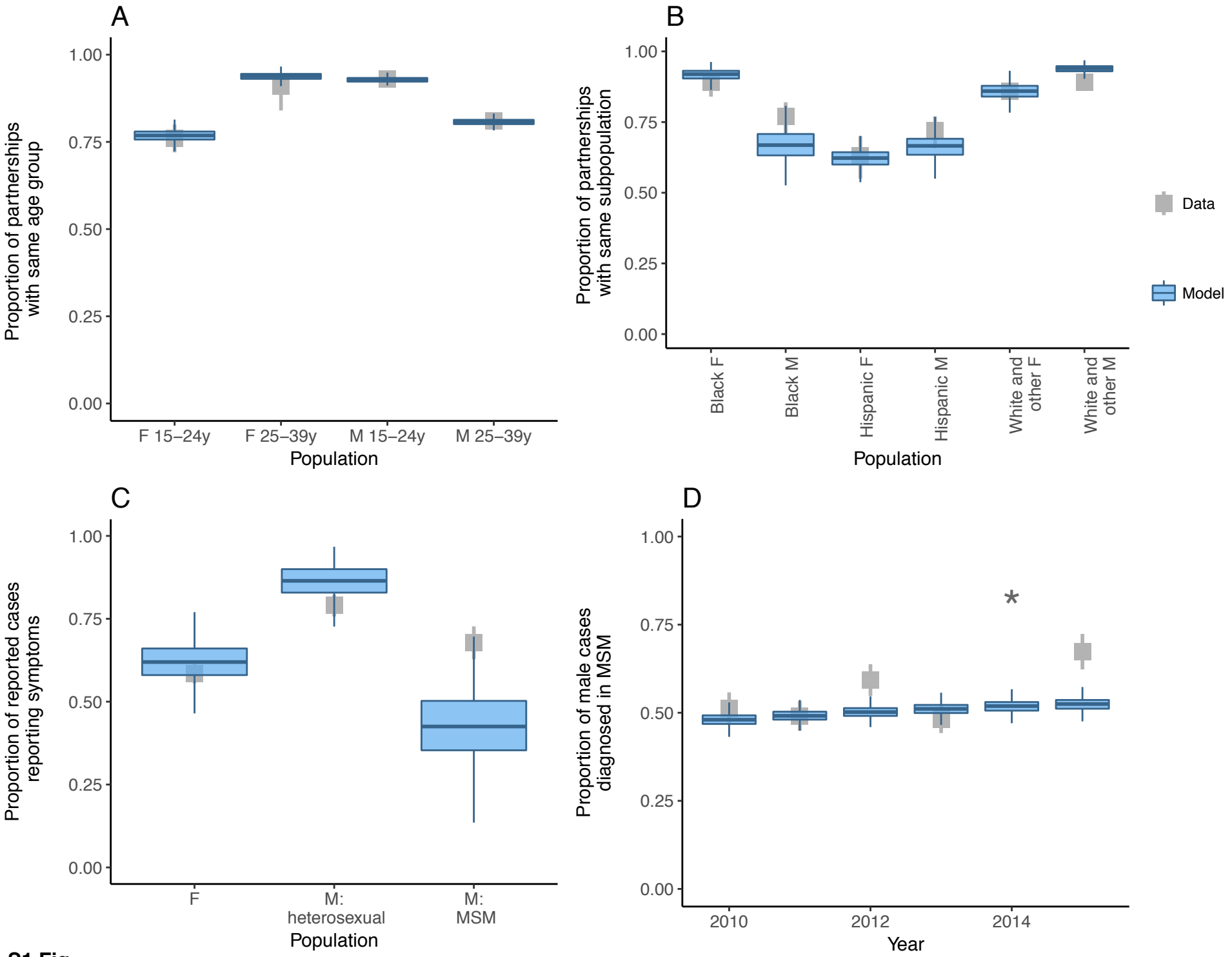
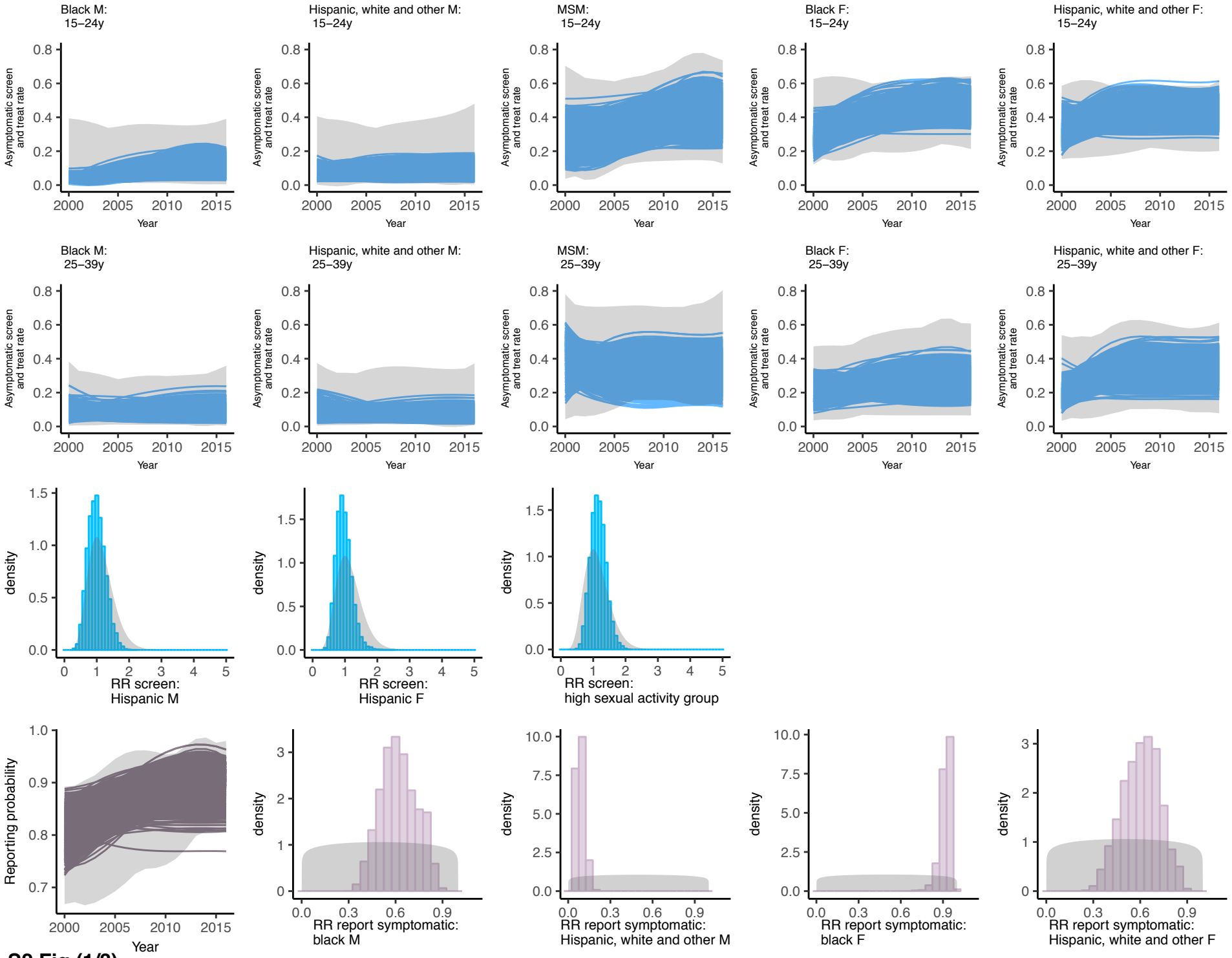
