SUPPLEMENTAL MATERIAL

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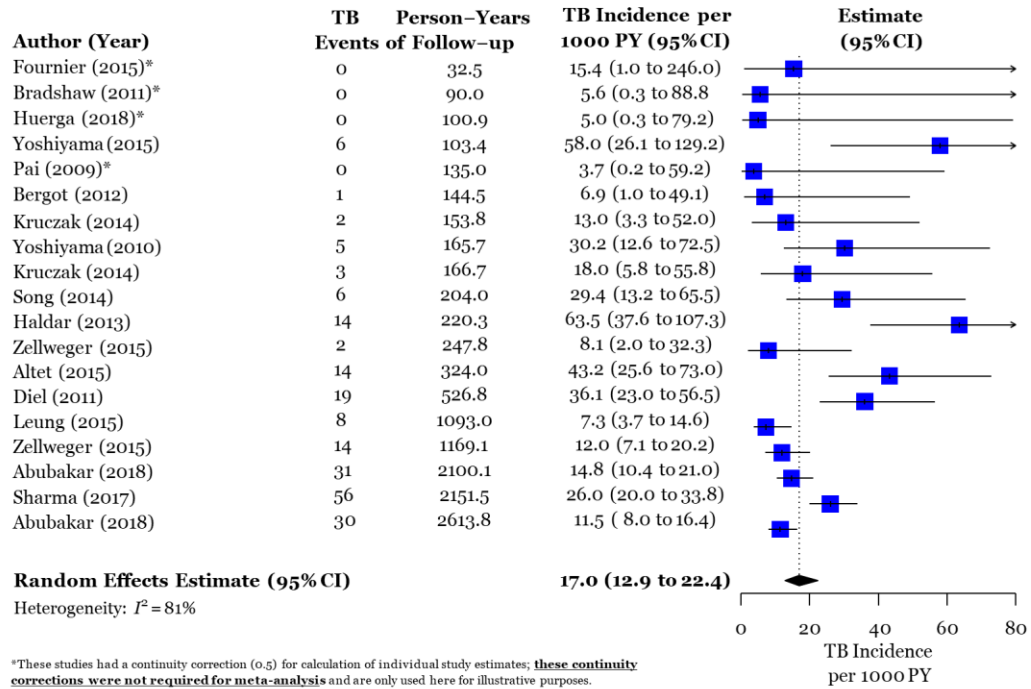
Supplemental Figures

Supplemental Figure 1. PRISMA Flow Diagram. The diagram is for the identified and ultimately included studies within the systematic review. The (*) indicates studies were excluded because they were done in people living with HIV in countries with an annual TB incidence >100 per 100,000 population, or studies were done in countries with a population HIV-prevalence >5% and people living with HIV were not reported separately or excluded from the study.

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                  ┌──────────────────────────────────────┐
                  │  5166 citations identified from search │
                  └──────────────────────────────────────┘
                                    │
                                    ▼
                      ┌──────────────────────────────────────────────┐
                      │  4661 citations excluded after title and abstract review │
                      └──────────────────────────────────────────────┘

                  ┌──────────────────────────────────────┐
                  │  505 citations selected for full-text review │
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400 citations excluded after full-text review
  136 were abstracts
  48 did not report outcome of interest
  46 had fewer than 10 untreated patients
  36 did not describe outcomes by test result
  23 had fewer than 12 months follow-up
  17 did not report follow-up time
  16 were not a population of interest
  16 were done in likely confounded settings*
  14 were missed duplicates
  13 were not a diagnostic test of interest
  13 did not report data in a useable format
  9 had majority of cohort recruited before 1990
  7 had data reported elsewhere
  3 could not have their full text located
  3 used Heaf or Tine tuberculin testing

17 additional articles included from reference lists

122 full-text articles included in quantitative analysis
  102 using Tuberculin Skin Test
  71 using Interferon-Gamma Release Assay
  51 using both

Supplemental Figure 2A. Forest Plot of TB Incidence per 1000 person-years among both close and casual contacts who are IGRA-positive.

Author (Year)	TB Events	Person–Years of Follow–up	TB Incidence per 1000 PY (95% CI)
Fournier (2015)*	0	32.5	15.4 (1.0 to 246.0)
Bradshaw (2011)*	0	90.0	5.6 (0.3 to 88.8)
Huerga (2018)*	0	100.9	5.0 (0.3 to 79.2)
Yoshiyama (2015)	6	103.4	58.0 (26.1 to 129.2)
Pai (2009)*	0	135.0	3.7 (0.2 to 59.2)
Bergot (2012)	1	144.5	6.9 (1.0 to 49.1)
Kruczak (2014)	2	153.8	13.0 (3.3 to 52.0)
Yoshiyama (2010)	5	165.7	30.2 (12.6 to 72.5)
Kruczak (2014)	3	166.7	18.0 (5.8 to 55.8)
Song (2014)	6	204.0	29.4 (13.2 to 65.5)
Haldar (2013)	14	220.3	63.5 (37.6 to 107.3)
Zellweger (2015)	2	247.8	8.1 (2.0 to 32.3)
Altet (2015)	14	324.0	43.2 (25.6 to 73.0)
Diel (2011)	19	526.8	36.1 (23.0 to 56.5)
Leung (2015)	8	1093.0	7.3 (3.7 to 14.6)
Zellweger (2015)	14	1169.1	12.0 (7.1 to 20.2)
Abubakar (2018)	31	2100.1	14.8 (10.4 to 21.0)
Sharma (2017)	56	2151.5	26.0 (20.0 to 33.8)
Abubakar (2018)	30	2613.8	11.5 (8.0 to 16.4)
Random Effects Estimate (95% CI)			**17.0 (12.9 to 22.4)**

Heterogeneity: $I^2 = 81\%$

Estimate (95% CI)

TB Incidence per 1000 PY

*These studies had a continuity correction (0.5) for calculation of individual study estimates; **these continuity corrections were not required for meta-analysis** and are only used here for illustrative purposes.

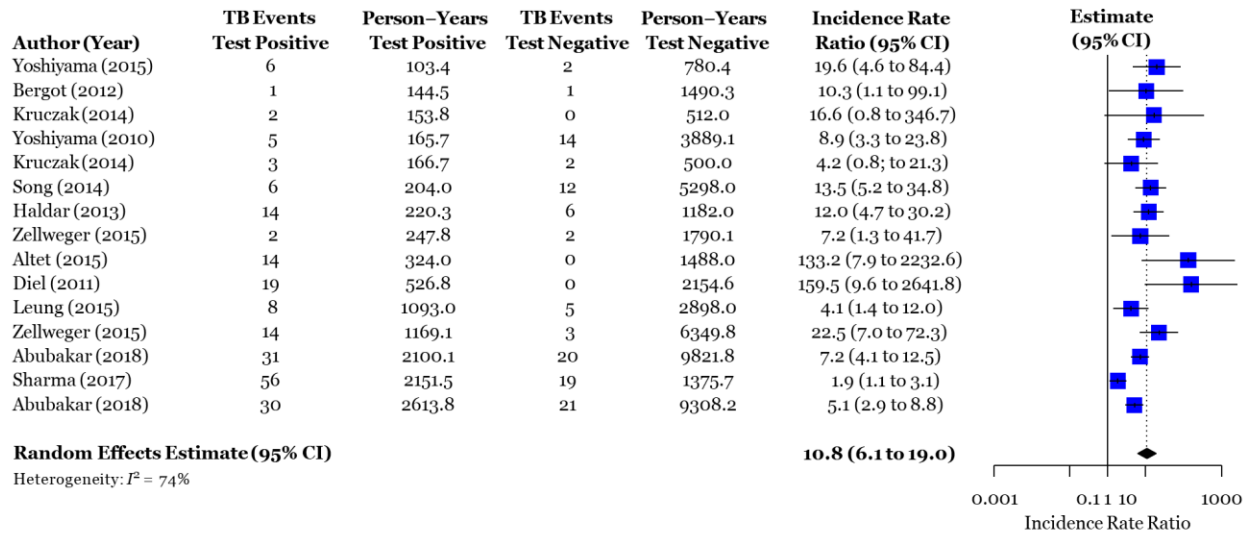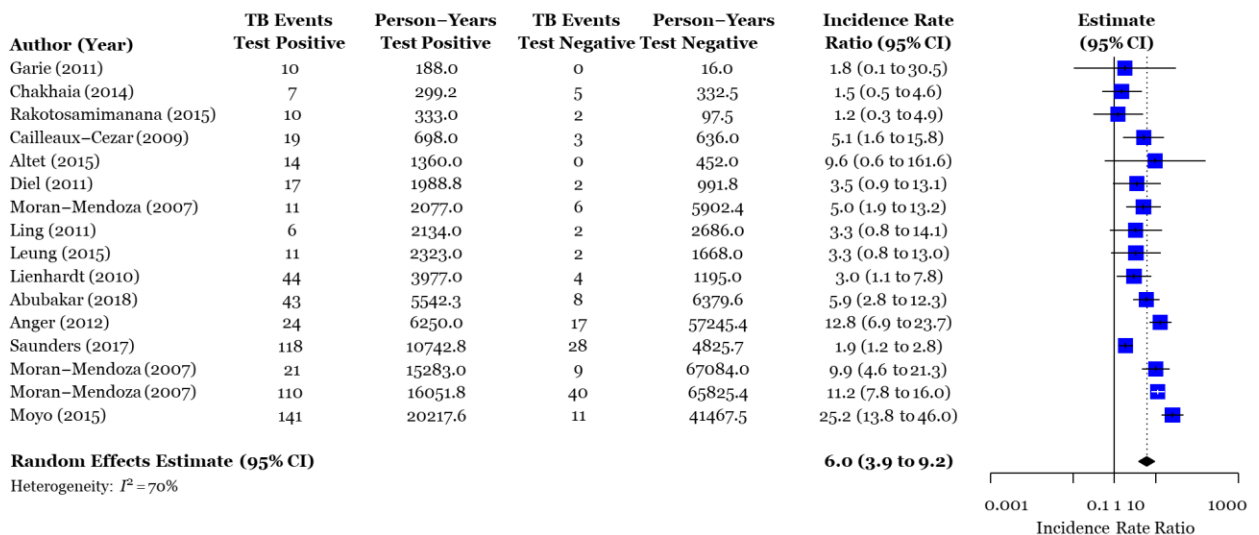**Supplemental Figure 2B**. Forest Plot of TB Incidence per 1000 person-years among both close and casual contacts who have TST ≥5mm.

Author (Year)	TB Events	Person–Years of Follow–up	TB Incidence per 1000 PY (95% CI)
Higuchi (2009)*	0	177.0	2.8 (0.2 to 45.2)
Garie (2011)	10	188.0	53.2 (28.6 to 98.9)
Chakhaia (2014)	7	299.2	23.4 (11.2 to 49.1)
Rakotosamimanana (2015)	10	333.0	30.0 (16.2 to 55.8)
Kik (2010)	9	620.4	14.5 (7.5 to 27.9)
Cailleaux–Cezar (2009)	19	698.0	27.2 (17.4 to 42.7)
Altet (2015)	14	1360.0	10.3 (6.1 to 17.4)
Diel (2011)	17	1988.8	8.5 (5.3 to 13.8)
Moran–Mendoza (2007)	11	2077.0	5.3 (2.9 to 9.6)
Ling (2011)	6	2134.0	2.8 (1.3 to 6.3)
Leung (2015)	11	2323.0	4.7 (2.6 to 8.6)
Lienhardt (2010)	44	3977.0	11.1 (8.2 to 14.9)
Abubakar (2018)	43	5542.3	7.8 (5.8 to 10.5)
Anger (2012)	24	6250.0	3.8 (2.6 to 5.7)
Saunders (2017)	118	10742.8	11.0 (9.2 to 13.2)
Moran–Mendoza (2007)	21	15283.0	1.4 (0.9 to 2.1)
Moran–Mendoza (2007)	110	16051.8	6.9 (5.7 to 8.3)
Moyo (2015)	141	20217.6	7.0 (5.9 to 8.2)
Random Effects Estimate (95% CI)			**8.4 (5.6 to 12.6)**

Heterogeneity: $I^2 = 96\%$

Estimate (95% CI)

TB Incidence per 1000 PY

*This study had a continuity correction (0.5) for calculation of its individual study estimate; **this continuity correction was not required for meta-analysis** and is only used here for illustrative purposes.

Supplemental Figure 3. Forest Plot of the incidence rate ratio between close and casual contacts. (A) Positive-IGRA *v* negative-IGRA; (B) TST ≥5mm *v* TST <5mm.
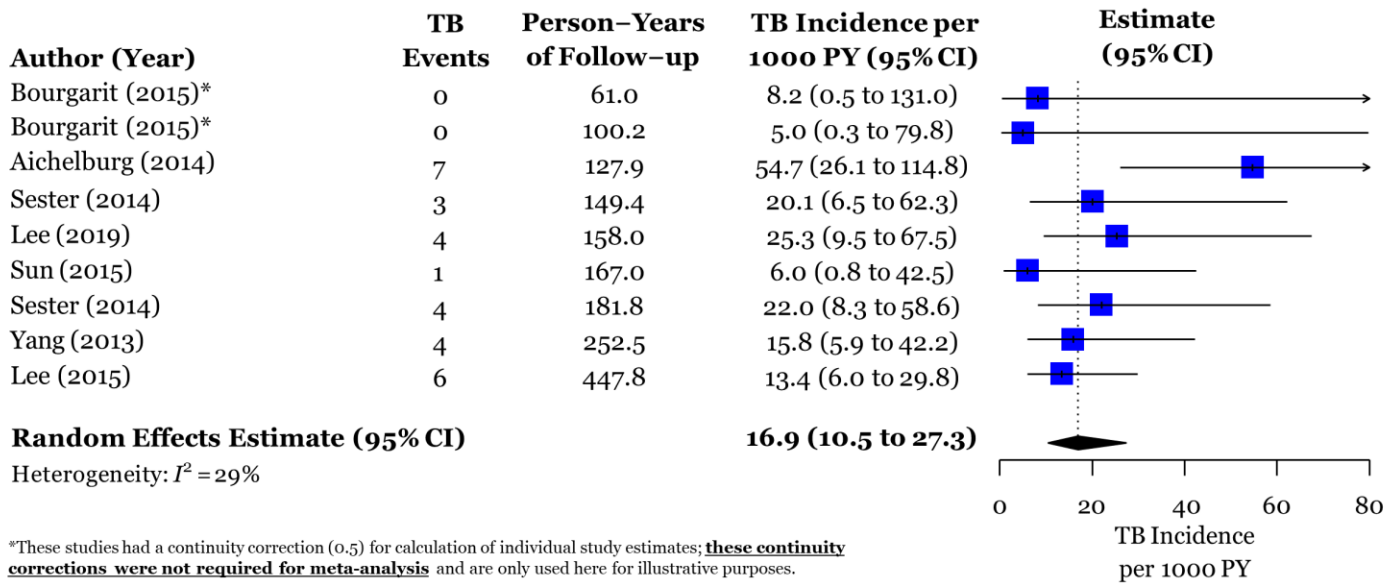
Supplemental Figure 3A. Forest Plot of the incidence rate ratio between close/casual contacts who had a positive-IGRA and a negative-IGRA.

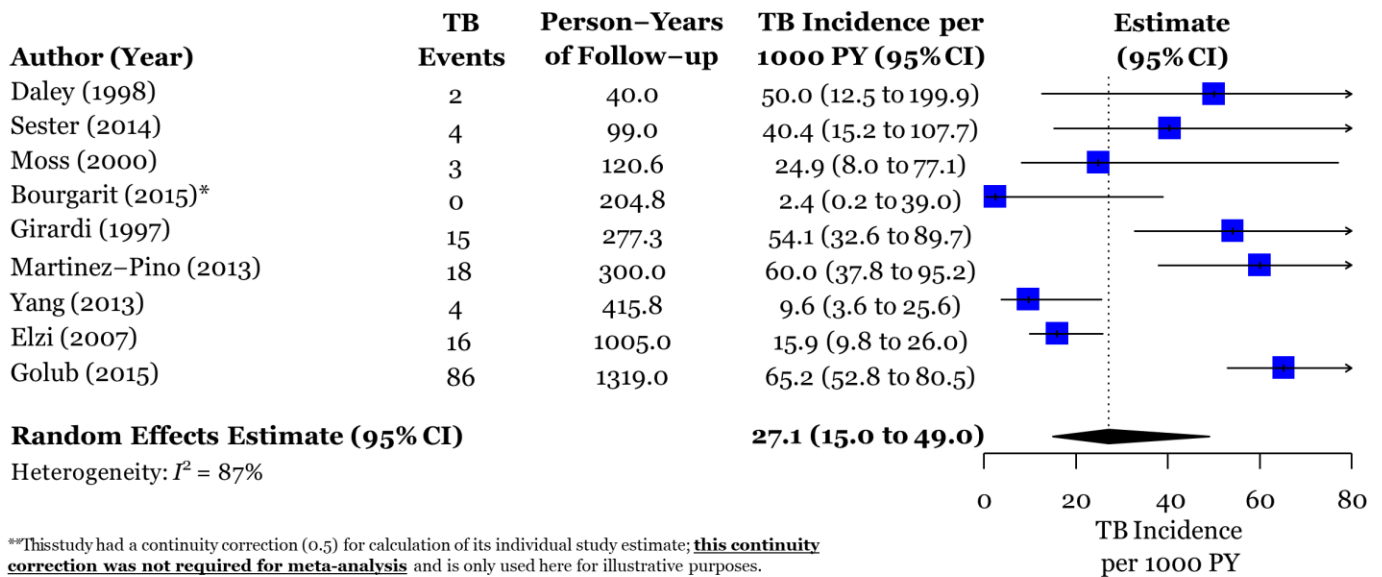| Author (Year)	TB Events Test Positive	Person–Years Test Positive	TB Events Test Negative	Person–Years Test Negative	Incidence Rate Ratio (95% CI)
Yoshiyama (2015)	6	103.4	2	780.4	19.6 (4.6 to 84.4)
Bergot (2012)	1	144.5	1	1490.3	10.3 (1.1 to 99.1)
Kruczak (2014)	2	153.8	0	512.0	16.6 (0.8 to 346.7)
Yoshiyama (2010)	5	165.7	14	3889.1	8.9 (3.3 to 23.8)
Kruczak (2014)	3	166.7	2	500.0	4.2 (0.8; to 21.3)
Song (2014)	6	204.0	12	5298.0	13.5 (5.2 to 34.8)
Haldar (2013)	14	220.3	6	1182.0	12.0 (4.7 to 30.2)
Zellweger (2015)	2	247.8	2	1790.1	7.2 (1.3 to 41.7)
Altet (2015)	14	324.0	0	1488.0	133.2 (7.9 to 2232.6)
Diel (2011)	19	526.8	0	2154.6	159.5 (9.6 to 2641.8)
Leung (2015)	8	1093.0	5	2898.0	4.1 (1.4 to 12.0)
Zellweger (2015)	14	1169.1	3	6349.8	22.5 (7.0 to 72.3)
Abubakar (2018)	31	2100.1	20	9821.8	7.2 (4.1 to 12.5)
Sharma (2017)	56	2151.5	19	1375.7	1.9 (1.1 to 3.1)
Abubakar (2018)	30	2613.8	21	9308.2	5.1 (2.9 to 8.8)

Random Effects Estimate (95% CI)   10.8 (6.1 to 19.0)

Heterogeneity: $I^2 = 74\%$

Supplemental Figure 3B. Forest Plot of the incidence rate ratio between close/casual contacts who had TST ≥5mm and TST <5mm.

Author (Year)	TB Events Test Positive	Person–Years Test Positive	TB Events Test Negative	Person–Years Test Negative	Incidence Rate Ratio (95% CI)
Garie (2011)	10	188.0	0	16.0	1.8 (0.1 to 30.5)
Chakhaia (2014)	7	299.2	5	332.5	1.5 (0.5 to 4.6)
Rakotosamimanana (2015)	10	333.0	2	97.5	1.2 (0.3 to 4.9)
Cailleaux–Cezar (2009)	19	698.0	3	636.0	5.1 (1.6 to 15.8)
Altet (2015)	14	1360.0	0	452.0	9.6 (0.6 to 161.6)
Diel (2011)	17	1988.8	2	991.8	3.5 (0.9 to 13.1)
Moran–Mendoza (2007)	11	2077.0	6	5902.4	5.0 (1.9 to 13.2)
Ling (2011)	6	2134.0	2	2686.0	3.3 (0.8 to 14.1)
Leung (2015)	11	2323.0	2	1668.0	3.3 (0.8 to 13.0)
Lienhardt (2010)	44	3977.0	4	1195.0	3.0 (1.1 to 7.8)
Abubakar (2018)	43	5542.3	8	6379.6	5.9 (2.8 to 12.3)
Anger (2012)	24	6250.0	17	57245.4	12.8 (6.9 to 23.7)
Saunders (2017)	118	10742.8	28	4825.7	1.9 (1.2 to 2.8)
Moran–Mendoza (2007)	21	15283.0	9	67084.0	9.9 (4.6 to 21.3)
Moran–Mendoza (2007)	110	16051.8	40	65825.4	11.2 (7.8 to 16.0)
Moyo (2015)	141	20217.6	11	41467.5	25.2 (13.8 to 46.0)

Random Effects Estimate (95% CI)   6.0 (3.9 to 9.2)

Heterogeneity: $I^2 = 70\%$

Supplemental Figure 4. Forest Plot of TB Incidence per 1000 person-years among people living with HIV. (A) IGRA-positive; (B) TST ≥5mm.

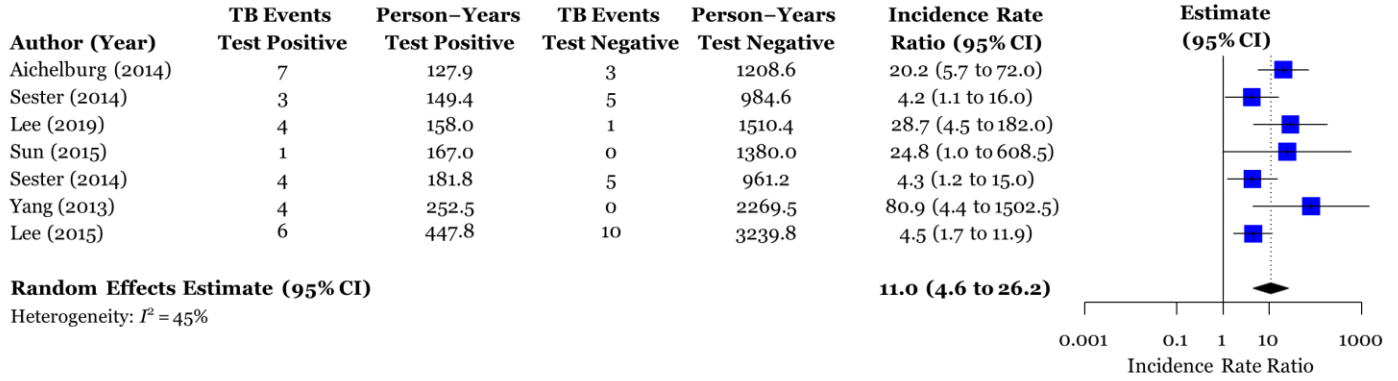## Supplemental Figure 4A. Forest Plot of TB Incidence per 1000 person-years among people living with HIV who are IGRA-positive.

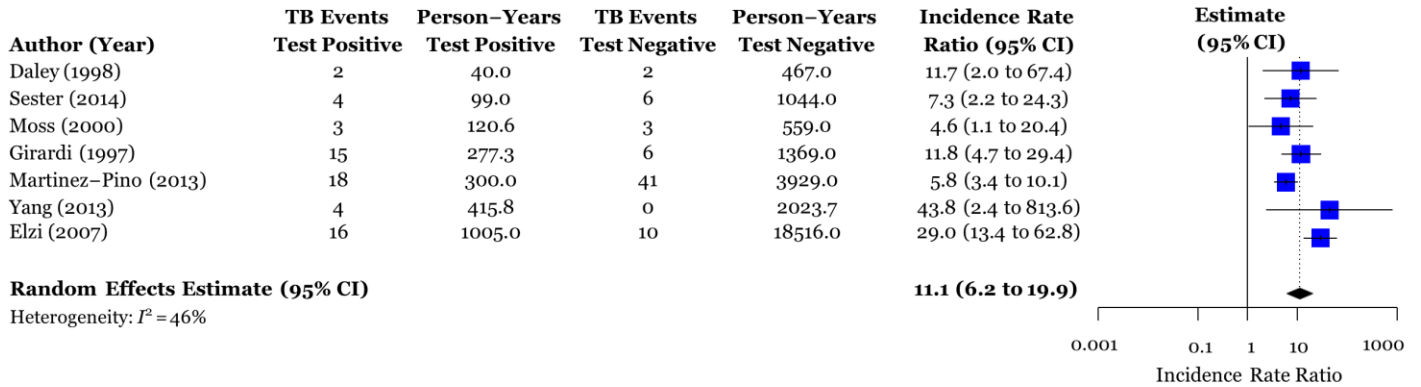| Author (Year)	TB Events	Person–Years of Follow–up	TB Incidence per 1000 PY (95% CI)	Estimate (95% CI)
Bourgarit (2015)*	0	61.0	8.2 (0.5 to 131.0)	
Bourgarit (2015)*	0	100.2	5.0 (0.3 to 79.8)	
Aichelburg (2014)	7	127.9	54.7 (26.1 to 114.8)	
Sester (2014)	3	149.4	20.1 (6.5 to 62.3)	
Lee (2019)	4	158.0	25.3 (9.5 to 67.5)	
Sun (2015)	1	167.0	6.0 (0.8 to 42.5)	
Sester (2014)	4	181.8	22.0 (8.3 to 58.6)	
Yang (2013)	4	252.5	15.8 (5.9 to 42.2)	
Lee (2015)	6	447.8	13.4 (6.0 to 29.8)	
Random Effects Estimate (95% CI)			**16.9 (10.5 to 27.3)**	

Heterogeneity: $I^2 = 29\%$

*These studies had a continuity correction (0.5) for calculation of individual study estimates; <u>these continuity corrections were not required for meta-analysis</u> and are only used here for illustrative purposes.

Supplemental Figure 4B. Forest Plot of TB Incidence per 1000 person-years among people living with HIV who have TST ≥5mm.

Author (Year)	TB Events	Person–Years of Follow–up	TB Incidence per 1000 PY (95% CI)	Estimate (95% CI)
Daley (1998)	2	40.0	50.0 (12.5 to 199.9)	
Sester (2014)	4	99.0	40.4 (15.2 to 107.7)	
Moss (2000)	3	120.6	24.9 (8.0 to 77.1)	
Bourgarit (2015)*	0	204.8	2.4 (0.2 to 39.0)	
Girardi (1997)	15	277.3	54.1 (32.6 to 89.7)	
Martinez–Pino (2013)	18	300.0	60.0 (37.8 to 95.2)	
Yang (2013)	4	415.8	9.6 (3.6 to 25.6)	
Elzi (2007)	16	1005.0	15.9 (9.8 to 26.0)	
Golub (2015)	86	1319.0	65.2 (52.8 to 80.5)	
Random Effects Estimate (95% CI)			**27.1 (15.0 to 49.0)**	

Heterogeneity: $I^2 = 87\%$

**Thisstudy had a continuity correction (0.5) for calculation of its individual study estimate; <u>this continuity correction was not required for meta-analysis</u> and is only used here for illustrative purposes.

Supplemental Figure 5A. Forest Plot of the incidence rate ratio between people living with HIV who had a positive-IGRA and a negative-IGRA.

Author (Year)	TB Events Test Positive	Person–Years Test Positive	TB Events Test Negative	Person–Years Test Negative	Incidence Rate Ratio (95% CI)	Estimate (95% CI)
Aichelburg (2014)	7	127.9	3	1208.6	20.2 (5.7 to 72.0)	
Sester (2014)	3	149.4	5	984.6	4.2 (1.1 to 16.0)	
Lee (2019)	4	158.0	1	1510.4	28.7 (4.5 to 182.0)	
Sun (2015)	1	167.0	0	1380.0	24.8 (1.0 to 608.5)	
Sester (2014)	4	181.8	5	961.2	4.3 (1.2 to 15.0)	
Yang (2013)	4	252.5	0	2269.5	80.9 (4.4 to 1502.5)	
Lee (2015)	6	447.8	10	3239.8	4.5 (1.7 to 11.9)	
Random Effects Estimate (95% CI)					**11.0 (4.6 to 26.2)**	

Heterogeneity: $I^2 = 45\%$

Supplemental Figure 5B. Forest Plot of the incidence rate ratio between people living with HIV who had TST ≥5mm and TST <5mm.

