

Web Table 1. Sensitivity and specificity of tuberculosis recent transmission (RT) estimates using the state-based clustering, SaTScan-based clustering, and county-based clustering methods, and accuracy of estimates across a range of plausible hypothetical RT prevalence rates, including cases classified as “possible RT” in the “field evidence of RT” group, Arkansas, Maryland, and Massachusetts, January 1, 1998–September 30, 2000 ($n = 1,188$)

RT Estimation Method	No. of True-Positive Cases	No. of False-Positive Cases	No. of True-Negative Cases	No. of False-Negative Cases	Sensitivity (%)	Specificity (%)	Accuracy (%) by Hypothetical RT Prevalence					
							10%	15%	20%	25%	30%	50%
State-based clustering	136	129	884	39	77.7	87.3	86.3	85.8	85.4	84.9	84.4	82.5
SaTScan-based clustering	98	53	960	77	56.0	94.8	90.9	89.0	87.0	85.1	83.1	75.4
County-based clustering	104	68	945	71	59.4	93.3	89.9	88.2	86.5	84.8	83.1	76.4

Web Table 2. Sensitivity and specificity of plausible-source case recent transmission (RT) estimation approach across distances varying from 0 to 500 miles (800 km), and accuracy of estimates across a range of plausible hypothetical RT prevalence rates, including cases classified as “possible RT” in the “field evidence of RT” group, Arkansas, Maryland, and Massachusetts, January 1, 1998–September 30 ($n = 1,188$)

Distance (miles)	No. of True-Positive Cases	No. of False-Positive Cases	No. of True-Negative Cases	No. of False-Negative Cases	Sensitivity (%)	Specificity (%)	Accuracy (%) by Hypothetical RT Prevalence					
							10%	15%	20%	25%	30%	50%
0	0	0	1013	175	0.0	100.0	90.0	85.0	80.0	75.0	70.0	50.0
1	47	18	995	128	26.9	98.2	91.1	87.5	83.9	80.4	76.8	62.5
5	77	36	977	98	44.0	96.4	91.2	88.6	86.0	83.3	80.7	70.2
10	85	50	963	90	48.6	95.1	90.4	88.1	85.8	83.4	81.1	71.8
20	93	65	948	82	53.1	93.6	89.5	87.5	85.5	83.5	81.5	73.4
31	96	73	940	79	54.9	92.8	89.0	87.1	85.2	83.3	81.4	73.8
50	100	82	931	75	57.1	91.9	88.4	86.7	85.0	83.2	81.5	74.5
60	100	84	929	75	57.1	91.7	88.3	86.5	84.8	83.1	81.3	74.4
75	102	89	924	73	58.3	91.2	87.9	86.3	84.6	83.0	81.3	74.7
100	104	93	920	71	59.4	90.8	87.7	86.1	84.5	83.0	81.4	75.1
200	106	94	919	69	60.6	90.7	87.7	86.2	84.7	83.2	81.7	75.6
300	106	97	916	69	60.6	90.4	87.4	85.9	84.5	83.0	81.5	75.5
500	106	97	916	69	60.6	90.4	87.4	85.9	84.5	83.0	81.5	75.5

Web Table 3. Sensitivity and specificity of tuberculosis recent transmission (RT) estimates using the state-based clustering, SaTScan-based clustering, and county-based clustering methods, and accuracy of estimates across a range of plausible hypothetical RT prevalence rates, including cases classified as “possible RT” in the “no field evidence of RT” group, Arkansas, Maryland, and Massachusetts, January 1, 1998–September 30, 2000 ($n = 1,188$)

RT Estimation Method	No. of True-Positive Cases	No. of False-Positive Cases	No. of True-Negative Cases	No. of False-Negative Cases	Sensitivity (%)	Specificity (%)	Accuracy (%) by Hypothetical RT Prevalence					
							10%	15%	20%	25%	30%	50%
State-based clustering	72	193	923	0	100.0	82.7	84.4	85.3	86.2	87.0	87.9	91.4
SaTScan-based clustering	58	93	1023	14	80.6	91.7	90.6	90.0	89.4	88.9	88.3	86.1
County-based clustering	58	114	1002	14	80.6	89.8	88.9	88.4	87.9	87.5	87.0	85.2

Web Table 4. Sensitivity and specificity of plausible-source case recent transmission (RT) estimation approach across distances varying from 0 to 500 miles (800 km), and accuracy of estimates across a range of plausible hypothetical RT prevalence rates, including cases classified as “possible RT” in the “no field evidence of RT” group, Arkansas, Maryland, and Massachusetts, January 1, 1998–September 30, 2000 ($n = 1,188$)