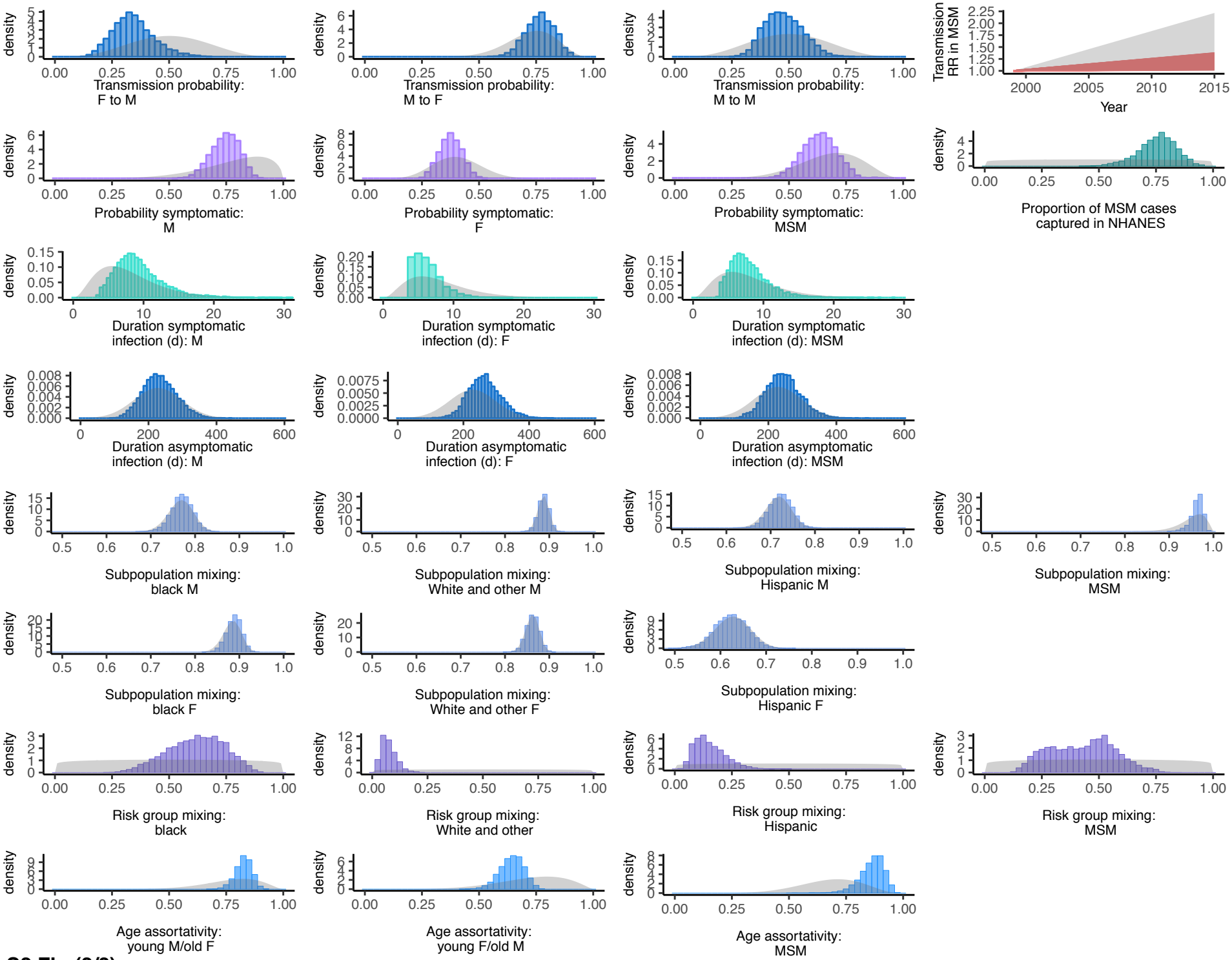