Author (Year)	TB Events Test Positive	Person–Years Test Positive	TB Events Test Negative	Person–Years Test Negative	Incidence Rate Ratio (95% CI)	Estimate (95% CI)
Daley (1998)	2	40.0	2	467.0	11.7 (2.0 to 67.4)	
Sester (2014)	4	99.0	6	1044.0	7.3 (2.2 to 24.3)	
Moss (2000)	3	120.6	3	559.0	4.6 (1.1 to 20.4)	
Girardi (1997)	15	277.3	6	1369.0	11.8 (4.7 to 29.4)	
Martinez–Pino (2013)	18	300.0	41	3929.0	5.8 (3.4 to 10.1)	
Yang (2013)	4	415.8	0	2023.7	43.8 (2.4 to 813.6)	
Elzi (2007)	16	1005.0	10	18516.0	29.0 (13.4 to 62.8)	
Random Effects Estimate (95% CI)					**11.1 (6.2 to 19.9)**	

Heterogeneity: $I^2 = 46\%$

Supplemental Tables

Table S1. MEDLINE Search

Search Number	Term
1	(laten* adj3 (tb* or tubercul*)).tw.
2	ltb*.tw.
3	tb.tw.
4	tubercul*.tw.
5	Tuberculosis/
6	latent tuberculosis infection.tw.
7	Latent Tuberculosis/
8	Tuberculosis, Pulmonary/
9	Latent Tuberculosis/di
10	Mycobacterium tuberculosis/
11	1 or 2 or 3 or 4 or 5 or 6 or 7 or 8 or 9 or 10
12	tuberculin/
13	tuberculin test/
14	tst.tw.
15	Tuberculin Skin Test.tw.
16	quantiferon*.tw.
17	QFT*.tw.
18	tspot*.tw.
19	exp Enzyme-Linked Immunosorbent Assay/
20	Interferon-gamma Release Tests/
21	((interferon* or IFN*) adj3 gamma* adj3 (release* or test* or assay*)).tw.
22	((y-interferon or interferon-y) adj3 (release* or test* or assay*)).tw.
23	IGRA*.tw.
24	(tuberculin adj3 survey).tw.
25	PPD.tw.
26	((TST or tuberculin skin test) adj3 (converter or conversion)).tw.
27	((TB or tuberculosis) adj3 reactivation).tw.
28	((LTBI or latent tuberculosis infection) adj3 reactivation).tw.
29	(reactivation adj3 (LTBI or latent tuberculosis infection)).tw.
30	((IGRA or interferon gamma release assay) adj3 (converter or conversion)).tw.
31	((TST or tuberculin skin test) adj3 reactor).tw.
32	12 or 13 or 14 or 15 or 16 or 17 or 18 or 19 or 20 or 21 or 22 or 23 or 24 or 25 or 26 or 27 or 28 or 29 or 30 or 31
33	diagnostic test/
34	procedures/
35	cohort analysis/
36	incidence/
37	longitudinal study/
38	mass screening/
39	controlled clinical trial/
40	risk/
41	33 or 34 or 35 or 36 or 37 or 38 or 39 or 40
42	Animals/ not Humans/
43	(enzyme linked immunospot assay or enzyme linked immuno* assay).tw.
44	t-spot*.tw.
45	32 or 43 or 44
46	11 and 41 and 45
47	46 not 42
48	limit 47 to (english or french)
49	**limit 48 to yr="1990 -Current"**

Table S2. EMBASE Search

Search Number	Term
1	(laten* adj3 (tb* or tubercul*)).tw.
2	ltb*.tw.
3	tb.tw.
4	tubercul*.tw.
5	Tuberculosis/
6	latent tuberculosis infection.tw.
7	Latent Tuberculosis/
8	Tuberculosis, Pulmonary/
9	Latent Tuberculosis/di
10	Mycobacterium tuberculosis/
11	1 or 2 or 3 or 4 or 5 or 6 or 7 or 8 or 9 or 10
12	tuberculin/
13	tuberculin test/
14	tst.tw.
15	Tuberculin Skin Test.tw.
16	quantiferon*.tw.
17	QFT*.tw.
18	tspot*.tw.
19	exp Enzyme-Linked Immunosorbent Assay/
20	Interferon-gamma Release Tests/
21	((interferon* or IFN*) adj3 gamma* adj3 (release* or test* or assay*)).tw.
22	((y-interferon or interferon-y) adj3 (release* or test* or assay*)).tw.
23	IGRA*.tw.
24	(tuberculin adj3 survey).tw.
25	PPD.tw.
26	((TST or tuberculin skin test) adj3 (converter or conversion)).tw.
27	((TB or tuberculosis) adj3 reactivation).tw.
28	((LTBI or latent tuberculosis infection) adj3 reactivation).tw.
29	(reactivation adj3 (LTBI or latent tuberculosis infection)).tw.
30	((IGRA or interferon gamma release assay) adj3 (converter or conversion)).tw.
31	((TST or tuberculin skin test) adj3 reactor).tw.
32	12 or 13 or 14 or 15 or 16 or 17 or 18 or 19 or 20 or 21 or 22 or 23 or 24 or 25 or 26 or 27 or 28 or 29 or 30 or 31
33	diagnostic test/
34	procedures/
35	cohort analysis/
36	incidence/
37	longitudinal study/
38	mass screening/
39	controlled clinical trial/
40	risk/
41	33 or 34 or 35 or 36 or 37 or 38 or 39 or 40
42	Animals/ not Humans/
43	(enzyme linked immunospot assay or enzyme linked immuno* assay).tw.
44	t-spot*.tw.
45	32 or 43 or 44
46	11 and 41 and 45
47	46 not 42
48	limit 47 to (english or french)
49	**limit 48 to yr="1990 -Current"**

Table S3. CENTRAL Search

Search Number	Term
1	MeSH descriptor: [Latent Tuberculosis] explode all trees
2	MeSH descriptor: [Tuberculosis] explode all trees
3	MeSH descriptor: [Tuberculosis, Pulmonary] explode all trees
4	ltb*:ti,ab,kw (Word variations have been searched)
5	tb or tubercul*:ti,ab,kw
6	latent tuberculosis infection:ti,ab,kw
7	MeSH descriptor: [Latent Tuberculosis] explode all trees
8	MeSH descriptor: [Mycobacterium tuberculosis] explode all trees
9	latent tuberculosis or latent tb or (laten* tb) or (laten* tubercul*):ti,ab,kw
10	#1 or #2 or #3 or #4 or #5 or #6 or #7 or #8 or #9
11	MeSH descriptor: [Tuberculin] explode all trees
12	MeSH descriptor: [Tuberculin Test] explode all trees
13	tst or Tuberculin Skin Test:ti,ab,kw
14	quantiferon or qft*:ti,ab,kw
15	tspot*:ti,ab,kw
16	t-spot*:ti,ab,kw
17	MeSH descriptor: [Enzyme-Linked Immunosorbent Assay] explode all trees
18	MeSH descriptor: [Interferon-gamma Release Tests] explode all trees
19	((interferon* or IFN*) next gamma* near (release* or test* or assay)):ti,ab,kw
20	((y-interferon or interferon-y) near (release* or test* or assay*)):ti,ab,kw
21	IGRA*:ti,ab,kw
22	((enzyme linked immunospot assay) or (enzyme linked immuno* assay)):ti,ab,kw
23	tuberculin near survey:ti,ab,kw
24	PPD:ti,ab,kw
25	(TST or tuberculin skin test) near (converter or conversion or reactor):ti,ab,kw
26	(TB or tuberculosis) near reactivation:ti,ab,kw
27	(LTBI or latent tuberculosis infection) near reactivation:ti,ab,kw
28	(IGRA or interferon gamma release assay) near (converter or conversion):ti,ab,kw
29	#11 or #12 or #13 or #14 or #15 or #16 #17 or #18 or #19 or #20 or #21 or #22 or #23 or #24 or #25 #26 or #27 or #28
30	MeSH descriptor: [Diagnostic Tests, Routine] explode all trees
31	MeSH descriptor: [Methods] explode all trees
32	MeSH descriptor: [Cohort Studies] explode all trees
33	MeSH descriptor: [Incidence] explode all trees
34	MeSH descriptor: [Longitudinal Studies] explode all trees
35	MeSH descriptor: [Mass Screening] explode all trees
36	MeSH descriptor: [Controlled Clinical Trial] explode all trees
37	MeSH descriptor: [Risk] explode all trees
38	#30 or #31 or #32 or #33 or #34 or #35 or #36 or #37
39	MeSH descriptor: [Animals] explode all trees
40	**#10 and #29 and #38 not #39 Publication Year from 1990**

Table S4. Fields Extracted from Included Studies

Field	Variables Extracted
STUDY CHARACTERISTICS	
Study-Identifiers	Study ID, First Author, Year Published, Title, Main Population Studied
Study Design	Type of study (cohort, trial), Study Location, Year Study Initiated, Country-Level Income, Annual TB Incidence
Funding	Industry Sponsors, NGO sponsors
Tests Used	Tuberculin Skin Test Used, Tuberculin Units Used, Cut-Point Variations, Main Cut-Point Used, IGRAs Used, IGRA Generation
Event Ascertainment	Planned Follow-up Duration, TB Diagnosis Method, Year Study Completed
Study Entry Criteria	Inclusion and Exclusion Criteria
PATENT CHARACTERISTICS (AGGREGATE)	
Patients Included	Total Patients Recruited, Total Positive, Total Positive and Treated, Total Negative, Total Negative and Treated, Indeterminates, Total and Proportion Lost to Follow-up
Sex	Number Male, Proportion Male
Age	Estimate Type (e.g. Mean, Median), Estimate, Dispersion Type (e.g. SD, IQR, Range), Dispersion
Race/Ethnicity	Freeform entry based on study reporting
Body Mass Index	Estimate and dispersion in kg/m^2
HIV Information	Number infected, Proportion infected, Duration of Infection, Antiretroviral Use, CD4 estimate and dispersion information
Dialysis Information	Number and proportion on dialysis, duration on dialysis, estimate and dispersion of the estimated glomerular filtration rate
Diabetes Information	Number and proportion with diabetes, duration of diabetes, number and proportion receiving medication for diabetes, estimate and dispersion of HbA_{1c}
Cancer Information	Number and proportion with cancer, cancer type, duration of cancer
Indigenous Information	Freeform entry based on study reporting
TB Contacts Information	Number and proportion of contacts by type (household/close, casual), time since contact
Smoker Information	Number and proportion of smokers by type (current or ex), duration of smoking, pack years smoked
Alcohol Abuse Information	Number and proportion with alcohol abuse, alcohol abuse definition
Bacillus Calmette-Guérin Vaccination	Number and proportion vaccinated
Immune Suppressing Medication Information	Number and proportion receiving medications, medications received, estimate and dispersion of medication dose, duration of treatment
Chest X-Ray Abnormality Information	Number and proportion with abnormalities
Previous TB Treatment Information	Number and proportion with previous TB, estimate and dispersion of time since last episode
OUTCOMES	
Subgroup Identifiers	Test Type, Cut-point, Population Type
Patient Follow-up	Number included positive, number included negative, estimate and dispersion of patient follow-up in months, cumulative follow-up
Active TB Development	Number developing TB test-positive, number developing TB test-negative, number microbiologically diagnosed, number clinically diagnosed, estimate and dispersion of time to tuberculosis diagnosis

Table S5. QUADAS-2 adapted quality assessment criteria

Criteria Number	Question
1	Are the methods of patient selection and the patients themselves adequately described? (Yes / No / Unclear)
2	Were patients random or consecutively selected and were inappropriate exclusions avoided? (Yes / No / Unclear)
3	**Selection Bias**: Could the patient selection have introduced bias? (Yes / No / Unclear)[a]
4	Was how the test was conducted and interpreted adequately described? (Yes / No / Unclear)
5	**Test Conduct Bias**: Could the conduct of the test have introduced bias? (Yes / No / Unclear)[b]
6	Are the excluded patients properly described? (Yes / No / Unclear)
7	**Follow-up Bias**: Could the flow of patients through the study introduced bias? (Yes / No / Unclear)[c]
8	Was the process for follow-up and event ascertainment clearly described? (Yes / No / Unclear)
9	**Event Ascertainment Bias**: Was the method of event ascertainment likely to introduce bias? (Yes / No / Unclear)[d]

*Answers highlighted in green indicate those that would improve quality; answers highlighted in red indicate those that would reduce quality.

[a]Selection bias encompassed inappropriate inclusion and exclusion criteria (e.g. excluding long-standing immune-deficiency or CD4 counts, excluding people from certain countries)

[b]Test conduct bias encompassed inappropriate application of tests (e.g. several week duration between tests being given; only certain individuals receiving both tests)

[c]Follow-up bias encompassed how patients tested were followed and documented reasons for drop-out (e.g. >10% drop-out, no description of when people dropped out)

[d]Event ascertainment bias encompassed inappropriate methods to detect TB (e.g. no use of a TB registry in a retrospective study, TB diagnosis only based on smear)

Table S6. Characteristics of Included Studies

Characteristic	TST[aφ]	QuantiFERON-TB[b]	T-SPOT.*TB*[c]	Overall
Number of Included Studies	102	57	25	122
Median Year of Study Start (IQR)	2005 (2000-2007)	2007 (2006-2009)	2007 (2005-2009)	2006 (2002-2008)
Study Type				
Clinical Trial	1 (1%)	0 (0%)	1 (4%)	2 (2%)
Prospective Cohort	66 (65%)	40 (70%)	21 (84%)	79 (65%)
Retrospective Cohort	35 (34%)	17 (30%)	3 (12%)	41 (33%)
Study Quality				
Low	40 (39%)	19 (33%)	9 (36%)	47 (39%)
Moderate	40 (39%)	27 (47%)	7 (28%)	50 (41%)
High	22 (22%)	11 (20%)	9 (36%)	25 (20%)
Follow-up Type				
Passive	51 (50%)	24 (42%)	5 (20%)	59 (48%)
Active	51 (50%)	33 (59%)	20 (80%)	63 (52%)
Years of Follow-up*				
Mean (SD)	3.1 (2.1)	2.6 (1.2)	2.6 (1.1)	3.1 (2.0)
≤2 years	47 (46%)	24 (42%)	11 (44%)	55 (45%)
>2 years	55 (54%)	33 (58%)	14 (66%)	67 (55%)
Definition of Tuberculosis				
Only Microbiological	16 (16%)	3 (5%)	4 (16%)	17 (14%)
Both Microbiological and Clinical	50 (49%)	26 (46%)	13 (52%)	62 (51%)
Not Specified	36 (35%)	28 (49%)	8 (32%)	43 (35%)
Country-Level Tuberculosis Incidence†				
≥30 per 100,000	57 (56%)	25 (44%)	16 (64%)	66 (54%)
≥100 per 100,000	17 (17%)	4 (7%)	0 (0%)	18 (15%)
Country-Level Income				
High Income	69 (68%)	49 (86%)	21 (84%)	87 (71%)
Other	33 (32%)	8 (14%)	4 (16%)	35 (29%)
Patients Excluded due to LTBI Treatment				
No Patients Excluded due to LTBI Treatment	40 (49%)	21 (37%)	7 (28%)	49 (40%)
<20% Patients Excluded due to LTBI Treatment	59 (58%)	32 (56%)	10 (40%)	70 (57%)
≥20% Patients Excluded due to LTBI Treatment	43 (42%)	25 (44%)	15 (60%)	52 (43%)

Abbreviations: TST, tuberculin skin test; IQR, interquartile range; SD, standard deviation.

*Across all reported arms reporting data among untreated test-positive individuals.

†Based on year of study start or the year 2000 if study began before this year.

[a]Includes 31 studies using QuantiFERON, 9 studies using T-SPOT.*TB*, and 10 studies using both.

[b]Includes 31 studies using TST, 2 studies using T-SPOT.*TB*, and 10 studies using both.

[c]Includes 9 studies using TST, 2 studies using QuantiFERON, and 10 studies using both.

[φ]Of 102 studies, 78 reported the tuberculin units used. Of these 78 studies, 42 (54%) used 2 tuberculin units, 27 (35%) used 5 tuberculin units, 5 (6%) used 1 tuberculin unit, 3 (4%) used 10 tuberculin units, and 1 (1%) used 3 tuberculin units. Only one study used Heaf testing.

All values are n (%), unless otherwise specified.

Table S7. Detailed Individual Study Characteristics

Author (Year)	Study Design	Population(s)	Country or Region	Years Study Conducted	Study Setting	Follow-up Method	Definition of Tuberculosis	LTBI Diagnostic Test(s) Evaluated*	Study Quality (Possible Biases)
GENERAL POPULATION STUDIES									
Cook (2008)[1]	Retrospective Cohort	Low-Risk Tuberculin Reactors	Canada	1990 to 2006	Provincial (British Columbia) TB Registry	Passive	Microbiological and Clinical	TST (10mm)	Low (Selection; Test Conduct; Follow-up; Event Ascertainment)
Horsburgh (2009)[2]	Retrospective Cohort	HIV-Uninfected, United States Born Tuberculin Reactors	United States	1997 to 2001	Entire City (Palm Beach)	Passive	Microbiological and Clinical	TST (10mm)	Low (Selection; Test Conduct; Follow-up; Event Ascertainment)
Ward (2017)[3]	Retrospective Cohort	Non-Indigenous Canadian-Born Tuberculin Reactors	Canada	1986 to 2002	Provincial (Saskatchewan) TB Registry	Passive	Microbiological and Clinical	TST (10mm)	Low (Selection; Test Conduct; Follow-up; Event Ascertainment)
AT-RISK POPULATION STUDIES									
Abubakar (2018)[4]	Prospective Cohort	Close and Casual Contacts (Together) and Recent Immigrant/Refugee Arrivals	United Kingdom	2010 to 2017	Clinics, Community Settings	Active	Microbiological and Clinical	TST (5, 10mm), QFT-GIT, T-SPOT.*TB*	High
Agarwal (2010)[5]	Prospective Cohort	Transplant	India	2000 to 2007	Single Hospital	Active	Microbiological	TST (10mm)	High (Event Ascertainment)
Aichelburg (2014)[6]	Prospective Cohort	HIV	Austria	2006 to Not Specified	HIV Outpatient Clinic	Active	Microbiological and Clinical	QFT-GIT	Moderate (Selection; Follow-up)
Aki (2018)[7]	Retrospective Cohort	Transplant	Turkey	2003 to 2014	University Transplantation Unit	Passive	Not Specified	TST (5, 10mm)	Moderate (Follow-up; Event Ascertainment)
Al Kubaisy (2003)[8]	Prospective Cohort	Children (<18 years)	Iraq	2000 to 2002	Iraqi Governates	Passive	Microbiological and Clinical	TST (10mm)	Low (Selection; Follow-up; Event Ascertainment)
Altet (2015)[9]	Prospective Cohort	Close Contacts Only	Spain	2007 to 2013	Entire City (Barcelona)	Active	Not Specified	TST (5, 10, 15mm), QFT-GIT	High (Follow-up)
Anger (2012)[10]	Retrospective Cohort	Close and Casual Contacts (Together)	United States	1997 to 2003	Entire City (New York City)	Passive	Microbiological and Clinical	TST (5mm)	Moderate (Test Conduct; Event Ascertainment)
Arroyave (2017)[11]	Prospective Cohort	Prisoners	Colombia	2012 to 2015	Prison	Active	Microbiological and Clinical	TST (10mm)	Low (Selection; Follow-up; Event Ascertainment)
Bakir (2008)[12]	Prospective Cohort	Close Contacts Only	Turkey	2002 to 2006	Tuberculosis Clinics	Active	Microbiological and Clinical	TST (10mm), T-SPOT.*TB*	High
Baliashvili (2018)[13]	Retrospective Cohort	Close Contacts Only	Georgia	2012 to 2014	Entire Country	Passive	Not Specified	TST (10mm)	High (Event Ascertainment)
Benito (2002)[14]	Retrospective Cohort	Transplant	Spain	1988 to 1998	Tertiary Hospital	Passive	Microbiological and Clinical	TST (5mm)	Moderate (Selection; Follow-up)
Bergot (2012)[15]	Prospective Cohort	Close and Casual Contacts (Together)	France	2007 to 2011	Entire City (Basse-Normandie)	Passive	Microbiological and Clinical	TST (10mm), QFT-GIT	High
Bourgarit (2015)[16]	Prospective Cohort	HIV	France	2009 to 2013	HIV Clinics	Active	Not Specified	TST (5mm), QFT-GIT, T-SPOT.*TB*	Moderate (Selection; Follow-up)
Bradshaw (2011)[17]	Prospective Cohort	Close and Casual Contacts (Together)	United Kingdom	2007 to 2010	Hospital	Active	Not Specified	QFT-GIT	High (Follow-up)
Cailleaux-Cezar (2009)[18]	Retrospective Cohort	Close and Casual Contacts (Together)	Brazil	2000 to 2004	University Hospital	Passive	Microbiological and Clinical	TST (5, 10mm)	Moderate (Follow-up; Event Ascertainment)
Chakhaia (2014)[19]	Retrospective Cohort	Close Contacts Only	Georgia	2010 to 2013	Ambulatory Hospital Department	Passive	Microbiological and Clinical	TST (5mm)	Moderate (Selection)

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Table S7. Detailed Individual Study Characteristics

Author (Year)	Study Design	Population(s)	Country or Region	Years Study Conducted	Study Setting	Follow-up Method	Definition of Tuberculosis	LTBI Diagnostic Test(s) Evaluated*	Study Quality (Possible Biases)
Chang (2011)[20]	Prospective Cohort	Immune Suppressing Medications	South Korea	2007 to 2009	Healthcare Facility	Passive	Not Specified	TST (10mm), QFT-GIT	Moderate (Follow-up; Event Ascertainment)
Chan-Yeung (2007)[21]	Prospective Cohort	Elderly (≥65 years)	Hong Kong	2000 to 2005	Old Age Homes	Active	Microbiological and Clinical	TST (5, 10, 15mm)	Low (Selection; Follow-up; Event Ascertainment)
Chee (2004)[22]	Prospective Cohort	Close Contacts Only	Singapore	1998 to 2002	Entire Country	Passive	Not Specified	TST (10mm)	Low (Selection; Test Conduct; Follow-up; Event Ascertainment)
Chigbu (2010)[23]	Prospective Cohort	Prisoners	Nigeria	2006 to 2007	Federal Prisons	Active	Microbiological	TST (5, 10mm)	Moderate (Selection; Follow-up)
Christopoulos (2009)[24]	Prospective Cohort	Dialysis	Greece	2001 to 2004	Dialysis Outpatient Units	Active	Microbiological and Clinical	TST (5, 10mm)	Low (Selection; Follow-up; Event Ascertainment)
Chung (2010)[25]	Prospective Cohort	Dialysis	South Korea	2009 to 2010	Training Hospital	Active	Microbiological and Clinical	TST (10mm), QFT-GIT, T-SPOT.*TB*	Low (Selection; Follow-up; Event Ascertainment)
Daley (1998)[26]	Prospective Cohort	Injection Drug Users, HIV	United States	1990 to 1996	Methadone Maintenance Clinics	Passive	Microbiological	TST (5, 10mm)	Moderate (Selection; Follow-up)
Denholm (2012)[27]	Retrospective Cohort	Close and Casual Contacts (Together)	Australia	1995 to 2010	Entire Province (Victoria)	Passive	Not Specified	TST (10mm)	Low (Test Conduct; Follow-up; Event Ascertainment)
Diel (2011)[28]	Prospective Cohort	Close Contacts Only	Germany	2005 to 2010	Entire City (Hamburg)	Passive	Microbiological and Clinical	TST (5, 10, 15mm), QFT-GIT	High (Follow-up)
Dobler (2013)[29]	Retrospective Cohort	Close and Casual Contacts (Together)	Australia	2000 to 2009	Tuberculosis Clinics	Passive	Not Specified	TST (10mm)	Low (Test Conduct; Follow-up; Event Ascertainment)
Dogan (2009)[30]	Prospective Cohort	Dialysis	Turkey	2003 to 2004	Hospitals	Active	Not Specified	TST (10mm)	Moderate (Selection; Event Ascertainment)
Edathodu (2017)[31]	Prospective Cohort	Transplant	Saudi Arabia	2008 to 2013	Hospital	Active	Not Specified	QFT-GIT	Moderate (Follow-up; Event Ascertainment)
Elliot (2018)[32]	Retrospective Cohort	Recent Immigrant/Refugee Arrivals	Australia	2007 to 2013	Refugee Program	Passive	Not Specified	TST (10mm)	Low (Selection; Follow-up; Event Ascertainment)
Elzi (2007)[33]	Prospective Cohort	HIV	Switzerland	1996 to 2006	HIV Outpatient Clinics	Passive	Not Specified	TST (5mm)	Low (Test Conduct; Follow-up; Event Ascertainment)
Espinal (2000)[34]	Case-Control	Close Contacts Only	Dominican Republic	1994 to 1996	Medical Institutions	Active	Microbiological and Clinical	TST (10mm)	Moderate (Selection; Follow-up)
Fang (2002)[35]	Prospective Cohort	Dialysis	Taiwan	1999 to 2000	Outpatient Dialysis Unit	Active	Microbiological and Clinical	TST (10mm)	High (Selection)
Fournier (2015)[36]	Prospective Cohort	Close and Casual Contacts (Together)	France	2010 to 2011	Specialist Tuberculosis Centre	Active	Not Specified	QFT-GIT	Moderate (Follow-up; Event Ascertainment)
Franken (2008)[37]	Prospective Cohort	Close and Casual Contacts (Together)	Netherlands	2005 to 2007	Single Contact Investigation	Active	Not Specified	TST (15mm), QFT-GIT, T-SPOT.*TB*	Low (Selection; Follow-up; Event Ascertainment)

Table S7. Detailed Individual Study Characteristics

Author (Year)	Study Design	Population(s)	Country or Region	Years Study Conducted	Study Setting	Follow-up Method	Definition of Tuberculosis	LTBI Diagnostic Test(s) Evaluated*	Study Quality (Possible Biases)
Gao (2017)[38]	Prospective Cohort	Diabetes, Elderly (≥65 years), BMI <18.5 kg/m² , Smokers	China	2013 to 2015	Rural China	Active	Microbiological and Clinical	QFT-GIT	High (Follow-up)
Garie (2011)[39]	Prospective Cohort	Close Contacts Only	Ethiopia	2007 to 2009	Health Centre and Hospital	Active	Microbiological	TST (5, 10mm)	High (Event Ascertainment)
Girardi (1997)[40]	Prospective Cohort	HIV	Italy	1990 to 1993	Infectious Disease Hospital Units	Active	Microbiological	TST (5, 10mm)	Moderate (Follow-up)
Golub (2015)[41]	RCT	HIV	Brazil	2003 to 2012	HIV Clinics	Passive	Microbiological and Clinical	TST (5mm)	High (Test Conduct)
Gómez-Reino (2007)[42]	Retrospective Cohort	Immune Suppressing Medications	Spain	2002 to 2005	Nationwide Registry	Passive	Microbiological and Clinical	TST (5mm)	Low (Selection; Test Conduct; Follow-up)
Grinsdale (2016)[43]	Retrospective Cohort	Children (<18 years), Young Children (<5 years)	United States	2005 to 2008	Healthcare Centres and Community Organizations	Passive	Not Specified	TST (10mm), QFT-G	Low (Selection; Test Conduct; Follow-up)
Guirao-Arrabal (2016)[44]	Retrospective Cohort	Transplant	Spain	1993 to 2013	Teaching Hospital	Passive	Microbiological	TST (5mm)	Moderate (Selection; Test Conduct)
Haldar (2013)[45]	Prospective Cohort	Close Contacts Only	United Kingdom	2007 to 2010	Hospital	Passive	Microbiological and Clinical	QFT-GIT	Moderate (Selection)
Hand (2018)[46]	Retrospective Cohort	Transplant	United States	2010 to Not Specified	Hospital	Passive	Not Specified	QFT-G	Low (Selection; Test Conduct; Follow-up; Event Ascertainment)
Harstad (2010)[47]	Retrospective Cohort	Recent Immigrant/Refugee Arrivals	Norway	2005 to 2008	Asylum Seeker Reception Centre	Passive	Not Specified	TST (5, 15mm), QFT-GIT	Moderate (Test Conduct; Follow-up)
Hemmati (2011)[48]	Prospective Cohort	Children (<18 years)	Iran	2002 to 2007	Primary Schools	Active	Not Specified	TST (10, 15mm)	Low (Selection; Follow-up; Event Ascertainment)
Higuchi (2009)[49]	Prospective Cohort	Close and Casual Contacts (Together)	Japan	2005 to 2008	Single Contact Investigation	Active	Microbiological and Clinical	TST (5, 10mm), QFT-G	Low (Selection; Follow-up; Event Ascertainment)
Hill (2007)[50]	Prospective Cohort	Close and Casual Contacts (Together)	The Gambia	2002 to 2004	Government Tuberculosis Clinic	Passive	Microbiological and Clinical	TST (10mm)	Moderate (Selection)
Huang (2018)[51]	Retrospective Cohort	Immune Suppressing Medications	Taiwan	2012 to 2017	Tertiary Medical Centre	Passive	Microbiological and Clinical	QFT-GIT	Moderate (Selection; Follow-up)
Huerga (2019)[52]	Prospective Cohort	Close Contacts Only	Armenia	2012 to 2016	Médecins Sans Frontiéres Supported Centres	Active	Microbiological and Clinical	TST (10mm), QFT-GIT	High
Jambaldorj (2017)[53]	Retrospective Cohort	Transplant	South Korea	2009 to 2015	University Hospital	Passive	Not Specified	QFT-GIT	Moderate (Follow-up; Event Ascertainment)
Jeyakumar (1999)[54]	Retrospective Cohort	Occupational Risk Factor	Malaysia	1994 to 1999	Nursing School	Passive	Microbiological and Clinical	TST (5, 10, 15mm)	Moderate (Follow-up; Event Ascertainment)
Jo (2013)[55]	Retrospective Cohort	Immune Suppressing Medications	South Korea	2004 to 2012	Referral Hospital	Active	Not Specified	TST (10mm), T-SPOT.*TB*	Low (Selection; Follow-up; Event Ascertainment)
Joshi (2011)[56]	Prospective Cohort	Occupational Risk Factor	India	2004 to 2010	Medical Institute	Passive	Not Specified	TST (10mm), QFT-GIT	Low (Selection; Test Conduct; Follow-up; Event Ascertainment)