Distance (miles)	No. of True-Positive Cases	No. of False-Positive Cases	No. of True-Negative Cases	No. of False-Negative Cases	Sensitivity (%)	Specificity (%)	Accuracy (%) by Hypothetical RT Prevalence					
							10%	15%	20%	25%	30%	50%
0	0	0	1116	72	0.0	100.0	90.0	85.0	80.0	75.0	70.0	50.0
1	39	26	1090	33	54.2	97.7	93.3	91.1	89.0	86.8	84.6	75.9
5	58	55	1061	14	80.6	95.1	93.6	92.9	92.2	91.4	90.7	87.8
10	64	71	1045	8	88.9	93.6	93.2	92.9	92.7	92.5	92.2	91.3
20	65	93	1023	7	90.3	91.7	91.5	91.5	91.4	91.3	91.3	91.0
31	65	104	1012	7	90.3	90.7	90.6	90.6	90.6	90.6	90.6	90.5
50	68	114	1002	4	94.4	89.8	90.3	90.5	90.7	90.9	91.2	92.1
60	68	116	1000	4	94.4	89.6	90.1	90.3	90.6	90.8	91.1	92.0
75	69	122	994	3	95.8	89.1	89.7	90.1	90.4	90.8	91.1	92.5
100	69	128	988	3	95.8	88.5	89.3	89.6	90.0	90.4	90.7	92.2
200	70	130	986	2	97.2	88.4	89.2	89.7	90.1	90.6	91.0	92.8
300	70	133	983	2	97.2	88.1	89.0	89.5	89.9	90.4	90.8	92.7
500	70	133	983	2	97.2	88.1	89.0	89.5	89.9	90.4	90.8	92.7

Web Table 5. Sensitivity and specificity of plausible-source case recent transmission (RT) estimation approach across distances varying from 0 to 500 miles (800 km), and accuracy of estimates across a range of plausible hypothetical RT prevalence rates, allowing foreign-born cases diagnosed <100 days after arrival to the United States to be classified as attributable to RT if a plausible-source case was identified, Arkansas, Maryland, and Massachusetts, January 1, 1998–September 30 (*n* = 1,085)

Distance (miles)	No. of True-Positive Cases	No. of False-Positive Cases	No. of True-Negative Cases	No. of False-Negative Cases	Sensitivity (%)	Specificity (%)	Accuracy (%) by Hypothetical RT Prevalence					
							10%	15%	20%	25%	30%	50%
0	0	0	1013	72	0.0	100.0	90.0	85.0	80.0	75.0	70.0	50.0
1	39	20	993	33	54.2	98.0	93.6	91.4	89.3	87.1	84.9	76.1
5	58	37	976	14	80.6	96.3	94.8	94.0	93.2	92.4	91.6	88.5
10	64	52	961	8	88.9	94.9	94.3	94.0	93.7	93.4	93.1	91.9
20	65	68	945	7	90.3	93.3	93.0	92.8	92.7	92.5	92.4	91.8
31	65	76	937	7	90.3	92.5	92.3	92.2	92.1	91.9	91.8	91.4
50	68	85	928	4	94.4	91.6	91.9	92.0	92.2	92.3	92.5	93.0
60	68	87	926	4	94.4	91.4	91.7	91.9	92.0	92.2	92.3	92.9
75	69	92	921	3	95.8	90.9	91.4	91.7	91.9	92.1	92.4	93.4
100	69	96	917	3	95.8	90.5	91.1	91.3	91.6	91.9	92.1	93.2
200	70	97	916	2	97.2	90.4	91.1	91.4	91.8	92.1	92.5	93.8
300	70	100	913	2	97.2	90.1	90.8	91.2	91.5	91.9	92.3	93.7
500	70	108	905	2	97.2	89.3	90.1	90.5	90.9	91.3	91.7	93.3

WEB APPENDIX

We evaluated the impact of defining recent transmission as transmission between cases diagnosed within a 1 year period rather than 2 year period (Web Table 6 and Web Table 7). For this sensitivity analysis, we defined state-based clustering, SaTScan-based clustering, and county-based clustering identically to our main analysis (as there is no time component to these methods). For our gold standard of “field evidence of RT,” we used a 1 year threshold, defining this as a case of TB disease with an identified source case (i.e. epidemiologic link between 2 cases and known direction of transmission), where the source case was diagnosed between 1 year before and any time following the diagnosis date of the given case, and the cases had matching RFLP patterns. For our plausible-source case approach, we modified the algorithm to require that a plausible-source case be diagnosed within 1 year prior. The plausible-source case approach was designed to incorporate the time frame of recent transmission explicitly, so this modification was warranted.