A
Proportion of partnerships with same age group
1.00
0.75
0.50
0.25
0.00
F 15–24y
F 25–39y
M 15–24y
M 25–39y
Population
B
Proportion of partnerships with same subpopulation
Black F
Black M
Hispanic F
Hispanic M
White and other F
White and other M
Population
Data
Model
C
Proportion of reported cases reporting symptoms
F
M: heterosexual
M: MSM
Population
D
Proportion of male cases diagnosed in MSM
*
2010
2012
2014
Year

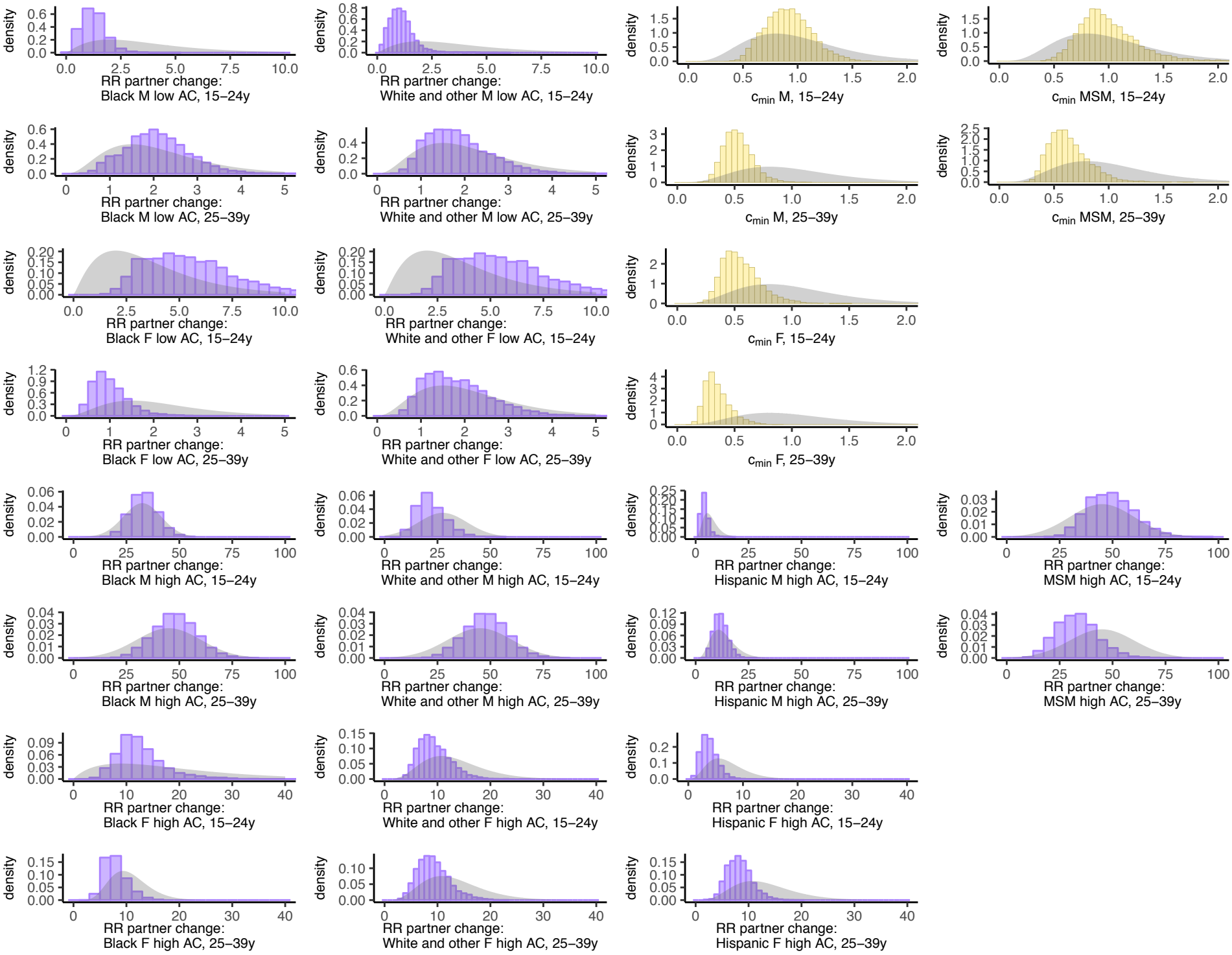
S1 Fig


Black M:
15–24y
Hispanic, white and other M:
15–24y
MSM:
15–24y
Black F:
15–24y
Hispanic, white and other F:
15–24y
Black M:
25–39y
Hispanic, white and other M:
25–39y
MSM:
25–39y
Black F:
25–39y
Hispanic, white and other F:
25–39y
Asymptomatic screen and treat rate
Year
density
RR screen:
Hispanic M
RR screen:
Hispanic F
RR screen:
high sexual activity group
Reporting probability
RR report symptomatic:
black M
RR report symptomatic:
Hispanic, white and other M
RR report symptomatic:
black F
RR report symptomatic:
Hispanic, white and other F

