Fig S1. Schematic diagram for the calculation of delay in anti-tuberculosis treatment (ID, infectious disease; MTB-NAAT, *Mycobacterium tuberculosis*-nucleic acid amplification test)

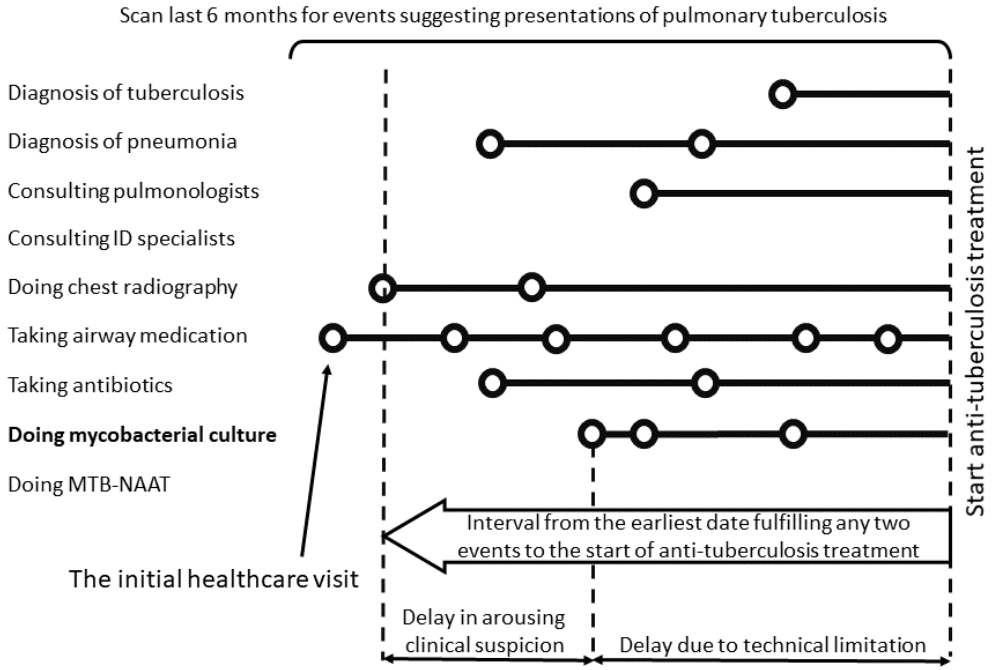

Table S1. Clinical characteristics of the 81081 adult patients with pulmonary tuberculosis diagnosed from 2004 to 2009 stratified by sex

	Female N=24914	Male N=56167	*P*-value
Age (year)	59.8 (40.4–75.8)	66.6 (50.3–77.3)	<0.001
Pre-DOTS era (2004–2005)	8621 (34.6%)	20292 (36.1%)	<0.001
DOTS era (2006–2009)	16293 (65.4%)	35875 (63.9%)	
Any comorbidities	9275 (37.2%)	24624 (43.8%)	<0.001
Diabetes mellitus	6595 (26.5%)	16407 (29.2%)	<0.001
COPD	1301 (5.2%)	5331 (9.5%)	<0.001
Malignancy	1753 (7.0%)	5311 (9.5%)	<0.001
ESRD	839 (3.4%)	1070 (1.9%)	<0.001
Autoimmune disease	538 (2.2%)	281 (0.5%)	<0.001
Liver cirrhosis	106 (0.4%)	344 (0.6%)	0.001
Pneumoconiosis	2 (0.0%)	64 (0.1%)	<0.001
AIDS	39 (0.2%)	410 (0.7%)	<0.001
Transplantation	39 (0.2%)	85 (0.2%)	0.861
Low income status	822 (3.3%)	2046 (3.6%)	0.015
Characteristics of initial healthcare visits			
Hospital accreditation levels			<0.001
Medical centers	3340 (13.8%)	8326 (14.8%)	
Regional hospitals	8744 (35.1%)	22850 (40.7%)	
Local hospitals or clinics	12730 (51.1%)	24991 (44.5%)	
In urban area	18838 (75.6%)	40806 (72.7%)	<0.001
Pulmonologists or infection specialists	3711 (14.9%)	10391 (18.5%)	<0.001
Duration of anti-TB treatment (day)	200 (181–274)	207 (181–278)	<0.001
Treated with isoniazid	184 (126–241)	185 (96–249)	0.431
Treated with rifamycin	183 (149–232)	188 (153–252)	<0.001
Treated with ethambutol	169 (95–211)	172 (99–227)	<0.001
Treated with pyrazinamide	58 (38–78)	61 (37–84)	<0.001
Intensive phase (first 2 months)			
Treated with isoniazid (day)	60 (46–60)	60 (45–60)	0.010