Web Table 6. Sensitivity and specificity of tuberculosis recent transmission (RT) estimates using the state-based clustering, SaTScan-based clustering, and county-based clustering methods, and accuracy of estimates across a range of plausible hypothetical RT prevalence rates, defining recent transmission as transmission occurring within 1 year before the diagnosis of a reported case, Arkansas, Maryland, and Massachusetts, January 1, 1998–September 30, 2000 ($n = 1085$)

RT Estimation Method	No. of True-Positive Cases	No. of False-Positive Cases	No. of True-Negative Cases	No. of False-Negative Cases	Sensitivity (%)	Specificity (%)	Accuracy (%) by Hypothetical RT Prevalence					
							10%	15%	20%	25%	30%	50%
State-based clustering	53	148	884	0	100.0	85.7	87.1	87.8	88.5	89.2	90.0	92.8
SaTScan-based clustering	40	71	961	13	75.5	93.1	91.4	90.5	89.6	88.7	87.8	84.3
County-based clustering	41	85	947	12	77.4	91.8	90.3	89.6	88.9	88.2	87.4	84.6

Web Table 7. Sensitivity and specificity of plausible-source case recent transmission (RT) estimation approach across distances varying from 0 to 500 miles (800 km), and accuracy of estimates across a range of plausible hypothetical RT prevalence rates, defining recent transmission as transmission occurring within 1 year before the diagnosis of a reported case, Arkansas, Maryland, and Massachusetts, January 1, 1998–September 30, 2000 ($n = 1,085$)

Distance (miles)	No. of True-Positive Cases	No. of False-Positive Cases	No. of True-Negative Cases	No. of False-Negative Cases	Sensitivity (%)	Specificity (%)	Accuracy (%) by Hypothetical RT Prevalence					
							10%	15%	20%	25%	30%	50%
0	0	0	1032	53	0.0	100.0	90.0	85.0	80.0	75.0	70.0	50.0
1	27	15	1017	26	50.9	98.5	93.8	91.4	89.0	86.6	84.3	74.7
5	42	28	1004	11	79.2	97.3	95.5	94.6	93.7	92.8	91.9	88.3
10	46	40	992	7	86.8	96.1	95.2	94.7	94.3	93.8	93.3	91.5
20	47	50	982	6	88.7	95.2	94.5	94.2	93.9	93.5	93.2	91.9
31	47	53	979	6	88.7	94.9	94.2	93.9	93.6	93.3	93.0	91.8
50	50	60	972	3	94.3	94.2	94.2	94.2	94.2	94.2	94.2	94.3
60	50	63	969	3	94.3	93.9	93.9	94.0	94.0	94.0	94.0	94.1
75	50	64	968	3	94.3	93.8	93.9	93.9	93.9	93.9	94.0	94.1
100	50	65	967	3	94.3	93.7	93.8	93.8	93.8	93.9	93.9	94.0
200	51	69	963	2	96.2	93.3	93.6	93.8	93.9	94.0	94.2	94.8
300	51	70	962	2	96.2	93.2	93.5	93.7	93.8	94.0	94.1	94.7
500	51	74	958	2	96.2	92.8	93.2	93.3	93.5	93.7	93.8	94.5

Web Table 8. Sensitivity and specificity of tuberculosis recent transmission (RT) estimates using the state-based clustering, SaTScan-based clustering, and county-based clustering methods, and accuracy of estimates across a range of plausible hypothetical RT prevalence rates, restricted to U.S.-born cases, Arkansas, Maryland, and Massachusetts, January 1, 1998–September 30, 2000 ($n = 548$)

RT Estimation Method	No. of True-Positive Cases	No. of False-Positive Cases	No. of True-Negative Cases	No. of False-Negative Cases	Sensitivity (%)	Specificity (%)	Accuracy (%) by Hypothetical RT Prevalence					
							10%	15%	20%	25%	30%	50%
State-based clustering	60	92	396	0	100	81.1	83.0	84.0	84.9	85.9	86.8	90.6
SaTScan-based clustering	47	32	456	13	78.3	93.4	91.9	91.2	90.4	89.7	88.9	85.9
County-based clustering	48	86	442	12	80.0	90.6	89.5	88.9	88.5	87.9	87.4	85.3

Web Table 9. Sensitivity and specificity of plausible-source case recent transmission (RT) estimation approach across distances varying from 0 to 500 miles (800 km), and accuracy of estimates across a range of plausible hypothetical RT prevalence rates, restricted to U.S.-born cases, Arkansas, Maryland, and Massachusetts, January 1, 1998–September 30, 2000 (*n* = 548)