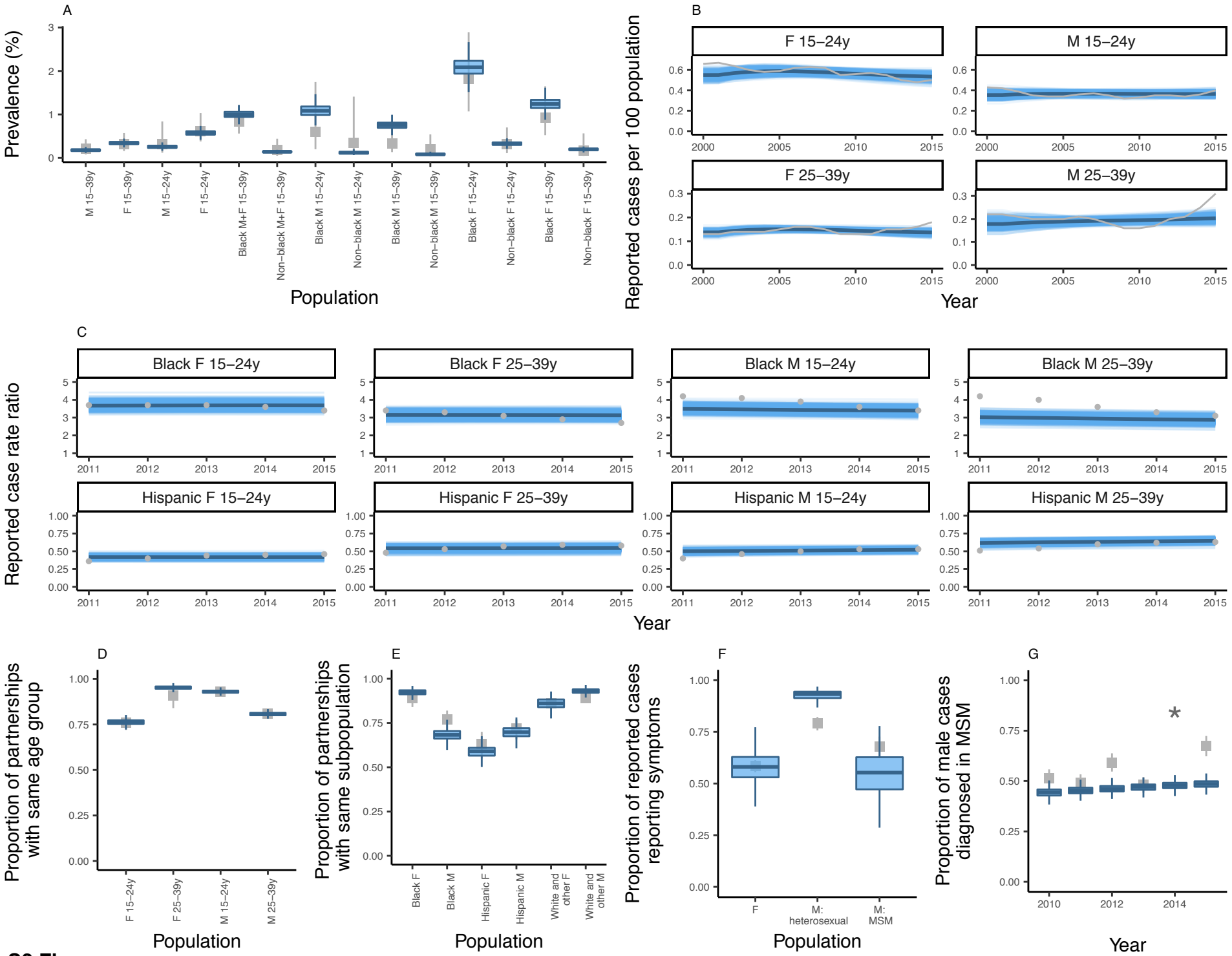
S2 Fig (1/3)


density
Transmission probability: F to M
Transmission probability: M to F
Transmission probability: M to M
Transmission RR in MSM
Year
Probability symptomatic: M
Probability symptomatic: F
Probability symptomatic: MSM
Proportion of MSM cases captured in NHANES
Duration symptomatic infection (d): M
Duration symptomatic infection (d): F
Duration symptomatic infection (d): MSM
Duration asymptomatic infection (d): M
Duration asymptomatic infection (d): F
Duration asymptomatic infection (d): MSM
Subpopulation mixing: black M
Subpopulation mixing: White and other M
Subpopulation mixing: Hispanic M
Subpopulation mixing: MSM
Subpopulation mixing: black F
Subpopulation mixing: White and other F
Subpopulation mixing: Hispanic F
Risk group mixing: black
Risk group mixing: White and other
Risk group mixing: Hispanic
Risk group mixing: MSM
Age assortativity: young M/old F
Age assortativity: young F/old M
Age assortativity: MSM

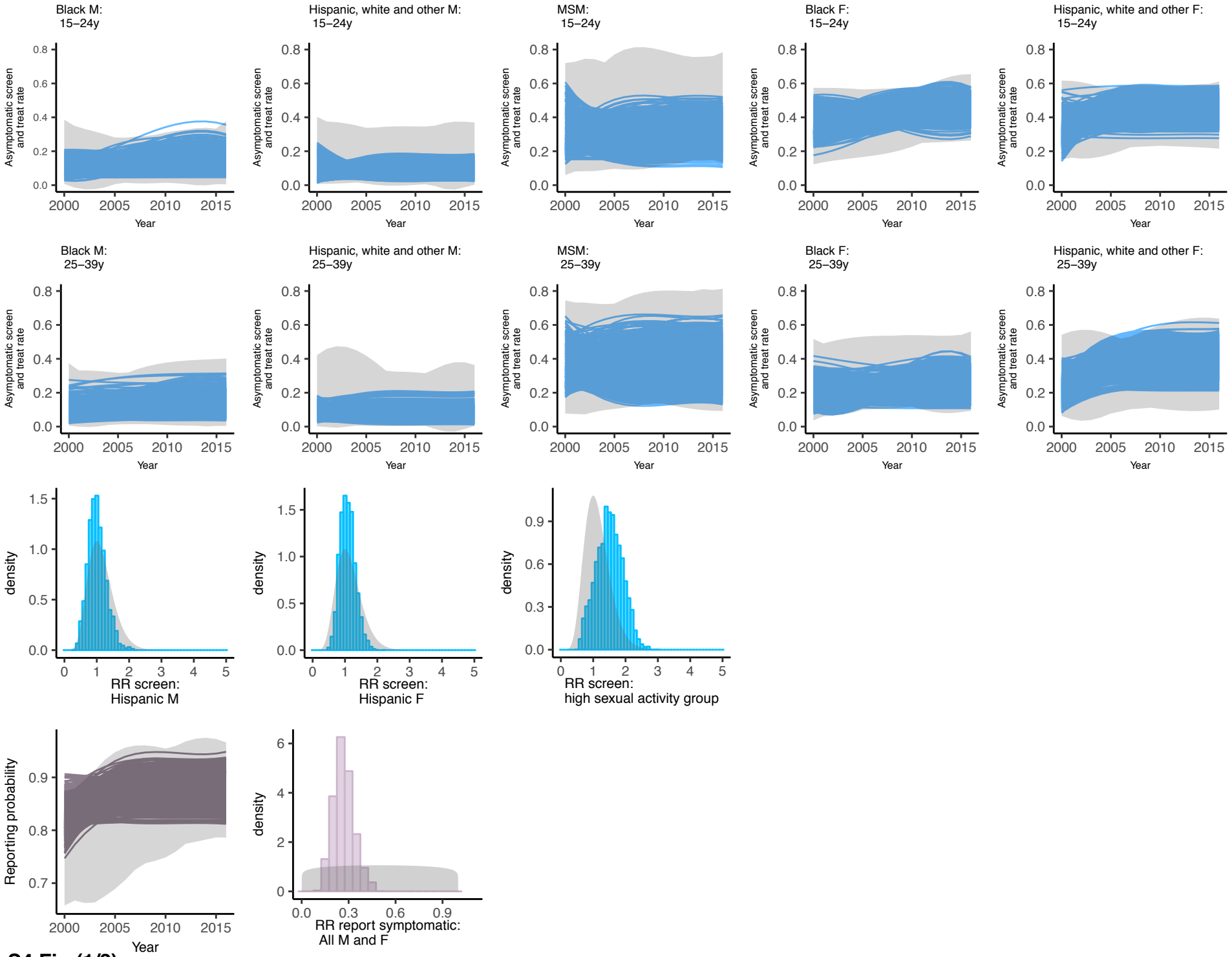
S2 Fig (2/3)


