

**Article title:** Effect of Cost-Exemption Policy on Treatment Interruption in Patients With Newly Diagnosed Pulmonary Tuberculosis in South Korea

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**Supplementary file 1**

**Table S1. List of anti-tuberculosis drugs**

| Drug   | Dosage formulation(s) |
|--|-----------------------|
| 1. First-line drugs  |                       |
| - Isoniazid (H)  | Tablet                |
| - Rifampicin, Rifabutin (R)  | Tablet / Capsule      |
| - Ethambutol (E)   | Tablet                |
| - Pyrazinamide (Z)   | Tablet                |
| - Fixed dose combination (HRZE / HRE)                                  | Tablet                |
| 2. Second-line drugs   |                       |
| - Fluoroquinolones<br>: Levofloxacin (Lfx), moxifloxacin (Mfx)         | Tablet, IV injection  |
| - Bedaquiline (Bdq)  | Tablet                |
| - Linezolid (Lzd)  | IV injection          |
| - Cycloserine (Cs)   | Capsule               |
| - Clofazimine (Cfz)  | Capsule               |
| - Aminoglycosides<br>: Streptomycin (S), kanamycin (Km), amikacin (Am) | IV/IM injection       |
| - Carbapenems<br>: Meropenem (Mpm), imipenem (Ipm)                     | IV injection          |
| - Para-aminosalicylate (PAS)   | Granules              |
| - Prothionamide (Pto)  | Tablet                |
| - Delamanid (Dlm)  | Tablet                |

IV, intravenous; IM, intramuscular

**Table S2. ICD-10 codes for the Charlson comorbidity index**

| <b>Disease</b>              | <b>Score</b> | <b>ICD-10 codes</b>   |
|-----------------------------|--------------|---|
| Myocardial infarction       | 1            | I21; I22; I23; I25.2; I25.3;  |
| Congestive heart failure    | 1            | I50; I11.0; I13.0; I13.2; I25.5;  |
| Peripheral vascular disease | 1            | I70-I74; I731; I738; I739; I77; I771; I790; I792; K551; K558; K559; Z958; Z959; R02; K55.003; K55.004; K55.010;   |
| Cerebrovascular disease     | 1            | I60-I63; I65; I66; G450-G452; G458; G459; G46; I64; G454; I670; I671; I672; I674; I675; I676; I677; I678; I679; I681; I682; I688; I69; I60-I69; G45; G46; |
| Dementia                    | 1            | F00; F01; F02; F03; F051; G30; G311;  |
| Chronic pulmonary disease   | 1            | J40-J47; J67; J60-J66; I278; I279; J684; J701; J703; J84.1; J92.0; J96.1; J98.2; J98.3; J84.9;  |
| Connective tissue disease   | 1            | M30-M36; M332; M331; M053; M058-M060; M063; M069; M050-M052; M353; M05; M06; M315; M351; M360; M08; M09; D86;   |
| Ulcer disease               | 1            | K25-K28; K22.1;   |
| Mild liver disease          | 1            | B18; K700-K703; K709; K713; K715; K717; K73; K74; K760; K762-K764; K768; K769; Z944; K71.0; K71.6; K71.9; K75; K76.103; B16.9; B19.9;                     |
| Diabetes mellitus           | 1            | E109-E111; E119; E139; E101; E131; E141; E135; E100; E11.600; E120; E121; E126; E128-E131; E136; E138-E141; E146; E148; E149; E11.701;                    |
| Hemiplegia                  | 2            | G81; G041; G820-G822; G114; G801; G802; G82; G830; G831-G834; G839; G838;   |
| Moderate/severe renal       | 2            | N03; N052; N053; N054; N055; N056; N072; N073; N074;  |

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|   |   |   |
|---|---|---|
| disease   |   | N01; N18; N19; N25; I120; I131; N057; Z490; Z491;<br>Z492; Z940; Z992/I12; I13; N00-N05; N07; N11; N14;<br>N17; Q61;  |
| Diabetes mellitus with<br>chronic complications | 2 | E102; E112; E132; E142; E103; E113; E133; E143; E104;<br>E114; E134; E144; E105; E107; E115; E122-E125; E127;<br>E135; E137; E145; E147; E10.6; E10.8; E11.601; E11.8;<br>E11.6; E14.5; |
| Any tumor                                       | 2 | C00-C76;  |
| Leukemia  | 2 | C91-C95; C91.001; C95.902;  |
| Lymphoma  | 2 | C81-C85; C88; C90; C96;   |
| Moderate/severe liver<br>disease                | 3 | K729; K76-K767; K721; I850; I859; I864; I982; K704;<br>K711; B15.0; B15.9; B16.0; B16.2; B19.0; K72; I85; Z944;   |
| Metastatic solid tumor                          | 6 | C77-C80;  |
| AIDS  | 6 | B20; B21; B22; B23; B24;  |