Treated with rifamycin (day)	53 (44–60)	56 (45–60)	<0.001
Treated with ethambutol (day)	56 (43–58)	56 (43–58)	<0.001
Treated with pyrazinamide (day)	48 (28–57)	51 (26–59)	<0.001
Second-line anti-TB drugs ≥14 days	3698 (14.8%)	10193 (18.1%)	<0.001
Diagnostic procedures during the last 2 months before anti-TB treatment			
Bronchoscopy	2535 (10.2%)	5468 (9.7%)	0.053
CT scan	9627 (38.6%)	20960 (37.3%)	<0.001
CT-guided biopsy	450 (1.8%)	945 (1.7%)	0.211
Hospitalisation within 14 days of commencing anti-TB treatment	11933 (47.9%)	30339 (54.0%)	<0.001
Admission to intensive care units	2479 (10.0%)	6037 (10.7%)	0.001
Invasive ventilatory support	2226 (8.9%)	5522 (9.8%)	<0.001
Non-invasive ventilatory support	411 (1.6%)	890 (1.6%)	0.496
Anti-TB treatment outcome at one year			
Completed	17874 (71.7%)	39882 (71.0%)	0.033
Died	3367 (13.5%)	9044 (16.1%)	<0.001
Died within 2 months	1428 (5.7%)	3587 (6.4%)	<0.001

Abbreviations: AIDS, acquired immunodeficiency syndrome; COPD, chronic obstructive pulmonary disease; CT, computerised tomography; DOTS, directly observed treatment, short course; ESRD, end-stage renal disease.

Data are expressed as the median (1^{st}–3^{rd} quartiles) or number (%) as appropriate.

Table S2 Intervals between specified events possibly indicating the onset of pulmonary tuberculosis (TB) and the commencement of anti-TB treatment in different age groups

Age (years)	No. (%) of patients fulfilling the criteria			Interval from the event to anti-TB treatment (days)		
	20–64 (N=40261)	65–79 (N=26897)	80 and above (N=13923)	20–64 (N=40261)	65–79 (N=26987)	80 and above (N=13923)
Clinical diagnosis of tuberculosis	37553 (93.3%)	23481 (87.3%)[*]	11301 (81.2%)[*†]	0 (0–1)	0 (0–3)[*]	0 (0–5)[*†]
Diagnosis of pneumonia	8365 (20.8%)	8858 (32.9%)[*]	6616 (47.5%)[*†]	7 (0–40)	17 (0–62)[*]	24 (0–69)[*†]
Consulting pulmonologists	26037 (64.7%)	18 072 (67.2%)[*]	9583 (68.8%)[*†]	7 (0–35)	19 (0–76)[*]	26 (0–93)[*†]
Consulting ID specialists	3049 (7.6%)	2042 (7.6%)	1227 (8.8%)[*†]	0 (0–33.5)	8 (0–68)[*]	21 (0–83)[*†]
Undergoing chest radiography	33330 (82.8%)	22532 (83.8%)[*]	11445 (82.2%)[†]	10 (0–55)	34 (5–95)[*]	43 (6–104)[*†]
Taking airway medication	32492 (80.7%)	24038 (89.4%)[*]	12521 (89.9%)[*]	79 (17–146)	113 (40–162)[*]	112 (38–162)[*]
Taking antibiotics	26922 (66.9%)	20785 (77.3%)[*]	11830 (85.0%)[*†]	48 (6–120)	62 (10–130)[*]	61 (9–129)[*]
Receiving mycobacterial culture	35772 (88.9%)	24478 (91.0%)[*]	12735 (91.5%)[*]	3 (0–22)	8 (0–44)[*]	13 (0–51)[*†]
Undergoing MTB–NAAT	3753 (9.3%)	2744 (10.2%)[*]	1586 (11.4%)[*†]	0 (0–11)	0 (0–15)[*]	0 (0–16)
Pooled						
Any two of above	40000 (99.4%)	26830 (99.8%)[*]	13878 (99.7%)[*]	21 (1–84)	53 (8–122)[*]	61 (12–128)[*†]