density
RR partner change:
Black M low AC, 15–24y
RR partner change:
White and other M low AC, 15–24y
c_{min} M, 15–24y
c_{min} MSM, 15–24y
RR partner change:
Black M low AC, 25–39y
RR partner change:
White and other M low AC, 25–39y
c_{min} M, 25–39y
c_{min} MSM, 25–39y
RR partner change:
Black F low AC, 15–24y
RR partner change:
White and other F low AC, 15–24y
c_{min} F, 15–24y
RR partner change:
Black F low AC, 25–39y
RR partner change:
White and other F low AC, 25–39y
c_{min} F, 25–39y
RR partner change:
Black M high AC, 15–24y
RR partner change:
White and other M high AC, 15–24y
RR partner change:
Hispanic M high AC, 15–24y
RR partner change:
MSM high AC, 15–24y
RR partner change:
Black M high AC, 25–39y
RR partner change:
White and other M high AC, 25–39y
RR partner change:
Hispanic M high AC, 25–39y
RR partner change:
MSM high AC, 25–39y
RR partner change:
Black F high AC, 15–24y
RR partner change:
White and other F high AC, 15–24y
RR partner change:
Hispanic F high AC, 15–24y
RR partner change:
Black F high AC, 25–39y
RR partner change:
White and other F high AC, 25–39y
RR partner change:
Hispanic F high AC, 25–39y

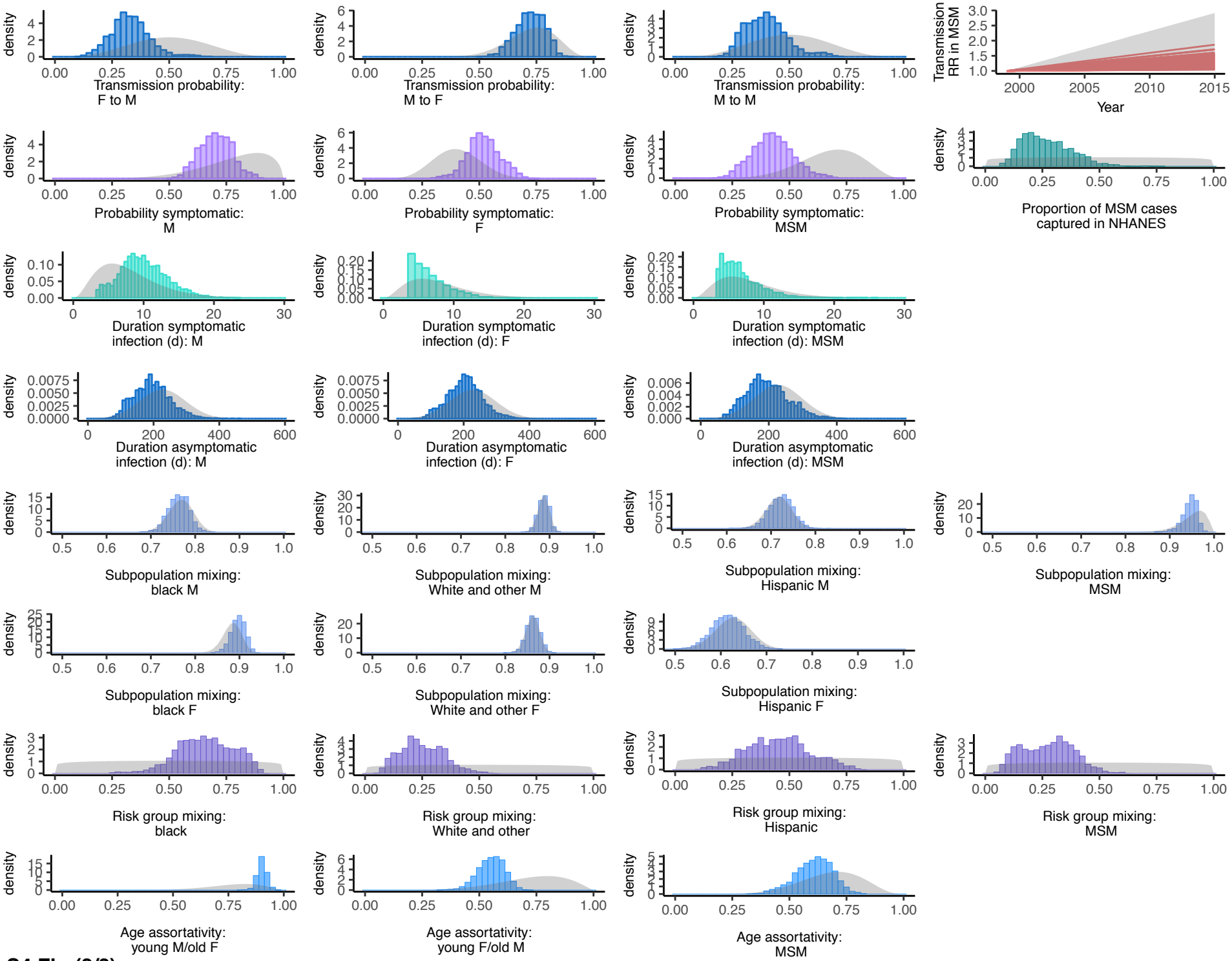
S2 Fig (3/3)