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Table S7. Detailed Individual Study Characteristics

Author (Year)	Study Design	Population(s)	Country or Region	Years Study Conducted	Study Setting	Follow-up Method	Definition of Tuberculosis	LTBI Diagnostic Test(s) Evaluated*	Study Quality (Possible Biases)
Jung (2012)[57]	Retrospective Cohort	Transplant	South Korea	2000 to 2010	Tertiary Referral Hospital	Passive	Microbiological	TST (5mm)	High (Selection)
Kik (2010)[58]	Prospective Cohort	Close Contacts Only	Netherlands	2005 to 2009	Municipal Health Services	Active	Microbiological and Clinical	TST (5, 10, 15mm), QFT-GIT, T-SPOT.*TB*	High (Selection)
Kim (2015)[59]	Retrospective Cohort	Immune Suppressing Medications	South Korea	2007 to 2013	Tertiary Academic Hospital	Passive	Microbiological and Clinical	TST (5mm)	Low (Selection; Test Conduct; Follow-up; Event Ascertainment)
Kim (2017)[60]	Prospective Cohort	Occupational Risk Factor	South Korea	2013 to 2014	Tertiary Academic Hospital	Active	Not Specified	TST (10mm)	High
Kim (2015)[61]	RCT	Transplant	South Korea	2010 to 2014	Renal Transplant Unit	Active	Microbiological and Clinical	T-SPOT.*TB*	High
Kim (2011)[62]	Prospective Cohort	Transplant	South Korea	2008 to 2010	Renal Transplant Unit	Active	Microbiological and Clinical	TST (10mm), T-SPOT.*TB*	High
Kim (2015)[63]	Retrospective Cohort	Close and Casual Contacts (Together)	South Korea	2007 to 2012	Tuberculosis Institute	Passive	Microbiological and Clinical	TST (10mm), QFT-GIT	Moderate (Selection; Follow-up)
Kruczak (2014)[64]	Prospective Cohort	Close and Casual Contacts (Together), Homeless, Long Term Care	Poland	2007 to 2013	Entire City (Krakow)	Passive	Microbiological and Clinical	TST (10mm), QFT-GIT	Moderate (Selection; Follow-up)
Laffitte (2009)[65]	Retrospective Cohort	Immune Suppressing Medications	Switzerland	2004 to 2008	Dermatological Centres	Passive	Not Specified	TST (5mm), T-SPOT.*TB*	Low (Test Conduct; Follow-up; Event Ascertainment)
Lange (2012)[66]	Retrospective Cohort	Transplant	Germany	2006 to 2007	University Hospital	Passive	Not Specified	QFT-GIT	Low (Selection; Follow-up; Event Ascertainment)
Lee (2012)[67]	Prospective Cohort	Close Contacts Only	South Korea	2007 to 2009	Single Contact Investigation	Active	Microbiological	TST (10mm), T-SPOT.*TB*	Moderate (Follow-up)
Lee (2014)[68]	Prospective Cohort	Transplant	South Korea	2010 to 2012	Tertiary Hospital	Active	Microbiological and Clinical	TST (5mm), QFT-GIT	Moderate (Selection; Test Conduct)
Lee (2015)[69]	Retrospective Cohort	Immune Suppressing Medications	South Korea	2007 to 2013	Referral Hospital	Passive	Microbiological and Clinical	TST (10mm), QFT-GIT	Moderate (Follow-up; Event Ascertainment)
Lee (2019)[70]	Retrospective Cohort	HIV	South Korea	2006 to 2016	University Hospital	Passive	Microbiological and Clinical	T-SPOT.*TB*	Low (Selection; Follow-up; Event Ascertainment)
Lee (2015)[71]	Prospective Cohort	HIV	Taiwan	2006 to 2012	Medical Centre and Regional Hospital	Active	Microbiological and Clinical	QFT-G	High (Selection)
Lee (2009)[72]	Prospective Cohort	Dialysis	Taiwan	2005 to Not Specified	Hospital	Active	Microbiological and Clinical	TST (10mm), QFT-GIT, T-SPOT.*TB*	Moderate (Selection; Follow-up)
Leow (2014)[73]	Prospective Cohort	Diabetes	Singapore	2007 to 2013	Specialist Clinic	Passive	Not Specified	TST (10mm), T-SPOT.*TB*	Low (Selection; Follow-up; Event Ascertainment)
Leung (2007)[74]	Prospective Cohort	Silicosis	Hong Kong	1995 to 2005	Pneumoconiosis Clinic	Active	Microbiological and Clinical	TST (10mm)	Moderate (Test Conduct; Follow-up)
Leung (2012)[75]	Prospective Cohort	Children (<18 years)	Hong Kong	1999 to 2010	Primary Schools	Passive	Microbiological and Clinical	TST (5, 10, 15mm)	Moderate (Selection; Follow-up)
Leung (2015)[76]	Prospective Cohort	Close Contacts Only	Hong Kong	2006 to 2013	Entire Country Chest Clinics	Passive	Microbiological and Clinical	TST (5, 10mm), T-SPOT.*TB*	High (Test Conduct)
Leung (2010)[77]	Prospective Cohort	Silicosis	Hong Kong	2004 to 2009	Pneumoconiosis Clinic	Active	Microbiological and Clinical	TST (5, 10, 15mm), T-SPOT.*TB*	High (Follow-up)

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Table S7. Detailed Individual Study Characteristics

Author (Year)	Study Design	Population(s)	Country or Region	Years Study Conducted	Study Setting	Follow-up Method	Definition of Tuberculosis	LTBI Diagnostic Test(s) Evaluated*	Study Quality (Possible Biases)
Lienhardt (2010)[78]	Prospective Cohort	Close Contacts Only	Senegal	2004 to 2006	Entire City (Dakar)	Active	Microbiological and Clinical	TST (5, 10, 15mm)	Moderate (Selection; Follow-up)
Ling (2011)[79]	Retrospective Cohort	Close and Casual Contacts (Together)	Taiwan	2005 to 2007	Country TB Registry	Passive	Microbiological and Clinical	TST (5, 10, 15mm)	Low (Selection; Test Conduct; Follow-up)
Luabeya (2015)[80]	Prospective Cohort	Young Children (<5 years)	South Africa	2009 to 2012	Rural Region Near Cape Town	Passive	Microbiological and Clinical	QFT-GIT	Moderate (Selection; Event Ascertainment)
Marks (2000)[81]	Retrospective Cohort	Recent Immigrant/Refugee Arrivals	Australia	1984 to 1998	Refugee Screening Units	Passive	Microbiological and Clinical	TST (10, 15mm)	Low (Selection; Test Conduct; Follow-up; Event Ascertainment)
Martin (2001)[82]	Prospective Cohort	Prisoners	Spain	1991 to 1999	Prison	Active	Microbiological	TST (5mm)	Low (Selection; Test Conduct; Follow-up; Event Ascertainment)
Martinez-Pino (2013)[83]	Prospective Cohort	HIV	Spain	2004 to 2009	Hospitals	Passive	Microbiological	TST (5mm)	Moderate (Selection; Event Ascertainment)
Mazahir (2017)[84]	Prospective Cohort	Close Contacts Only	Egypt	2014 to 2016	Tertiary Teaching Hospital	Active	Microbiological and Clinical	TST (10mm)	Moderate (Test Conduct; Follow-up)
Metin Timur (2014)[85]	Prospective Cohort	Children (<18 years)	Turkey	2011 to 2014	Schools and Clinics	Active	Microbiological and Clinical	TST (15mm), QFT-GIT	Moderate (Follow-up; Event Ascertainment)
Moon (2013)[86]	Prospective Cohort	Transplant	South Korea	2009 to 2011	Medical Centre	Active	Not Specified	TST (5, 10mm), QFT-GIT	Moderate (Follow-up; Event Ascertainment)
Moran-Mendoza (2007)[87]	Retrospective Cohort	Close and Casual Contacts (Together)	Canada	1990 to 2001	Provincial (British Columbia) TB Registry	Passive	Microbiological and Clinical	TST (5, 10, 15mm)	Low (Selection; Test Conduct; Follow-up)
Moss (2000)[88]	Prospective Cohort	Homeless, HIV	United States	1990 to 1996	Shelters and Food Lines	Passive	Microbiological and Clinical	TST (5, 10mm)	Low (Selection; Test Conduct; Event Ascertainment)
Moyo (2015)[89]	Retrospective Cohort	Close and Casual Contacts (Together)	Australia	2005 to 2013	Provincial (Victoria) TB Registry	Passive	Microbiological and Clinical	TST (5mm)	Low (Selection; Test Conduct; Event Ascertainment)
Noorbakhsh (2011)[90]	Prospective Cohort	Close and Casual Contacts (Together)	Iran	2006 to 2009	Hospital	Active	Not Specified	QFT-G	Low (Selection; Follow-up; Event Ascertainment)
Ozgen (2018)[91]	Retrospective Cohort	Transplant	Turkey	2004 to 2013	Tertiary Teaching Hospital	Passive	Microbiological and Clinical	TST (15mm)	Low (Test Conduct; Follow-up; Event Ascertainment)
Pai (2009)[92]	Prospective Cohort	Close Contacts Only	India	2006 to 2007	Medical Institute	Active	Not Specified	TST (10mm), QFT-GIT	Moderate (Follow-up)
Pullar (2014)[93]	Prospective Cohort	HIV	Norway	2009 to 2012	Outpatient Infectious Disease Clinics	Active	Microbiological and Clinical	QFT-GIT	Moderate (Follow-up; Event Ascertainment)

Table S7. Detailed Individual Study Characteristics

Author (Year)	Study Design	Population(s)	Country or Region	Years Study Conducted	Study Setting	Follow-up Method	Definition of Tuberculosis	LTBI Diagnostic Test(s) Evaluated*	Study Quality (Possible Biases)
Rakotosamimanana (2015)[94]	Prospective Cohort	Close Contacts Only	Madagascar	Not Specified	Entire City (Antananarivo)	Active	Not Specified	TST (5mm)	Moderate (Selection; Event Ascertainment)
Ringshausen (2013)[95]	Prospective Cohort	Occupational Risk Factor	Germany	2008 to 2012	Academic Institutions	Passive	Microbiological	QFT-GIT, T-SPOT.TB	Moderate (Follow-up; Event Ascertainment)
Ringshausen (2009)[96]	Prospective Cohort	Occupational Risk Factor	Germany	2007 to 2009	Hospital	Passive	Not Specified	TST (5, 10mm), QFT-GIT	High (Event Ascertainment)
Ringshausen (2010)[97]	Prospective Cohort	Occupational Risk Factor	Germany	2005 to 2010	Hospitals	Passive	Not Specified	TST (5, 10mm), QFT-GIT	Moderate (Test Conduct; Event Ascertainment)
Rueda (2014)[98]	Prospective Cohort	Prisoners	Colombia	2012 to 2014	Prisons	Active	Microbiological	TST (10mm)	Moderate (Selection; Follow-up)
Sanchez-Moya (2012)[99]	Retrospective Cohort	Immune Suppressing Medications	Spain	2008 to 2011	Biologic Therapy Registry	Passive	Not Specified	TST (5mm)	Low (Selection; Test Conduct; Follow-up; Event Ascertainment)
Saunders (2017)[100]	Prospective Cohort	Close Contacts Only	Peru	2002 to 2016	Single District (Ventanilla)	Passive	Microbiological and Clinical	TST (5mm)	Low (Selection; Test Conduct; Follow-up)
Schablon (2014)[101]	Prospective Cohort	Occupational Risk Factor	Germany	2006 to 2013	Hospitals, Nursing Homes, Outpatient Care Units	Active	Not Specified	QFT-GIT	Low (Selection; Follow-up; Event Ascertainment)
Sester (2014)[102]	Prospective Cohort	Immune Suppressing Medications, Transplant, HIV, Dialysis	Europe	2008 to 2013	Healthcare Facilities	Active	Not Specified	TST (5mm), QFT-GIT, T-SPOT.TB	Low (Selection; Test Conduct; Follow-up; Event Ascertainment)
Sharma (2017)[103]	Prospective Cohort	Close Contacts Only	India	2008 to 2014	Tertiary Care Centre	Active	Microbiological and Clinical	TST (10mm), QFT-GIT	High (Follow-up)
Shu (2016)[104]	Prospective Cohort	Dialysis	Taiwan	2011 to 2015	University Hospital	Passive	Microbiological and Clinical	QFT-GIT	Moderate (Follow-up; Event Ascertainment)
Shu (2013)[105]	Prospective Cohort	Dialysis	Taiwan	2011 to 2012	Tertiary Referral Hospital	Active	Not Specified	QFT-GIT	Low (Selection; Follow-up; Event Ascertainment)
Silva (2014)[106]	Prospective Cohort	Immune Suppressing Medications	Brazil	2009 to 2012	Hospitals	Active	Not Specified	TST (5mm)	Low (Selection; Follow-up; Event Ascertainment)
Singh (2013)[107]	Prospective Cohort	Close Contacts Only	India	2007 to 2011	Select DOTS Centres in South Delhi	Active	Microbiological	TST (10mm)	Low (Test Conduct; Follow-up; Event Ascertainment)
Snast (2018)[108]	Retrospective Cohort	Immune Suppressing Medications	Israel	2005 to 2016	Tertiary Dermatology Department Registry	Active	Not Specified	TST (5mm)	Low (Selection; Test Conduct; Follow-up; Event Ascertainment)
Song (2014)[109]	Prospective Cohort	Close Contacts Only	South Korea	2008 to 2012	Middle and High Schools	Active	Not Specified	TST (10mm), QFT-GIT	Moderate (Follow-up; Event Ascertainment)
Song (2012)[110]	Retrospective Cohort	Close and Casual Contacts (Together)	South Korea	2007 to 2009	Schools	Passive	Not Specified	TST (10mm), QFT-GIT	Low (Selection; Test Conduct; Follow-up; Event Ascertainment)

Table S7. Detailed Individual Study Characteristics

Author (Year)	Study Design	Population(s)	Country or Region	Years Study Conducted	Study Setting	Follow-up Method	Definition of Tuberculosis	LTBI Diagnostic Test(s) Evaluated*	Study Quality (Possible Biases)
Sun (2015)[111]	Prospective Cohort	HIV	Taiwan	2011 to 2014	University Hospital	Active	Microbiological and Clinical	T-SPOT.*TB*	Moderate (Selection; Follow-up)
Torres Costa (2011)[112]	Retrospective Cohort	Occupational Risk Factor	Portugal	2007 to 2010	University Hospital	Passive	Not Specified	TST (10mm), QFT-GIT	Moderate (Follow-up; Event Ascertainment)
Truong (1997)[113]	Retrospective Cohort	Recent Immigrant/Refugee Arrivals	United States	1992 to 1995	Medical Centres	Active	Microbiological	TST (10mm)	Moderate (Follow-up; Event Ascertainment)
Tsou (2015)[114]	Prospective Cohort	Elderly (≥65 years)	Taiwan	Not Specified	Veteran Nursing Home	Active	Microbiological	TST (10mm), QFT-G	Moderate (Selection)
Ward (2017)[3]	Retrospective Cohort	Indigenous	Canada	1986 to 2002	Provincial (Saskatchewan) TB Registry	Passive	Microbiological and Clinical	TST (10mm)	Low (Selection; Test Conduct; Follow-up; Event Ascertainment)
Xie (2011)[115]	Prospective Cohort	Immune Suppressing Medications	China	Not Specified	Department of Rheumatology	Active	Not Specified	TST (5mm)	Low (Selection; Follow-up; Event Ascertainment)
Yang (2013)[116]	Prospective Cohort	HIV	Taiwan	2008 to 2012	HIV Outpatient Clinics	Active	Microbiological	TST (5mm), T-SPOT.*TB*	High
Yoshiyama (2015)[117]	Retrospective Cohort	Close and Casual Contacts (Together)	Japan	2010 to 2013	Registry Review of Public Health Centres	Active	Microbiological and Clinical	QFT-GIT	Moderate (Selection; Follow-up)
Yoshiyama (2010)[118]	Retrospective Cohort	Close and Casual Contacts (Together)	Japan	2003 to 2007	Registry Review of Public Health Centres	Active	Microbiological and Clinical	QFT-G	Low (Selection; Test Conduct; Follow-up; Event Ascertainment)
Zellweger (2015)[119]	Prospective Cohort	Close and Casual Contacts (Together)	Europe	2009 to 2013	Healthcare Facilities	Active	Not Specified	QFT-GIT, T-SPOT.*TB*	Low (Selection; Test Conduct; Follow-up; Event Ascertainment)
Zenner (2017)[120]	Retrospective Cohort	Recent Immigrant/Refugee Arrivals	United Kingdom	1989 to 2014	City (Blackburn) TB Registry	Passive	Microbiological and Clinical	TST (5mm), QFT-GIT	Low (Selection; Test Conduct; Follow-up; Event Ascertainment)
Zhang (2010)[121]	Prospective Cohort	HIV	China	2006 to 2009	Medical Centre	Active	Microbiological and Clinical	T-SPOT.*TB*	Moderate (Selection; Follow-up)
Zhang (2013)[122]	Prospective Cohort	Occupational Risk Factor	China	2005 to 2011	General Hospital	Active	Microbiological	TST (10mm), T-SPOT.*TB*	High (Selection)

Abbreviations: TB, tuberculosis; IRR, incidence rate ratio; QFT-GIT, Quantiferon Gold-In-Tube; TST, tuberculin skin test; BMI, body mass index; HIV, human immunodeficiency virus; BCG, Bacillus Calmette-Guérin vaccination.

*Tests listed provided a large enough sample size for inclusion (i.e. ≥10 untreated, test-positive participants)

Table S8. Information on LTBI Treatment Provided within Included Studies

Author (Year)	Study Design	Population(s)	Was LTBI Treatment an Exclusion Criterion?	Were People Treated for LTBI Within the Study?	LTBI Treatment Information	≥20% Treated?
GENERAL POPULATION STUDIES						
Cook (2008)[1]	Retrospective Cohort	Low-Risk Tuberculin Reactors	No	Yes	1487 of 26,522 test-positive people received treatment (6%)	No
Horsburgh (2009)[2]	Retrospective Cohort	HIV-Uninfected, United States Born Tuberculin Reactors	No	Yes	11% of test-positive people had received treatment	No
Ward (2017)[3]	Retrospective Cohort	Non-Indigenous Canadian-Born Tuberculin Reactors	Yes	No	1677 test-positive persons were excluded and 11,698 included (14% of possible people included were excluded due to treatment)	No
AT-RISK POPULATION STUDIES						
Abubakar (2018)[4]	Prospective Cohort	Close and Casual Contacts (Together) and Recent Immigrant/Refugee Arrivals	Yes	No	260 of the 10,045 (3%) people recruited to the study were excluded due to LTBI treatment, all are presumed to have been test-positive	No
Agarwal (2010)[5]	Prospective Cohort	Transplant	Yes	No	212 people receiving treatment as part of a clinical trial were excluded of 554 possible patients to include (38%)	Yes
Aichelburg (2014)[6]	Prospective Cohort	HIV	No	No	Treatment recommended, but not reported to be given	No
Aki (2018)[7]	Retrospective Cohort	Transplant	No	Yes	Of 224 people with TST 5mm or greater, 124 (55%) were treated; of 160 people with TST 10mm or greater, 97 were treated (61%)	Yes[7]
Al Kubaisy (2003)[8]	Prospective Cohort	Children (<18 years)	No	No	Participants were treated at conclusion of study.	No
Altet (2015)[9]	Prospective Cohort	Close Contacts Only	No	Yes	Of 453 IGRA positive people, 372 (78%) were treated; of the 797 people with TST 5mm or greater, 457 (57%) were treated.	Yes
Anger (2012)[10]	Retrospective Cohort	Close and Casual Contacts (Together)	No	Yes	Of 7597 test-positive people, 6001 (79% were treated).	Yes
Arroyave (2017)[11]	Prospective Cohort	Prisoners	No	No	No treatment provided.	No
Bakir (2008)[12]	Prospective Cohort	Close Contacts Only	No	Yes	Of the 44 people TSPOT-positive and TST less than 10mm included, 18 (41%) were treated	Yes
Baliashvili (2018)[13]	Retrospective Cohort	Close Contacts Only	No	No	No treatment provided	No
Benito (2002)[14]	Retrospective Cohort	Transplant	No	Yes	Of 89 people TST positive, 16 (18%) were treated	No
Bergot (2012)[15]	Prospective Cohort	Close and Casual Contacts (Together)	No	Yes	Of the 148 people IGRA positive, 97 (66%) were treated	Yes
Bourgarit (2015)[16]	Prospective Cohort	HIV	No	Yes	Not clearly reported by test, however 13 (33%) of 39 people with a positive IGRA were treated	Yes
Bradshaw (2011)[17]	Prospective Cohort	Close and Casual Contacts (Together)	No	No	No treatment provided	No
Cailleaux-Cezar (2009)[18]	Retrospective Cohort	Close and Casual Contacts (Together)	Yes	No	Of the 1178 contacts who could have been included, 63 (5%) were excluded due to treatment of LTBI	No
Chakhaia (2014)[19]	Retrospective Cohort	Close Contacts Only	No	Yes	Of the 212 TST positive people, 41 (19%) were treated	No
Chang (2011)[20]	Prospective Cohort	Immune Suppressing Medications	No	Yes	All patients IGRA-positive were treated (n=36). Only those IGRA-negative and TST greater than 10mm were untreated	No
Chan-Yeung (2007)[21]	Prospective Cohort	Elderly (≥65 years)	No	No	No treatment provided	Yes
Chee (2004)[22]	Prospective Cohort	Close Contacts Only	No	Yes	Of 2078 people with TST 10mm or greater, 874 (42%) were treated	No
Chigbu (2010)[23]	Prospective Cohort	Prisoners	No	No	No treatment provided	No
Christopoulos (2009)[24]	Prospective Cohort	Dialysis	No	No	No treatment provided	No
Chung (2010)[25]	Prospective Cohort	Dialysis	No	No	No treatment provided	No
Daley (1998)[26]	Prospective Cohort	Injection Drug Users, HIV	No	Yes	Among those with HIV, 68 (71%) of 96 people were treated; among HIV-uninfected, 199 (61%) of 324 were treated.	Yes

Table S8. Information on LTBI Treatment Provided within Included Studies

Author (Year)	Study Design	Population(s)	Was LTBI Treatment an Exclusion Criterion?	Were People Treated for LTBI Within the Study?	LTBI Treatment Information	≥20% Treated?
Denholm (2012)[27]	Retrospective Cohort	Close and Casual Contacts (Together)	No	Yes	Of 49 TST positive contacts, 11 (22%) received appropriate preventative treatment	Yes
Diel (2011)[28]	Prospective Cohort	Close Contacts Only	No	Yes	Of 314 contacts IGRA-positive, 67 (21%) received treatment.	Yes
Dobler (2013)[29]	Retrospective Cohort	Close and Casual Contacts (Together)	No	Yes	Of 4351 people test-positive, 409 (9%) received treatment	No
Dogan (2009)[30]	Prospective Cohort	Dialysis	No	No	No treatment provided	No
Edathodu (2017)[31]	Prospective Cohort	Transplant	No	Yes	In the research study of 70 positive people, only 1 (2%) received treatment	No
Elliot (2018)[32]	Retrospective Cohort	Recent Immigrant/Refugee Arrivals	No	Yes	Among those positive by TST, 23 (34%) of 67 received treatment	Yes
Elzi (2007)[33]	Prospective Cohort	HIV	No	Yes	While unclear if they were all test-positive, 193 people were treated and 246 people were untreated and TST positive. Assuming all treated were TST positive, this is 44%	Yes
Espinal (2000)[34]	Case-Control	Close Contacts Only	No	No	No treatment provided	No
Fang (2002)[35]	Prospective Cohort	Dialysis	No	No	No treatment provided	No
Fournier (2015)[36]	Prospective Cohort	Close and Casual Contacts (Together)	No	Yes	If 159 IGRA positive people, 97 (61%) were treated	Yes
Franken (2008)[37]	Prospective Cohort	Close and Casual Contacts (Together)	No	Yes	Of 122 people with TST 15mm or greater, 51 (42%) were treated	Yes
Gao (2017)[38]	Prospective Cohort	Diabetes, Elderly (≥65 years), BMI <18.5 kg/m², Smokers	No	No	No treatment provided	No
Garie (2011)[39]	Prospective Cohort	Close Contacts Only	No	Yes	Only children <5 years were treated, accounting for 82 (44%) of 184 people included	Yes
Girardi (1997)[40]	Prospective Cohort	HIV	No	Yes	When treatment provided, patient follow-up was censored. Number initiating treatment not reported	No
Golub (2015)[41]	RCT	HIV	No	Yes	Of the 1954 test-positive patients, 1601 (82%) were treated	Yes
Gómez-Reino (2007)[42]	Retrospective Cohort	Immune Suppressing Medications	No	Yes	Of 1012 people test-positive, 956 (94%) were treated	Yes
Grinsdale (2016)[43]	Retrospective Cohort	Children (<18 years), Young Children (<5 years)	No	Yes	The test result of treated individuals was not reported, but only 11 untreated positive people remained and 109 were treated. Assuming all were positive, this is 91%	Yes
Guirao-Arrabal (2016)[44]	Retrospective Cohort	Transplant	No	Yes	Of 70 test-positive people, 30 (43%) were treated	Yes
Haldar (2013)[45]	Prospective Cohort	Close Contacts Only	No	Yes	Of 215 test-positive people, 98 (46%) were treated	Yes
Hand (2018)[46]	Retrospective Cohort	Transplant	No	Yes	Of 20 test-positive people, 3 (15%) were treated	No
Harstad (2010)[47]	Retrospective Cohort	Recent Immigrant/Refugee Arrivals	No	Yes	Of 246 test-positive people, 8 (3%) were treated	No
Hemmati (2011)[48]	Prospective Cohort	Children (<18 years)	No	No	No treatment provided	No
Higuchi (2009)[49]	Prospective Cohort	Close and Casual Contacts (Together)	No	Yes	Only 9 IGRA positive were indicated treatment, this included 6 (3%) of the 200 people with TST greater than 5mm.	No
Hill (2007)[50]	Prospective Cohort	Close and Casual Contacts (Together)	No	No	No treatment provided	No
Huang (2018)[51]	Retrospective Cohort	Immune Suppressing Medications	No	Yes	Of 67 test-positive people, 43 (64%) were treated	Yes
Huerga (2019)[52]	Prospective Cohort	Close Contacts Only	No	No	No treatment provided	No