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AIDS, acquired immune deficiency syndrome; ICD-10, 10th revision of the International Statistical Classification of Diseases and Related Health Problems

**Table S3. Risk factors associated with treatment interruption in the total study population**

| Variables                               | Univariate analysis  |                 | Multivariate analysis   |                 |
|---|----------------------|-----------------|-------------------------|-----------------|
|   | Crude OR<br>(95% CI) | <i>P</i> -value | Adjusted OR<br>(95% CI) | <i>P</i> -value |
| Age $\geq$ 60 years                     | 1.17<br>(1.13–1.21)  | <0.0001         | 1.15<br>(1.11–1.19)     | <0.0001         |
| Male sex                                | 0.98<br>(0.95–1.01)  | 0.129           | 0.98<br>(0.95–1.01)     | 0.154           |
| CCI $\geq$ 3                            | 1.22<br>(1.18–1.26)  | <0.0001         | 1.17<br>(1.13–1.21)     | <0.0001         |
| Metropolitan resident                   | 0.96<br>(0.93–0.99)  | 0.005           | 0.97<br>(0.94–1.00)     | 0.051           |
| Multidrug-resistance<br>(MDR or XDR-TB) | 5.74<br>(5.17–6.37)  | <0.0001         | 6.04<br>(5.43–6.71)     | <0.0001         |

CCI, Charlson comorbidity index; MDR, multidrug-resistant; OR, odds ratio; TB, tuberculosis; XDR, extensively drug-resistant

**Table S4. Risk factors associated with treatment interruption of anti-TB treatment in patients with drug-susceptible TB**

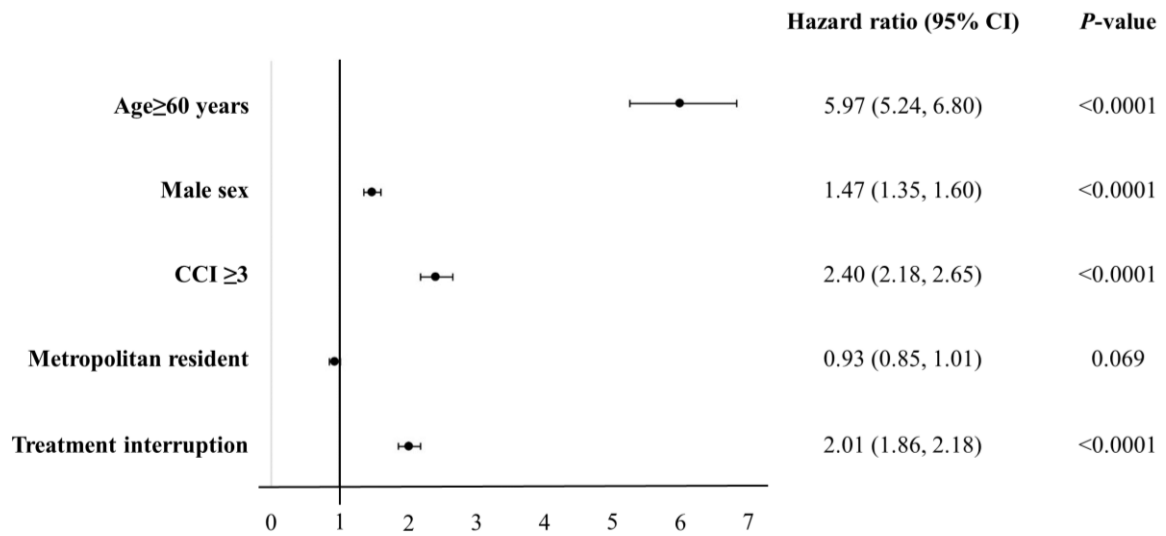
| Variables             | Univariate analysis  |                 | Multivariate analysis   |                 |
|-----------------------|----------------------|-----------------|-------------------------|-----------------|
|                       | Crude OR<br>(95% CI) | <i>P</i> -value | Adjusted OR<br>(95% CI) | <i>P</i> -value |
| Age $\geq$ 60 years   | 1.22<br>(1.19–1.26)  | <0.0001         | 1.14<br>(1.10–1.18)     | <0.0001         |
| Male sex              | 0.96<br>(0.93–0.99)  | 0.013           | 0.98<br>(0.95–1.01)     | 0.151           |
| CCI $\geq$ 3          | 1.24<br>(1.20–1.28)  | <0.0001         | 1.17<br>(1.12–1.21)     | <0.0001         |
| Metropolitan resident | 0.95<br>(0.92–0.98)  | 0.0008          | 0.96<br>(0.93–1.00)     | 0.030           |

