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Supplementary appendix

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SUPPLEMENTARY APPENDIX

Racial/ethnic disparities in case presentation and outcomes of care among US-born persons diagnosed with tuberculosis, 2003-2019

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Table S1: Demographic characteristics by race/ethnicity among US-born individuals diagnosed with tuberculosis, 2003-2019

	Race/ethnicity							Total n (%)
	White n (%)	Black n (%)	Hispanic n (%)	Asian n (%)	American Indian/Alaska Native n (%)	Native Hawaiian/other Pacific Islander n (%)	Other n (%)	
Total	23,822 (32.9)	30,198 (41.7)	13,181 (18.2)	2,268 (3.1)	2,176 (3.0)	425 (0.6)	299 (0.4)	72,369
Male	16,235 (68.2)	19,453 (64.4)	7,875 (59.7)	1,242 (54.8)	1,305 (60.0)	233 (54.8)	93 (64.5)	46,536 (64.3)
Age group (years)								
<1 year	94 (0.4)	276 (0.9)	615 (4.7)	141 (6.2)	15 (0.7)	18 (4.2)	6 (2.0)	1,165 (1.6)
1-4 years	335 (1.4)	1,016 (3.4)	2,026 (15.4)	403 (17.8)	88 (4.0)	81 (19.1)	41 (13.7)	3,990 (5.5)
5-14 years	194 (0.8)	755 (2.5)	1,146 (8.7)	252 (11.1)	84 (3.9)	54 (12.7)	17 (5.7)	2,502 (3.5)
15-24 years	771 (3.2)	2,160 (7.2)	2,031 (15.4)	558 (24.6)	168 (7.7)	65 (15.3)	29 (9.7)	5,782 (8.0)
25-34 years	1,489 (6.3)	3,253 (10.8)	1,598 (12.1)	361 (15.9)	194 (8.9)	55 (12.9)	32 (10.7)	6,982 (9.6)
35-44 years	2,751 (11.5)	4,892 (16.2)	1,448 (11.0)	137 (6.0)	328 (15.1)	38 (8.9)	43 (14.4)	9,637 (13.3)
45-54 years	4,853 (20.4)	6,999 (23.2)	1,474 (11.2)	92 (4.1)	467 (21.5)	33 (7.8)	38 (12.7)	13,956 (19.3)
55-64 years	4,661 (19.6)	5,223 (17.3)	1,164 (8.8)	86 (3.8)	364 (16.7)	39 (9.2)	48 (16.1)	11,585 (16.0)
65-74 years	3,305 (13.9)	2,765 (9.2)	837 (6.4)	72 (3.2)	232 (10.7)	23 (5.4)	22 (7.4)	7,256 (10.0)
75-84 years	3,523 (14.8)	1,952 (6.5)	609 (4.6)	94 (4.1)	164 (7.5)	17 (4.0)	13 (4.3)	6,372 (8.8)
85+ years	1,844 (7.7)	906 (3.0)	233 (1.8)	72 (3.2)	72 (3.3)	2 (0.5)	10 (3.3)	3,139 (4.3)
Regional division								
New England	664 (2.8)	349 (1.2.0)	243 (1.8)	65 (2.9)	3 (0.1)	1 (0.2)	2 (0.7)	1,327 (1.8)
Middle Atlantic	2,216 (9.3)	3,396 (11.2)	1,446 (11.0)	247 (10.9)	5 (0.2)	6 (1.4)	28 (9.4)	7,344 (10.1)
East North Central	2,715 (11.4)	3,604 (11.9)	649 (4.9)	196 (8.6)	36 (1.7)	9 (2.1)	8 (2.7)	7,217 (10.0)
West North Central	1,065 (4.5)	615 (2.0)	204 (1.5)	72 (3.2)	209 (9.6)	38 (8.9)	13 (4.3)	2,216 (3.1)
South Atlantic	5,554 (23.3)	10,749 (35.6)	1,299 (9.9)	276 (12.2)	165 (7.6)	16 (3.8)	68 (22.7)	18,127 (25.0)
East South Central	2,916 (12.2)	3,409 (11.3)	183 (1.4)	27 (1.2)	18 (0.8)	6 (1.4)	8 (2.7)	6,567 (9.1)
West South Central	4,541 (19.1)	5,753 (19.1)	4,373 (33.2)	230 (10.1)	307 (14.1)	95 (22.4)	86 (28.8)	15,385 (21.3)
Mountain	1,030 (4.3)	284 (0.9)	960 (7.3)	71 (3.1)	545 (25.0)	16 (3.8)	13 (4.3)	2,919 (4.0)
Pacific	3,121 (13.1)	2,039 (6.8)	3,824 (29.0)	1,084 (47.8)	888 (40.8)	238 (56.0)	73 (24.4)	11,267 (15.6)
Disease site*								
Pulmonary	18,940 (79.5)	21,783 (72.2)	9,135 (69.3)	1,583 (69.9)	1,620 (74.5)	260 (61.3)	217 (72.6)	53,538 (74.0)
Extrapulmonary	3,329 (14.0)	5,491 (18.2)	2,681 (20.3)	430 (19.0)	336 (15.4)	85 (20.0)	50 (16.7)	12,402 (17.1)
Both	1,544 (6.5)	2,907 (9.6)	1,364 (10.3)	253 (11.2)	219 (10.1)	79 (18.6)	32 (10.7)	6,398 (8.8)