Distance (miles)	No. of True-Positive Cases	No. of False-Positive Cases	No. of True-Negative Cases	No. of False-Negative Cases	Sensitivity (%)	Specificity (%)	Accuracy (%) by Hypothetical RT Prevalence					
							10%	15%	20%	25%	30%	50%
0	0	0	488	60	0.0	100.0	90.0	85.0	80.0	75.0	70.0	50.0
1	32	16	472	28	53.3	96.7	92.4	90.2	88.0	85.9	83.7	75.0
5	50	31	457	10	83.3	93.6	92.6	92.1	91.6	91.1	90.6	88.5
10	53	43	445	7	88.3	91.2	90.9	90.8	90.6	90.5	90.3	89.8
20	54	54	434	6	90.0	88.9	89.0	89.1	89.1	89.2	89.3	89.5
31	54	59	429	6	90.0	87.9	88.1	88.2	88.3	88.4	88.5	89.0
50	57	66	422	3	95.0	86.5	87.3	87.8	88.2	88.6	89.0	90.7
60	57	68	420	3	95.0	86.1	87.0	87.4	87.9	88.3	88.7	90.5
75	58	73	415	2	96.7	85.0	86.2	86.8	87.4	87.9	88.5	90.9
100	58	77	411	2	96.7	84.2	85.5	86.1	86.7	87.3	88.0	90.4
200	59	78	410	1	98.3	84.0	85.4	86.2	86.9	87.6	88.3	91.2
300	59	81	407	1	98.3	83.4	84.9	85.6	86.4	87.1	87.9	90.9
500	59	81	407	1	98.3	83.4	84.9	85.6	86.4	87.1	87.9	90.9

Web Table 10. Sensitivity and specificity of tuberculosis recent transmission (RT) estimates using the state-based clustering, SaTScan-based clustering, and county-based clustering methods, and accuracy of estimates across a range of plausible hypothetical RT prevalence rates, restricted to foreign-born cases, Arkansas, Maryland, and Massachusetts, January 1, 1998–September 30, 2000 ($n = 534$)

RT Estimation Method	No. of True-Positive Cases	No. of False-Positive Cases	No. of True-Negative Cases	No. of False-Negative Cases	Sensitivity (%)	Specificity (%)	Accuracy (%) by Hypothetical RT Prevalence					
							10%	15%	20%	25%	30%	50%
State-based clustering	11	37	486	0	100	92.9	93.6	94.0	94.3	94.7	95.0	96.5
SaTScan-based clustering	10	21	502	1	90.9	96.0	95.5	95.2	95.0	94.7	94.5	93.4
County-based clustering	9	22	501	2	81.8	95.8	94.4	93.7	93.0	92.3	91.6	88.8

Web Table 11. Sensitivity and specificity of plausible-source case recent transmission (RT) estimation approach across distances varying from 0 to 500 miles (800 km), and accuracy of estimates across a range of plausible hypothetical RT prevalence rates, restricted to foreign-born cases, Arkansas, Maryland, and Massachusetts, January 1, 1998–September 30, 2000 ($n = 534$)

Distance (miles)	No. of True-Positive Cases	No. of False-Positive Cases	No. of True-Negative Cases	No. of False-Negative Cases	Sensitivity (%)	Specificity (%)	Accuracy (%) by Hypothetical RT Prevalence					
							10%	15%	20%	25%	30%	50%
0	0	0	523	11	0.0	100.0	90.0	85.0	80.0	75.0	70.0	50.0
1	6	2	521	5	54.5	99.6	95.1	92.9	90.6	88.3	86.1	77.1
5	7	5	518	4	63.6	99.0	95.5	93.7	92.0	90.2	88.4	81.3
10	10	7	516	1	90.9	98.7	97.9	97.5	97.1	96.7	96.3	94.8
20	10	11	512	1	90.9	97.9	97.2	96.8	96.5	96.1	95.8	94.4
31	10	14	509	1	90.9	97.3	96.7	96.4	96.0	95.7	95.4	94.1
50	10	16	507	1	90.9	96.9	96.3	96.0	95.7	95.4	95.1	93.9
60	10	16	507	1	90.9	96.9	96.3	96.0	95.7	95.4	95.1	93.9
75	10	16	507	1	90.9	96.9	96.3	96.0	95.7	95.4	95.1	93.9
100	10	16	507	1	90.9	96.9	96.3	96.0	95.7	95.4	95.1	93.9
200	10	16	507	1	90.9	96.9	96.3	96.0	95.7	95.4	95.1	93.9
300	10	16	507	1	90.9	96.9	96.3	96.0	95.7	95.4	95.1	93.9
500	10	16	507	1	90.9	96.9	96.3	96.0	95.7	95.4	95.1	93.9