A
Prevalence (%)
M 15–39y
F 15–39y
M 15–24y
F 15–24y
Black M+F 15–39y
Non–black M+F 15–39y
Black M 15–24y
Non–black M 15–24y
Black M 15–39y
Non–black M 15–39y
Black F 15–24y
Non–black F 15–24y
Black F 15–39y
Non–black F 15–39y
Population
B
Reported cases per 100 population
F 15–24y
M 15–24y
F 25–39y
M 25–39y
Year
C
Reported case rate ratio
Black F 15–24y
Black F 25–39y
Black M 15–24y
Black M 25–39y
Hispanic F 15–24y
Hispanic F 25–39y
Hispanic M 15–24y
Hispanic M 25–39y
Year
D
Proportion of partnerships with same age group
F 15–24y
F 25–39y
M 15–24y
M 25–39y
Population
E
Proportion of partnerships with same subpopulation
Black F
Black M
Hispanic F
Hispanic M
White and other F
White and other M
Population
F
Proportion of reported cases reporting symptoms
F
M: heterosexual
M: MSM
Population
G
Proportion of male cases diagnosed in MSM
Year

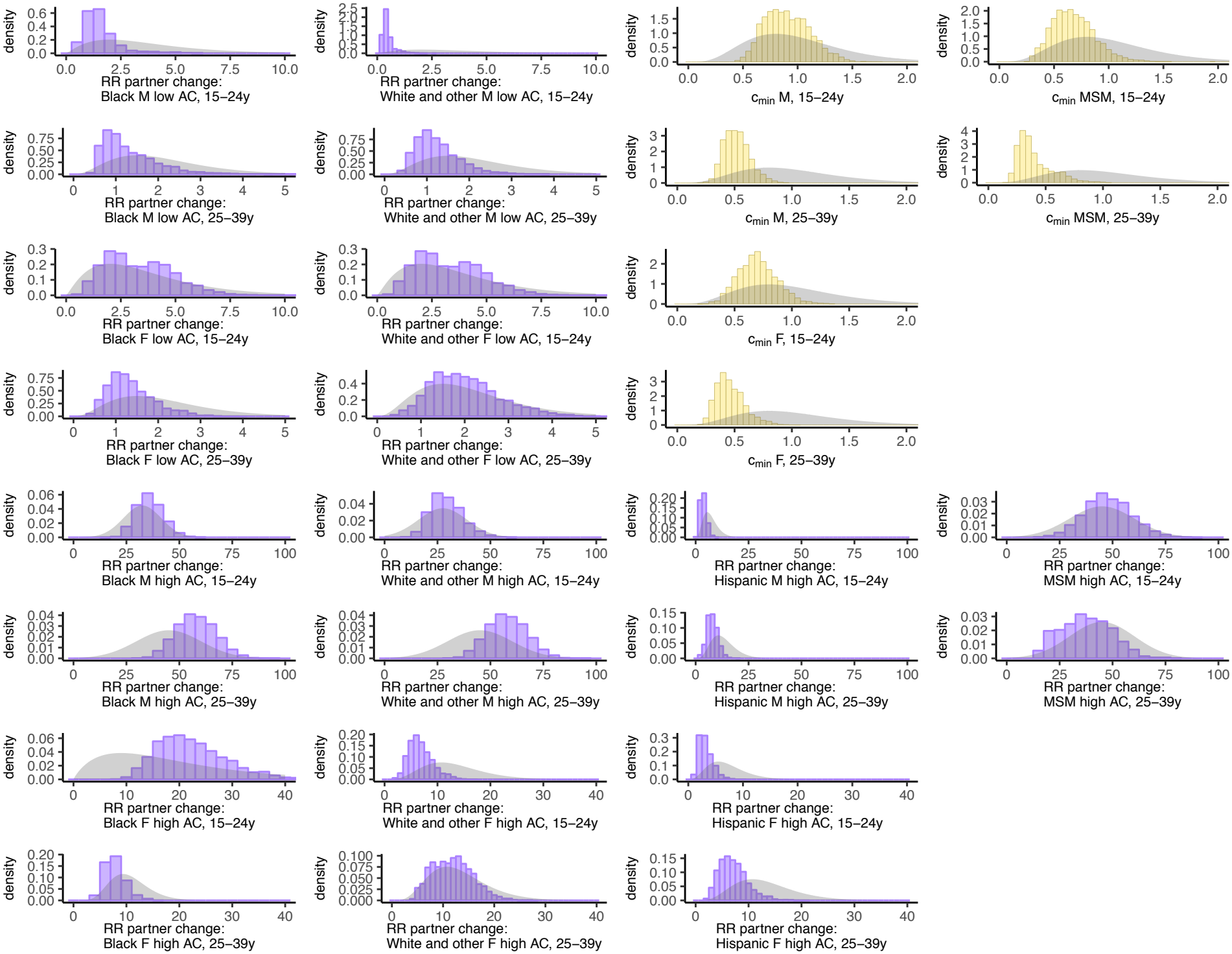
S3 Fig


Black M:
15–24y
Hispanic, white and other M:
15–24y
MSM:
15–24y
Black F:
15–24y
Hispanic, white and other F:
15–24y
Black M:
25–39y
Hispanic, white and other M:
25–39y
MSM:
25–39y
Black F:
25–39y
Hispanic, white and other F:
25–39y
Asymptomatic screen and treat rate
Year
density
RR screen:
Hispanic M
RR screen:
Hispanic F
RR screen:
high sexual activity group
Reporting probability
RR report symptomatic:
All M and F