* Disease site unknown for 31 persons

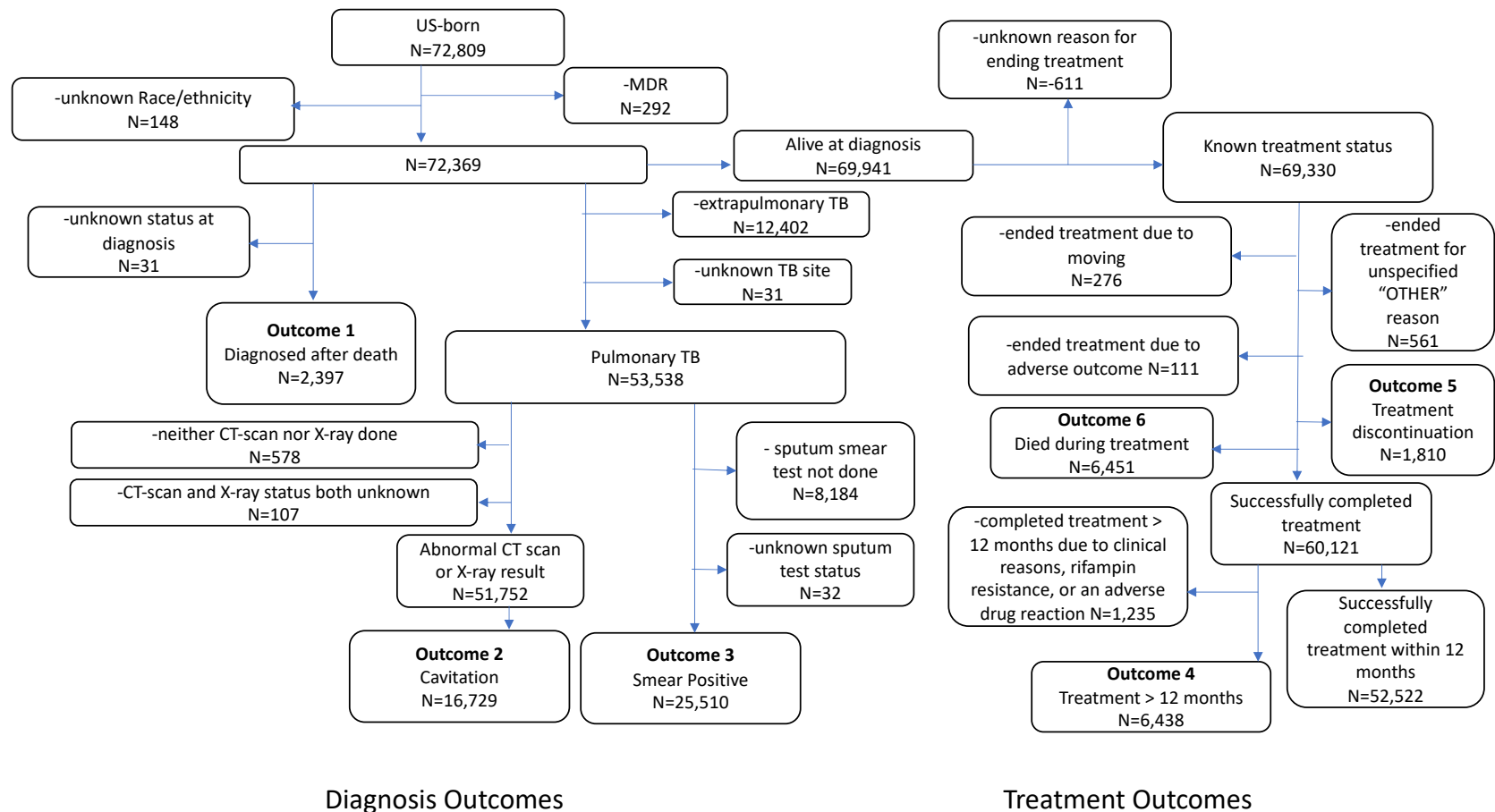


Figure S1: Flow chart of outcomes

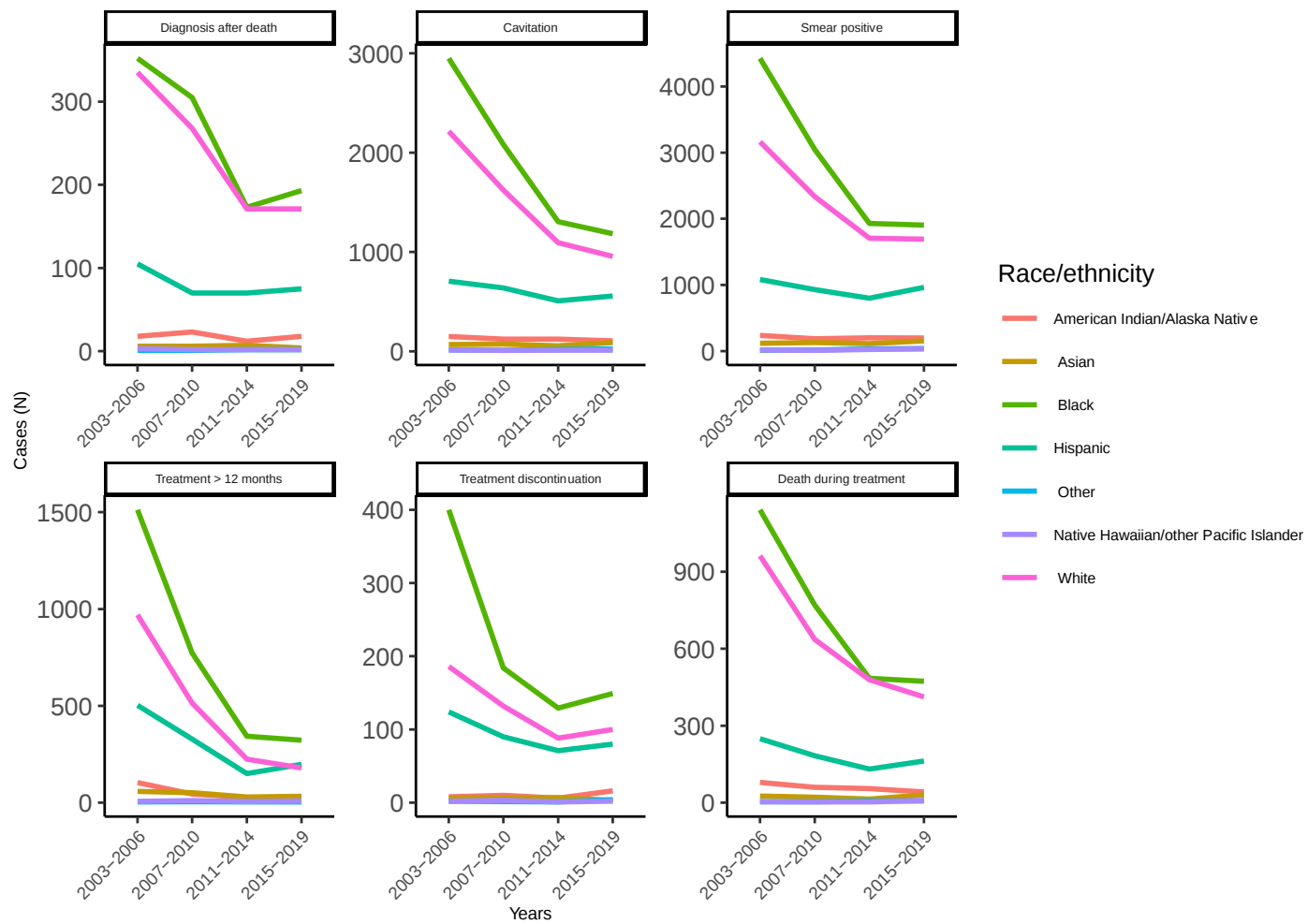
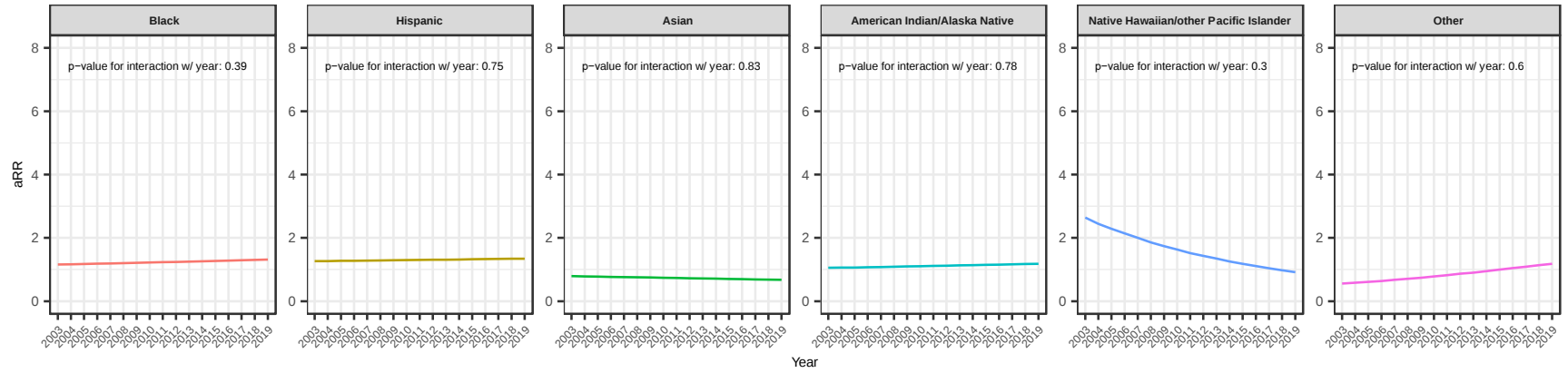