Table S8. Information on LTBI Treatment Provided within Included Studies

Author (Year)	Study Design	Population(s)	Was LTBI Treatment an Exclusion Criterion?	Were People Treated for LTBI Within the Study?	LTBI Treatment Information	≥20% Treated?
Jambaldorj (2017)[53]	Retrospective Cohort	Transplant	Yes	No	Of 458 people included, 12 were excluded due to treatment (3%) given based on abnormal chest radiograph	No
Jeyakumar (1999)[54]	Retrospective Cohort	Occupational Risk Factor	No	No	No treatment provided	No
Jo (2013)[55]	Retrospective Cohort	Immune Suppressing Medications	No	Yes	There were 6 (27%) of 22 TST-positive people treated and 7 (18%) of 38 TSPOT positive people treated	No
Joshi (2011)[56]	Prospective Cohort	Occupational Risk Factor	No	Yes	There were 10 people treated of 275 TST-positive and 279 IGRA-positive people. This is 4% in each group	No
Jung (2012)[57]	Retrospective Cohort	Transplant	No	No	No treatment provided	No
Kik (2010)[58]	Prospective Cohort	Close Contacts Only	Yes	No	17 of 812 close contacts were excluded because preventive treatment was started (2%)	No
Kim (2015)[59]	Retrospective Cohort	Immune Suppressing Medications	No	Yes	Of 244 TST positive people, 211 (86%) received treatment	Yes
Kim (2017)[60]	Prospective Cohort	Occupational Risk Factor	No	Yes	Of 41 test-positive people, 12 (29%) were treated	Yes
Kim (2015)[61]	RCT	Transplant	No	Yes	131 of 263 people were treated in this RCT (50%)	No
Kim (2011)[62]	Prospective Cohort	Transplant	No	Yes	Of 89 people IGRA positive, 18 (20%) were treated. All TST positive were treated	Yes
Kim (2015)[63]	Retrospective Cohort	Close and Casual Contacts (Together)	No	Yes	513 (96%) of 534 IGRA-positive people were treated. 513 (29%) of 1761 TST-positive were treated	Yes
Kruczak (2014)[64]	Prospective Cohort	Close and Casual Contacts (Together), Homeless, Long Term Care	No	No	No treatment provided	No
Laffitte (2009)[65]	Retrospective Cohort	Immune Suppressing Medications	No	Yes	Of 20 people TST positive, 10 were treated (50%); all IGRA positive treated	Yes
Lange (2012)[66]	Retrospective Cohort	Transplant	No	No	No treatment provided	No
Lee (2012)[67]	Prospective Cohort	Close Contacts Only	No	Yes	Of 123 TST positive, 101 (82%) were treated. Of 117 IGRA positive, 101 (86%) were treated	Yes
Lee (2014)[68]	Prospective Cohort	Transplant	Yes	No	Of 409 possibly included patients, 5 were excluded due to treatment (1%)	No
Lee (2015)[69]	Retrospective Cohort	Immune Suppressing Medications	No	Yes	60 (49%) of 122 TST positive received treatment and all IGRA-positive received treatment	Yes
Lee (2019)[70]	Retrospective Cohort	HIV	No	Yes	Of 62 positive people, 25 (40%) were treated.	Yes
Lee (2015)[71]	Prospective Cohort	HIV	No	Yes	When treatment provided, patient follow-up was censored. Number initiating treatment not reported	No
Lee (2009)[72]	Prospective Cohort	Dialysis	No	No	No treatment provided	No
Leow (2014)[73]	Prospective Cohort	Diabetes	No	No	No treatment provided	No
Leung (2007)[74]	Prospective Cohort	Silicosis	No	Yes	Of 317 positive people, 101 (32%) were treated	Yes
Leung (2012)[75]	Prospective Cohort	Children (<18 years)	No	No	No treatment provided	No
Leung (2015)[76]	Prospective Cohort	Close Contacts Only	No	Yes	Of 343 with a positive IGRA, 99 (29%) were treated. Of 670 with a TST 5mm or greater, 167 were treated (25%)	Yes
Leung (2010)[77]	Prospective Cohort	Silicosis	No	Yes	Of 204 with a positive IGRA, 53 (26%) were treated. Of 228 with a TST 5mm or greater, 67 (29%) were treated	Yes
Lienhardt (2010)[78]	Prospective Cohort	Close Contacts Only	No	No	No treatment provided to tested population	No
Ling (2011)[79]	Retrospective Cohort	Close and Casual Contacts (Together)	No	No	No treatment provided	No
Luabeya (2015)[80]	Prospective Cohort	Young Children (<5 years)	No	Yes	Of 279 positive people, 73 (26%) were treated	Yes

Table S8. Information on LTBI Treatment Provided within Included Studies

Author (Year)	Study Design	Population(s)	Was LTBI Treatment an Exclusion Criterion?	Were People Treated for LTBI Within the Study?	LTBI Treatment Information	≥20% Treated?
Marks (2000)[81]	Retrospective Cohort	Recent Immigrant/Refugee Arrivals	Yes	No	Not explicitly stated how many were excluded due to this reason, but can estimate <16% based on those included	No
Martin (2001)[82]	Prospective Cohort	Prisoners	No	Yes	Of 632 TST positive people, 146 (23%) were treated	Yes
Martinez-Pino (2013)[83]	Prospective Cohort	HIV	No	Yes	Of 428 test-positive people, 229 (54%) were treated	Yes
Mazahir (2017)[84]	Prospective Cohort	Close Contacts Only	No	Yes	No treatment provided to those ≥6 years. Of 19 positive people, 4 (21%) were treated	Yes
Metin Timur (2014)[85]	Prospective Cohort	Children (<18 years)	No	Yes	Of 12 IGRA positive, 8 (67%) were treated. 69 people who were TST positive and IGRA negative were not treated	Yes (IGRA) No (TST)
Moon (2013)[86]	Prospective Cohort	Transplant	No	No	No treatment provided	No
Moran-Mendoza (2007)[87]	Retrospective Cohort	Close and Casual Contacts (Together)	Yes	No	Of 33,146 people possibly included, 6604 (20%) were treated	Yes
Moss (2000)[88]	Prospective Cohort	Homeless, HIV	No	Yes	Of 695 HIV-negative, test-positive people, 63 (9%) were treated; number assumed based on enrollment in subsequent treatment trial	No
Moyo (2015)[89]	Retrospective Cohort	Close and Casual Contacts (Together)	No	No	No treatment provided	No
Noorbakhsh (2011)[90]	Prospective Cohort	Close and Casual Contacts (Together)	No	No	No treatment provided	No
Ozgen (2018)[91]	Retrospective Cohort	Transplant	No	No	No treatment provided	No
Pai (2009)[92]	Prospective Cohort	Close Contacts Only	No	No	No treatment provided	No
Pullar (2014)[93]	Prospective Cohort	HIV	No	Yes	Of 43 with positive IGRA, 7 were excluded due to TB, leaving 36 positive; estimating the number of these treated from the data presented, 13 (36%) were treated	Yes
Rakotosamimanana (2015)[94]	Prospective Cohort	Close Contacts Only	No	No	No treatment provided	No
Ringshausen (2013)[95]	Prospective Cohort	Occupational Risk Factor	No	No	No treatment provided	No
Ringshausen (2009)[96]	Prospective Cohort	Occupational Risk Factor	No	Yes	Of 13 positive people, 1 (8%) received treatment	No
Ringshausen (2010)[97]	Prospective Cohort	Occupational Risk Factor	No	No	No treatment provided until end of study	No
Rueda (2014)[98]	Prospective Cohort	Prisoners	No	No	No treatment provided	No
Sanchez-Moya (2012)[99]	Retrospective Cohort	Immune Suppressing Medications	No	Yes	Of 163 positive people, 140 (86%) were treated	Yes
Saunders (2017)[100]	Prospective Cohort	Close Contacts Only	No	No	No treatment provided	No
Schablon (2014)[101]	Prospective Cohort	Occupational Risk Factor	No	Yes	Of 75 positive people, 1 (2%) received treatment	No
Sester (2014)[102]	Prospective Cohort	Immune Suppressing Medications, Transplant, HIV, Dialysis	No	Yes	Across all groups included, treatment was given to 47 (24%) of 196 TST positive, 56 (26%) of 215 QuantiFERON-TB positive, and 54 (22%) of 247 T-SPOT.*TB* positive	Yes
Sharma (2017)[103]	Prospective Cohort	Close Contacts Only	No	No	No treatment provided	No
Shu (2016)[104]	Prospective Cohort	Dialysis	No	No	No treatment provided	No
Shu (2013)[105]	Prospective Cohort	Dialysis	No	No	No treatment provided	No
Silva (2014)[106]	Prospective Cohort	Immune Suppressing Medications	No	No	No treatment provided	No
Singh (2013)[107]	Prospective Cohort	Close Contacts Only	No	No	No treatment provided	No
Snast (2018)[108]	Retrospective Cohort	Immune Suppressing Medications	No	Yes	Of 78 test positive people, 39 (50%) were treated	Yes

Table S8. Information on LTBI Treatment Provided within Included Studies

Author (Year)	Study Design	Population(s)	Was LTBI Treatment an Exclusion Criterion?	Were People Treated for LTBI Within the Study?	LTBI Treatment Information	≥20% Treated?
Song (2014)[109]	Prospective Cohort	Close Contacts Only	No	Yes	Of 661 people with a positive TST, 215 (33%) were treated. Of 317 people with a positive IGRA, 215 (68%) were treated	Yes
Song (2012)[110]	Retrospective Cohort	Close and Casual Contacts (Together)	No	Yes	Of 270 people with a positive TST, 171 (63%) were treated. Of 203 with a positive IGRA, 171 (84%) were treated	Yes
Sun (2015)[111]	Prospective Cohort	HIV	No	Yes	No treatment provided to those who tested positive	No
Torres Costa (2011)[112]	Retrospective Cohort	Occupational Risk Factor	No	No	No treatment provided	No
Truong (1997)[113]	Retrospective Cohort	Recent Immigrant/Refugee Arrivals	No	Yes	Of 160 test-positive people, 110 (69%) received treatment	Yes
Tsou (2015)[114]	Prospective Cohort	Elderly (≥65 years)	No	No	No treatment provided	No
Ward (2017)[3]	Retrospective Cohort	Indigenous	Yes	No	1677 test-positive persons were excluded and 11,698 included (14% of possible people included were excluded due to treatment)	No
Xie (2011)[115]	Prospective Cohort	Immune Suppressing Medications	No	Yes	Of 12 people with TST greater than 5mm, 2 (17%) received treatment	No
Yang (2013)[116]	Prospective Cohort	HIV	No	Yes	Of 227 people TST-positive, 87 (38%) were treated. Of 134 people with a positive IGRA, 49 (37%) were treated	Yes
Yoshiyama (2015)[117]	Retrospective Cohort	Close and Casual Contacts (Together)	No	Yes	Of 168 people with a positive IGRA, 107 (64%) were treated	Yes
Yoshiyama (2010)[118]	Retrospective Cohort	Close and Casual Contacts (Together)	No	Yes	Of 419 people with a positive IGRA, 323 (77%) were treated	Yes
Zellweger (2015)[119]	Prospective Cohort	Close and Casual Contacts (Together)	No	Yes	Of 904 people with a positive QuantiFERON-TB, 481 (53%) were treated; of 281 people with a positive T-SPOT.*TB*, 208 (74%) were treated	Yes
Zenner (2017)[120]	Retrospective Cohort	Recent Immigrant/Refugee Arrivals	No	Yes	Of 366 IGRA positive people, 243 (66%) were treated; no TST positive person was treated	Yes (IGRA) No (TST)
Zhang (2010)[121]	Prospective Cohort	HIV	No	No	No treatment provided	No
Zhang (2013)[122]	Prospective Cohort	Occupational Risk Factor	No	No	No treatment provided	No

Abbreviations: TB, tuberculosis; IGRA, interferon-gamma release assay; LTBI, latent tuberculosis infection; HIV, human immunodeficiency virus.

Table S9. Study Characteristics and Outcomes Among Test-Positive Persons

Author (Year)	Mean or Median Age (Years)†	Population Evaluated*	Positive Test Definition and Untreated Population Size	Mean or Median Individual FU (Months)	TB Events (Cumulative Incidence)	Total FU Time (Person Years)	TB Rate per 1000 Person Years (95% CI)	IRR Compared to Test Negative (95% CI)
GENERAL POPULATION STUDIES								
Cook (2008)[1]	32	Tuberculin Reactors	TST ≥10mm: 25,035	84	7 (0.03%)	175,245	0.04 (0.02–0.08)	Not estimated
Horsburgh (2009)[2]	NR	Tuberculin Reactors	TST ≥10mm: 2952	60	10 (0.3%)	14,759	0.68 (0.47–0.88)	Not estimated
Ward (2017)[3]	NR	Tuberculin Reactors	TST ≥10mm: 5824	121.7	38 (0.7%)	59,089	0.64 (0.36–1.26)	Not estimated
AT-RISK POPULATION STUDIES								
Abubakar (2018)[4]	32.5	All Contacts	QFT-GIT+: 793	39.6	30 (3.8%)	2613.8	11.5 (8–16.4)	5.1 (2.9–8.8)
		All Contacts	TSPOT+: 648	38.9	31 (4.8%)	2100.1	14.8 (10.4–21)	7.2 (4.1–12.5)
		All Contacts	TST ≥5mm: 1704	39	43 (2.5%)	5542.3	7.8 (5.8–10.5)	5.9 (2.8–12.3)
		All Contacts	TST ≥10mm: 1323	38.8	38 (2.9%)	4280.7	8.9 (6.5–12.2)	5.1 (2.7–9.5)
		Recent Immigrants	QFT-GIT+: 651	37.5	17 (2.6%)	2036	8.3 (5.2–13.4)	6 (2.7–13.2)
		Recent Immigrants	TSPOT+: 587	37.3	21 (3.6%)	1826	11.5 (7.5–17.6)	14.6 (5.7–37.3)
		Recent Immigrants	TST ≥5mm: 1253	37.1	21 (1.7%)	3874.5	5.4 (3.5–8.3)	4.8 (1.9–12.3)
		Recent Immigrants	TST ≥10mm: 828	36.8	20 (2.4%)	2541.6	7.9 (5.1–12.2)	7.6 (3.1–18.3)
Agarwal (2010)[5]	38.3	Transplant	TST ≥10mm: 21	24	5 (23.8%)	42	119 (49.6–286)	3.2 (1.2–8.2)
Aichelburg (2014)[6]	39.6	HIV	QFT-GIT+: 76	20.2	7 (9.2%)	127.93	54.7 (26.1–114.8)	20.2 (5.7–72)
Aki (2018)[7]	43	Transplant	TST ≥5mm: 100	29	0 (0%)	241.7	0	1 event among negative
		Transplant	TST ≥10mm: 63	29	0 (0%)	152.3	0	1 event among negative
Al Kubaisy (2003)[8]	NR	All Contacts	TST ≥10mm: 191	24	9 (4.7%)	382	23.6 (12.3–45.3)	Not estimated
Altet (2015)[9]	NR	Close Contacts Only	QFT-GIT+: 81	48	14 (17.3%)	324	43.2 (25.6–73)	0 events among negative
		Close Contacts Only	TST ≥5mm: 340	48	14 (4.1%)	1360	10.3 (6.1–17.4)	0 events among negative
		Close Contacts Only	TST ≥10mm: 233	48	13 (5.6%)	932	13.9 (8.1–24)	8.5 (1.6–45.9)
		Close Contacts Only	TST ≥15mm: 107	48	11 (10.3%)	428	25.7 (14.2–46.4)	10.6 (3.2–35.2)
Anger (2012)[10]	NR	All Contacts	TST ≥5mm: 1596	46.9	24 (1.5%)	6250	3.8 (2.6–5.7)	12.8 (6.9–23.7)
		All Contacts (Age<18)	TST ≥5mm: 92	46.9	4 (4.3%)	359.6	11.1 (4.2–29.6)	Not estimated
		All Contacts (Age<5)	TST ≥5mm: 11	46.9	2 (18.2%)	43	46.5 (11.6–186)	Not estimated
		All Contacts (Age≥65)	TST ≥5mm: 177	46.9	4 (2.3%)	691.8	5.8 (2.2–15.4)	Not estimated
Arroyave (2017)[11]	NR	Prisoners	TST ≥10mm: 38	24	9 (23.7%)	76	118.4 (61.6–227.6)	15.2 (2.7–84.9)
Bakir (2008)[12]	7.5	Close Contacts Only (Age<18)	TSPOT+, TST<10mm: 26	15.6	1 (3.8%)	33.8	29.6 (4.2–210)	Not estimated
Baliashvili (2018)[13]	NR	Close Contacts Only	TST ≥10mm: 364	12	4 (1.1%)	364	11 (4.1–29.3)	0.9 (0.3–2.7)
Benito (2002)[14]	50	Transplant	TST ≥5mm: 73	49	0 (0%)	298.1	0	5 events among negative
Bergot (2012)[15]	47.5	All Contacts	QFT-GIT+: 51	34	1 (2%)	144.5	6.9 (1–49.1)	10.3 (1.1–99.1)
		All Contacts	TST ≥10mm, QFT-GIT-:194	34	1 (0.5%)	549.7	1.8 (0.3–12.9)	Not estimated
Bourgarit (2015)[16]	38.9	HIV	QFT-GIT+: 23	52.3	0 (0%)	100.2	0	Not estimated
		HIV	TSPOT: 14	52.3	0 (0%)	61	0	Not estimated
		HIV	TST ≥5mm: 47	52.3	0 (0%)	204.8	0	Not estimated
Bradshaw (2011)[17]	70.5	All Contacts	QFT-GIT: 30	36	0 (0%)	90	0	Not estimated
Cailleaux-Cezar (2009)[18]	35	All Contacts	TST ≥5mm: 349	24	19 (5.4%)	698	27.2 (17.4–42.7)	5.1 (1.6–15.8)
		All Contacts	TST ≥10mm: 269	24	15 (5.6%)	538	27.9 (16.8–46.2)	3.1 (1.3–7.3)
Chakhaia (2014)[19]	NR	Close Contacts Only	TST ≥5mm: 171	21	7 (4.1%)	299.25	23.4 (11.2–49.1)	1.5 (0.5–4.6)
		Close Contacts Only (Age<18)	TST ≥5mm: 84	21	1 (1.2%)	147	6.8 (1–48.3)	Not estimated
Chang (2011)[20]	NR	Immune Suppressing Medications	TST ≥10mm, QFT-GIT-: 16	24.5	0 (0%)	32.7	0	Not estimated
Chan-Yeung (2007)[21]	82.4	Elderly (Age≥65)	TST ≥5mm: 1684	32.7	11 (0.9%)	4583.3	2.4 (1.3–4.3)	1 (0.4–2.5)
		Elderly (Age≥65)	TST ≥10mm: 1276	32.4	11 (1.1%)	3437.5	3.2 (1.8–5.8)	1.9 (0.8–4.6)
		Elderly (Age≥65)	TST ≥15mm: 853	31.7	9 (1.4%)	2250	4 (2.1–7.7)	2.1 (0.9–5)
		BMI <18.5 kg/m²	TST ≥5mm: 491	28.5	7 (1.4%)	1166.1	6 (2.9–12.6)	1.4 (0.5–4.2)
		BMI <18.5 kg/m²	TST ≥10mm: 358	28.6	7 (2%)	853.2	8.2 (3.9–17.2)	2.5 (0.8–7.4)
		BMI <18.5 kg/m²	TST ≥15mm: 199	28.2	5 (2.5%)	467.7	10.7 (4.4–25.7)	3 (1–9.1)
Chee (2004)[22]	NR	Close Contacts Only	TST ≥10mm: 1204	48	4 (0.3%)	4816	0.8 (0.3–2.2)	5.3 (0.8–33.8)

Table S9. Study Characteristics and Outcomes Among Test-Positive Persons

Author (Year)	Mean or Median Age (Years)†	Population Evaluated*	Positive Test Definition and Untreated Population Size	Mean or Median Individual FU (Months)	TB Events (Cumulative Incidence)	Total FU Time (Person Years)	TB Rate per 1000 Person Years (95% CI)	IRR Compared to Test Negative (95% CI)
Chigbu (2010)[23]	33.8	HIV	TST ≥5mm: 25	12	6 (24%)	25	240 (107.8 to 534.2)	0 events among negative
		Prisoners	TST ≥10mm: 58	12	8 (13.8%)	58	137.9 (69 to 275.8)	0 events among negative
Christopoulos (2009)[24]	52.7	Dialysis	TST ≥5mm: 89	36	10 (11.2%)	267	37.5 (20.2 to 69.6)	1.5 (0.7 to 3.3)
		Dialysis	TST ≥10mm: 62	36	8 (12.9%)	186	43 (21.5 to 86)	1.7 (0.8 to 4)
Chung (2010)[25]	54.2	Dialysis	QFT-GIT+: 43	12	0 (0%)	43	0	Not estimated
		Dialysis	TSPOT+: 57	12	0 (0%)	57	0	Not estimated
		Dialysis	TST ≥10mm: 26	12	0 (0%)	26	0	Not estimated
Daley (1998)[26]	NR	HIV	TST ≥5mm: 28	17.1	2 (7.1%)	40	50 (12.5 to 199.9)	11.7 (2 to 67.4)
		IDU	TST ≥10mm: 125	24.9	1 (0.8%)	259	3.9 (0.5 to 27.4)	3.7 (0.4 to 35.6)
Denholm (2012)[27]	27	All Contacts	TST ≥10mm: 38	54.5	2 (5.2%)	172.4	11.6 (2.9 to 46.4)	0 events among negative
Diel (2011)[28]	NR	Close Contacts Only	QFT-GIT+: 147	43	19 (3.2%)	526.8	36.1 (23 to 56.5)	0 events among negative
		Close Contacts Only	TST ≥5mm: 555	43	17 (1.3%)	1988.8	8.5 (5.3 to 13.8)	3.5 (0.9 to 13.1)
		Close Contacts Only	TST ≥10mm: 207	43	10 (3.1%)	741.8	13.5 (7.3 to 25.1)	1.9 (0.9 to 4)
		Close Contacts Only	TST ≥15mm: 63	43	2 (4.8%)	225.8	8.9 (2.2 to 35.4)	1.2 (0.3 to 4.3)
Dobler (2013)[29]	NR	All Contacts	TST ≥10mm: 3942	52.9	38 (1%)	17367	2.2 (1.6 to 3)	17.5 (6.6 to 46.5)
Dogan (2009)[30]	52	Dialysis	TST ≥10mm: 14	12	4 (28.6%)	14	285.7 (107.2 to 761.3)	10.1 (2.5 to 40.8)
Edathodu (2017)[31]	NR	Transplant	QFT-GIT: 69	25	0 (0%)	143.8	0	Not estimated
Elliot (2018)[32]	NR	Recent Immigrants (Age<18)	TST ≥10mm: 44	46.8	0 (0%)	171.6	0	Not estimated
Elzi (2007)[33]	36	HIV	TST ≥5mm: 246	49	16 (6.5%)	1005	15.9 (9.8 to 26)	29 (13.4 to 62.8)
Espinal (2000)[34]	NR	Close Contacts Only	TST ≥10mm: 522	14	37 (7.1%)	609	60.8 (44 to 83.9)	2.1 (1 to 4.3)
Fang (2002)[35]	54.7	Dialysis	TST ≥10mm: 53	12	7 (13.2%)	53	132.1 (63 to 277)	2.7 (0.9 to 7.7)
Fournier (2015)[36]	31	All Contacts	QFT-GIT+: 26	15	0 (0%)	32.5	0	Not estimated
Franken (2008)[37]	47.2	All Contacts	TST ≥15mm: 71	24	0 (0%)	142	0	Not estimated
		All Contacts	TST ≥15mm, QFT-GIT-: 28	24	0 (0%)	56	0	Not estimated
		All Contacts	TST ≥15mm, TSPOT-: 24	24	0 (0%)	48	0	Not estimated
		All Contacts	TST ≥15mm, QFT-GIT+: 17	24	0 (0%)	34	0	Not estimated
		All Contacts	TST ≥15mm, TSPOT+: 21	24	0 (0%)	42	0	Not estimated
Gao (2017)[38]	NR	Diabetes	QFT-GIT+: 272	23.2	4 (1.5%)	525.9	7.6 (2.9 to 20.3)	Not estimated
		Elderly (Age≥65)	QFT-GIT+ 1840	23.2	41 (2.2%)	3557.3	11.5 (8.5 to 15.7)	Not estimated
		BMI <18.5 kg/m²	QFT-GIT+: 299	23.2	9 (3%)	578.1	15.6 (8.1 to 29.9)	Not estimated
		Smokers	QFT-GIT+: 1547	23.2	28 (1.8%)	2990.9	9.4 (6.5 to 13.6)	Not estimated
Garie (2011)[39]	9.9	Close Contacts Only (Age<18)	TST ≥5mm: 94	24	10 (10.6%)	188	53.2 (28.6 to 98.9)	0 events among negative
		Close Contacts Only (Age<18)	TST ≥10mm: 68	24	9 (13.2%)	136	66.2 (34.4 to 127.2)	3.2 (0.6 to 17.7)
Girardi (1997)[40]	27	HIV	TST ≥5mm: 197	16.9	15 (7.6%)	277.3	54.1 (32.6 to 89.7)	11.8 (4.7 to 29.4)
		HIV	TST ≥10mm: 69	16.9	10 (14.5%)	97.5	102.6 (55.2 to 190.7)	14.5 (6.3 to 33.5)
Golub (2015)[41]	NR	HIV	TST ≥5mm: 353	44.8	86 (24.4%)	1319	65.2 (52.8 to 80.5)	Not estimated
Gómez-Reino (2007)[42]	NR	Immune Suppressing Medications	TST ≥5mm: 56	20	1 (1.8%)	93.5	10.7 (1.5 to 75.9)	7.2 (1.3 to 39.2)
Grinsdale (2016)[43]	8.7	Children (Age<18)	QFT-G+: 11	72	0 (0%)	66	0	Not estimated
		Children (Age<18)	TST ≥10mm, QFT-G-: 146	67.2	0 (0%)	817.6	0	Not estimated
		Young Children (Age<5)	TST ≥10mm, QFT-G-: 54	68.4	0 (0%)	307.8	0	Not estimated
Guirao-Arrabal (2016)[44]	49	Transplant	TST ≥5mm: 40	18.3	0 (0%)	60	0	5 events among negative
Haldar (2013)[45]	NR	Close Contacts Only	QFT-GIT+: 112	23.6	14 (12.5%)	220.3	63.5 (37.6 to 107.3)	12 (4.7 to 30.2)
Hand (2018)[46]	59	Transplant	QFT-G+: 17	30	0 (0%)	42.5	0	3 events among negative
Harstad (2010)[47]	NR	Recent Immigrants	QFT-GIT+: 236	27.5	6 (2.5%)	540.8	11.1 (5 to 24.7)	0 events among negative
		Recent Immigrants	TST ≥5mm: 413	27.5	6 (1.4%)	948.7	6.3 (2.8 to 14.1)	0 events among negative
		Recent Immigrants	TST ≥15mm: 121	27.5	3 (2.5%)	277.3	10.8 (3.5 to 33.5)	5.7 (1.3 to 25.2)
Hemmati (2011)[48]	NR	Children (Age<18)	TST ≥10mm: 830	36	0 (0%)	2490	0	Not estimated
		Children (Age<18)	TST ≥15mm: 529	36	0 (0%)	1587	0	Not estimated

