
Technical Appendix

Contents

1. Additional Methods
   a. Sampling
   b. Data Collection
   c. Data Analysis
2. Cost Analysis
   a. Inpatient Cost Estimation
   b. Outpatient Cost Estimation
   c. Total Direct Cost Estimation
   d. Productivity Loss Estimation
   e. Cost Analyses
3. Definitions
4. Additional Results
   a. Percent of Patients Having Isolates Tested within 30 days of Medications Start and Resistance to Medications
   b. Percentage of Patients on Various Medications at Any Time During Treatment
   c. Median Months to Event
   d. Acquired Resistance Multivariate Model
   e. Death During TB Treatment Multivariate Model A
   f. Death During TB Treatment Multivariate Model B
   g. Inpatient Direct Costs Boxplot
   h. Outpatient Direct Costs Boxplot
   i. Total Direct Costs Boxplot
   j. Productivity Losses Boxplot
   k. Direct Costs and Productivity Losses Boxplot
   l. MDR TB Direct Costs Multivariate Model
   m. MDR TB Direct Costs and Productivity Losses Multivariable Model
   n. Cost Estimation of Drug-susceptible TB Costs

Additional Methods

Sampling
Each participating site identified MDR-TB and XDR-TB patients reported to CDC during 2005-2007. All XDR-TB patients were selected for participation in the study. From the sampling
frame of MDR-TB patients, a simple random sample of 75% was selected from California and New York and of 50% from Texas. In one instance in New York, a randomly selected patient whose records were unavailable was replaced with another randomly selected patient.

**Data Collection**
Data were abstracted onto standardized data collection forms, one for TB clinic records and one for each hospitalization, which were entered into separate databases. Separate Excel spreadsheets were used for direct entry of abstracted data on specimens, chest radiography/CT exams, and medications. All databases were converted to SAS for analysis.

**Data Analysis**
From the originally collected variables, we created the following new variables:
- First date of a positive specimen
- First and last date of positive specimen culture
- Sputum-culture-conversion date: the first date (at least 7 days after the date of last sputum-culture positivity) of 2 consecutive negative sputum-culture results, with 3 categories of exceptions:
  - If there were not 2 consecutive negative culture results 7 days after the last positive, used the available date 7 days after (3 patients).
  - If there were 2 consecutive negative culture results, but the 2nd result was more than a month after the first and the first is not quite 7 days from the last positive, use the first even though it is not quite 7 days after (1 patient)
  - If there were at least 2 negative culture results after the last positive, but none met the 7 day criteria, use the last one available (otherwise the patient would have qualified as no culture conversion) (1 patient)
- First date and duration of TB medications
- First date of diagnosis: earliest of report date, first medication, first positive specimen
- First date and duration of symptoms: from various documented symptoms
- First date and duration of respiratory isolation, intensive care unit, mechanical ventilation
- Days hospitalized: sum of days hospitalized over all TB-related hospitalizations
- Any resistance to each medication
- Initial resistance to each medication within 30 days of TB treatment start
- Acquired resistance to any medication: any resistant result after a susceptible result
- Five mutually exclusive categories of drug resistance: INH/RIF/RBT-only, INH/RIF/RBT-plus, First-line, Pre-XDR, XDR
- Milligrams per medication per week per patient: dose*frequency per week*weeks
- Days to culture conversion: date of culture conversion minus date of TB medications start
- Medication duration: days on each individual medication before and after culture conversion
- Effective medication duration: days on each individual medication to which the isolate was never resistant
- Start and duration of a 5-drug regimen: the date the patient started taking at least 5 medications (including an INJ and FQ) to which their TB isolate was never resistant
- Days infectious: number of days 12 weeks prior to first symptom or, if asymptomatic, prior to initial diagnosis through culture conversion or medications stop
- Number of outpatient DOT visits per patient: DOT regimen*frequency per week*weeks
• Total number of chest radiographs and CTs per patient
• Disseminated disease: TB in ≥ 2 noncontiguous sites at any time during treatment
• Died during treatment: if the reason for treatment stop was died, or hospital disposition was died
• History of TB: if there was a history of TB from either clinic or hospital records or patient self-report
• History of latent TB infection: if there was a history of LTBI from either clinic or hospital records or patient self-report
• Homeless: if in a homeless living situation within the year prior to TB treatment or hospitalization, or if homeless at TB diagnosis or during TB treatment
• Prison/jail inmate: if incarcerated within the year prior to TB treatment or hospitalization, or if an inmate at TB diagnosis or during treatment
• Unemployed: if primary occupation within the year prior to TB treatment was “unemployed”
• Uninsured: if no health insurance during TB treatment, separately for clinic and hospitalization
• Smoker: if patient smoked at least once within the year prior to clinic intake or hospitalization
• Long-term-care facility resident: if the patient was a resident of a long-term-care facility at TB diagnosis or within 3 months prior to TB treatment start