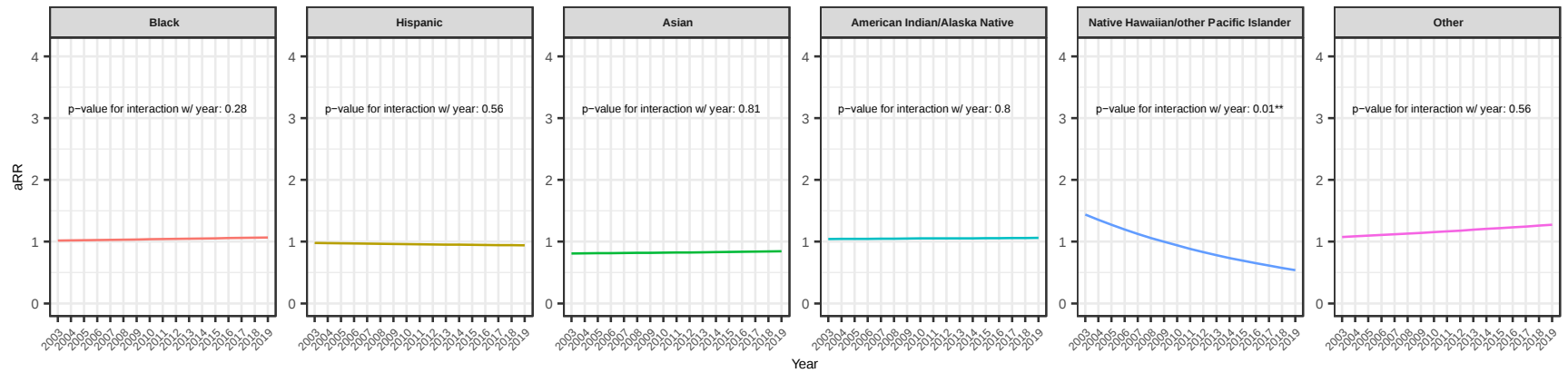
Figure S2: Total number of cases over time by race/ethnicity for case presentation and diagnosis outcomes

Diagnosis after death



**=p<0.05

Cavitation



**=p<0.05

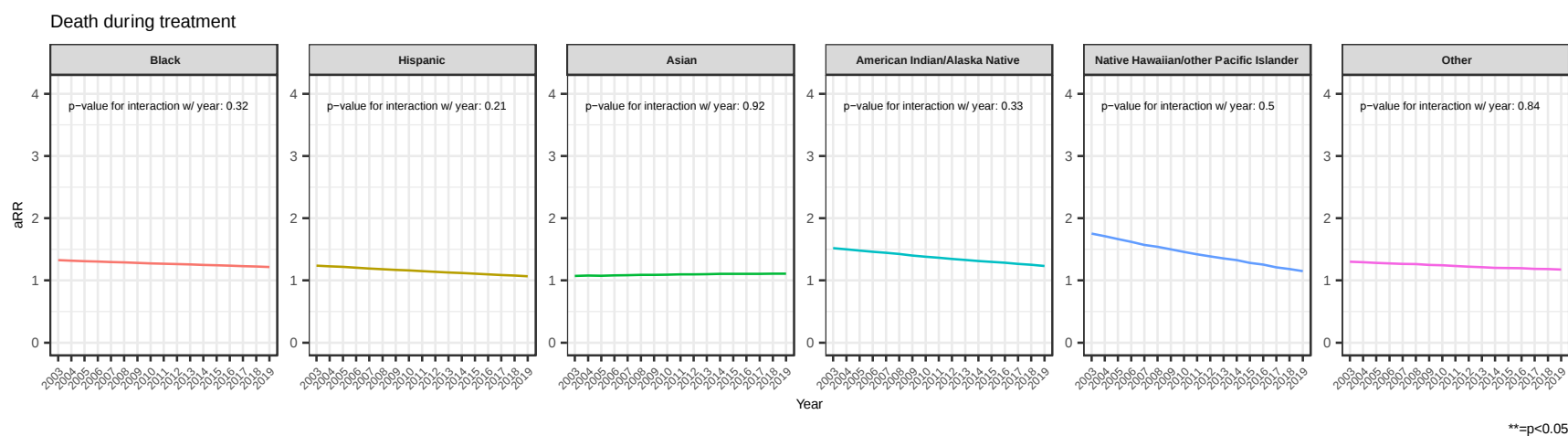


Figure S3: Estimated index of disparity over time for case presentation and treatment outcomes. Solid line indicates point estimates and shaded region indicates 95% confidence intervals. Cavitation estimates are restricted to persons with pulmonary TB and a recorded abnormal radiograph or computed tomography (CT) scan result.

Table S2: Sensitivity analysis – Diagnosis after death by race/ethnicity among US-born persons diagnosed with TB, United States 2003-2019

	Adjusting for age and sex only aRR (95% CI)	Adjusting for division (Table 1 model) aRR* (95% CI)	Adjusting for region aRR* (95% CI)	Adjusting for urban/rural aRR* (95% CI)
White	Ref	Ref	Ref	Ref
Black	1.23 (1.13–1.34)	1.22 (1.12–1.33)	1.21 (1.11–1.33)	1.26 (1.15–1.37)
Hispanic	1.32 (1.16–1.50)	1.30 (1.14–1.47)	1.33 (1.17–1.51)	1.35 (1.18–1.53)
Asian	0.67 (0.43–0.98)	0.74 (0.48–1.09)	0.71 (0.45–1.04)	0.68 (0.44–1.00)
American Indian/Alaska Native	1.15 (0.90–1.44)	1.09 (0.85–1.39)	1.22 (0.95–1.54)	1.12 (0.87–1.41)
Native Hawaiian/other Pacific Islander	1.40 (0.68–2.49)	1.54 (0.75–2.75)	1.49 (0.72–2.65)	1.40 (0.68–2.49)
Other	0.88 (0.35–1.75)	0.88 (0.35–1.75)	0.88 (0.35–1.74)	0.87 (0.35–1.74)
Akaike information criterion (AIC)	20940.31	19367.3	19377.4	19378.9

	Adjusting for categorical time (4 periods) aRR** (95% CI)	Adjusting for year dummy variables aRR** (95% CI)	Model with a cubic spline for time aRR** (95% CI)	Adjusting for time random effects for time aRR** (95% CI)
White	Ref	Ref	Ref	Ref
Black	1.22 (1.11–1.33)	1.22 (1.12–1.33)	1.22 (1.12–1.33)	1.22 (1.12–1.33)
Hispanic	1.29 (1.13–1.47)	1.30 (1.14–1.47)	1.30 (1.14–1.47)	1.30 (1.14–1.48)
Asian	0.75 (0.47–1.11)	0.74 (0.47–1.09)	0.74 (0.48–1.09)	0.74 (0.49–1.12)
American Indian/Alaska Native	1.14 (0.88–1.45)	1.09 (0.85–1.39)	1.09 (0.85–1.39)	1.09 (0.85–1.40)
Native Hawaiian/other Pacific Islander	1.62 (0.79–2.88)	1.56 (0.76–2.78)	1.54 (0.75–2.75)	1.55 (0.81–2.97)
Other	0.80 (0.29–1.70)	0.90 (0.36–1.79)	0.88 (0.35–1.75)	0.89 (0.40–1.96)
Akaike information criterion (AIC)	18701.5	19377.4	19370.5	19367.4