CCI, Charlson comorbidity index; CI, confidence interval; OR, odds ratio; TB, tuberculosis

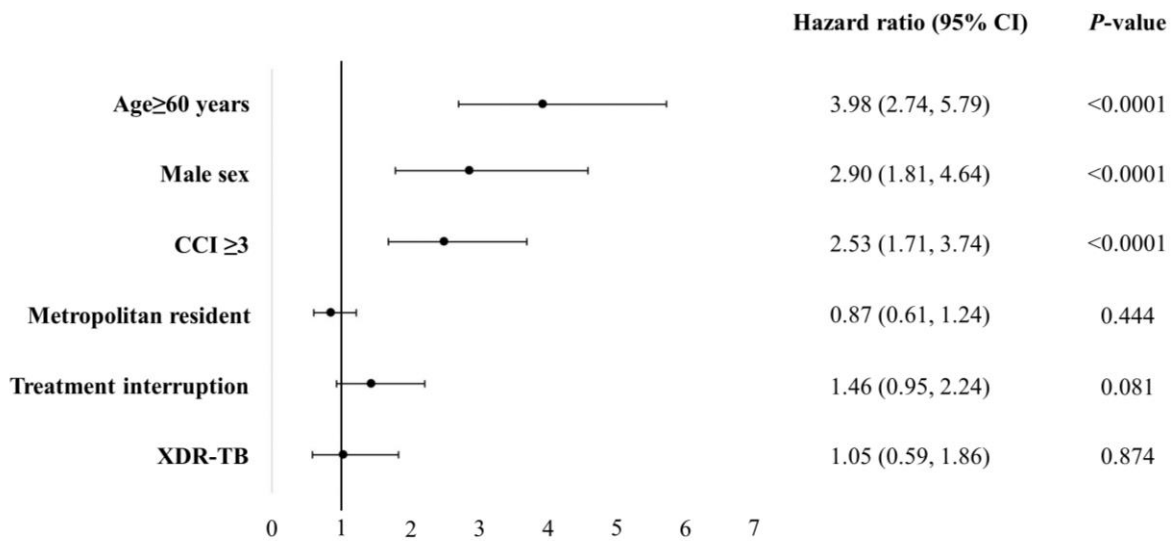
**Table S5. Risk factors associated with treatment interruption of anti-TB treatment in patients with MDR-TB**

| Variables             | Univariate analysis  |                 | Multivariate analysis   |                 |
|-----------------------|----------------------|-----------------|-------------------------|-----------------|
|                       | Crude OR<br>(95% CI) | <i>P</i> -value | Adjusted OR<br>(95% CI) | <i>P</i> -value |
| Age $\geq$ 60 years   | 1.51<br>(1.17–1.96)  | 0.001           | 1.40<br>(1.07–1.84)     | 0.016           |
| Male sex              | 0.98<br>(0.79–1.23)  | 0.876           | 0.98<br>(0.78–1.22)     | 0.842           |
| CCI $\geq$ 3          | 1.34<br>(1.08–1.67)  | 0.008           | 1.23<br>(0.98–1.55)     | 0.080           |
| Metropolitan resident | 1.10<br>(0.89–1.36)  | 0.364           | 1.14<br>(0.93–1.41)     | 0.216           |
| XDR-TB                | 0.62<br>(0.45–0.86)  | 0.004           | 0.63<br>(0.45–0.87)     | 0.005           |

CCI, Charlson comorbidity index; CI, confidence interval; OR, odds ratio; TB, tuberculosis; XDR-TB, extensively drug-resistant tuberculosis



**Figure S1. Risk factors associated with 1-year all-cause mortality in patients with drug-susceptible TB**



**Figure S2. Risk factors associated with overall all-cause mortality in patients with MDR-TB**