Table S9. Study Characteristics and Outcomes Among Test-Positive Persons

Author (Year)	Mean or Median Age (Years)†	Population Evaluated*	Positive Test Definition and Untreated Population Size	Mean or Median Individual FU (Months)	TB Events (Cumulative Incidence)	Total FU Time (Person Years)	TB Rate per 1000 Person Years (95% CI)	IRR Compared to Test Negative (95% CI)
Higuchi (2009)[49]	NR	Casual Contacts (Age<18)	TST ≥5mm: 177	12	0 (0%)	177	0	Not estimated
		Casual Contacts (Age<18)	TST ≥10mm: 75	12	0 (0%)	75	0	Not estimated
		Close Contacts Only (Age<18)	TST ≥5mm: 17	12	0 (0%)	17	0	Not estimated
		Close Contacts Only (Age<18)	TST ≥10mm: 11	12	0 (0%)	11	0	Not estimated
Hill (2007)[50]	NR	All Contacts	TST ≥10mm: 156	15.6	4 (2.6%)	202.8	19.7 (7.4 to 52.6)	2.4 (0.6 to 9.8)[50]
Huang (2018)[51]	NR	Immune Suppressing Medications	QFT-GIT+: 24	46.7	4 (16.7%)	93.3	42.9 (16.1 to 114.2)	36.1 (5.7 to 229.1)
Huerga (2019)[52]	6	Close Contacts Only (Age<18)	QFT-GIT+: 57	21.2	0 (0%)	100.89	0	Not estimated
		Close Contacts Only (Age<18)	TST ≥10mm: 70	21.2	0 (0%)	123.9	0	Not estimated
		Close Contacts Only (Age<5)	QFT-GIT+: 16	21.2	0 (0%)	28.32	0	Not estimated
		Close Contacts Only (Age<5)	TST ≥10mm: 23	21.2	0 (0%)	40.71	0	Not estimated
Jambaldorj (2017)[53]	44.5	Transplant	QFT-GIT+: 95	35.1	1 (1.1%)	277.6	3.6 (0.5 to 25.6)	2.1 (0.3 to 15.7)
Jeyakumar (1999)[54]	NR	Occupational Risk Factor	TST ≥5mm: 310	24	3 (1%)	620	4.8 (1.6 to 15)	0.4 (0.1 to 2.8)
		Occupational Risk Factor	TST ≥10mm: 236	24	3 (1.3%)	472	6.4 (2 to 19.7)	1.3 (0.2 to 8.5)
		Occupational Risk Factor	TST ≥15mm: 104	24	3 (2.9%)	208	14.4 (4.7 to 44.7)	5.8 (0.9 to 39.3)
Jo (2013)[55]	38.6	Immune Suppressing Medications	TSPOT+: 31	35.2	0 (0%)	90.9	0	1 event among negative
		Immune Suppressing Medications	TST ≥10mm: 16	35.2	0 (0%)	46.9	0	1 event among negative
Joshi (2011)[56]	22	Occupational Risk Factor	QFT-GIT+: 265	71	6 (2.2%)	1568.8	3.8 (1.7 to 8.5)	1.1 (0.4 to 3.2)
		Occupational Risk Factor	TST ≥10mm: 269	71	6 (2.2%)	1592.5	3.8 (1.7 to 8.4)	1.1 (0.4 to 3.2)
Jung (2012)[57]	42	Transplant	TST ≥5mm: 228	52.2	8 (3.5%)	991.8	8.1 (4 to 16.1)	3.4 (1.2 to 9.9)
Kik (2010)[58]	NR	Close Contacts Only	TST ≥5mm: 339	21.96	9 (2.65%)	620.4	14.5 (7.5 to 27.9)	Not estimated
		Close Contacts Only	TST ≥10mm: 288	21.96	9 (3.13%)	527	17.1 (8.9 to 32.8)	Not estimated
		Close Contacts Only	TST ≥15mm: 184	21.96	7 (3.8%)	336.7	20.8 (9.9 to 43.6)	Not estimated
		Close Contacts Only	TST ≥5mm, QFT-GIT-: 149	21.96	3 (2.01%)	272.7	11 (3.5 to 34.1)	Not estimated
		Close Contacts Only	TST ≥5mm, TSPOT-: 118	21.96	2 (1.69%)	215.9	9.3 (2.3 to 37)	Not estimated
		Close Contacts Only	TST ≥5mm, QFT-GIT+: 178	21.96	5 (2.81%)	325.7	15.4 (6.4 to 36.9)	Not estimated
		Close Contacts Only	TST ≥5mm, TSPOT+: 181	21.96	6 (3.31%)	331.2	18.1 (8.1 to 40.3)	Not estimated
Kim (2015)[59]	NR	Immune Suppressing Medications	TST ≥5mm: 33	37.1	1 (3%)	101.97	9.8 (1.4 to 69.6)	15.7 (1.6 to 150.5)[59]
Kim (2017)[60]	32.2	Occupational Risk Factor	TST ≥10mm: 29	13.2	1 (3.4%)	31.88	31.4 (4.4 to 222.7)	0 events among negative
Kim (2015)[61]	48.2	Transplant	TSPOT+: 132	22.3	3 (2.3%)	245.15	12.2 (3.9 to 37.9)	3.4 (0.8 to 14.8)[61]
Kim (2011)[62]	46	Transplant	TSPOT+, TST <10mm: 71	20.6	4 (5.6%)	122.1	32.8 (12.3 to 87.3)	Not estimated[62]
Kim (2015)[63]	17	All Contacts	TST≥10mm, QFT-GIT-: 689	46.8	11 (1.6%)	2742	4 (2.2 to 7.2)	Not estimated
		All Contacts	TST ≥10mm, QFT-GIT+: 21	46.8	5 (23.9%)	75	66.7 (27.7 to 160.2)	
Kruczak (2014)[64]	49	Casual Contacts	QFT-GIT+: 39	47.3	2 (5.1%)	153.8	13 (3.3 to 52)	0 events among negative
		Close Contacts Only	QFT-GIT+: 34	58.8	3 (8.8%)	166.7	18 (5.8 to 55.8)	4.2 (0.8 to 21.3)
		Close Contacts Only	TST ≥10mm: 62	59.6	4 (6.5%)	307.7	13 (4.9 to 34.6)	3.2 (0.5 to 20.6)
		Close Contacts Only	TST ≥10mm, QFT-GIT-: 39	61.5	2 (5.1%)	200	10 (2.5 to 40)	Not estimated
		Close Contacts Only	TST ≥10mm, QFT-GIT+: 22	60.6	2 (9.1%)	111.1	18 (4.5 to 72)	Not estimated
		Homeless	QFT-GIT+: 27	44.4	3 (11.1%)	100	30 (9.7 to 93)	2 (0.4 to 10.1)
		Homeless	TST ≥10mm: 25	48	3 (12%)	100	30 (9.7 to 93)	1.8 (0.3 to 12.2)
		Homeless	TST ≥10mm, QFT-GIT+: 14	47.7	3 (21.4%)	55.6	54 (17.4 to 167.3)	Not estimated
		Long Term Care	QFT-GIT+: 35	30	0 (0%)	87.5	0	Not estimated
		Long Term Care	TST ≥10mm: 58	30	0 (0%)	145	0	Not estimated
Laffitte (2009)[65]	48	Immune Suppressing Medications	TST ≥5mm, TSPOT-: 10	14.8	0 (0%)	12.3	0	Not estimated
Lange (2012)[66]	54.5	Transplant	QFT-GIT+: 25	28	0 (0%)	58.3	0	Not estimated
Lee (2012)[67]	41	Close Contacts Only	TSPOT+, TST <10mm: 13	24.9	0 (0%)	27	0	Not estimated
		Close Contacts Only	TST ≥10mm, TSPOT-: 16	27.6	0 (0%)	37	0	Not estimated
		Close Contacts Only	TST ≥10mm, TSPOT+: 10	21	0 (0%)	17.5	0	Not estimated
Lee (2014)[68]	42.3	Transplant	QFT-GIT+: 45	21.6	3 (6.7%)	81.1	37 (11.9 to 114.7)	4.3 (0.9 to 22)
		Transplant	TST ≥5mm: 31	26.4	0 (0%)	68.5	0	5 events among negative
Lee (2015)[69]	33	Immune Suppressing Medications	TST ≥10mm, QFT-GIT-: 60	41.7	2 (3.3%)	208.5	9.6 (2.4 to 38.4)	Not estimated[69]
Lee (2019)[70]	NR	HIV	TSPOT+: 37	51.2	4 (10.8%)	158	25.3 (9.5 to 67.5)	28.7 (4.5 to 182)

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Table S9. Study Characteristics and Outcomes Among Test-Positive Persons

Author (Year)	Mean or Median Age (Years)†	Population Evaluated*	Positive Test Definition and Untreated Population Size	Mean or Median Individual FU (Months)	TB Events (Cumulative Incidence)	Total FU Time (Person Years)	TB Rate per 1000 Person Years (95% CI)	IRR Compared to Test Negative (95% CI)
Lee (2015)[71]	36.8	HIV	QFT-G+: 90	59.7	6 (6.7%)	447.8	13.4 (6 to 29.8)	4.5 (1.7 to 11.9)
Lee (2009)[72]	54.9	Dialysis	QFT-GIT+: 12	22	1 (8.3%)	22.6	44.2 (6.2 to 314.1)	0 events among negative
		Dialysis	TSPOT+: 15	22	0 (0%)	28.2	0	2 events among negative
		Dialysis	TST ≥10mm: 20	22	1 (5%)	37.6	26.6 (3.7 to 188.8)	0.6 (0.1 to 5.8)
Leow (2014)[73]	NR	Diabetes	TSPOT+: 62	61.2	0 (0%)	316.2	0	1 event among negative
		Diabetes	TST ≥10mm: 63	61.2	0 (0%)	321.3	0	1 event among negative
		Diabetes	TST ≥10mm, TSPOT+: 29	61.2	0 (0%)	147.9	0	Not estimated
Leung (2007)[74]	57.3	Silicosis	TST ≥10mm: 216	62.7	45 (20.8%)	1128.6	39.9 (29.8 to 53.4)	Not estimated
Leung (2012)[75]	8.4	Children (Age<18)	TST ≥5mm: 4820	133.1	23 (0.5%)	53443	0.4 (0.3 to 0.6)	3.3 (1.8 to 5.9)
		Children (Age<18)	TST ≥10mm: 2419	133.1	18 (0.7%)	26821	0.7 (0.4 to 1.1)	4.9 (2.7 to 8.9)
		Children (Age<18)	TST ≥15mm: 421	132.2	13 (3.1%)	4637	2.8 (1.6 to 4.8)	19.4 (10.3 to 36.7)
Leung (2015)[76]	38	Close Contacts Only	TSPOT+: 237	55.3	8 (3.4%)	1093	7.3 (3.7 to 14.6)	4.1 (1.4 to 12)
		Close Contacts Only	TST ≥5mm: 496	56.2	11 (2.2%)	2323	4.7 (2.6 to 8.6)	3.3 (0.8 to 13)
		Close Contacts Only	TST ≥10mm: 330	56	10 (3%)	1541	6.5 (3.5 to 12.1)	4.8 (1.4 to 16)
Leung (2010)[77]	60	Silicosis	TSPOT+: 151	27.4	12 (7.9%)	345.4	34.7 (19.7 to 61.2)	5.9 (1.1 to 32.1)
		Silicosis	TST ≥5mm: 161	30.5	9 (5.6%)	408.6	22 (11.5 to 42.3)	0.9 (0.3 to 2.9)
		Silicosis	TST ≥10mm: 136	29.7	9 (6.6%)	336.8	26.7 (13.9 to 51.4)	1.6 (0.5 to 4.9)
		Silicosis	TST ≥15mm: 89	30.4	4 (4.5%)	225.5	17.7 (6.7 to 47.3)	0.8 (0.2 to 2.4)
Lienhardt (2010)[78]	20	Close Contacts Only	TST ≥5mm: 1910	25	44 (2.3%)	3977	11.1 (8.2 to 14.9)	3 (1.1 to 7.8)
		Close Contacts Only	TST ≥10mm: 1591	25.1	39 (2.5%)	3332	11.7 (8.6 to 16)	2.3 (1.1 to 4.7)
		Close Contacts Only	TST ≥15mm: 903	25.1	32 (3.5%)	1889	16.9 (12 to 24)	3.4 (1.9 to 6.2)
Ling (2011)[79]	NR	All Contacts (Age<18)	TST ≥5mm: 1067	24	6 (0.6%)	2134	2.8 (1.3 to 6.3)	3.3 (0.8 to 14.1)
		All Contacts (Age<18)	TST ≥10mm: 628	24	6 (1%)	1256	4.8 (2.1 to 10.6)	7.4 (1.7 to 31.7)
		All Contacts (Age<18)	TST ≥15mm: 262	24	5 (1.9%)	524	9.5 (4 to 22.9)	12.9 (3.4 to 49.2)
Luabeya (2015)[80]	0.35	Young Children (Age<5)	QFT-GIT+: 206	28.9	28 (13.6%)	496	56.5 (39 to 81.8)	Not estimated
Marks (2000)[81]	27	Recent Immigrants	TST ≥10mm: 8937	123.6	88 (0.1%)	92051	1 (0.8 to 1.2)	2.8 (1.8 to 4.5)
		Recent Immigrants	TST ≥15mm: 5196	123.6	68 (1.3%)	53519	1.3 (1 to 1.6)	3 (2.1 to 4.4)
		Recent Immigrants (BCG)	TST ≥10mm: 4970	123.6	45 (0.1%)	51191	0.9 (0.7 to 1.2)	2.8 (1.4 to 5.4)
		Recent Immigrants (BCG)	TST ≥15mm: 2954	123.6	32 (1.1%)	30426	1.1 (0.7 to 1.5)	2.4 (1.4 to 4.1)
Martin (2001)[82]	29	Prisoners	TST ≥5mm: 486	40.8	17 (3.5%)	1639	10.4 (6.4 to 16.7)	2.7 (1 to 7.1)
Martinez-Pino (2013)[83]	37.7	HIV	TST ≥5mm: 183	19.7	18 (9.8%)	300	60 (37.8 to 95.2)	5.8 (3.4 to 10.1)
Mazahir (2017)[84]	8	Close Contacts Only (Age<18)	TST ≥10mm: 19	12	1 (5.2%)	19	52.6 (7.4 to 373.6)	0 events among negative
Metin Timur (2014)[85]	7.9	Children (Age<18)	TST ≥15mm, QFT-GIT-: 69	18	0 (0%)	103.5	0	Not estimated
Moon (2013)[86]	47	Transplant	QFT-GIT+: 40	12	1 (2.5%)	40	25 (3.5 to 177.5)	4.3 (0.4 to 41.2)
		Transplant	TST ≥5mm: 33	12	0 (0%)	33	0	2 events among negative
		Transplant	TST ≥10mm: 21	12	0 (0%)	21	0	2 events among negative
Moran-Mendoza (2007)[87]	NR	All Contacts (Age<18)	TST ≥5mm: 102	74.4	49 (48%)	632.4	77.5 (58.6 to 102.5)	58.5 (33.9 to 100.9)
		All Contacts (Age<18)	TST ≥10mm: 84	74.4	48 (57.1%)	520.8	92.2 (69.5 to 122.3)	66.4 (38.9 to 113.5)
		All Contacts (Age<18)	TST ≥15mm: 51	74.4	34 (66.7%)	316.2	107.5 (76.8 to 150.5)	45 (27.9 to 72.6)
		All Contacts (Immune Meds)	TST ≥5mm: 335	74.4	11 (3.3%)	2077	5.3 (2.9 to 9.6)	5 (1.9 to 13.2)
		All Contacts (Immune Meds)	TST ≥10mm: 283	74.4	10 (3.5%)	1754.6	5.7 (3.1 to 10.6)	5 (1.9 to 12.7)
		All Contacts (Immune Meds)	TST ≥15mm: 170	74.4	8 (4.7%)	1054	7.6 (3.8 to 15.2)	5.9 (2.3 to 14.8)
		Casual Contacts Only	TST ≥5mm: 2465	74.4	21 (0.9%)	15283	1.4 (0.9 to 2.1)	9.9 (4.6 to 21.3)
		Casual Contacts Only	TST ≥10mm: 1975	74.4	20 (1%)	12245	1.6 (1.1 to 2.5)	11.2 (5.3 to 23.5)
		Casual Contacts Only	TST ≥15mm: 1045	74.4	12 (1.1%)	6479	1.9 (1.1 to 3.3)	7.9 (3.9 to 16.2)
		Close Contacts Only	TST ≥5mm: 2589	74.4	110 (4.2%)	16051.8	6.9 (5.7 to 8.3)	11.2 (7.8 to 16)
		Close Contacts Only	TST ≥10mm: 2066	74.4	105 (5.1%)	12809.2	8.2 (6.8 to 9.9)	12.5 (8.8 to 17.7)
		Close Contacts Only	TST ≥15mm: 1127	74.4	79 (7%)	6987.4	11.3 (9.1 to 14.1)	11.9 (8.7 to 16.4)
Moss (2000)[88]	38	HIV	TST ≥5mm: 36	40.2	3 (8.3%)	120.6	24.9 (8 to 77.1)	4.6 (1.1 to 20.4)
		Homeless	TST ≥10mm: 632	43.6	8 (1.3%)	2295.2	3.5 (1.7 to 7)	4.7 (1.3 to 16.2)
Moyo (2015)[89]	NR	All Contacts	TST ≥5mm: 4212	57.6	141 (3.3%)	20217.6	7 (5.9 to 8.2)	25.2 (13.8 to 46)

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Table S9. Study Characteristics and Outcomes Among Test-Positive Persons

Author (Year)	Mean or Median Age (Years)†	Population Evaluated*	Positive Test Definition and Untreated Population Size	Mean or Median Individual FU (Months)	TB Events (Cumulative Incidence)	Total FU Time (Person Years)	TB Rate per 1000 Person Years (95% CI)	IRR Compared to Test Negative (95% CI)
Noorbakhsh (2011)[90]	7.6	All Contacts (Age<18)	QFT-G+: 18	12	10 (55.6%)	18	555.6 (298.9 to 1032.5)	0 events among negative
Ozgen (2018)[91]	47.3	Transplant	TST ≥15mm: 28	60	2 (7.1%)	140	14.3 (3.6 to 57.1)	4.8 (0.6 to 36)
Pai (2009)[92]	25	Close Contacts Only	QFT-GIT+: 135	12	0 (0%)	135	0	Not estimated
		Close Contacts Only	TST ≥10mm: 115	12	0 (0%)	115	0	Not estimated
Pullar (2014)[93]	37	HIV	QFT-GIT+: 16	24	0 (0%)	32	0	Not estimated
Rakotosamimanana (2015)[94]	NR	Close Contacts Only	TST ≥5mm: 222	18	10 (4.5%)	333	30 (16.2 to 55.8)	1.2 (0.3 to 4.9)
Ringshausen (2013)[95]	75	Occupational Risk Factor	QFT-GIT+: 55	29.2	0 (0%)	133.8	0	Not estimated
		Occupational Risk Factor	TSPOT+: 72	29.2	0 (0%)	175.2	0	Not estimated
Ringshausen (2009)[96]	38	Occupational Risk Factor	QFT-GIT+: 12	24.5	0 (0%)	24.4	0	Not estimated
		Occupational Risk Factor	TST ≥5mm: 40	24.5	0 (0%)	81.2	0	Not estimated
		Occupational Risk Factor	TST ≥10mm: 28	24.5	0 (0%)	56.8	0	Not estimated
Ringshausen (2010)[97]	38	Occupational Risk Factor	QFT-GIT+: 18	32	0 (0%)	48	0	Not estimated
		Occupational Risk Factor	TST ≥5mm: 51	32	0 (0%)	136	0	Not estimated
		Occupational Risk Factor	TST ≥10mm: 44	32	0 (0%)	117.3	0	Not estimated
Rueda (2014)[98]	32	Prisoners	TST ≥10mm: 643	12	4 (0.6%)	643	6.2 (2.3 to 16.6)	0 events among negative
Sanchez-Moya (2012)[99]	44	Immune Suppressing Medications	TST ≥5mm: 23	41.5	1 (4.3%)	79.5	12.6 (1.8 to 89.3)	6.7 (0.9 to 50.4)
Saunders (2017)[100]	30	Close Contacts Only	TST ≥5mm: 1004	128.4	118 (11.8%)	10742.8	11 (9.2 to 13.2)	1.9 (1.2 to 2.8)
Schablon (2014)[101]	38.9	Occupational Risk Factor	QFT-GIT+: 74	12.8	0 (0%)	79	0	Not estimated
Sester (2014)[102]	62.5	Dialysis	QFT-GIT+: 62	21.6	0 (0%)	111.6	0	Not estimated
		Dialysis	TSPOT+: 75	21.6	0 (0%)	135	0	Not estimated
		Dialysis	TST ≥5mm: 62	21.6	0 (0%)	111.6	0	Not estimated
	40.8	HIV	QFT-GIT+: 83	21.6	3 (3.6%)	149.4	20.1 (6.5 to 62.3)	4.2 (1.1 to 16)
		HIV	TSPOT+: 101	21.6	4 (4%)	181.8	22 (8.3 to 58.6)	4.3 (1.2 to 15)
		HIV	TST ≥5mm: 55	21.6	4 (7.3%)	99	40.4 (15.2 to 107.7)	7.3 (2.2 to 24.3)
	55.7	Immune Suppressing Medications	QFT-GIT+: 41	21.6	0 (0%)	73.8	0	Not estimated
		Immune Suppressing Medications	TSPOT+: 45	21.6	0 (0%)	81	0	Not estimated
		Immune Suppressing Medications	TST ≥5mm: 61	21.6	0 (0%)	109.8	0	Not estimated
	57	Transplant	QFT-GIT+: 25	21.6	0 (0%)	45	0	Not estimated
		Transplant	TSPOT+: 33	21.6	0 (0%)	59.4	0	1 event among negative
		Transplant	TST ≥5mm: 13	21.6	0 (0%)	23.4	0	1 event among negative
Sharma (2017)[103]	24.3	Close Contacts Only	QFT-GIT+: 917	28.2	56 (6.1%)	2151.5	26 (20 to 33.8)	1.9 (1.1 to 3.1)
		Close Contacts Only	TST ≥10mm: 732	30.4	42 (5.7%)	1851.6	22.7 (16.8 to 30.7)	1.1 (0.7 to 1.8)
		Close Contacts Only	TST ≥10mm, QFT-GIT-: 187	28	13 (7%)	436.6	29.8 (17.3 to 51.3)	Not estimated
		Close Contacts Only	QFT-GIT+, TST <10mm: 377	24.1	28 (7.4%)	757	37 (25.5 to 53.6)	Not estimated
		Close Contacts Only	TST ≥10mm, QFT-GIT+: 540	31.4	29 (5.4%)	1415	20.5 (14.2 to 29.5)	Not estimated
Shu (2016)[104]	61.2	Dialysis	QFT-GIT+: 193	36	3 (1.6%)	579	5.2 (1.7 to 16.1)	5.4 (0.8 to 36.7)
Shu (2013)[105]	59.3	Dialysis	QFT-GIT+: 45	12	0 (0%)	45	0	Not estimated
Silva (2014)[106]	52	Immune Suppressing Medications	TST ≥5mm: 10	24	3 (30%)	20	150 (48.4 to 465.1)	0 events among negative
Singh (2013)[107]	26.5	Close Contacts Only	TST ≥10mm: 1135	21.4	19 (1.7%)	2024.1	9.4 (6 to 14.7)	0.3 (0.1 to 0.6)
Snast (2018)[108]	52	Immune Suppressing Medications	TST ≥5mm: 39	51	0 (0%)	165.8	0	Not estimated
Song (2014)[109]	15.1	Close Contacts Only (Age<18)	QFT-GIT+: 102	24	6 (5.9%)	204	29.4 (13.2 to 65.5)	13.5 (5.2 to 34.8)
		Close Contacts Only (Age<18)	TST ≥10mm: 446	24	8 (1.8%)	892	9 (4.5 to 17.9)	4.2 (1.7 to 10.3)
		Close Contacts Only (Age<18)	TST ≥10mm, QFT-GIT-: 430	24	3 (0.7%)	860	3.5 (1.1 to 10.8)	Not estimated
		Close Contacts Only (Age<18)	QFT-GIT+, TST <10mm: 86	24	1 (1.2%)	172	5.8 (0.8 to 41.3)	Not estimated
		Close Contacts Only (Age<18)	TST ≥10mm, QFT-GIT+: 16	24	5 (31.3%)	32	156.2 (65 to 375.4)	Not estimated
Song (2012)[110]	17.8	All Contacts (Age<18)	TST ≥10mm: 99	24	6 (6.1%)	198	30.3 (13.6 to 67.5)	9.7 (3.7 to 25.9)
		All Contacts (Age<18)	TST ≥10mm, QFT-GIT-: 67	24	0 (0%)	134	0	Not estimated
		All Contacts (Age<18)	TST ≥10mm, QFT-GIT+: 32	24	6 (18.8%)	64	93.7 (42.1 to 208.7)	Not estimated
Sun (2015)[111]	15.1	HIV	TSPOT+: 64	31.2	1 (1.6%)	167	6 (0.8 to 42.5)	0 events among negative

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Table S9. Study Characteristics and Outcomes Among Test-Positive Persons

Author (Year)	Mean or Median Age (Years)†	Population Evaluated*	Positive Test Definition and Untreated Population Size	Mean or Median Individual FU (Months)	TB Events (Cumulative Incidence)	Total FU Time (Person Years)	TB Rate per 1000 Person Years (95% CI)	IRR Compared to Test Negative (95% CI)
Torres Costa (2011)[112]	NR	Occupational Risk Factor	QFT-GIT+: 941	19	4 (0.4%)	1489.9	2.7 (1 to 7.2)	0 events among negative
		Occupational Risk Factor	TST ≥10mm: 2090	19	4 (0.2%)	3309.2	1.2 (0.5 to 3.2)	0 events among negative
		Occupational Risk Factor	TST≥10mm, QFT-GIT-: 1252	19	0 (0%)	1982.3	0	Not estimated
		Occupational Risk Factor	QFT-GIT+, TST <10mm: 103	19	0 (0%)	163.1	0	Not estimated
		Occupational Risk Factor	TST≥10mm, QFT-GIT+: 838	19	4 (0.5%)	1326.8	3 (1.1 to 8)	Not estimated
Truong (1997)[113]	45	Recent Immigrants	TST ≥10mm: 50	19	4 (8%)	79.2	50.5 (19 to 134.6)	0 events among negative
Tsou (2015)[114]	30	Elderly	QFT-G+: 39	60	1 (2.6%)	195	5.1 (0.7 to 36.4)	1.5 (0.2 to 11.6)
		Elderly	TST ≥10mm: 100	60	3 (3%)	500	6 (1.9 to 18.6)	0 events among negative
Ward (2017)[3]	79.9	Children (Age<18)	TST ≥10mm: 139	114.9	8 (5.8%)	1331	6 (3 to 12)	Not estimated
		Recent Immigrants	TST ≥10mm: 970	105.8	25 (2.6%)[3]	8549	2.9 (2 to 4.3)	Not estimated
		Indigenous	TST ≥10mm: 4904	106.3	662 (13.5%)	43425	15.2 (14.1 to 16.5)	Not estimated
Xie (2011)[115]	NR	Immune Suppressing Medications	TST ≥5mm: 10	12	1 (10%)	10	100.0 (14.1 to 709.9)	2.3 (0.2 to 25.4)
Yang (2013)[116]	34.8	HIV	TSPOT+: 85	35.6	4 (4.7%)	252.5	15.8 (5.9 to 42.2)	0 events among negative
		HIV	TST ≥5mm: 140	35.6	4 (2.9%)	415.8	9.6 (3.6 to 25.6)	0 events among negative
		HIV	TST ≥5mm, TSPOT-: 108	35.6	0 (0%)	320.8	0	Not estimated
		HIV	TSPOT+, TST <5mm: 53	35.6	(0%)	157.4	0	Not estimated
		HIV	TST ≥5mm, TSPOT+: 32	35.6	4 (12.5%)	95	42.1 (15.8 to 112.2)	Not estimated
Yoshiyama (2015)[117]	NR	All Contacts	QFT-GIT+: 61	20.4	6 (9.8%)	103.4	58 (26.1 to 129.2)	19.6 (4.6 to 84.4)
Yoshiyama (2010)[118]	NR	All Contacts	QFT-G+: 96	20.7	5 (5.2%)	165.7	30.2 (12.6 to 72.5)	8.9 (3.3 to 23.8)
Zellweger (2015)[119]	NR	All Contacts	QFT-GIT+: 421	33.3	14 (3.3%)	1169.1	12 (7.1 to 20.2)	22.5 (7 to 72.3)
		All Contacts	TSPOT+: 73	40.7	2 (2.7%)	247.8	8.1 (2 to 32.3)	7.2 (1.3 to 41.7)
Zenner (2017)[120]	25.1	Recent Immigrants	QFT-GIT+: 123	26.4	6 (4.9%)	270.6	22.2 (10 to 49.4)	12.1 (3.6 to 40.1)
		Recent Immigrants	TST ≥5mm: 479	82.8	76 (15.9%)	3308.3	23 (18.3 to 28.8)	Not estimated
Zhang (2010)[121]	38	HIV	TSPOT+: 16	36	0 (0%)	48	0	Not estimated
Zhang (2013)[122]	26	Occupational Risk Factor	TSPOT+: 29	60	1 (3.4%)	145	6.9 (1 to 49)	0 events among negative
		Occupational Risk Factor	TST ≥10mm: 53	60	1 (1.9%)	265	3.8 (0.5 to 26.8)	0 events among negative
		Occupational Risk Factor	TST ≥10mm, TSPOT+: 20	60	1 (5%)	60	16.7 (2.3 to 118.3)	Not estimated

Abbreviations: FU, follow-up; TB, tuberculosis; IRR, incidence rate ratio; QFT-GIT, Quantiferon Gold-In-Tube; TST, tuberculin skin test; BMI, body mass index; HIV, human immunodeficiency virus; BCG, Bacillus Calmette-Guérin vaccination.

†Missing values were generally reported as age groupings (e.g. 0-9 years, 10-19 years, etc.); values may represent number enrolled or number positive, depending on reporting practices of each study.