*Also adjusted for categorical age, sex, and calendar year

**Also adjusted for sex, categorical age, and regional division

Table S3: Sensitivity analysis – cavitation by race/ethnicity among US-born persons diagnosed with TB, United States 2003-2019

	All TB cases (pulmonary and/or extrapulmonary) aRR* (95% CI)	Pulmonary TB cases + concomitant pulmonary and extrapulmonary aRR* (95% CI)	Pulmonary only TB cases excluding HIV positive ^{a,b} aRR* (95% CI)	Pulmonary only TB cases, confirmed HIV negative ^{a,b} aRR* (95% CI)	Adjusting for age and sex only aRR (95% CI)	Adjusting for division ^a (<i>Table 1 model</i>) aRR* (95% CI)
White	Ref	Ref	Ref	Ref	Ref	Ref
Black	0.94 (0.91–0.96)	0.99 (0.97–1.02)	1.10 (1.05–1.15)	1.05 (1.00–1.11)	1.05 (1.02–1.08)	1.08 (1.06–1.10)
Hispanic	0.88 (0.84–0.91)	0.92 (0.88–1.06)	0.99 (0.92–1.05)	0.93 (0.87–1.00)	0.96 (0.92–1.00)	1.08 (1.05–1.10)
Asian	0.74 (0.67–0.82)	0.79 (0.71–0.87)	0.83 (0.71–0.96)	0.77 (0.66–0.90)	0.73 (0.65–0.80)	0.95 (0.89–1.01)
American Indian/Alaska Native	1.01 (0.93–1.08)	1.02 (0.94–1.10)	1.09 (0.96–1.22)	1.06 (0.94–1.19)	0.96 (0.92–1.00)	1.06 (1.01–1.11)
Native Hawaiian/other Pacific Islander	0.77 (0.60–0.96)	0.82 (0.64–1.01)	1.24 (0.97–1.51)	0.77 (0.55–1.04)	0.79 (0.61–0.99)	1.08 (0.93–1.22)
Other	1.11 (0.91–1.32)	0.82 (0.64–1.01)	0.83 (0.57–1.14)	1.21 (0.95–1.48)	1.13 (0.93–1.33)	1.12 (0.98–1.25)
Akaike information criterion (AIC)	73761.4	21223.6	19057.1	20849.13	61378.09	60671.7
	Adjusting for region ^a aRR* (95% CI)	Adjusting for urban/rural ^a aRR* (95% CI)	Adjusting for categorical time (4 periods) ^a aRR** (95% CI)	Adjusting for year dummy variables ^a aRR** (95% CI)	Model with a cubic spline for time ^a aRR** (95% CI)	Adjusting for time random effects for time ^a aRR** (95% CI)
White	Ref	Ref	Ref	Ref	Ref	Ref
Black	1.02 (1.00–1.05)	1.08 (1.05–1.11)	1.08 (1.06–1.10)	1.08 (1.06–1.10)	1.08 (1.06–1.10)	1.08 (1.06–1.10)
Hispanic	1.01 (0.97–1.05)	0.99 (0.95–1.03)	1.08 (1.05–1.11)	1.07 (1.05–1.10)	1.07 (1.05–1.10)	1.08 (1.05–1.10)
Asian	0.81 (0.73–0.90)	0.77 (0.70–0.86)	0.95 (0.89–1.02)	0.95 (0.89–1.01)	0.95 (0.89–1.01)	0.95 (0.89–1.01)
American Indian/Alaska Native	1.07 (0.99–1.15)	0.90 (0.84–0.97)	1.06 (1.01–1.11)	1.06 (1.01–1.11)	1.06 (1.01–1.11)	1.06 (1.01–1.11)
Native Hawaiian/other Pacific Islander	0.87 (0.67–1.09)	0.80 (0.61–1.00)	1.05 (0.90–1.20)	1.08 (0.93–1.22)	1.08 (0.93–1.22)	1.08 (0.94–1.23)
Other	1.18 (0.98–1.39)	1.11 (0.91–1.31)	1.10 (0.96–1.24)	1.12 (0.98–1.25)	1.12 (0.98–1.25)	1.12 (0.99–1.26)
Akaike information criterion (AIC)	61016.1	61130.5	58639.1	60656.7	60646.5	60661.3

* Also adjusted for categorical age, sex, and calendar year

** Also adjusted for sex, categorical age, and regional division

^a: Among pulmonary cases with abnormal X-ray or CT scan^b: From 2011 onwards as HIV data not reported for CA before this year.

Table S4: Sensitivity analysis – smear positivity by race/ethnicity among US-born persons diagnosed with TB, United States, 2003-2019

	All TB cases (pulmonary and/or extrapulmonary) aRR* (95% CI)	Pulmonary TB cases + concomitant pulmonary and extrapulmonary aRR* (95% CI)	Pulmonary only TB excluding HIV positive ^{a,b} aRR* (95% CI)	Pulmonary only TB cases, confirmed HIV negative ^{a,b} aRR* (95% CI)	Adjusting for age and sex only aRR (95% CI)	Adjusting for division ^a (<i>Table 1 model</i>) aRR* (95% CI)
White	Ref	Ref	Ref	Ref	Ref	Ref
Black	1.00 (0.98–1.02)	1.05 (1.03–1.07)	1.07 (1.04–1.11)	1.08 (1.04–1.11)	1.08 (1.06–1.10)	1.08 (1.06–1.10)
Hispanic	1.02 (0.99–1.05)	1.05 (1.02–1.08)	1.06 (1.02–1.10)	1.06 (1.02–1.11)	1.07 (1.04–1.10)	1.08 (1.05–1.10)
Asian	0.89 (0.83–0.95)	0.92 (0.86–0.98)	0.93 (0.85–1.02)	0.94 (0.86–1.03)	0.94 (0.88–1.00)	0.95 (0.89–1.01)
American Indian/Alaska Native	1.08 (1.02–1.13)	1.06 (1.01–1.11)	1.06 (0.98–1.14)	1.05 (0.97–1.13)	1.05 (1.01–1.10)	1.06 (1.01–1.11)
Native Hawaiian/other Pacific Islander	0.93 (0.80–1.06)	1.01 (0.88–1.14)	1.18 (1.00–1.35)	1.19 (1.00–1.37)	1.08 (0.93–1.22)	1.08 (0.93–1.22)
Other	1.10 (0.96–1.23)	1.12 (0.99–1.25)	1.13 (0.96–1.29)	1.09 (0.91–1.25)	1.10 (0.97–1.23)	1.12 (0.98–1.25)
Akaike information criterion (AIC)	76506.4	60710.32	21473.3	19414.3	67893.57	60671.7
	Adjusting for region ^a aRR* (95% CI)	Adjusting for urban/rural ^a aRR* (95% CI)	Adjusting for categorical time (4 periods) ^a aRR** (95% CI)	Adjusting for year dummy variables ^a aRR** (95% CI)	Model with a cubic spline for time ^a aRR** (95% CI)	Adjusting for time random effects for time ^a aRR** (95% CI)
White	Ref	Ref	Ref	Ref	Ref	Ref
Black	1.08 (1.06–1.10)	1.09 (1.07–1.11)	1.08 (1.06–1.10)	1.08 (1.06–1.10)	1.08 (1.06–1.10)	1.08 (1.06–1.10)
Hispanic	1.08 (1.05–1.11)	1.08 (1.06–1.11)	1.08 (1.05–1.11)	1.07 (1.05–1.10)	1.07 (1.05–1.10)	1.08 (1.05–1.10)
Asian	0.95 (0.89–1.01)	0.96 (0.90–1.02)	0.95 (0.89–1.02)	0.95 (0.89–1.01)	0.95 (0.89–1.01)	0.95 (0.89–1.01)
American Indian/Alaska Native	1.06 (1.01–1.11)	1.03 (0.98–1.08)	1.06 (1.01–1.11)	1.06 (1.01–1.11)	1.06 (1.01–1.11)	1.06 (1.01–1.11)
Native Hawaiian/other Pacific Islander	1.07 (0.93–1.21)	1.07 (0.92–1.21)	1.05 (0.90–1.20)	1.08 (0.93–1.22)	1.08 (0.93–1.22)	1.08 (0.94–1.23)
Other	1.11 (0.98–1.24)	1.09 (0.95–1.22)	1.10 (0.96–1.24)	1.12 (0.98–1.25)	1.12 (0.98–1.25)	1.12 (0.99–1.26)
Akaike information criterion (AIC)	60683.2	60599.6	58639.1	60656.7	60646.5	60661.3