Any three of above	39010 (96.9%)	26434 (98.3%)*	13676 (98.2%)*	7 (0–35)	20 (0–71)*	30 (1–83)*†

Abbreviations: ID, infectious diseases; MTB–NAAT, *Mycobacterium tuberculosis*–nucleic acid amplification test;

Data are expressed as the median (1^{st}–3^{rd} quartiles) or number (%) as appropriate.

*P-value <0.05 compared against the group with age of 20-64 years. †P-value <0.05 compared against the group with age of 65-79 years.

Table S3. Medical resource utilisation from the initial healthcare visits to the commencement of anti-tuberculosis treatment among the 81081 adult patients with pulmonary tuberculosis diagnosed from 2004 to 2009

Age (years)	20–64 N=40261	65–79 N=26897	80 and above N=13923
Number of outpatient visits	12.23±12.78	19.34±17.02*	17.38±15.95*†
Medical centers	2.12±4.35	3.03±5.52*	2.83±5.43*†
Regional hospitals	3.24±5.06	5.84±7.66*	6.25±8.32*†
Local hospitals and clinics	6.87±10.21	10.47±14.03*	8.30±12.36*†
Number of emergency room visits	0.56±1.43	0.84±1.44*	1.10±1.71*†
Number of hospitalisation	0.87±1.13	1.35±1.39*	1.71±1.47*†
Number of chest radiography	1.85±2.29	2.62±3.30*	3.28±4.28*†
Number of mycobacterial culture	2.45±2.22	2.86±2.46*	3.14±2.61*†
Number of MTB-NAAT	0.11±0.41	0.13±0.48*	0.15±0.52*†

Abbreviations: MTB-NAAT, *Mycobacterium tuberculosis* – nucleic acid amplification test.

Data are expressed as the mean ± standard deviation.

*P-value <0.05 compared against the group with age of 20-64 years. †P-value <0.05 compared against the group with age of 65-79 years.

Table S4. Subpopulation analyses for the impact of *Mycobacterium tuberculosis*–nucleic acid amplification tests on shortening treatment delay in multivariate linear regression analyses

Subpopulation	Coefficient	*P* value
All patients	-2.20 (-3.51, -0.90)	0.001
Age ≥65 years	-3.23 (-5.10, -1.36)	0.001
Age ≥80 years	-3.97 (-7.09, -0.84)	0.013
Smear-negative	-4.35 (-6.14, -2.55)	<0.001

Table S5. Sensitivity analyses for different definitions of delay in treatment by multivariate logistic regression for predictors of complete anti-tuberculosis treatment within 12 months

Definitions for calculating delay	Adjusted odds ratio*	*p*-value
Fulfilling ≥2 specific events (per week)	0.992 (0.990, 0994)	<0.001
Fulfilling ≥3 specific events (per week)	0.986 (0.984, 0.989)	<0.001
Fulfilling ≥4 specific events (per week)	0.983 (0.980, 0.986)	<0.001

*Adjusted for age, sex, implementation of directly observed treatment, short course, diabetes mellitus, chronic obstructive pulmonary disease, malignancy, end-stage renal disease, liver cirrhosis, acquired immunodeficiency syndrome, low income, hospital accreditation levels of initial visits, specialties of initial visits, baseline hospitalization, intensive care, invasive ventilatory support, non-invasive ventilatory support, and second-line anti-tuberculosis treatment.

Table S6. Sub-population analyses for the impact of *Mycobacterium tuberculosis* – nucleic acid amplification test to shorten the delay in anti-tuberculosis treatment in multivariate linear regression analysis by adopting a strict definition for delay in anti-TB treatment.

Sub-population	Coefficient	*p*-value
All patients	-1.04 (-2.11, 0.04)	0.058
Age ≥ 65 years	-2.47 (-4.08, -0.86)	0.003
Age ≥ 80 years	-3.65 (-6.40, -0.90)	0.009
Smear-negative	-5.16 (-8.09, -2.23)	0.001