SECONDARY ANALYSIS. **Tables S10 through S19 detail our stratified analysis for our primary outcome of TB incidence per 1000 person years.**

Table S10. TB risk stratified by method of follow-up: active vs. passive. Data presented with IGRA tests combined and all contact types combined. Data only included in the table if at least one study in each category.

| Population | Positive Test Result Definition | Active Follow-up | | | Passive Follow-up | | |
		Number of Cohorts (PY of FU)	Random Effects Pooled TB Rate per 1000 PY (95% CI)	I^2	Number of Cohorts (PY of FU)	Random Effects Pooled TB Rate per 1000 PY (95% CI)	I^2
All Contacts	All IGRA Positive	13 (9438)	16.6 (11.0 to 25.2)	77%	6 (2305)	18.5 (9 to 38.2)	79%
All Contacts	TST ≥5mm	7 (12201)	13.6 (8.0 to 23.2)	87%	13 (79389)	7.7 (4.4 to 13.6)	97%
All Contacts	TST ≥10mm	12 (14900)	14.1 (8.5 to 23.3)	90%	16 (55216)	8.8 (4.9 to 15.8)	95%
All Contacts	TST ≥15mm	3 (2654)	18.8 (14.3 to 24.9)	0%	6 (15586)	10.3 (3.7 to 28.7)	96%
HIV	All IGRA Positive	8 (1488)	15.6 (8.8 to 27.7)	38%	1 (158)	25.3 (9.5 to 67.5)	N/A
HIV	TST ≥5mm	4 (997)	15.7 (4.3 to 57.2)	84%	5 (2785)	37.4 (21.1 to 66.3)	82%
Dialysis	All IGRA Positive	3 (292)	0	0%	1 (579)	5.2 (1.7 to 16.1)	N/A
Immune Suppressing Medications	All IGRA Positive	2 (155)	0	0%	1 (93)	42.9 (16.1 to 114.2)	N/A
Immune Suppressing Medications	TST ≥5mm	2 (276)	0	0%	3 (275)	11.0 (3.5 to 34.0)	0%
Transplant	All IGRA Positive	6 (614)	10.4 (3.5 to 30.3)	23%	3 (378)	2.6 (0.4 to 18.8)	0%
Transplant	TST ≥5mm	3 (125)	0	0%	4 (1592)	1.5 (0 to 62.7)	60%
Transplant	TST ≥10mm	2 (63)	72.9 (14.2 to 373.6)	8%	1 (152)	0	N/A
Diabetes	All IGRA Positive	1 (526)	7.6 (2.9 to 20.3)	N/A	1 (316)	0	N/A
Age <18 Years	TST ≥10mm	1 (2490)	0	N/A	2 (28152)	1.9 (0.4 to 8.3)	92%
Age <18 Years	TST ≥15mm	1 (1587)	0	N/A	1 (4637)	2.8 (1.6 to 4.8)	N/A
Recent Immigrant or Refugee Arrival	All IGRA Positive	2 (3862)	9.8 (7.2 to 13.5)	0%	2 (811)	15.7 (8.0 to 30.9)	31%
Recent Immigrant or Refugee Arrival	TST ≥5mm	1 (3874)	5.4 (3.5 to 8.3)	N/A	2 (4257)	13 (5.2 to 32.5)	79%
Recent Immigrant or Refugee Arrival	TST ≥10mm	1 (2542)	7.9 (5.1 to 12.2)	N/A	4 (151963)	1.3 (0.7 to 2.3)	88%
Occupational Risk Factor	All IGRA Positive	2 (225)	4.4 (0.6 to 31.6)	0%	6 (3440)	2.9 (1.6 to 5.4)	0%
Occupational Risk Factor	TST ≥10mm	1 (32)	31.4 (4.4 to 222.7)	N/A	5 (5548)	2.5 (1.2 to 5.1)	30%

Abbreviations: PY, person years; TB, tuberculosis; TST, tuberculin skin test; QFT-G(IT), QuantiFERON Gold-In-Tube; HIV, human immunodeficiency virus; IRR, incidence rate ratio; BMI, body mass index; N/A, not applicable

Table S11. TB risk stratified by mean/median duration of follow-up: ≤24 months vs. >24 months. Data presented with IGRA tests combined and all contact types combined. Data only included in the table if at least one study in each category.

| Population | Positive Test Result Definition | ≤24 Months Follow-up | | | >24 Months Follow-up | | |
		Number of Cohorts (PY of FU)	Random Effects Pooled TB Rate per 1000 PY (95% CI)	I^2	Number of Cohorts (PY of FU)	Random Effects Pooled TB Rate per 1000 PY (95% CI)	I^2
All Contacts	All IGRA Positive	7 (962)	19.9 (6.9 to 57.3)	77%	12 (10781)	15.3 (10.6 to 22.3)	77%
All Contacts	TST ≥5mm	7 (4453)	14.8 (6.7 to 32.4)	88%	13 (87138)	7.4 (4.6 to 12)	97%
All Contacts	TST ≥10mm	14 (7445)	15 (9 to 24.8)	84%	14 (62672)	7.9 (4.3 to 14.4)	97%
All Contacts	TST ≥15mm	2 (861)	13.9 (7.9 to 24.5)	0%	7 (17379)	12.8 (5.3 to 31.3)	97%
HIV	All IGRA Positive	3 (459)	30.4 (17.7 to 52.4)	3%	6 (1186)	12.6 (7.6 to 21)	0%
HIV	TST ≥5mm	4 (716)	54.4 (39.8 to 74.5)	0%	5 (3065)	15.8 (5.9 to 42.4)	90%
Dialysis	All IGRA Positive	3 (292)	0	0%	1 (579)	5.2 (1.7 to 16.1)	N/A
Dialysis	TST ≥5mm	1 (112)	0	N/A	1 (267)	37.5 (20.2 to 69.6)	N/A
Dialysis	TST ≥10mm	2 (67)	164.2 (90.9 to 296.5)	0%	1 (186)	43 (21.5 to 86)	N/A
Immune Suppressing Medications	All IGRA Positive	2 (155)	0	0%	1 (93)	42.9 (16.1 to 114.2)	N/A
Immune Suppressing Medications	TST ≥5mm	2 (203)	4.9 (0.7 to 34.9)	0%	3 (347)	5.8 (1.4 to 23)	0%
Transplant	All IGRA Positive	5 (471)	14.9 (7.1 to 31.2)	0%	4 (522)	1.9 (0.3 to 13.6)	0%
Transplant	TST ≥5mm	3 (116)	0	0%	4 (1600)	1.5 (0 to 64.1)	61%
Transplant	TST ≥10mm	2 (63)	72.9 (14.2 to 373.6)	8%	1 (152)	0	N/A
Diabetes	All IGRA Positive	1 (526)	7.6 (2.9 to 20.3)	N/A	1 (316)	0	N/A
Age ≥65 Years	All IGRA Positive	1 (3557)	11.5 (8.5 to 15.7)	N/A	1 (195)	5.1 (0.7 to 36.4)	N/A
Occupational Risk Factor	All IGRA Positive	2 (1570)	2.5 (1 to 6.8)	0%	6 (2095)	3.3 (1.6 to 7)	0%
Occupational Risk Factor	TST ≥5mm	1 (620)	4.8 (1.6 to 15)	N/A	2 (217)	0	0%
Occupational Risk Factor	TST ≥10mm	3 (3813)	3.5 (0.8 to 15.2)	64%	3 (1767)	3.4 (1.5 to 7.6)	0%

Abbreviations: PY, person years; FU, follow-up; TB, tuberculosis; TST, tuberculin skin test; IGRA, interferon-gamma release assay; HIV, human immunodeficiency virus; N/A, not applicable

Table S12. TB risk stratified by TB incidence in country of study: <30 per 100,000 vs. ≥30 per 100,000. Data presented with IGRA tests combined and all contact types combined. Data only included in the table if at least one study in each category.

Population	Positive Test Result Definition	<30 per 100,000			≥30 per 100,000		
		Number of Cohorts (PY of FU)	Random Effects Pooled TB Rate per 1000 PY (95% CI)	I^2	Number of Cohorts (PY of FU)	Random Effects Pooled TB Rate per 1000 PY (95% CI)	I^2
All Contacts	All IGRA Positive	14 (8058)	19.3 (12.8 to 29.1)	78%	5 (3684)	11.3 (4.3 to 29.8)	78%
All Contacts	TST ≥5mm	12 (70895)	7.1 (4 to 12.4)	97%	8 (20695)	13.7 (7.4 to 25.5)	94%
All Contacts	TST ≥10mm	12 (51735)	8.6 (4.6 to 16.2)	96%	16 (18381)	11.8 (6.7 to 20.7)	93%
All Contacts	TST ≥15mm	7 (15827)	13.1 (5.3 to 32.3)	96%	2 (2413)	15.3 (11.1 to 21.2)	0%
HIV	All IGRA Positive	5 (620)	17.8 (6.7 to 47.7)	49%	4 (1025)	14.6 (8.8 to 24.3)	0%
HIV	TST ≥5mm	7 (2047)	27.3 (14.6 to 51.3)	77%	2 (1735)	26.7 (6.8 to 105.6)	87%
Dialysis	All IGRA Positive	2 (247)	0	0%	2 (624)	4.8 (1.6 to 14.9)	0%
Dialysis	TST ≥10mm	1 (186)	43 (21.5 to 86)	N/A	2 (67)	164.2 (90.9 to 296.5)	0%
Immune Suppressing Medications	All IGRA Positive	2 (155)	0	0%	1 (93)	42.9 (16.1 to 114.2)	N/A
Immune Suppressing Medications	TST ≥5mm	4 (449)	4.5 (1.1 to 17.8)	0%	1 (102)	9.8 (1.4 to 69.6)	N/A
Transplant	All IGRA Positive	5 (349)	0	0%	4 (644)	12.8 (5.5 to 29.8)	26%
Transplant	TST ≥5mm	3 (382)	0	0%	4 (1335)	6 (3 to 12)	0%
Age <18 Years	TST ≥10mm	2 (3821)	0.5 (0 to 61.7)	87%	1 (26821)	0.7 (0.4 to 1.1)	N/A
Age <18 Years	TST ≥15mm	1 (1587)	0	N/A	1 (4637)	2.8 (1.6 to 4.8)	N/A
Occupational Risk Factor	All IGRA Positive	5 (461)	0	0%	3 (3204)	3.4 (1.9 to 6.2)	0%
Occupational Risk Factor	TST ≥5mm	2 (217)	0	0%	1 (620)	4.8 (1.6 to 15)	N/A
Occupational Risk Factor	TST ≥10mm	2 (174)	0	0%	4 (5406)	3.1 (1.3 to 7.6)	49%

Abbreviations: PY, person years; FU, follow-up; TB, tuberculosis; TST, tuberculin skin test; IGRA, interferon-gamma release assay; HIV, human immunodeficiency virus; N/A, not applicable

Table S13. TB risk stratified by study quality: high vs. moderate vs. low. Data presented with IGRA tests combined and all contact types combined. Data only included in the table at least one study in two of the three categories.

Population	Positive Test Result Definition	High Quality			Moderate Quality			Low Quality		
		Number of Cohorts (PY of FU)	Random Effects Pooled TB Rate per 1000 PY (95% CI)	I^2	Number of Cohorts (PY of FU)	Random Effects Pooled TB Rate per 1000 PY (95% CI)	I^2	Number of Cohorts (PY of FU)	Random Effects Pooled TB Rate per 1000 PY (95% CI)	I^2
All Contacts	All IGRA Positive	9 (9145)	15.3 (9.1 to 25.6)	85%	7 (1016)	22.4 (10.4 to 48.6)	66%	3 (1583)	13.3 (8.7 to 20.4)	0%
All Contacts	TST ≥5mm	6 (12022)	11 (6.2 to 19.5)	87%	6 (12249)	12.4 (6.6 to 23.5)	90%	8 (67319)	6.1 (2.6 to 14.6)	99%
All Contacts	TST ≥10mm	9 (10498)	13.7 (8.8 to 21.3)	81%	7 (5996)	16.7 (9.2 to 30.4)	86%	12 (53622)	6.7 (3.1 to 14.6)	97%
All Contacts	TST ≥15mm	3 (990)	20.2 (13 to 31.3)	0%	1 (1889)	16.9 (12 to 24)	N/A	5 (15361)	10.8 (3.3 to 35.1)	97%
HIV	All IGRA Positive	2 (700)	14.3 (7.7 to 26.5)	0%	4 (456)	6.3 (0.6 to 66.3)	71%	3 (489)	22.5 (12.5 to 40.6)	0%
HIV	TST ≥5mm	2 (1735)	26.7 (6.8 to 105.6)	87%	4 (822)	27.6 (7.8 to 98)	88%	3 (1225)	18.8 (12.5 to 28.3)	0%
Dialysis	All IGRA Positive	-	-	-	1 (579)	5.2 (1.7 to 16.1)	N/A	3 (292)	0	0%
Dialysis	TST ≥10mm	1 (53)	132.1 (63 to 277)	N/A	1 (14)	285.7 (107.2 to 761.3)	N/A	1 (186)	43 (21.5 to 86)	N/A
Immune Suppressing Medications	All IGRA Positive	-	-	-	1 (93)	42.9 (16.1 to 114.2)	N/A	2 (155)	0	0%
Silicosis	TST ≥10mm	1 (337)	26.7 (13.9 to 51.4)	N/A	1 (1129)	39.9 (29.8 to 53.4)	N/A	-	-	-
Transplant	All IGRA Positive	1 (245)	12.2 (3.9 to 37.9)	N/A	4 (542)	8.4 (2 to 34.9)	51%	4 (205)	0	0%
Transplant	TST ≥5mm	1 (992)	8.1 (4 to 16.1)	N/A	5 (701)	0	0%	1 (23)	0	N/A
Transplant	TST ≥10mm	1 (42)	119 (49.6 to 286)	N/A	2 (173)	0	0%	-	-	-
Diabetes	All IGRA Positive	1 (526)	7.6 (2.9 to 20.3)	N/A	-	-	-	1 (316)	0	N/A
Age <18 Years	TST ≥10mm	-	-	-	1 (26821)	0.7 (0.4 to 1.1)	N/A	2 (3821)	0.5 (0 to 61.7)	87%
Age <18 Years	TST ≥15mm	-	-	-	1 (4637)	2.8 (1.6 to 4.8)	N/A	1 (1587)	0	N/A
Age ≥65 Years	All IGRA Positive	1 (3557)	11.5 (8.5 to 15.7)	N/A	1 (195)	5.1 (0.7 to 36.4)	N/A	-	-	-
Age ≥65 Years	TST ≥10mm	-	-	-	1 (500)	6 (1.9 to 18.6)	N/A	1 (3438)	3.2 (1.8 to 5.8)	N/A
Recent Immigrant or Refugee Arrival	All IGRA Positive	2 (3862)	9.8 (7.2 to 13.5)	0%	1 (541)	11.1 (5 to 24.7)	N/A	1 (271)	22.2 (10 to 49.4)	N/A
Recent Immigrant or Refugee Arrival	TST ≥5mm	1 (3874)	5.4 (3.5 to 8.3)	N/A	1 (949)	6.3 (2.8 to 14.1)	N/A	1 (3308)	23 (18.3 to 28.8)	N/A
Recent Immigrant or Refugee Arrival	TST ≥10mm	1 (2542)	7.9 (5.1 to 12.2)	N/A	-	-	-	4 (151963)	1.3 (0.7 to 2.3)	88%
Recent Immigrant or Refugee Arrival	TST ≥15mm	-	-	-	1 (277)	10.8 (3.5 to 33.5)	N/A	2 (83945)	1.2 (1 to 1.4)	0%
Prisoners	TST ≥10mm	-	-	-	2 (701)	27.8 (3.1 to 246.4)	92%	1 (76)	118.4 (61.6 to 227.6)	N/A
Occupational Risk Factor	All IGRA Positive	2 (169)	5.9 (0.8 to 41.9)	0%	4 (1847)	2.2 (0.8 to 5.8)	0%	2 (1649)	3.6 (1.6 to 8.1)	0%
Occupational Risk Factor	TST ≥5mm	1 (81)	0	N/A	2 (756)	4 (1.3 to 12.3)	0%	-	-	-
Occupational Risk Factor	TST ≥10mm	2 (89)	11.3 (1.6 to 80.1)	0%	3 (3898)	2 (0.7 to 6)	37%	1 (1592)	3.8 (1.7 to 8.4)	N/A

Abbreviations: PY, person years; FU, follow-up; TB, tuberculosis; TST, tuberculin skin test; IGRA, interferon-gamma release assay; HIV, human immunodeficiency virus; N/A, not applicable

Table S14. TB risk stratified by study design: prospective cohort vs. retrospective cohort. Data presented with IGRA tests combined and all contact types combined. Data only included in the table if at least one study in each category.

Population	Positive Test Result Definition	Prospective Cohort			Retrospective Cohort		
		Number of Studies (PY of FU)	Random Effects Pooled TB Rate per 1000 PY (95% CI)	I^2	Number of Cohorts (PY of FU)	Random Effects Pooled TB Rate per 1000 PY (95% CI)	I^2
All Contacts	All IGRA Positive	17 (11474)	15.3 (10.1 to 23.2)	82%	2 (269)	40.9 (22.6 to 73.8)	0%
All Contacts	TST ≥5mm	10 (27255)	11.3 (7.4 to 17)	89%	10 (64335)	7.8 (3.8 to 16)	98%
All Contacts	TST ≥10mm	17 (22283)	10.2 (6.4 to 16.1)	89%	10 (47225)	9.2 (4.3 to 19.7)	97%
All Contacts	TST ≥15mm	4 (2880)	18.1 (13.8 to 23.7)	0%	5 (15361)	10.8 (3.3 to 35.1)	97%
HIV	All IGRA Positive	8 (1488)	15.6 (8.8 to 27.7)	38%	1 (158)	25.3 (9.5 to 67.5)	N/A
Immune Suppressing Medications	All IGRA Positive	2 (155)	0	0%	1 (93)	42.9 (16.1 to 114.2)	N/A
Immune Suppressing Medications	TST ≥5mm	1 (110)	0	N/A	4 (441)	6.8 (2.2 to 21.1)	0%
Transplant	All IGRA Positive	5 (369)	6.8 (0.9 to 52.5)	52%	3 (378)	2.6 (0.4 to 18.8)	0%
Transplant	TST ≥5mm	3 (125)	0	0%	4 (1592)	1.5 (0 to 62.7)	60%
Transplant	TST ≥10mm	2 (63)	72.9 (14.2 to 373.6)	8%	1 (152)	0	N/A
Age <18 Years	TST ≥10mm	2 (29311)	0.6 (0.4 to 1)	0%	1 (1331)	6 (3 to 12)	N/A
Recent Immigrant or Refugee Arrival	All IGRA Positive	2 (3862)	9.8 (7.2 to 13.5)	0%	2 (811)	15.7 (8.0 to 30.9)	31%
Recent Immigrant or Refugee Arrival	TST ≥5mm	1 (3874)	5.4 (3.5 to 8.3)	N/A	2 (4257)	13 (5.2 to 32.5)	79%
Recent Immigrant or Refugee Arrival	TST ≥10mm	1 (2542)	7.9 (5.1 to 12.2)	N/A	4 (151963)	1.3 (0.7 to 2.3)	88%
Occupational Risk Factor	All IGRA Positive	7 (2175)	3.2 (1.5 to 6.8)	0%	1 (1490)	2.7 (1 to 7.2)	N/A
Occupational Risk Factor	TST ≥5mm	2 (217)	0	0%	1 (620)	4.8 (1.6 to 15)	N/A
Occupational Risk Factor	TST ≥10mm	4 (1798)	3.9 (1.9 to 8.2)	0%	2 (3781)	2.2 (0.7 to 7.3)	54%

Abbreviations: PY, person years; FU, follow-up; TB, tuberculosis; TST, tuberculin skin test; IGRA, interferon-gamma release assay; HIV, human immunodeficiency virus; N/A, not applicable

Table S15. TB risk stratified by year of study start: 2005 or earlier vs. 2006 or later. Data presented with IGRA tests combined and all contact types combined. Data only included in the table if at least one study in each category.

| Population | Positive Test Result Definition | 2005 or Earlier | | | 2006 or Later | | |
		Number of Cohorts (PY of FU)	Random Effects Pooled TB Rate per 1000 PY (95% CI)	I^2	Number of Cohorts (PY of FU)	Random Effects Pooled TB Rate per 1000 PY (95% CI)	I^2
All Contacts	All IGRA Positive	2 (692)	34.7 (23.2 to 51.7)	0%	17 (11050)	15.3 (9.9 to 23.6)	82%
All Contacts	TST ≥5mm	14 (81545)	7.5 (4.4 to 12.9)	97%	6 (10046)	14.5 (7.5 to 28.2)	89%
All Contacts	TST ≥10mm	16 (57351)	9.4 (4.9 to 17.8)	97%	12 (12766)	12.4 (8.2 to 18.7)	80%
All Contacts	TST ≥15mm	8 (17812)	11.9 (5.4 to 26.2)	96%	1 (428)	25.7 (14.2 to 46.4)	N/A
HIV	TST ≥5mm	6 (3062)	40.2 (24.9 to 64.7)	80%	3 (720)	9.5 (2.1 to 42.5)	70%
Dialysis	TST ≥10mm	2 (67)	164.2 (90.9 to 296.5)	0%	1 (186)	43 (21.5 to 86)	N/A
Immune Suppressing Medications	TST ≥5mm	2 (259)	3.9 (0.5 to 27.4)	0%	3 (291)	6.9 (1.7 to 27.5)	0%
Transplant	TST ≥5mm	4 (1592)	1.5 (0 to 62.7)	60%	3 (125)	0	0%
Transplant	TST ≥10mm	2 (194)	8.4 (0.1 to 1241.7)	87%	1 (21)	0	N/A
Age ≥65 Years	TST ≥10mm	1 (3438)	3.2 (1.8 to 5.8)	N/A	1 (500)	6 (1.9 to 18.6)	N/A
Recent Immigrant or Refugee Arrival	All IGRA Positive	2 (811)	15.7 (8.0 to 30.9)	31%	2 (3862)	9.8 (7.2 to 13.5)	0%
Recent Immigrant or Refugee Arrival	TST ≥5mm	2 (4257)	13 (5.2 to 32.5)	79%	1 (3874)	5.4 (3.5 to 8.3)	N/A
Recent Immigrant or Refugee Arrival	TST ≥10mm	3 (151791)	1.3 (0.7 to 2.4)	92%	2 (2713)	7.4 (4.8 to 11.4)	0%
Occupational Risk Factor	All IGRA Positive	3 (1762)	4 (1.9 to 8.3)	0%	5 (1903)	2.1 (0.8 to 5.6)	0%
Occupational Risk Factor	TST ≥5mm	2 (756)	4 (1.3 to 12.3)	0%	1 (81)	0	N/A
Occupational Risk Factor	TST ≥10mm	3 (2182)	4.1 (2.1 to 7.9)	0%	3 (3398)	1.5 (0.6 to 3.5)	0%

Abbreviations: PY, person years; FU, follow-up; TB, tuberculosis; TST, tuberculin skin test; IGRA, interferon-gamma release assay; HIV, human immunodeficiency virus; N/A, not applicable

Table S16. TB risk stratified by country-level income: high-income vs. low, low-middle, or upper-middle income. Data presented with IGRA tests combined and all contact types combined. Data only included in the table if at least one study in each category.

Population	Positive Test Result Definition	High Income			Low, Low-Middle, Upper-Middle Income		
		Number of Cohorts (PY of FU)	Random Effects Pooled TB Rate per 1000 PY (95% CI)	I^2	Number of Cohorts (PY of FU)	Random Effects Pooled TB Rate per 1000 PY (95% CI)	I^2
All Contacts	All IGRA Positive	16 (9356)	18.2 (12.4 to 26.9)	78%	3 (2387)	3.2 (0 to 219.9)	78%
All Contacts	TST ≥5mm	14 (75352)	6.4 (3.9 to 10.7)	96%	6 (16238)	20.3 (12.8 to 32.3)	87%
All Contacts	TST ≥10mm	17 (60438)	7.6 (4.4 to 13)	95%	11 (9678)	18.5 (11.4 to 29.9)	88%
All Contacts	TST ≥15mm	8 (16351)	12.5 (5.6 to 28)	95%	1 (1889)	16.9 (12 to 24)	N/A
HIV	All IGRA Positive	8 (2463)	23.4 (12.5 to 43.9)	79%	1 (1319)	65.2 (52.8 to 80.5)	N/A
Dialysis	TST ≥10mm	2 (239)	69.2 (31.6 to 151.9)	56%	1 (14)	285.7 (107.2 to 761.3)	N/A
Transplant	TST ≥5mm	6 (1475)	2.9 (0.1 to 67.2)	33%	1 (242)	0	N/A
Transplant	TST ≥10mm	1 (21)	0	N/A	2 (194)	8.4 (0.1 to 1241.7)	87%
Diabetes	All IGRA Positive	1 (316)	0	N/A	1 (526)	7.6 (2.9 to 20.3)	N/A
Age <18 Years	TST ≥10mm	2 (28152)	1.9 (0.4 to 8.3)	92%	1 (2490)	0	N/A
Age <18 Years	TST ≥15mm	1 (4637)	2.8 (1.6 to 4.8)	N/A	1 (1587)	0	N/A
Age ≥65 Years	All IGRA Positive	1 (195)	5.1 (0.7 to 36.4)	N/A	1 (3557)	11.5 (8.5 to 15.7)	N/A
Occupational Risk Factor	All IGRA Positive	6 (1951)	2 (0.8 to 5.5)	0%	2 (1714)	4.1 (1.9 to 8.6)	0%
Occupational Risk Factor	TST ≥5mm	2 (217)	0	0%	1 (620)	4.8 (1.6 to 15)	N/A
Occupational Risk Factor	TST ≥10mm	4 (3515)	1.4 (0.6 to 3.4)	0%	2 (2064)	4.4 (2.3 to 8.4)	0%

Abbreviations: PY, person years; FU, follow-up; TB, tuberculosis; TST, tuberculin skin test; IGRA, interferon-gamma release assay; HIV, human immunodeficiency virus; N/A, not applicable

Table S17. TB risk stratified by TB diagnosis method: microbiological only vs. microbiological and clinical vs. not specified. Data presented with IGRA tests combined and all contact types combined. Data only included in the table if at least one study in two of the three categories.

Population	Positive Test Result Definition	Microbiological Number of Cohorts (PY of FU)	Random Effects Pooled TB Rate per 1000 PY (95% CI)	I^2	Microbiological and Clinical Number of Cohorts (PY of FU)	Random Effects Pooled TB Rate per 1000 PY (95% CI)	I^2	Not Specified Number of Cohorts (PY of FU)	Random Effects Pooled TB Rate per 1000 PY (95% CI)	I^2
All Contacts	All IGRA Positive	-	-	-	12 (9540)	19.1 (12.4 to 29.3)	84%	7 (2202)	12.2 (4.9 to 30.4)	72%
All Contacts	TST ≥5mm	1 (188)	53.2 (28.6 to 98.9)	N/A	17 (89709)	7.8 (4.9 to 12.4)	97%	2 (1693)	16.4 (7.8 to 34.5)	69%
All Contacts	TST ≥10mm	2 (2160)	23.1 (6.1 to 88.4)	91%	18 (43100)	11.9 (7.3 to 19.3)	95%	8 (24856)	5.8 (2.5 to 13.3)	89%
All Contacts	TST ≥15mm	-	-	-	8 (17812)	11.9 (5.4 to 26.2)	96%	1 (428)	25.7 (14.2 to 46.4)	N/A
HIV	All IGRA Positive	1 (252)	15.8 (5.9 to 42.2)	N/A	4 (901)	19.9 (9.6 to 41.1)	54%	4 (492)	14.2 (6.8 to 29.8)	0%
HIV	TST ≥5mm	4 (1033)	34.9 (16.5 to 73.9)	77%	2 (1440)	61.8 (50.2 to 76.1)	0%	3 (1309)	13.1 (3.9 to 44.7)	68%
Dialysis	All IGRA Positive	-	-	-	1 (579)	5.2 (1.7 to 16.1)	N/A	3 (292)	0	0%
Dialysis	TST ≥5mm	-	-	-	1 (267)	37.5 (20.2 to 69.6)	N/A	1 (112)	0	N/A
Dialysis	TST ≥10mm	-	-	-	2 (239)	69.2 (31.6 to 151.9)	56%	1 (14)	285.7 (107.2 to 761.3)	N/A
Immune Suppressing Medications	All IGRA Positive	-	-	-	1 (93)	42.9 (16.1 to 114.2)	N/A	2 (155)	0	0%
Immune Suppressing Medications	TST ≥5mm	-	-	-	2 (195)	10.2 (2.6 to 40.9)	0%	3 (355)	2.8 (0.4 to 20)	0%
Transplant	All IGRA Positive	-	-	-	2 (326)	21.3 (7.2 to 62.9)	46%	7 (667)	3 (0.8 to 12)	0%
Transplant	TST ≥5mm	2 (1052)	7.6 (3.8 to 15.2)	0%	2 (367)	0	0%	3 (298)	0	0%
Transplant	TST ≥10mm	1 (42)	119 (49.6 to 286)	N/A	-	-	-	2 (173)	0	0%
Diabetes	All IGRA Positive	-	-	-	1 (526)	7.6 (2.9 to 20.3)	N/A	1 (316)	0	N/A
Age <18 Years	TST ≥10mm	-	-	-	2 (28152)	1.9 (0.4 to 8.3)	92%	1 (2490)	0	N/A
Age <18 Years	TST ≥15mm	-	-	-	1 (4637)	2.8 (1.6 to 4.8)	N/A	1 (1587)	0	N/A
Age ≥65 Years	All IGRA Positive	1 (195)	5.1 (0.7 to 36.4)	N/A	1 (3557)	11.5 (8.5 to 15.7)	N/A	-	-	-
Age ≥65 Years	TST ≥10mm	1 (500)	6 (1.9 to 18.6)	N/A	1 (3438)	3.2 (1.8 to 5.8)	N/A	-	-	-
Recent Immigrant or Refugee Arrival	All IGRA Positive	-	-	-	3 (4133)	10.6 (7.9 to 14.3)	0%	1 (541)	11.1 (5 to 24.7)	N/A
Recent Immigrant or Refugee Arrival	TST ≥5mm	-	-	-	2 (7183)	11.3 (4.1 to 30.9)	94%	1 (949)	6.3 (2.8 to 14.1)	N/A
Recent Immigrant or Refugee Arrival	TST ≥10mm	-	-	-	4 (154333)	2 (0.9 to 4.8)	97%	1 (172)	0	N/A
Recent Immigrant or Refugee Arrival	TST ≥15mm	-	-	-	2 (83945)	1.2 (1 to 1.4)	0%	1 (277)	10.8 (3.5 to 33.5)	N/A
Prisoners	TST ≥10mm	2 (701)	27.8 (3.1 to 246.4)	92%	1 (76)	118.4 (61.6 to 227.6)	N/A	-	-	-
Occupational Risk Factor	All IGRA Positive	3 (454)	2.2 (0.3 to 15.6)	0%	-	-	-	5 (3211)	3.1 (1.7 to 5.8)	0%
Occupational Risk Factor	TST ≥5mm	-	-	-	1 (620)	4.8 (1.6 to 15)	N/A	2 (217)	0	0%
Occupational Risk Factor	TST ≥10mm	-	-	-	1 (472)	6.4 (2 to 19.7)	N/A	5 (5108)	2.3 (1 to 5)	23%

Abbreviations: PY, person years; FU, follow-up; TB, tuberculosis; TST, tuberculin skin test; IGRA, interferon-gamma release assay; HIV, human immunodeficiency virus; N/A, not applicable

Table S18. TB risk stratified by proportion of patients excluded due to treatment: <20% vs. ≥20%. Data presented with IGRA tests combined and all contact types combined. Data only included in the table if at least one study in each category.