*Also adjusted for categorical age, sex, and calendar year

** Also adjusted for sex, categorical age, and regional division

^a: Among pulmonary cases with abnormal X-ray or CT scan

^b From 2011 onwards as HIV data not reported for CA before this year.

Table S5: Sensitivity analysis - treatment > 12 months by race/ethnicity among US-born persons diagnosed with TB, United States, 2003-2019

	Adjusting for age and sex only aRR(95% CI)	Adjusting for division (<i>Table 1 model</i>) aRR* (95% CI)	Adjusting for region aRR* (95% CI)	Adjusting for urban/rural aRR* (95% CI)
White	Ref	Ref	Ref	Ref
Black	1·18 (1·11–1·24)	1·20 (1·13–1·26)	1·16 (1·10–1·23)	1·13 (1·07–1·20)
Hispanic	1·12 (1·04–1·21)	1·09 (1·01–1·17)	1·15 (1·07–1·24)	1·16 (1·07–1·25)
Asian	0·94 (0·80–1·09)	0·97 (0·82–1·12)	0·99 (0·85–1·15)	1·01 (0·86–1·18)
American Indian/Alaska Native	1·14 (0·99–1·30)	1·20 (1·04–1·37)	1·20 (1·04–1·37)	1·26 (1·09–1·44)
Native Hawaiian/other Pacific Islander	0·98 (0·69–1·34)	1·10 (0·77–1·49)	1·16 (0·82–1·57)	1·20 (0·84–1·62)
Other	0·72 (0·44–1·11)	0·83 (0·50–1·27)	0·85 (0·51–1·29)	0·86 (0·52–1·30)
Akaike information criterion (AIC)	40367·93	39500·6	39645·4	39672·9

	Adjusting for categorical time (4 periods) aRR** (95% CI)	Adjusting for year dummy variables aRR** (95% CI)	Model with a cubic spline for time aRR** (95% CI)	Adjusting for time random effects for time aRR** (95% CI)
White	Ref	Ref	Ref	Ref
Black	1·19 (1·13–1·26)	1·19 (1·13–1·26)	1·19 (1·13–1·26)	1·19 (1·13–1·26)
Hispanic	1·09 (1·01–1·17)	1·09 (1·01–1·18)	1·09 (1·01–1·18)	1·09 (1·01–1·18)
Asian	0·95 (0·81–1·11)	0·97 (0·83–1·13)	0·97 (0·83–1·13)	0·97 (0·83–1·13)
American Indian/Alaska Native	1·20 (1·04–1·38)	1·20 (1·04–1·37)	1·20 (1·04–1·38)	1·19 (1·04–1·37)
Native Hawaiian/other Pacific Islander	1·09 (0·76–1·49)	1·10 (0·77–1·49)	1·09 (0·77–1·49)	1·09 (0·79–1·52)
Other	0·81 (0·48–1·25)	0·84 (0·51–1·28)	0·84 (0·51–1·27)	0·84 (0·53–1·32)
Akaike information criterion (AIC)	38478·8	39403·0	39412·6	39451·3

*Also adjusted for categorical age, sex, and calendar year

** Also adjusted for sex, categorical age, and regional division

Table S6: Sensitivity analysis - treatment discontinuation by race ethnicity among US-born persons diagnosed with TB, United States 2003-2019

	Adjusting for age and sex only aRR(95% CI)	Adjusting for division (Table 1 model) aRR* (95% CI)	Adjusting for region aRR* (95% CI)	Adjusting for urban/rural aRR* (95% CI)
White	Ref	Ref	Ref	Ref
Black	1.07 (0.97–1.19)	1.27 (1.13–1.42)	1.21 (1.08–1.35)	1.11 (1.00–1.24)
Hispanic	1.27 (1.12–1.43)	1.19 (1.04–1.38)	1.43 (1.24–1.65)	1.29 (1.12–1.49)
Asian	0.63 (0.44–0.86)	0.50 (0.31–0.75)	0.51 (0.32–0.77)	0.47 (0.30–0.70)
American Indian/Alaska Native	0.74 (0.54–0.97)	0.76 (0.54–1.03)	0.82 (0.59–1.12)	0.92 (0.66–1.26)
Native Hawaiian/other Pacific Islander	1.32 (0.75–2.12)	0.99 (0.45–1.85)	1.05 (0.48–1.95)	1.06 (0.49–1.97)
Other	1.08 (0.52–1.93)	1.11 (0.48–2.12)	1.18 (0.51–2.26)	1.16 (0.50–2.23)
Akaike information criterion (AIC)	19140.03	15979.2	16197.7	16158.1

	Adjusting for categorical time (4 periods) aRR** (95% CI)	Adjusting for year dummy variables aRR** (95% CI)	Model with a cubic spline for time aRR** (95% CI)	Adjusting for time random effects for time aRR** (95% CI)
White	Ref	Ref	Ref	Ref
Black	1.24 (1.11–1.39)	1.27 (1.14–1.42)	1.27 (1.13–1.42)	1.27 (1.14–1.42)
Hispanic	1.20 (1.03–1.38)	1.19 (1.03–1.37)	1.19 (1.03–1.37)	1.19 (1.03–1.37)
Asian	0.52 (0.33–0.79)	0.49 (0.31–0.74)	0.49 (0.31–0.74)	0.49 (0.32–0.76)
American Indian/Alaska Native	0.70 (0.49–0.97)	0.76 (0.54–1.03)	0.76 (0.54–1.03)	0.75 (0.55–1.04)
Native Hawaiian/other Pacific Islander	1.04 (0.47–1.93)	0.99 (0.45–1.84)	0.98 (0.45–1.82)	0.99 (0.49–1.97)
Other	1.01 (0.41–2.03)	1.10 (0.47–2.10)	1.10 (0.48–2.11)	1.10 (0.53–2.28)
Akaike information criterion (AIC)	15350.5	15969.5	15960.5	15971.2