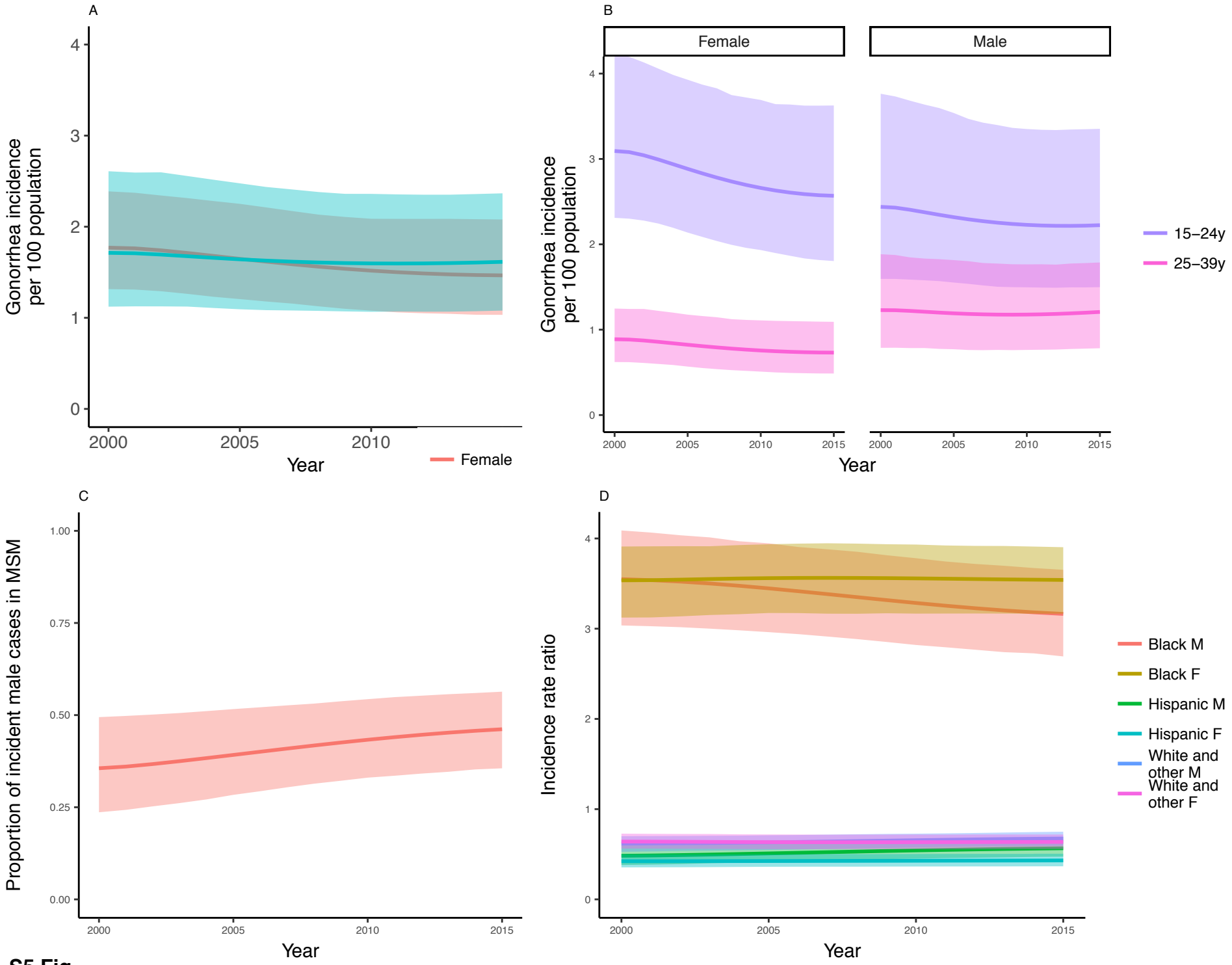
S4 Fig (1/3)


density
Transmission probability: F to M
Transmission probability: M to F
Transmission probability: M to M
Transmission RR in MSM
Year
Probability symptomatic: M
Probability symptomatic: F
Probability symptomatic: MSM
Proportion of MSM cases captured in NHANES
Duration symptomatic infection (d): M
Duration symptomatic infection (d): F
Duration symptomatic infection (d): MSM
Duration asymptomatic infection (d): M
Duration asymptomatic infection (d): F
Duration asymptomatic infection (d): MSM
Subpopulation mixing: black M
Subpopulation mixing: White and other M
Subpopulation mixing: Hispanic M
Subpopulation mixing: MSM
Subpopulation mixing: black F
Subpopulation mixing: White and other F
Subpopulation mixing: Hispanic F
Risk group mixing: black
Risk group mixing: White and other
Risk group mixing: Hispanic
Risk group mixing: MSM
Age assortativity: young M/old F
Age assortativity: young F/old M
Age assortativity: MSM