Population	Positive Test Result Definition	<20% Treated			≥20% Treated		
		Number of Cohorts (PY of FU)	Random Effects Pooled TB Rate per 1000 PY (95% CI)	I^2	Number of Cohorts (PY of FU)	Random Effects Pooled TB Rate per 1000 PY (95% CI)	I^2
All Contacts	All IGRA Positive	8 (7512)	13.6 (8.7 to 21.4)	60%	11 (4231)	21.8 (13.3 to 35.7)	79%
All Contacts	TST ≥5mm	10 (44741)	10.8 (7.0 to 16.6)	93%	10 (46846)	8.2 (4.0 to 16.9)	97%
All Contacts	TST ≥10mm	17 (38172)	9.1 (5.2 to 15.7)	94%	11 (31943)	12.3 (6.3 to 24.1)	95%
All Contacts	TST ≥15mm	3 (2750)	16.0 (11.9 to 21.5)	0%	6 (15490)	12.2 (4.3 to 34.5)	97%
HIV	All IGRA Positive	3 (743)	18.1 (6.7 to 49)	65%	6 (903)	16.6 (10 to 27.6)	0%
HIV	TST ≥5mm	2 (398)	45.2 (28.5 to 71.8)	0%	7 (3384)	24 (11.2 to 51.4)	90%
Dialysis	TST ≥5mm	1 (267)	37.5 (20.2 to 69.6)	N/A	1 (112)	0	N/A
Dialysis	TST ≥10mm	2 (624)	4.8 (1.6 to 14.9)	0%	2 (247)	0	0%
Transplant	All IGRA Positive	6 (643)	6 (1.3 to 27.4)	49%	3 (350)	8.6 (2.8 to 26.6)	0%
Transplant	TST ≥5mm	4 (1391)	4.9 (0.3 to 93.3)	9%	3 (325)	0	0%
Transplant	TST ≥10mm	1 (21)	0	N/A	2 (194)	8.4 (0.1 to 1241.7)	87%
Age ≥65 Years	TST ≥10mm	1 (500)	6.0 (1.9 to 18.6)	N/A	1 (3438)	3.2 (1.8 to 5.8)	N/A
Recent Immigrant or Refugee Arrival	All IGRA Positive	3 (4403)	10 (7.4 to 13.4)	0%	1 (271)	22.2 (10 to 49.4)	N/A
Recent Immigrant or Refugee Arrival	TST ≥5mm	2 (4823)	5.6 (3.8 to 8.2)	0%	1 (3308)	23 (18.3 to 28.8)	N/A
Recent Immigrant or Refugee Arrival	TST ≥10mm	4 (154333)	2 (0.9 to 4.8)	97%	1 (172)	0	N/A
Occupational Risk Factor	TST ≥10mm	5 (5548)	2.5 (1.2 to 5.1)	30%	1 (32)	31.4 (4.4 to 222.7)	N/A

Abbreviations: PY, person years; FU, follow-up; TB, tuberculosis; TST, tuberculin skin test; IGRA, interferon-gamma release assay; HIV, human immunodeficiency virus; N/A, not applicable

Table S19. TB risk stratified by country-level BCG vaccination policy: none or at birth vs. multiple or post-infancy. Data presented with IGRA tests combined and all contact types combined. Data only included in the table if at least one study in each category.

Population	Positive Test Result Definition	BCG Policy: None or At Birth			BCG Policy: Multiple or Post-Infancy		
		Number of Cohorts (PY of FU)	Random Effects Pooled TB Rate per 1000 PY (95% CI)	I^2	Number of Cohorts (PY of FU)	Random Effects Pooled TB Rate per 1000 PY (95% CI)	I^2
All Contacts	All IGRA Positive	4 (3137)	28.4 (23 to 34.9)	0%	15 (8606)	14.9 (9.7 to 22.9)	75%
All Contacts	TST ≥5mm	13 (60196)	10.3 (5.8 to 18.2)	97%	7 (31391)	7.7 (4.1 to 14.4)	92%
All Contacts	TST ≥10mm	15 (38183)	14.8 (8.6 to 25.4)	96%	13 (31932)	6.5 (3.6 to 11.6)	89%
All Contacts	TST ≥15mm	8 (17716)	13.6 (6.2 to 29.8)	96%	1 (524)	9.5 (4 to 22.9)	N/A
HIV	TST ≥5mm	4 (1466)	30.3 (15.8 to 58)	67%	5 (2316)	22.2 (7.5 to 65.7)	92%
Immune Suppressing Medications	TST ≥5mm	3 (339)	5.9 (1.5 to 23.6)	0%	2 (212)	4.7 (0.7 to 33.5)	0%
Transplant	All IGRA Positive	3 (245)	0	0%	6 (748)	10.4 (4.5 to 24.1)	19%
Transplant	TST ≥5mm	2 (358)	0	0%	5 (1358)	5.9 (2.9 to 11.8)	0%
Transplant	TST ≥10mm	1 (42)	119 (49.6 to 286)	N/A	2 (173)	0	0%
Diabetes	All IGRA Positive	1 (526)	7.6 (2.9 to 20.3)	N/A	1 (316)	0	N/A
Age <18 Years	TST ≥10mm	1 (1331)	6 (3 to 12)	N/A	2 (29311)	0.6 (0.4 to 1)	0%
Age ≥65 Years	TST ≥10mm	1 (3557)	11.5 (8.5 to 15.7)	N/A	1 (195)	5.1 (0.7 to 36.4)	N/A
Recent Immigrant or Refugee Arrival	All IGRA Positive	1 (541)	11.1 (5 to 24.7)	N/A	3 (4133)	10.6 (7.9 to 14.3)	0%
Recent Immigrant or Refugee Arrival	TST ≥5mm	1 (949)	6.3 (2.8 to 14.1)	N/A	2 (7183)	11.3 (4.1 to 30.9)	94%
Recent Immigrant or Refugee Arrival	TST ≥10mm	1 (8549)	2.9 (2 to 4.3)	N/A	4 (145955)	1.7 (0.6 to 4.8)	96%
Recent Immigrant or Refugee Arrival	TST ≥15mm	1 (277)	10.8 (3.5 to 33.5)	N/A	2 (83945)	1.2 (1 to 1.4)	0%
Prisoners	TST ≥10mm	2 (719)	26.1 (3.3 to 208.2)	92%	1 (58)	137.9 (69 to 275.8)	N/A
Occupational Risk Factor	TST ≥10mm	5 (5548)	2.5 (1.2 to 5.1)	30%	1 (32)	31.4 (4.4 to 222.7)	N/A

Abbreviations: PY, person years; FU, follow-up; TB, tuberculosis; TST, tuberculin skin test; IGRA, interferon-gamma release assay; HIV, human immunodeficiency virus; N/A, not applicable

Table S20. Summary of risk of TB per 1000 PY and incidence rate ratios, organized in descending incidence rate ratios. TST results presented for cut-points of ≥5mm and ≥10mm and IGRA results presented as all types combined. Included populations have a minimum of 2 studies included in the meta-analysis of incidence rate and have a calculable estimate for the incidence rate ratio.

Population and Positive Test Definition	Incidence Rate Ratio (95% CI)	Incidence Rate per 1000 Person Years (95% CI)
Immune Suppressing Medications (IGRA Positive)	48.1 (5.4 to 430.7)	4.8 (0.1 to 279.2)
Prisoners (TST ≥10mm)	31 (4.1 to 233.9)	45 (9 to 224.6)
HIV (TST ≥5mm)	11.1 (6.2 to 19.9)	27.1 (15 to 49)
HIV (IGRA Positive)	11 (4.6 to 26.2)	16.9 (10.5 to 27.3)
Recent Immigrant or Refugee (IGRA Positive)	10.9 (6.3 to 18.9)	10.7 (8.1 to 14.1)
All Contacts (IGRA Positive)	10.8 (6.1 to 19)	17 (12.9 to 22.4)
Dialysis (IGRA Positive)	7.0 (0.7 to 67)	3.4 (1.1 to 10.7)
Immune Suppressing Medications (TST ≥5mm)	6.6 (1.8 to 24.2)	5.4 (1.8 to 16.9)
Recent Immigrant or Refugee (TST ≥5mm)	6.4 (2.4 to 16.5)	9.5 (4.3 to 21)
All Contacts (TST ≥5mm)	6 (3.9 to 9.2)	8.4 (5.6 to 12.6)
Age <18 Years (TST ≥10mm)	4.9 (2.7 to 8.8)	0.8 (0.1 to 6.4)
Occupational Risk Factor (IGRA Positive)	4.9 (0.5 to 48.3)	3 (1.7 to 5.4)
All Contacts (TST ≥10mm)	4.1 (2.6 to 6.4)	9.4 (6.3 to 14.1)
Recent Immigrant or Refugee (TST ≥10mm)	4 (2.1 to 7.9)	2.7 (1 to 7.1)
Dialysis (TST ≥10mm)	2.6 (1.4 to 4.8)	100.6 (41.6 to 243.2)
Transplant (IGRA Positive)	2.5 (1 to 6)	6.7 (2.2 to 20.4)
Transplant (TST ≥10mm)	2.4 (0.9 to 6.4)	3.7 (0 to 861.5)
Age ≥65 Years (TST ≥10mm)	2.2 (0.9 to 5.2)	3.6 (2.1 to 6)
Occupational Risk Factor (TST ≥10mm)	1.7 (0.7 to 4.2)	2.8 (1.3 to 6.1)
Silicosis (TST ≥10mm)	1.7 (0.5 to 5.5)	36.9 (28.2 to 48.1)
Dialysis (TST ≥5mm)	1.5 (0.7 to 3.3)	11.8 (0.7 to 200.7)
Age ≥65 Years (IGRA Positive)	1.3 (0.1 to 14.1)	11.2 (8.3 to 15.1)
Transplant (TST ≥5mm)	0.6 (0.1 to 3)	1 (0 to 64)
Occupational Risk Factor (TST ≥5mm)	0.5 (0.1 to 5)	3.6 (1.2 to 11.1)

*Studies included are from 2006 onwards only.

SECONDARY ANALYSIS. Table S21 details TB risk among populations with discordant results that were not included in Table 4 of the main text.

Table S21. TB Risk Among Populations with Concordant or Discordant Test Results

Population	Test Result	Number of Cohorts	Number of Individuals	Total PY Follow-up (Mean)	Active TB Events (%)†	TB Rate per 1000 PY (95% CI)	I^2
General Population*	TST ≥10mm	3	33,811	249,093 (7.4)	55 (0.2%)	0.3 (0.1 to 1.1)	96%
Close and Casual Contacts (Together)							
All Age Groups							
Close and Casual Contacts	TST ≥10mm, QFT-GIT Positive	1	21	75 (3.6)	5 (23.8%)	66.7 (27.7 to 160.2)	N/A
Close and Casual Contacts	TST ≥10mm, QFT-GIT Negative	2	883	3292 (3.7)	12 (1.4%)	3.6 (2.1 to 6.4)	0%
Close and Casual Contacts	TST ≥15mm, QFT-GIT Positive	1	17	34 (2.0)	0 (0%)	0	N/A
Close and Casual Contacts	TST ≥15mm, QFT-GIT Negative	1	28	56 (2.0)	0 (0%)	0	N/A
Close and Casual Contacts	TST ≥15mm, T-SPOT.*TB* Positive	1	21	42 (2.0)	0 (0%)	0	N/A
Close and Casual Contacts	TST ≥15mm, T-SPOT.*TB* Negative	1	24	48 (2.0)	0 (0%)	0	N/A
Age <18 years							
Close and Casual Contacts	TST ≥10mm, QFT-GIT Positive	1	32	64 (2.0)	6 (18.8%)	93.8 (42.1 to 208.7)	N/A
Close and Casual Contacts	TST ≥10mm, QFT-GIT Negative	1	67	134 (2.0)	0 (0%)	0	N/A
Close Contacts Only							
All Age Groups							
Close Contacts Only	TST ≥5mm, QFT-GIT Positive	1	178	326 (1.8)	5 (2.8%)	15.4 (6.4 to 36.9)	N/A
Close Contacts Only	TST ≥5mm, QFT-GIT Negative	1	149	273 (1.8)	3 (2.0%)	11 (3.5 to 34.1)	N/A
Close Contacts Only	TST ≥5mm, T-SPOT.*TB* Positive	1	181	331 (1.8)	6 (3.3%)	18.1 (8.1 to 40.3)	N/A
Close Contacts Only	TST ≥5mm, T-SPOT.*TB* Negative	1	118	216 (1.8)	2 (1.7%)	9.3 (2.3 to 37)	N/A
Close Contacts Only	TST ≥10mm, QFT-GIT Positive	2	562	1526 (2.7)	31 (5.5%)	20.3 (14.3 to 28.9)	0%
Close Contacts Only	TST ≥10mm, QFT-GIT Negative	2	226	637 (2.8)	15 (6.6%)	23.6 (14.2 to 39.1)	0%
Close Contacts Only	TST ≥10mm, T-SPOT.*TB* Positive	1	10	1 (1.8)8	0 (0%)	0	N/A
Close Contacts Only	TST ≥10mm, T-SPOT.*TB* Negative	1	16	37 (2.3)	0 (0%)	0	N/A
Close Contacts Only	T-SPOT.*TB* Positive, TST <10mm	1	13	27 (2.1)	0 (0%)	0	N/A
Close Contacts Only	QFT-GIT Positive, TST <10mm	1	377	757 (2.0)	28 (7.4%)	37 (25.5 to 53.6)	N/A
Age <18 years							
Close Contacts Only	TST ≥10mm, QFT-GIT Positive	1	16	32 (2.0)	5 (31.3%)	156.3 (65 to 375.4)	N/A
Close Contacts Only	TST ≥10mm, QFT-GIT Negative	1	430	860 (2.0)	3 (0.7%)	3.5 (1.1 to 10.8)	N/A
Close Contacts Only	QFT-GIT Positive, TST <10mm	1	86	172 (2.0)	1 (1.2%)	5.8 (0.8 to 41.3)	N/A
Close Contacts Only	T-SPOT.*TB* Positive, TST <10mm	1	26	34 (1.3)	1 (3.8%)	29.6 (4.2 to 210)	N/A
Other Populations							
HIV	TST ≥5mm, T-SPOT.*TB* Positive	1	32	95 (3.0)	4 (12.5%)	42.1 (15.8 to 112.2)	N/A
HIV	TST ≥5mm, T-SPOT.*TB* Negative	1	108	321 (3.0)	0 (0%)	0	N/A
HIV	T-SPOT.*TB* Positive, TST <5mm	1	53	157 (3.0)	0 (0%)	0	N/A
Transplant	T-SPOT.*TB* Positive, TST <10mm	1	71	122 (1.7)	4 (5.6%)	32.8 (12.3 to 87.3)	N/A
Age <5 years	TST ≥10mm, QFT-G Negative	1	54	308 (5.7)	0 (0%)	0	N/A
Diabetes	TST ≥10mm, T-SPOT.*TB* Positive	1	29	148 (5.1)	0 (0%)	0	N/A

Table S21. TB Risk Among Populations with Concordant or Discordant Test Results

Population	Test Result	Number of Cohorts	Number of Individuals	Total PY Follow-up (Mean)	Active TB Events (%)†	TB Rate per 1000 PY (95% CI)	I^2
Immune Suppressing Medications	TST ≥10mm, QFT-GIT Negative	2	76	241 (3.2)	2 (2.6%)	8.3 (2.1 to 33.2)	0%
Immune Suppressing Medications	TST ≥5mm, T-SPOT.*TB* Negative	1	10	12 (1.2)	0 (0%)	0	N/A
Homeless	TST ≥10mm, QFT-GIT Positive	1	14	56 (4.0)	3 (21.4%)	54 (17.4 to 167.3)	N/A
Occupational Risk Factor	TST ≥10mm, QFT-GIT Positive	1	838	1327 (1.6)	4 (0.5%)	3 (1.1 to 8)	N/A
Occupational Risk Factor	TST ≥10mm, QFT-GIT Negative	1	1252	1982 (1.6)	0 (0%)	0	N/A
Occupational Risk Factor	TST ≥10mm, T-SPOT.*TB* Positive	1	20	60 (3.0)	1 (5%)	16.7 (2.3 to 118.3)	N/A
Occupational Risk Factor	QFT-GIT Positive, TST <10mm	1	103	163 (1.6)	0 (0%)	0	N/A
Age <18 years	TST ≥10mm, QFT-G Negative	1	146	818 (5.6)	0 (0%)	0	N/A
Age <18 years	TST ≥15mm, QFT-GIT Negative	1	69	104 (1.5)	0 (0%)	0	N/A

Abbreviations: PY, person years; TB, tuberculosis; TST, tuberculin skin test; QFT-G(IT), QuantiFERON Gold-In-Tube; HIV, human immunodeficiency virus; N/A, not applicable

†The percent represents pooled cumulative incidence estimated from random-effects meta-analysis

SECONDARY ANALYSIS. **Tables S22 through S24 detail the results of including all studies, regardless of size, and populations where only a single study was performed.**

Table S22. TB Risk Among Populations with TB Exposure

				Among Test Positive				Compared to Test Negative		
Population	**Positive Test Result Definition**	**Number of Cohorts**	**Number of Individuals**	**Total PY Follow-up (Mean)**	**Active TB Events (%)†**	**Random Effects Pooled TB Rate per 1000 PY (95% CI)**	I^2	**Number of Studies**	**Random Effects Pooled IRR (95% CI)**	I^2
General Population*	TST ≥10mm	3	33,811	249,093 (7.4)	55 (0.2%)	0.3 (0.1 to 1.1)	96%	-	-	-
Close and Casual Contacts (Together)ᵃ										
All Ages										
Close and Casual Contacts	QFT-G(IT) Positive	7	1478	4319 (2.9)	56 (3.8%)	14.7 (8.4 to 25.7)	61%	5	10 (5.1 to 19.5)	36%
Close and Casual Contacts	T-SPOT.*TB* Positive	2	721	2348 (3.3)	33 (4.6%)	14.1 (10 to 19.8)	0%	2	7.2 (4.2 to 12.4)	0%
Close and Casual Contacts	All IGRA Positive	9	2199	6667 (3)	89 (4.0%)	13.3 (10.8 to 16.4)	0%	7	8.4 (5.2 to 13.5)	19%
Close and Casual Contacts	TST ≥5mm	4	7861	32708 (4.2)	227 (2.8%)	8.4 (4.3 to 16.5)	95%	4	12.5 (6.9 to 22.5)	48%
Close and Casual Contacts	TST ≥10mm	5	5728	22561 (3.9)	97 (2.6%)	9.4 (4 to 21.8)	93%	5	6.9 (3.3 to 14.4)	54%
Close and Casual Contacts	TST ≥15mm	1	71	142 (2)	0 (0%)	0	N/A	0	-	-
Age <5 years										
Close and Casual Contacts	TST ≥5mm	1	11	43 (3.9)	2 (18.2%)	46.5 (11.6 to 186)	N/A	0	-	-
Age <18 years										
Close and Casual Contacts	QFT-G(IT) Positive	1	18	18 (1)	10 (55.6%)	555.6 (298.9 to 1032.5)	N/A	1	Not Calculable	N/A
Close and Casual Contacts	TST ≥5mm	3	1261	3126 (2.5)	59 (5.6%)	13.2 (2.6 to 66.8)	94%	2	20.1 (2.9 to 140.6)	77%
Close and Casual Contacts	TST ≥10mm	4	1002	2357 (2.4)	69 (7.2%)	23.4 (8 to 68.4)	92%	3	21.2 (6.4 to 70.2)	75%
Close and Casual Contacts	TST ≥15mm	2	313	840 (2.7)	39 (16.3%)	32.6 (5.8 to 182.3)	93%	2	40.7 (25.5 to 64.9)	0%
Age ≥65 years										
Close and Casual Contacts	TST ≥5mm	1	177	692 (3.9)	4 (2.3%)	5.8 (2.2 to 15.4)	N/A	0	-	-
Receiving Immune Suppressing Medications										
Close and Casual Contacts	TST ≥5mm	1	335	2077 (6.2)	11 (3.3%)	5.3 (2.9 to 9.6)	N/A	1	5.2 (1.9 to 14.1)	N/A
Close and Casual Contacts	TST ≥10mm	1	283	1755 (6.2)	10 (3.5%)	5.7 (3.1 to 10.6)	N/A	1	5.1 (1.9 to 13.3)	N/A
Close and Casual Contacts	TST ≥15mm	1	170	1054 (6.2)	8 (4.7%)	7.6 (3.8 to 15.2)	N/A	1	5.8 (2.3 to 15.1)	N/A
Close Contacts Onlyᵇ										
All Ages										
Close Contacts Only	QFT-G(IT) Positive	6	1426	3524 (2.5)	106 (7.3%)	30.8 (20.6 to 46.1)	64%	5	17.7 (3.3 to 95.6)	87%
Close Contacts Only	T-SPOT.*TB* Positive	1	237	1093 (4.6)	8 (3.4%)	7.3 (3.7 to 14.6)	N/A	1	4.2 (1.4 to 13)	N/A
Close Contacts Only	All IGRA Positive	7	1663	4617 (2.8)	114 (6.5%)	22.4 (12.1 to 41.8)	87%	6	13.1 (3.3 to 51.9)	70%
Close Contacts Only	TST ≥5mm	9	7626	37696 (4.9)	340 (3.8%)	10.5 (7.7 to 14.3)	83%	8	3.7 (2.1 to 6.5)	66%
Close Contacts Only	TST ≥10mm	13	8849	29970 (3.4)	296 (2.7%)	10.3 (6.1 to 17.4)	94%	11	2.5 (1.3 to 4.8)	86%
Close Contacts Only	TST ≥15mm	5	2384	9867 (4.1)	131 (5.2%)	15 (10.9 to 20.7)	45%	4	5.1 (2.1 to 12.2)	83%
Age <5 years										
Close Contacts Only	QFT-G(IT) Positive	1	16	28 (1.8)	0 (0%)	0	N/A	0	-	-
Close Contacts Only	TST ≥10mm	1	23	41 (1.8)	0 (0%)	0	N/A	0	-	-
Age <18 years										
Close Contacts Only	QFT-G(IT) Positive	2	159	305 (1.9)	6 (2.3%)	14.5 (1.7 to 120.5)	27%	1	13 (4.9 to 34.6)	N/A

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Table S22. TB Risk Among Populations with TB Exposure

Population	Positive Test Result Definition	Among Test Positive						Compared to Test Negative		
		Number of Cohorts	Number of Individuals	Total PY Follow-up (Mean)	Active TB Events (%)†	Random Effects Pooled TB Rate per 1000 PY (95% CI)	I^2	Number of Studies	Random Effects Pooled IRR (95% CI)	I^2
Close Contacts Only	TST ≥5mm	3	198	355 (1.8)	11 (2.9%)	19 (3.9 to 92.2)	49%	1	Not Calculable	N/A
Close Contacts Only	TST ≥10mm	5	616	1184 (1.9)	18 (2.5%)	14.7 (3.9 to 55)	76%	3	4.5 (2 to 10.4)	0%
Casual Contacts Only[c]										
All Ages										
Casual Contacts Only	QFT-G(IT) Positive	1	39	154 (3.9)	2 (5.1%)	13 (3.3 to 52)	N/A	1	Not Calculable	N/A
Casual Contacts Only	TST ≥5mm	1	2465	15283 (6.2)	21 (0.9%)	1.4 (0.9 to 2.1)	N/A	1	10.2 (4.7 to 22.4)	N/A
Casual Contacts Only	TST ≥10mm	1	1975	12245 (6.2)	20 (1%)	1.6 (1.1 to 2.5)	N/A	1	11.5 (5.4 to 24.5)	N/A
Casual Contacts Only	TST ≥15mm	1	1045	6479 (6.2)	12 (1.1%)	1.9 (1.1 to 3.3)	N/A	1	7.8 (3.8 to 16.2)	N/A
Age <18 years										
Casual Contacts Only	TST ≥5mm	1	180	180 (1)	0 (0%)	0	N/A	0	-	-
Casual Contacts Only	TST ≥10mm	1	77	77 (1)	0 (0%)	0	N/A	0	-	-
All the Above Studies in Contacts Pooled[d]										
All Contacts	QFT-G(IT) Positive	17	3120	8320 (2.7)	180 (5.0%)	20.3 (10.6 to 39)	93%	13	14.4 (7.1 to 29.1)	75%
All Contacts	T-SPOT.*TB* Positive	3	958	3441 (3.6)	41 (4.3%)	11.1 (6.9 to 17.9)	23%	3	6.6 (4 to 10.7)	0%
All Contacts	All IGRA Positive	20	4078	11,761 (2.9)	221 (4.9)	18.1 (10.3 to 31.8)	93%	16	11.6 (6.6 to 20.5)	73%
All Contacts	TST ≥5mm	19	19,648	90,286 (4.6)	615 (2.8%)	8.3 (5.5 to 12.5)	95%	16	6 (3.9 to 9.2)	70%
All Contacts	TST ≥10mm	29	18,446	69,628 (3.8)	462 (2.6%)	9.6 (6.4 to 14.3)	95%	23	4.1 (2.6 to 6.5)	81%
All Contacts	TST ≥15mm	9	3932	18,066 (4.6)	156 (3.3%)	9.1 (5.2 to 16)	88%	16	6.0 (3.9 to 9.2)	70%

Abbreviations: PY, person years; TB, tuberculosis; TST, tuberculin skin test; QFT-G(IT), QuantiFERON Gold-In-Tube; QFT, QuantiFERON; IRR, incidence rate ratio; N/A, not applicable

*Populations are from British Columbia, Canada, Saskatchewan, Canada, and Florida, United States of America.

†The percent represents pooled cumulative incidence estimated from random-effects meta-analysis

[a]Studies were conducted in populations of contacts, with no stratification by intensity of exposure or closeness of contact; [b]Studies were conducted in populations of contacts that were either solely Close Contacts Only or had outcomes reported stratified by close and casual contact; [c]Studies were conducted in populations of contacts that were either solely casual contacts or had outcomes reported stratified by close and casual contact;

[d]Representative of all studies in contacts, regardless of intensity of exposure. All studies included if >100 participants were tested. Participants are not double counted (i.e. we did not pool cohorts coming from the same study for which participants may fall into more than one group, such as the all ages group and the <18 age group, instead we only included the all age group).