*Also adjusted for categorical age, sex, and calendar year

** Also adjusted for sex, categorical age, and regional division

Table S7: Sensitivity analysis –death during treatment by race/ethnicity among US-born persons diagnosed with TB, United States, 2003-2019

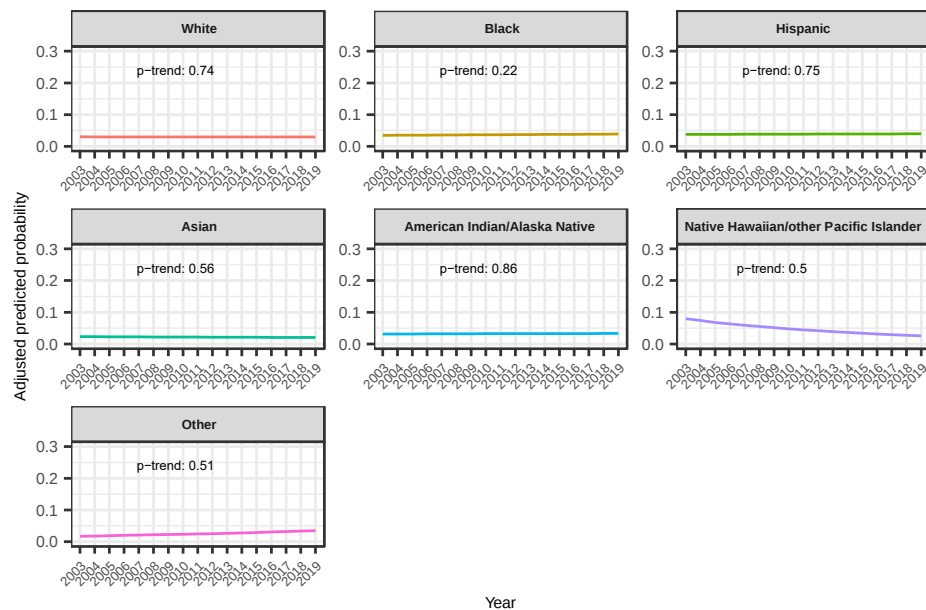
	Adjusting for age and sex only aRR(95% CI)	Adjusting for division (<i>Table 1 model</i>) aRR* (95% CI)	Adjusting for region aRR* (95% CI)	Adjusting for urban/rural aRR* (95% CI)
White	Ref	Ref	Ref	Ref
Black	1.28 (1.22–1.34)	1.32 (1.25–1.38)	1.32 (1.26–1.39)	1.27 (1.20–1.33)
Hispanic	1.20 (1.11–1.29)	1.19 (1.10–1.29)	1.21 (1.12–1.31)	1.16 (1.07–1.25)
Asian	1.11 (0.92–1.31)	1.10 (0.90–1.33)	1.11 (0.91–1.33)	1.05 (0.86–1.26)
American Indian/Alaska Native	1.39 (1.23–1.55)	1.47 (1.29–1.66)	1.47 (1.30–1.66)	1.57 (1.39–1.77)
Native Hawaiian/other Pacific Islander	1.41 (0.95–1.97)	1.30 (0.82–1.91)	1.30 (0.82–1.91)	1.26 (0.79–1.84)
Other	1.22 (0.95–1.97)	1.25 (0.83–1.77)	1.26 (0.83–1.78)	1.26 (0.83–1.76)
Akaike information criterion (AIC)	39560.14	37212.2	37212.2	37140.3

	Adjusting for categorical time (4 periods) aRR** (95% CI)	Adjusting for year dummy variables ^a aRR** (95% CI)	Model with a cubic spline for time aRR** (95% CI)	Adjusting for time random effects for time aRR** (95% CI)
White	Ref	Ref	Ref	Ref
Black	1.32 (1.25–1.38)	1.32 (1.25–1.38)	1.32 (1.25–1.38)	1.32 (1.25–1.38)
Hispanic	1.19 (1.10–1.29)	1.19 (1.10–1.29)	1.19 (1.10–1.29)	1.19 (1.10–1.28)
Asian	1.13 (0.92–1.36)	1.10 (0.90–1.33)	1.10 (0.90–1.33)	1.10 (0.91–1.33)
American Indian/Alaska Native	1.45 (1.27–1.64)	1.47 (1.29–1.66)	1.47 (1.29–1.66)	1.46 (1.29–1.66)
Native Hawaiian/other Pacific Islander	1.23 (0.75–1.84)	1.31 (0.82–1.92)	1.30 (0.82–1.91)	1.29 (0.85–1.97)
Other	1.30 (0.85–1.84)	1.25 (0.83–1.77)	1.25 (0.83–1.77)	1.24 (0.85–1.81)
Akaike information criterion (AIC)	35925.8	37220.4	37210.9	37222.0

^aAlso adjusted for categorical age, sex, and calendar year

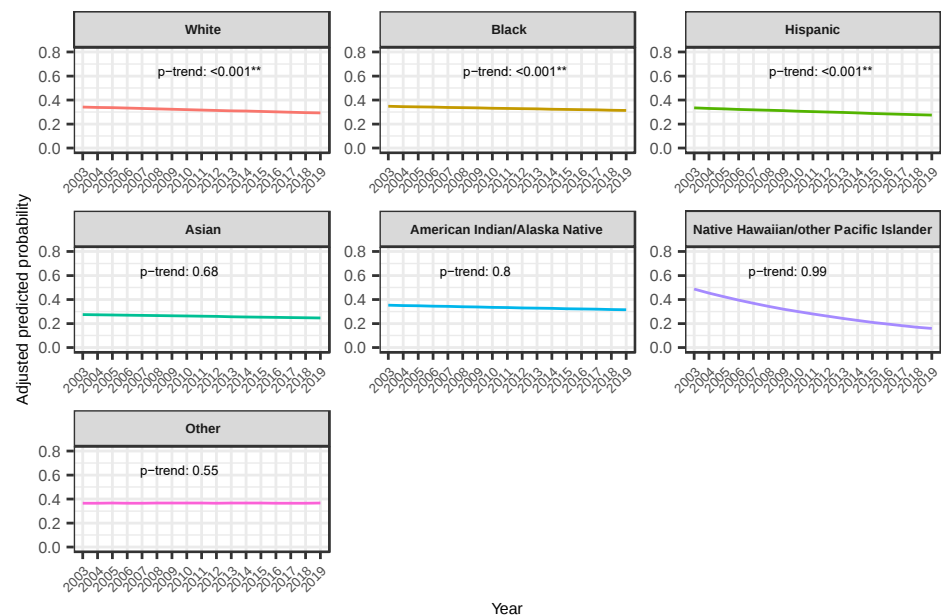
^{**}Also adjusted for sex, categorical age, and regional division