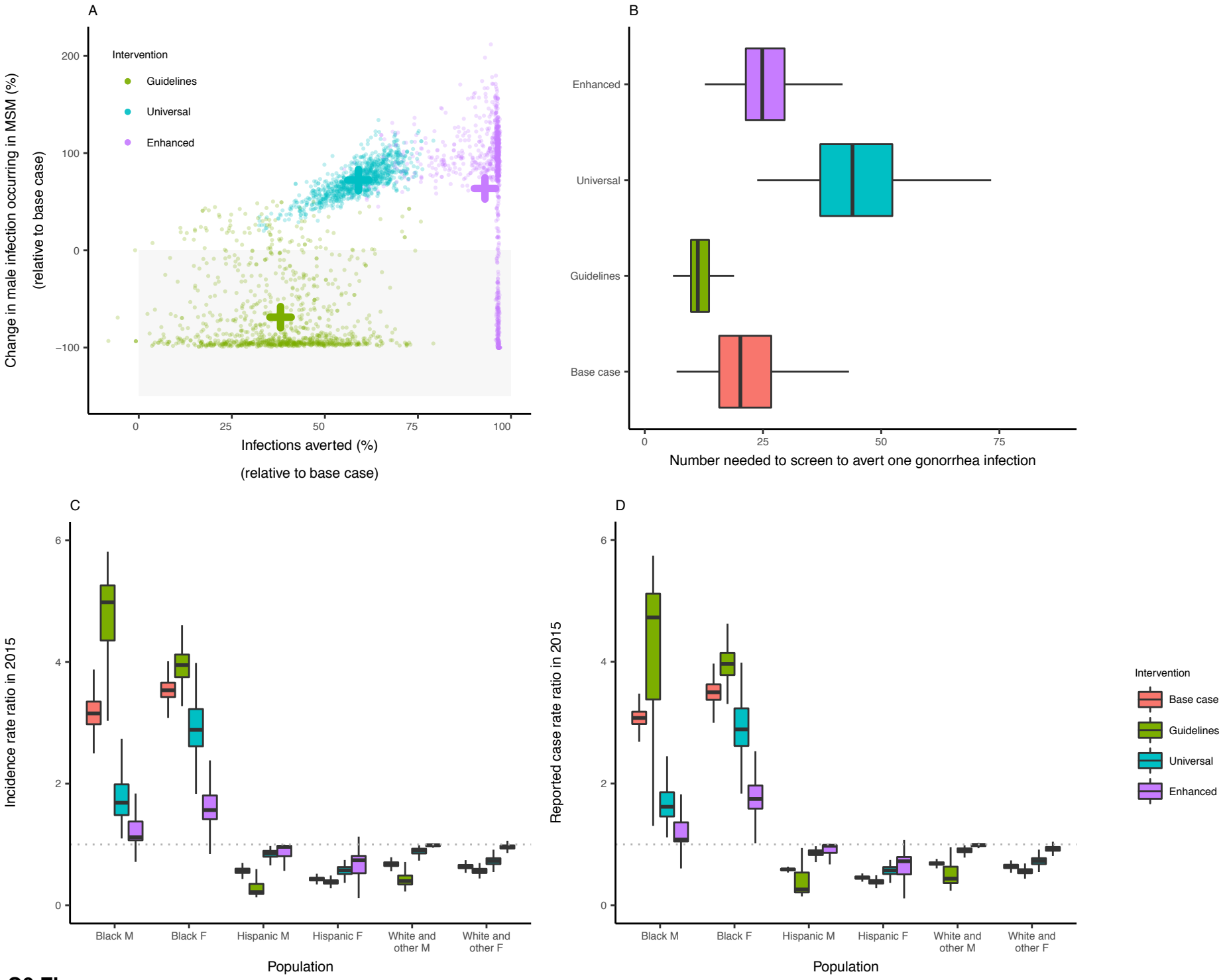
S4 Fig (2/3)


density
RR partner change:
Black M low AC, 15–24y
RR partner change:
White and other M low AC, 15–24y
c_{min} M, 15–24y
c_{min} MSM, 15–24y
RR partner change:
Black M low AC, 25–39y
RR partner change:
White and other M low AC, 25–39y
c_{min} M, 25–39y
c_{min} MSM, 25–39y
RR partner change:
Black F low AC, 15–24y
RR partner change:
White and other F low AC, 15–24y
c_{min} F, 15–24y
RR partner change:
Black F low AC, 25–39y
RR partner change:
White and other F low AC, 25–39y
c_{min} F, 25–39y
RR partner change:
Black M high AC, 15–24y
RR partner change:
White and other M high AC, 15–24y
RR partner change:
Hispanic M high AC, 15–24y
RR partner change:
MSM high AC, 15–24y
RR partner change:
Black M high AC, 25–39y
RR partner change:
White and other M high AC, 25–39y
RR partner change:
Hispanic M high AC, 25–39y
RR partner change:
MSM high AC, 25–39y
RR partner change:
Black F high AC, 15–24y
RR partner change:
White and other F high AC, 15–24y
RR partner change:
Hispanic F high AC, 15–24y
RR partner change:
Black F high AC, 25–39y
RR partner change:
White and other F high AC, 25–39y
RR partner change:
Hispanic F high AC, 25–39y

S4 Fig (3/3)


A
Gonorrhea incidence per 100 population
Year
Female
B
Female
Male
Gonorrhea incidence per 100 population
Year
15–24y
25–39y
C
Proportion of incident male cases in MSM
Year
D
Incidence rate ratio
Year
Black M
Black F
Hispanic M
Hispanic F
White and other M
White and other F

S5 Fig


A
Intervention
Guidelines
Universal
Enhanced
Change in male infection occurring in MSM (%)
(relative to base case)
200
100
0
−100
0
25
50
75
100
Infections averted (%)
(relative to base case)
B
Enhanced
Universal
Guidelines
Base case
0
25
50
75
Number needed to screen to avert one gonorrhea infection
C
Incidence rate ratio in 2015
6
4
2
0
Black M
Black F
Hispanic M
Hispanic F
White and other M
White and other F
Population
D
Reported case rate ratio in 2015
6
4
2
0
Black M
Black F
Hispanic M
Hispanic F
White and other M
White and other F
Population
Intervention
Base case
Guidelines
Universal
Enhanced

S6 Fig