Table S23. TB Risk Among Populations with Conditions Affecting Immunity

Population	Positive Test Result Definition	Number of Cohorts	Number of Individuals	Total PY Follow-up (Mean)	Active TB Events (%)†	Random Effects Pooled TB Rate per 1000 PY (95% CI)	I^2	Number of Studies	Random Effects Pooled IRR (95% CI)	I^2
				Among Test Positive					**Compared to Test Negative**	
General Population*	TST ≥10mm	3	33,811	249,093	55	0.3 (0.1 to 1.1)	96%	-	-	-
Dialysis	QFT-G(IT) Positive	5	355	801 (2.3)	4 (1.1%)	5 (1.9 to 13.3)	0%	2	8.6 (1 to 77.2)	0%
Dialysis	T-SPOT.*TB* Positive	3	147	220 (1.5)	0 (0.2%)	0	0%	1	Not calculable	N/A
Dialysis	All IGRA Positive	8	502	1021 (2)	4 (0.8%)	3.9 (1.5 to 10.4)	0%	3	2.1 (0.2 to 18.2)	42%
Dialysis	TST ≥5mm	2	151	379 (2.5)	10 (2%)	11.8 (0.7 to 200.7)	59%	1	1.5 (0.7 to 3.3)	N/A
Dialysis	TST ≥10mm	5	175	317 (1.8)	20 (11.1%)	63.2 (25.5 to 156.7)	68%	4	2.5 (1.3 to 4.5)	0%
HIV[a]	QFT-G(IT) Positive	5	288	857 (3)	16 (5.6%)	16.5 (6.7 to 40.4)	53%	3	7 (3 to 16.1)	30%
HIV[b]	T-SPOT.*TB* Positive	6	317	868 (2.7)	13 (4.1%)	15 (8.7 to 25.8)	0%	4	22.2 (4.3 to 113.5)	42%
HIV	All IGRA Positive	11	605	1726 (2.9)	29 (4.8%)	15.7 (9.4 to 26.2)	29%	7	11 (4.6 to 26.2)	45%
HIV[c]	TST ≥5mm	10	1310	3807 (2.9)	154 (8%)	32.2 (16.4 to 63.1)	91%	8	11.4 (6.5 to 19.9)	40%
HIV[d†]	TST ≥5mm	4	267	745 (2.8)	14 (4.8%)	18.5 (2.5 to 136.0)	92%	3	12.4 (4.4 to 35.1)	0%
HIV[e]	TST ≥10mm	1	69	3807 (2.9)	154 (8%)	102.6 (55.2 to 190.7)	N/A	1	14.4 (6.1 to 34.0)	N/A
Silicosis	T-SPOT.*TB* Positive	1	151	345 (2.3)	12 (7.9%)	34.7 (19.7 to 61.2)	N/A	1	8.5 (1.1 to 65.4)	N/A
Silicosis	TST ≥5mm	1	161	409 (2.5)	9 (5.6%)	22 (11.5 to 42.3)	N/A	1	1 (0.3 to 3.2)	N/A
Silicosis	TST ≥10mm	2	352	1465 (4.2)	54 (12.5%)	36.9 (28.2 to 48.1)	0%	1	1.7 (0.5 to 5.5)	N/A
Silicosis	TST ≥15mm	1	89	226 (2.5)	4 (4.5%)	17.7 (6.7 to 47.3)	N/A	1	0.7 (0.2 to 2.3)	N/A
Transplant	QFT-G(IT) Positive	7	316	688 (2.2)	5 (1.2%)	5.2 (1.1 to 25.4)	48%	4	2.3 (0.8 to 7.2)	0%
Transplant	T-SPOT.*TB* Positive	2	165	305 (1.8)	3 (1.8%)	9.9 (3.2 to 30.5)	0%	2	2.7 (0.6 to 12.1)	0%
Transplant	All IGRA Positive	9	481	993 (2.1)	8 (1.6%)	6.7 (2.2 to 20.4)	33%	6	2.5 (1.0 to 6.0)	0%
Transplant	TST ≥5mm	7	518	1716 (3.3)	8 (0.1%)	1 (0 to 64)	64%	7	0.6 (0.1 to 3)	30%
Transplant	TST ≥10mm	3	105	215 (2)	5 (0.6%)	3.7 (0 to 861.5)	88%	3	2.4 (0.9 to 6.4)	0%
Transplant	TST ≥15mm	1	28	140 (5)	2 (7.1%)	14.3 (3.6 to 57.1)	N/A	1	5.7 (0.5 to 63)	N/A
BMI <18.5 kg/m²	QFT-G(IT) Positive	1	299	578 (1.9)	9 (3%)	15.6 (8.1 to 29.9)	N/A	0	-	-
BMI <18.5 kg/m²	TST ≥5mm	1	491	1166 (2.4)	7 (1.4%)	6 (2.9 to 12.6)	N/A	1	1.4 (0.5 to 4.5)	N/A
BMI <18.5 kg/m²	TST ≥10mm	1	358	853 (2.4)	7 (2%)	8.2 (3.9 to 17.2)	N/A	1	2.5 (0.8 to 7.9)	N/A
BMI <18.5 kg/m²	TST ≥15mm	1	199	468 (2.4)	5 (2.5%)	10.7 (4.4 to 25.7)	N/A	1	3 (0.9 to 9.3)	N/A
Smokers¶	QFT-G(IT) Positive	1	1547	2991 (1.9)	28 (1.8%)	9.4 (6.5 to 13.6)	N/A	0	-	-
Immune Suppressing Medications[f]	QFT-G(IT) Positive	2	65	167 (2.6)	4 (2.8%)	17.2 (2 to 151.9)	36%	1	48.1 (5.4 to 430.7)	N/A
Immune Suppressing Medications[g]	T-SPOT.*TB* Positive	2	76	172 (2.3)	0 (0.1%)	0	0%	1	Not calculable	N/A
Immune Suppressing Medications	All IGRA Positive	4	141	339 (2.4)	4 (0.2%)	1.7 (0 to 290.8)	82%	2	4.5 (0.1 to 262.8)	73%
Immune Suppressing Medications[h]	TST ≥5mm	7	234	581 (2.5)	7 (2.6%)	10.4 (2.5 to 44.4)	69%	5	6.0 (2.0 to 17.6)	0%
Immune Suppressing Medications[i]	TST ≥10mm	1	16	47 (2.9)	0 (0%)	0	N/A	1	Not calculable	N/A
Diabetes[o]	QFT-G(IT) Positive	1	272	526 (1.9)	4 (1.5%)	7.6 (2.9 to 20.3)	N/A	0	-	-
Diabetes[α]	T-SPOT.*TB* Positive	1	62	316 (5.1)	0 (0%)	0	N/A	1	Not calculable	N/A

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Table S23. TB Risk Among Populations with Conditions Affecting Immunity

Population	Positive Test Result Definition	Among Test Positive						Compared to Test Negative		
		Number of Cohorts	Number of Individuals	Total PY Follow-up (Mean)	Active TB Events (%)†	Random Effects Pooled TB Rate per 1000 PY (95% CI)	I^2	Number of Studies	Random Effects Pooled IRR (95% CI)	I^2
Diabetes	All IGRA Positive	2	334	842 (2.5)	4 (1.2%)	4.4 (0.9 to 22)	8%	1	Not Calculable	N/A
Diabetes$^\alpha$	TST ≥10mm	1	63	526 (1.9)	4 (1.5%)	0	N/A	1	Not calculable	N/A
Age <5 years	QFT-G(IT) Positive	1	206	496 (2.4)	28 (13.6%)	56.5 (39 to 81.8)	N/A	0	-	-

Abbreviations: PY, person years; TB, tuberculosis; TST, tuberculin skin test; QFT-G(IT), QuantiFERON Gold-In-Tube; HIV, human immunodeficiency virus; IRR, incidence rate ratio; BMI, body mass index; N/A, not applicable

*Populations are from British Columbia, Canada, Saskatchewan, Canada, and Florida, United States of America.

†The percent represents pooled cumulative incidence estimated from random-effects meta-analysis

[a]All studies took place in high-income settings from the year 2006 onwards. Four studies reported ARV use. In three studies, ARV use among participants was >50% and in one study 0%. In the three studies that reported mean/median CD4 counts, the counts ranged from 413-483 cells/mm³. In the study that did not report ARV use, the authors were contacted and noted ARV use was 71%, as reported in a subsequent publication.[123]

[b]Five of six studies took place in high-income settings from the year 2006 onwards. Five studies reported ARV use. In four studies, ARV use ranged from 40% to 100% and in one study 0%. In the four studies that reported mean/median CD4 counts, the counts ranged from 305 to 578 cells/mm³. In the study that did not report ARV use, the authors were contacted and noted ARV use was 71%, as reported in a subsequent publication.[123]

[c]Among the ten studies evaluating TST ≥5mm in PLWH, eight of ten studies took place in high-income settings, with studies beginning between 1990 and 2009. One study was in HIV-positive injection drug users and one study was in HIV-positive homeless persons. Eight of ten studies reported ARV use. Among the six studies beginning from 1990 to 2005, within three studies ARV use was 0%, and within the other three studies ARV use was 40%, 41% and 61%. Among the three studies beginning from 2006 onwards, ARV use was 41%, 76% and not reported. Five studies reported mean/median CD4 counts, the counts ranged from 326 to 547 cells/mm³. In one study that did not report ARV use, the authors were contacted and noted ARV use was 71%, as reported in a subsequent publication.[123]

[d]Three of four studies took place in high-income settings from 2006 onwards. One study was in HIV-positive prisoners. Two studies reported ARV use. In one study ARV use was 40% and in the other 0%. In the two studies that reported mean/median CD4 counts, the counts ranged from 483 to 547 cells/mm³. In one study that did not report ARV use, the authors were contacted and noted ARV use was 71%, as reported in a subsequent publication.[123]

[e]This study took place in a high-income country from 1990 to 1993. No patients were on ARV and median (IQR) CD4 counts were 390 (280-570) cells/mm³.

†Only including studies from 2006 onwards for comparability with IGRA-based estimates.

¶Based on self-reported current smoking in a rural population in China.

°Based on self-reported type 2 diabetes in a rural population in China.

$^\alpha$Diagnosed patients in a specialist tertiary care hospital. Of the 220 individuals included in the study, 95% had type 2 diabetes, 85% used metformin, and 74% had HbA1c levels >7%.

[f]One study among patients with immune-mediated inflammatory disorders largely receiving anti-tumor necrosis factor-α medications for rheumatoid arthritis, ankylosing spondylitis, psoriasis, and psoriatic arthritis—the most common medications were etanercept and adalimumab. The other study was among patients receiving medications for rheumatoid arthritis—while exact drugs were not reported, 20% were receiving three or more medications and 80% were receiving two or fewer.

[g]One study was among individuals with previous tuberculosis receiving anti-tumor necrosis factor-α medications—the most common medications were infliximab and etanercept. The other study was among patients receiving medications for rheumatoid arthritis—while exact drugs were not reported, 20% were receiving three or more medications and 80% were receiving two or fewer.

[h]One study among rheumatic patients most commonly receiving steroids and who were candidates for biologics. One study among moderate to severe psoriasis patients receiving anti-tumor necrosis factor-α medications—most commonly etanercept and adalimumab. One study among patients receiving medications for rheumatoid arthritis—while exact drugs were not reported, 20% were receiving three or more medications and 80% were receiving two or fewer. One study among rheumatic patients receiving the anti-tumor necrosis factor-α medication infliximab. One study among rheumatoid arthritis patients receiving the steroid prednisone. One study among psoriasis patients receiving anti-tumor necrosis factor-α medications—most commonly etanercept and adalimumab. One study among rheumatic patients receiving anti-tumor necrosis factor-α medications etanercept, infliximab, or adalimumab.

[i]This study was among individuals with previous tuberculosis receiving anti-tumor necrosis factor-α medications—the most common medications were infliximab and etanercept.

Table S24. TB Risk Among Populations with Characteristics That May Impact Exposure and Immunity

Population	Positive Test Result Definition	Number of Cohorts	Number of Individuals	Total PY Follow-up (Mean)	Active TB Events (%)†	Random Effects Pooled TB Rate per 1000 PY (95% CI)	I^2	Number of Studies	Random Effects Pooled IRR (95% CI)	I^2
						Among Test Positive			**Compared to Test Negative**	
General Population*	TST ≥10mm	3	33,811	249,093 (7.4)	55 (0.2%)	0.3 (0.1 to 1.1)	96%	-	-	-
Age <18 years	QFT-G(IT) Positive	1	11	66 (6)	0 (0%)	0	N/A	0	-	-
Age <18 years	TST ≥5mm	1	4820	53443 (11.1)	23 (0.5%)	0.4 (0.3 to 0.6)	N/A	1	3.3 (1.8 to 6)	N/A
Age <18 years	TST ≥10mm	3	5115	30642 (9)	26 (0.5%)	1.1 (0 to 37)	99%	1	4.9 (2.7 to 8.8)	N/A
Age <18 years	TST ≥15mm	2	950	6224 (6.6)	13 (0.2%)	0.8 (0 to 16.1)	63%	1	19 (9.9 to 36.3)	N/A
Age ≥65 years	QFT-G(IT) Positive	2	1879	3752 (2)	42 (2.2%)	11.2 (8.3 to 15.1)	0%	1	1.3 (0.1 to 14.1)	N/A
Age ≥65 years	TST ≥5mm	1	1684	4583 (2.7)	11 (0.7%)	2.4 (1.3 to 4.3)	N/A	1	1 (0.4 to 2.6)	N/A
Age ≥65 years	TST ≥10mm	2	1376	3938 (2.9)	14 (1%)	3.6 (2.1 to 6)	0%	2	2.2 (0.9 to 5.2)	0%
Age ≥65 years	TST ≥15mm	1	853	2250 (2.6)	9 (1.1%)	4 (2.1 to 7.7)	N/A	1	2.1 (0.9 to 5)	N/A
Long Term Care	QFT-G(IT) Positive	1	35	88 (2.5)	0 (0%)	0	N/A	0	-	-
Long Term Care	TST ≥10mm	1	58	145 (2.5)	0 (0%)	0	N/A	0	-	-
Recent Immigrant or Refugee Arrival	QFT-G(IT) Positive	3	1010	2847 (2.8)	29 (2.9%)	10.2 (7.1 to 14.7)	0%	3	9 (4.6 to 17.6)	0%
Recent Immigrant or Refugee Arrival	T-SPOT.*TB* Positive	1	587	1826 (3.1)	21 (3.6%)	11.5 (7.5 to 17.6)	N/A	1	15.7 (5.9 to 41.6)	N/A
Recent Immigrant or Refugee Arrival	All IGRA Positive	4	1597	4673 (2.9)	50 (3.1%)	10.7 (8.1 to 14.1)	0%	4	10.9 (6.3 to 18.9)	0%
Recent Immigrant or Refugee Arrival	TST ≥5mm	3	1853	8132 (3.8)	103 (3.5%)	11 (5 to 24.2)	88%	2	6.7 (2.5 to 17.8)	0%
Recent Immigrant or Refugee Arrival	TST ≥10mm	4	10785	103221 (9.6)	137 (2.2%)	5.1 (1.3 to 19.7)	98%	3	4 (2.1 to 7.7)	17%
Recent Immigrant or Refugee Arrival	TST ≥15mm	2	5609	53796 (10.1)	71 (1.3%)	2.4 (0.8 to 7.3)	84%	2	3.1 (2.1 to 4.4)	0%
Recent Immigrant or Refugee Arrival (Age<18)	TST ≥10mm	1	44	172 (3.9)	0 (0%)	0	N/A	0	-	-
Recent Immigrant or Refugee Arrival (BCG)	TST ≥10mm	1	4970	51191 (10.3)	45 (0.9%)	0.9 (0.7 to 1.2)	N/A	1	2.9 (1.4 to 5.7)	N/A
Recent Immigrant or Refugee Arrival (BCG)	TST ≥15mm	1	2954	30426 (10.3)	32 (1.1%)	1.1 (0.7 to 1.5)	N/A	1	2.4 (1.4 to 4.2)	N/A
Indigenous	TST ≥10mm	1	4904	43425 (8.9)	662 (13.5%)	15.2 (14.1 to 16.5)	N/A	0	-	-
Homeless	QFT-G(IT) Positive	1	27	100 (3.7)	3 (11.1%)	30 (9.7 to 93)	N/A	1	2.1 (0.4 to 12.8)	N/A
Homeless	TST ≥10mm	2	657	2395 (3.6)	11 (3.2%)	8.1 (1.8 to 35.7)	78%	2	4.3 (1.4 to 13.8)	0%
Injection Drug User	TST ≥10mm	1	125	259 (2.1)	1 (0.8%)	3.9 (0.5 to 27.4)	N/A	1	3.7 (0.2 to 59.3)	N/A
Prisoners	TST ≥5mm	1	486	1639 (3.4)	17 (3.5%)	10.4 (6.4 to 16.7)	N/A	1	2.9 (1.1 to 7.9)	N/A
Prisoners	TST ≥10mm	3	739	777 (1.1)	21 (6.1%)	45 (9 to 224.6)	93%	3	31 (4.1 to 233.9)	0%

Table S24. TB Risk Among Populations with Characteristics That May Impact Exposure and Immunity

| Population | Positive Test Result Definition | Among Test Positive | | | | | | Compared to Test Negative | | |
		Number of Cohorts	Number of Individuals	Total PY Follow-up (Mean)	Active TB Events (%)†	Random Effects Pooled TB Rate per 1000 PY (95% CI)	I^2	Number of Studies	Random Effects Pooled IRR (95% CI)	I^2
Occupational Risk Factor[a]	QFT-G(IT) Positive	6	1366	3345 (2.4)	10 (0.6%)	3 (1.6 to 5.6)	0%	2	3.6 (0.4 to 34.4)	51%
Occupational Risk Factor[b]	T-SPOT.*TB* Positive	2	101	320 (3.2)	1 (1%)	3.1 (0.4 to 22.2)	0%	1	Not Calculable	N/A
Occupational Risk Factor	All IGRA Positive	8	1467	3665 (2.5)	11 (0.7%)	3 (1.7 to 5.4)	0%	3	4.9 (0.5 to 48.3)	50%
Occupational Risk Factor[c]	TST ≥5mm	3	401	837 (2.1)	3 (0.7%)	3.6 (1.2 to 11.1)	0%	1	0.5 (0.1 to 5)	N/A
Occupational Risk Factor[d]	TST ≥10mm	7	2749	5845 (2.1)	15 (0.8%)	2.9 (1.4 to 5.8)	28%	5	1.8 (0.8 to 4.4)	0%
Occupational Risk Factor[e]	TST ≥15mm	1	104	208 (2)	3 (2.9%)	14.4 (4.7 to 44.7)	N/A	1	7.5 (0.8 to 71.8)	N/A

Abbreviations: PY, person years; TB, tuberculosis; TST, tuberculin skin test; QFT-G(IT), QuantiFERON Gold-In-Tube; BCG, Bacillus Calmette-Guérin vaccinated; IRR, incidence rate ratio; N/A, not applicable

*Populations are from British Columbia, Canada, Saskatchewan, Canada, and Florida, United States of America.

†The percent represents pooled cumulative incidence estimated from random-effects meta-analysis

[a]Five of the six studies took place in health care workers, with one of these studies following the identification of a smear-positive case in a hospital. The other study was done in coal miners in Germany.

[b]One study was done among health care workers in China, while the other was done among coal miners in Germany.

[c]All three studies took place in health care workers, with one of these studies following the identification of a smear-positive case in a hospital.

[d]All studies took place in health care workers, with one of these studies following the identification of a smear-positive case in a hospital.

[e]The population was student nurse candidates.

Supplemental Content S1. Additional Information

Populations Considered At-Risk in This Review, *a priori*

With TB Exposure
- TB Contacts (both close/household and casual)

With Conditions Affecting Immunity
- People living with HIV (with or without antiretrovirals)
- Chronic renal failure and/or dialysis-dependent populations
- Diabetes
- Transplant recipients (organ or hematopoietic stem cell)
- Cancer (all types)
- Malnourished (BMI ≤18.5 kg/m^2)
- Immune Suppressing Medications (all types, including TNF-alpha, DMARDS, steroids)
- Silicosis
- Smokers
- Alcohol Abusers

With Characteristics Affecting Exposure and Immunocompetency
- Age (<5 years, <18 years, ≥65 years)
- Immigrants (including refugees)
- Prisoners
- Injection Drug Users
- Homeless
- Occupational Risk (e.g. healthcare worker)
- Indigenous
- Long Term Care Facilities

Classifying Populations into At-Risk Populations

Populations were classified within their specific at-risk population groups based on author classifications. In most cases, populations were defined based on the title of the article or the specified inclusion criteria within. However, in other studies, mixed populations were included. In these cases, populations were classified as reported in the results and/or tables. In instances where populations could fall into multiple at-risk population groups, we classified populations based on the primary population of interest. For example, if the study population was dialysis patients, we did not classify people who also had diabetes within the diabetes group—all patients in the study were classified as dialysis patients. The one exception to this rule was HIV-coinfection. For example, in a study of people with diabetes, data may have been reported stratified by HIV-coinfection. In this example, people with diabetes and HIV-coinfection were classified as having HIV, while people without HIV-coinfection were classified as having diabetes.

Supplemental Information for Tables Included in the Manuscript

Table 2
- Among the four studies evaluating QFT-G(IT) in PLWH, all studies took place in high-income settings from the year 2006 onwards. Three studies reported ARV use. ARV use among participants was 53%, 62%, and 76%. In the two studies that reported mean/median CD4 counts, the counts ranged from 413-483 cells/mm^3. In the study that did not report ARV use, the authors were contacted and noted ARV use was 71%, as reported in a subsequent publication.[123]
- Among the five studies evaluating T-SPOT.*TB*, all studies took place in high-income settings from the year 2006 onwards. Four studies reported ARV use. ARV use among participants was 40%, 54%, 64%, and 76%. In the three studies that reported mean/median CD4 counts, the counts ranged from 483 to 578 cells/mm^3. In the study that did not report ARV use, the authors were contacted and noted ARV use was 71%, as reported in a subsequent publication.[123]
- Among the nine studies evaluating TST ≥5mm in PLWH, eight of nine studies took place in high-income settings, with studies beginning between 1990 and 2009. One study was in HIV-positive injection drug users and one study was in HIV-positive homeless persons. Eight of nine studies reported ARV use. Among the six studies beginning from 1990 to 2005, within three studies ARV use was 0%, and within the other

three studies ARV use was 40%, 41% and 61%. Among the three studies beginning from 2006 onwards, ARV use was 41%, 76% and not reported. Five studies reported mean/median CD4 counts, the counts ranged from 326 to 547 cells/mm^3. In the study that did not report ARV use, the authors were contacted and noted ARV use was 71%, as reported in a subsequent publication.[123]

- Expanding on information contained in **Supplemental Table S7**, to assess whether selective treatment of high-risk transplant recipients affected our estimates of risk in the untreated population, the 7 studies and their treatment protocol are summarized for people receiving a transplant who were QFT-G(IT) positive. One study among hematopoietic stem cell transplant recipients, where no one in the study was treated (untreated n=40). One study among immunocompromised populations, of which, unspecified organ transplant recipients were one—no one in the study was treated (untreated n=25). One study among kidney transplant recipients, largely receiving hemodialysis—treatment only given to one person in the study (untreated n=69). One study among kidney transplant recipients where patients with an abnormal chest x-ray received prophylaxis, excluding 12 of 458 people who could be tested (untreated n=95). One study among hematopoietic stem cell transplant recipients where prophylaxis was not guided by test result, rather history of TB contact and radiology, excluding 18 of 409 people who could be tested (untreated n=45). One study of solid organ and/or stem cell transplant recipients where prophylaxis was given to 16 of 300 people who could be tested (untreated n=25). One study of liver transplant recipients where treatment was given to 3 of 20 positive recipients (untreated n=17).

- Expanding on information contained in **Supplemental Table S7**, to assess whether selective treatment of high-risk transplant recipients affected our estimates of risk in the untreated population, the 2 studies and their treatment protocol are summarized for people receiving a transplant who were T-SPOT.*TB* positive. One study a randomized trial of prophylaxis among kidney or pancreas transplant recipients, patients were randomized to isoniazid or placebo (untreated n=132). One study of solid organ and/or stem cell transplant recipients where prophylaxis was given to 16 of 300 people who could be tested (untreated n=25).

- Expanding on information contained in **Supplemental Table S7**, to assess whether selective treatment of high-risk transplant recipients affected our estimates of risk in the untreated population, the 7 studies and their treatment protocol are summarized for people receiving a transplant who has TST ≥5mm. One study among hematopoietic stem cell transplant recipients, where no one in the study was treated (untreated n=33). One study among liver transplant recipients where prophylaxis was given at the discretion of the attending clinician and 16 of 89 positive patients were treated (untreated n=73). One study among kidney transplant recipients where no patient was treated (untreated n=228). One study among hematopoietic stem cell transplant recipients where prophylaxis was not guided by test result, rather history of TB contact and radiology, excluding 18 of 409 people who could be tested (untreated n=31). One study of solid organ and/or stem cell transplant recipients where prophylaxis was given to 16 of 300 people who could be tested (untreated n=13). One study among lung transplant recipients where prophylaxis was given occasionally and 30 of 70 positive patients were treated (untreated n=40). One study among hematopoietic stem cell transplant recipients where prophylaxis was routinely given to those with TST ≥15mm and 124 of 224 positive patients were treated (untreated n=100).

- Expanding on information contained in **Supplemental Table S7**, to assess whether selective treatment of high-risk transplant recipients affected our estimates of risk in the untreated population, the 3 studies and their treatment protocol are summarized for people receiving a transplant who has TST ≥10mm. One study among hematopoietic stem cell transplant recipients, where no one in the study was treated (untreated n=21). One study among people receiving maintenance hemodialysis and subsequent renal transplant where no treatment was given in the study (untreated n=21). One study among hematopoietic stem cell transplant recipients where prophylaxis was routinely given to those with TST ≥15mm and 124 of 224 positive patients were treated (untreated n=100).

- To understand the patient population and drugs used among the 2 studies in people on immune-suppressing medications who were QFT-G(IT)-positive, we summarized them here. One study among patients with immune-mediated inflammatory disorders largely receiving anti-tumor necrosis factor-α medications for rheumatoid arthritis, ankylosing spondylitis, psoriasis, and psoriatic arthritis—the most common medications were etanercept and adalimumab. The other study was among patients receiving medications for rheumatoid arthritis—while exact drugs were not reported, 20% were receiving three or more medications and 80% were receiving two or fewer.

- To understand the patient population and drugs used among the 3 studies in people on immune-suppressing medications who were IGRA-positive, we summarized them here. One study among patients with immune-mediated inflammatory disorders largely receiving anti-tumor necrosis factor-α medications for rheumatoid arthritis, ankylosing spondylitis, psoriasis, and psoriatic arthritis—the most common medications were etanercept and adalimumab. Two tests were done in the same study among patients receiving medications for rheumatoid arthritis—while exact drugs were not reported, 20% were receiving three or more medications and 80% were receiving two or fewer.

- To understand the patient population and drugs used among the 5 studies in people on immune-suppressing medications who had a TST ≥5mm, we summarized them here. One study among rheumatic patients most commonly receiving steroids and who were candidates for biologics. One study among moderate to severe psoriasis patients receiving anti-tumor necrosis factor-α medications—most commonly etanercept and adalimumab. One study among patients receiving medications for rheumatoid arthritis—while exact drugs were not reported, 20% were receiving three or more medications and 80% were receiving two or fewer. One study among psoriasis patients receiving anti-tumor necrosis factor-α medications—most commonly etanercept and adalimumab. One study among rheumatic patients receiving anti-tumor necrosis factor-α medications etanercept, infliximab, or adalimumab.

- To better describe the setting and patients included in the two studies of IGRA-positive people with diabetes, we summarize them here. One study diagnosed patients in a specialist tertiary care hospital. Of the 220 individuals included in the study, 95% had type 2 diabetes, 85% used metformin, and 74% had HbA1c levels >7%. Another study was based on self-reported type 2 diabetes in a rural population in China.

Table 3

- Among the studies using QFT-G(IT) or TST ≥5mm in Recent Immigrant or refugee arrivals, one study was among asylum seekers in Norway. One study was among immigrants, largely from South Asia, to England. One study was among immigrants arriving in the last five years from countries with an annual TB incidence ≥40 per 100,000 to the United Kingdom.
- Among the studies using any IGRA test in Recent Immigrant or refugee arrivals, all three QFT-G(IT) studies above were included, as well as T-SPOT.*TB* results from a study in the United Kingdom.
- Among the studies using TST ≥10mm in Recent Immigrant or refugee arrivals, one study was among predominantly Southeast Asian refugees in Australia. One study was among immigrants to Saskatchewan, Canada, normally screened at entry. One study was among immigrants arriving in the last five years from countries with an annual TB incidence ≥40 per 100,000 to the United Kingdom.
- Among the studies using TST ≥15mm in Recent Immigrant or refugee arrivals, one study was among predominantly Southeast Asian refugees in Australia. One study was among asylum seekers in Norway.
- Among studies of people with an occupational risk factor using QFT-G(IT), five of the six studies took place in health care workers, with one of these studies following the identification of a smear-positive case in a hospital. The other study was done in coal miners in Germany.
- Among studies of people with an occupational risk factor using T-SPOT.*TB*, one study was done among health care workers in China, while the other was done among coal miners in Germany.
- Among studies of people with an occupational risk factor using TST ≥5mm, all three studies took place in health care workers, with one of these studies following the identification of a smear-positive case in a hospital.

- Among studies of people with an occupational risk factor using TST ≥10mm, all three studies took place in health care workers, with one of these studies following the identification of a smear-positive case in a hospital.

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