Probability of diagnosis after death



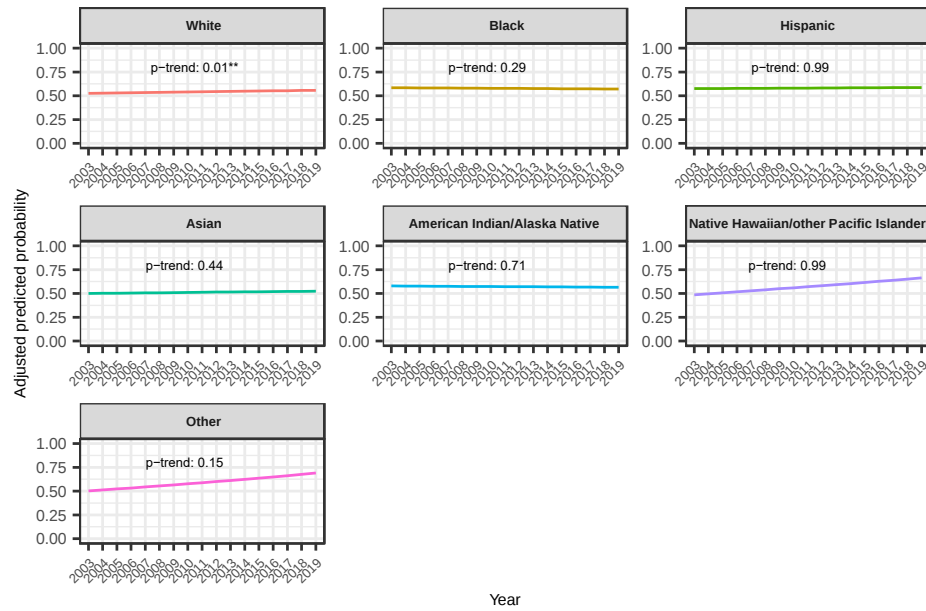
**=p<0.05

Probability of cavitation



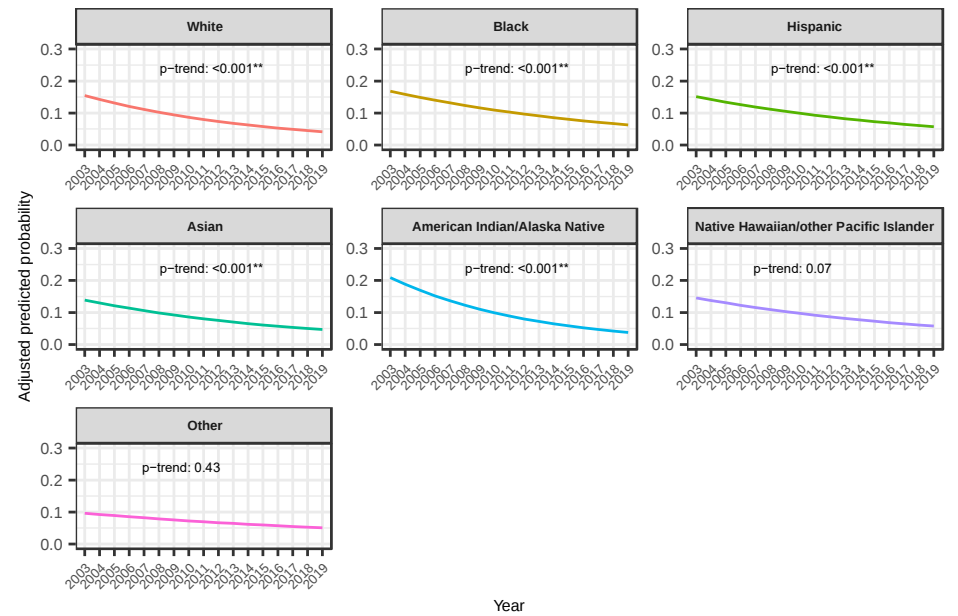
**=p<0.05

Probability of smear positivity



**=p<0.05

Probability of treatment over 12 months



**=p<0.05

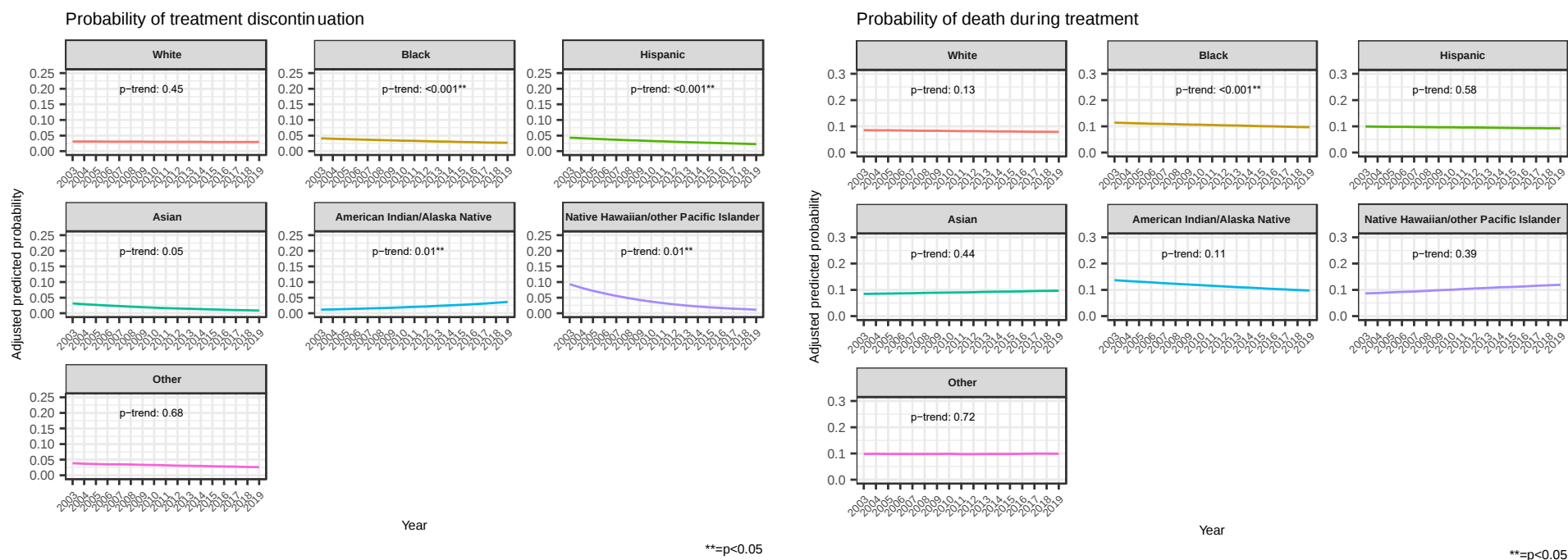


Figure S4: Estimated predicted probabilities of TB case presentation and treatment outcomes over time, adjusted for sex, age category, geographic region, and year. Cavitation estimates are restricted to persons with pulmonary TB and a recorded abnormal radiograph or computed tomography (CT) scan result. Sputum smear positive estimates are restricted to individuals with pulmonary TB and a recorded AFB sputum smear result.

Table S8: Time trends* in TB treatment outcomes by race/ethnicity among US-born persons diagnosed with TB, United States, 2003-2019*

	Diagnosis after death Percent change (95% CI)	Cavitation ^a Percent change (95% CI)	Sputum smear positive ^a Percent change (95% CI)	Treatment > 12 months Percent change (95% CI)	Treatment discontinuation Percent change (95% CI)	Death during treatment Percent change (95% CI)
White	Ref	Ref	Ref	Ref	Ref	Ref
Black	13.7% (-13.4–45.9)	5.0% (-3.0–14.2)	-7.3% (-12.4– -1.8)	37.9% (12.9–65.7)	-29.4 % (-49.3– -4.6)	-7.5% (-20.3–8.0)
Hispanic	6.5% (-27.8–57.5)	-3.3% (-13.9–10.0)	-3.5% (-10.9–3.8)	39.2% (10.0–75.7)	-43.0% (-61.0– -19.6)	-13.1% (-31.7–9.2)
Asian	-16.9% (-76.1–215.0)	4.10% (-22.6–42.5)	-1.1% (-18.1–18.6)	25.5% (-20.1–107.4)	-68.8% (-89.5– -9.4)	2.6% (-36.6–80.4)
American Indian/Alaska Native	11.3% (-49.5–133.4)	2.1% (-18.4–26.3)	-6.9% (-19.7–7.0)	-30.9% (-56.7–12.8)	223.9% (18.3–835.3)	-16.8% (-41.8–19.8)
Native Hawaiian/other Pacific Islander	-64.1% (-95.0–158.9)	-58.0% (-80.1– -11.9)	27.2% (-18.5–95.2)	38.0% (-47.7–290.4)	-86.1% (-97.2– -30.7)	-29.6% (-77.7–95.0)
Other	88.1% (-85.7–2,050.3)	19.3% (-32.0–121.7)	27.2% (-14.4–90.9)	89.3% (-58.5–650.7)	-33.0% (-89.7–381.3)	-10.4% (-72.9–161.4)

*Percent change in adjusted risk over time relative to White persons, adjusted for sex, age category, regional division, and year. We calculated the percent change as follows: $((r_{2018}-r_{2003})/r_{2003})*100$.

^a Cavitation estimates are restricted to persons with pulmonary TB and a recorded abnormal radiograph or computed tomography (CT) scan result. Sputum smear positive estimates are restricted to individuals with pulmonary TB and a recorded AFB sputum smear result.

Supplementary Table 9: TB diagnosis outcomes by race/ethnicity among US-born persons diagnosed with TB including persons with MDR-TB, United States 2003-2018*

Race/ethnicity	Diagnosis after death ^a	aRR** (95% CI)	Cavitation ^b	aRR**(95% CI)	Smear positive ^c	aRR**(95% CI)
White	916/23,144 (4·0%)	Ref	5,764/17,666 (32·6%)	Ref	8,645/15,988 (54·1%)	Ref
Black	987/29,372 (3·4%)	1·21 (1·11–1·33)	7,339/20,491 (35·8%)	1·03 (1·01–1·06)	11,002/18,705 (58·8%)	1·08 (1·06–1·10)
Hispanic	305/12,631 (2·4%)	1·28 (1·12–1·46)	2,321/8,488 (27·3%)	0·96 (0·92–1·00)	3,616/6,482 (55·8%)	1·08 (1·05–1·11)
Asian	22/2,191 (1·0%)	0·74 (0·47–1·10)	288/1,494 (19·3%)	0·83 (0·75–0·92)	511/1,071 (47·7%)	0·96 (0·90–1·02)
American Indian/Alaska Native	71/2,098 (3·4%)	1·14 (0·88–1·45)	492/1,525 (32·3%)	1·05 (0·97–1·13)	797/1,416 (56·3%)	1·06 (1·01–1·11)
Native Hawaiian/other Pacific Islander	9/400 (2·3%)	1·61 (0·78–2·86)	47/229 (20·5%)	0·92 (0·71–1·15)	81/151 (53·6%)	1·06 (0·91–1·20)
Other	5/282 (1·8%)	0·79 (0·29–1·67)	67/195 (34·4%)	1·15 (0·95–1·36)	98/169 (58·0%)	1·11 (0·91–1·20)

* Excludes non-US-born patients

** Adjusted relative risks adjusting for sex, categorical age (<1, 1-4, 5-14, 15-24, 25-34, 35-44, 45-54, 55-64, 65-74, 76-84, 85+), calendar year, and nine US Census regional divisions (Pacific, Mountain, West North Central, West South Central, East North Central, East South Central, South Atlantic, Middle Atlantic, and New England).

^a. Includes all causes of death and all sites of TB disease.

^b. Lung cavitation among pulmonary TB patients who had an abnormal radiograph or CT scan.

^c. Positive sputum smear results among pulmonary TB patients who had a sputum smear test result.

Supplementary Table 9: TB treatment outcomes by race/ethnicity among US-born persons diagnosed with TB including persons with MDR-TB, United States, 2003-2018*

Race/ethnicity	Treatment discontinuation ^a	aRR** (95% CI)	Death during treatment ^b	aRR** (95% CI)
White	494/21,857 (2·3%)	Ref	2,428/21,857 (11·1%)	Ref
Black	829/28,017 (3·0%)	1·24 (1·11–1·39)	2,803/28,017 (10·0%)	1·32 (1·25–1·39)
Hispanic	349/12,145 (2·9%)	1·20 (1·04–1·39)	702/12,145 (5·8%)	1·19 (1·10–1·29)
Asian	23/2,149 (1·1%)	0·55 (0·35–0·81)	89/2,149 (4·1%)	1·13 (0·92–1·36)
American Indian/Alaska Native	36/2,004 (1·8%)	0·71 (0·49–0·98)	226/2,004 (11·3%)	1·45 (1·27–1·64)
Native Hawaiian/other Pacific Islander	8/377 (2·1%)	1·06 (0·49–1·98)	17/377 (4·5%)	1·23 (0·75–1·84)
Other	6/273 (2·2%)	1·02 (0·41–2·04)	22/273 (8·1%)	1·35 (0·75–1·84)

* Excludes non-US-born patients

** Adjusted relative risks adjusting for sex, categorical age (<1, 1-4, 5-14, 15-24, 25-34, 35-44, 45-54, 55-64, 65-74, 76-84, 85+), calendar year, and nine US Census regional divisions (Pacific, Mountain, West North Central, West South Central, East North Central, East South Central, South Atlantic, Middle Atlantic, and New England).

^a. Includes patients who refused treatment or were lost.

^b. Includes deaths that occurred at any point after diagnosis.

Supplementary Table 11: Disparities among US-born Hispanic persons by racial/ethnic subgroups 2003-2019 (n=13,056*)

Race/ethnicity	Diagnosis after death aRR**(95% CI)	Cavitation aRR** (95% CI)	Smear positive aRR**(95% CI)	Treatment > 12 months aRR** (95% CI)	Treatment discontinuation aRR** (95% CI)	Death during treatment aRR** (95% CI)
Non-Hispanic White	Ref	Ref	Ref	Ref	Ref	Ref
Hispanic White	1.41 (1.24-1.61)	0.98 (0.94-1.03)	1.07 (1.05-1.10)	1.16 (1.07-1.26)	1.38 (1.20-1.58)	1.18 (1.09-1.28)
Hispanic Black	0.91 (0.42-1.69)	0.97 (0.81-1.15)	1.00 (0.88-1.13)	0.98 (0.71-1.31)	1.10 (0.59-1.85)	1.67 (1.28-2.09)
Hispanic Other*	0.84 (0.14-2.52)	1.00 (0.69-1.34)	0.99 (0.77-1.20)	1.20 (0.69-1.87)	1.13 (0.35-2.60)	1.42 (0.78-2.23)

*Of the 13,181 persons who identified as Hispanic, 125 were missing further race/ethnicity information

** Adjusted for sex, categorical age, and regional division

^a Among pulmonary TB patients

^b Other race/ethnicity defined as American Indian/Alaska Native, Asian, Native Hawaiian/other Pacific Islander, or Multiracial

*