The following data analyses were performed:
• Compared the representativeness of study data with National TB Surveillance System (NTSS) data
• Examined homelessness prior to TB, during TB treatment, housing assistance
• Examined unemployment prior to TB, because of TB
• Summarized DST testing by medication, initial resistance, ever resistance, and acquired resistance
• Calculated the median number of DSTs on medications, median number of medications having resistance
• Assessed associations with pre-XDR and XDR combined vs. other MDR patients
• Examined resistance patterns by country of birth, compared with NTSS all-TB data by country of birth
• Identified medications to which resistance was acquired during treatment
• Identified factors associated with any acquired resistance
• Calculated the percentage of patients diagnosed while hospitalized
• Assessed symptoms
• Calculated the median days to initial diagnosis
• Calculated the median months of infectiousness
• Calculated the percentage of patients on each medication at any time during treatment
• Calculated the medication changes per patient, reasons
• Examined whether patients were hospitalized, the number of hospitalizations, and reasons for hospitalization
• Calculated the outpatient DOT use per medication
• Calculated the number of medications taken prior to culture conversion to which the patient’s isolate was never resistant
• Calculated the median days from medications start to 5-drug regimen start, 5-drug regimen to culture conversion, any regimen to culture conversion, 5-drug regimen to treatment stop, by drug resistance pattern
• Calculated the median treatment length and by resistance pattern and 5-drug regimen
• Identified factors associated with treatment longer than 2 years after culture conversion
• Assessed culture conversion by resistance pattern and by number of effective medications prior to culture conversion
• Analyzed treatment outcomes by resistance pattern, comparison with US MDR/XDR and U.S. drug-susceptible cases
• Calculated the number of days to TB-related death, by 5-drug regimen and for HIV+ by highly active antiretroviral treatment (HAART)
• Calculated the median days on effective medications before and after culture conversion by resistance pattern
• Identified characteristics associated with death during treatment
• Calculated the median and average number of adverse events by resistance pattern and association with individual and combined medications
• Calculated the median days of inpatient (inpatient days, respiratory isolation) and outpatient care (total outpatient, DOT days, outpatient isolation)
• Measured the number of outpatient procedures: chest radiographs, smears, cultures
• Assessed receipt of expert consultation, associations with expert consultation
• Calculated case management usage types and frequency
• Assessed use of interpreters by non-English speaking patients
• Analyzed impairment during treatment

Cost Analysis: Inpatient Cost Estimation
From total charges per TB-related hospitalization that were collected, inpatient costs were calculated by:
• Converting all charges to 2010 inflation-adjusted dollars using the Consumer Price Index for Medical Care²
• Converted charges to costs by multiplying the charges by each hospital’s cost-to-charge ratio³
  o If a specific hospital’s cost-to-charge ratio was unavailable, we used operating-cost-to-charge ratio average for the state (CA=0.32, NY=0.46, TX=0.40)
• Converted site-specific costs, using Medicare Geographic Adjustment Factors⁴ as the cost-of-living adjustment factor, to a US basis for aggregation (CA=1.13, NY=1.08, TX=0.94)
• Added in physician costs for each hospitalization day from the 2009 Physicians’ Fee and Coding Guide of $238.50 for the first day of hospitalization at Level 2,⁵ converted to a cost by multiplying by the average cost-to-charge ratio for pulmonary diseases 0.502,⁶ updated to 2010 dollars using the Medical Care CPI,² for a value of $123.81. The remaining hospitalization days were calculated similarly from a 2009 charge of $131 to a cost of $68/day.
• For 17 patients for whom we were not able to obtain detailed hospital data, the length of stay (which was obtained for all patients) was multiplied by an average cost per day ($1419) for hospitalizations for which we did have data
Cost Analysis: Outpatient Cost Estimation

Outpatient costs were estimated as follows:

- Computed the number of outpatient days of treatment.
- Estimated outpatient diagnosis costs, using numbers of chest radiographs (2 views $30.97), computed tomographies ($308.99), AFB smears ($7.70), *M. tuberculosis* cultures ($15.48), DSTs ($8.10), and other diagnostic tests, and applied Centers for Medicare and Medicaid Lab Schedule Fees.
- Often, DOT visits were not specified as taking place at the clinic or at home, so we estimated that 11% of DOT visits occurred in the clinic (5 days/week for 6 weeks=30 visits, plus 25 visits for the remaining 490 work days of a 2-year period of 520 work days), and the remaining 89% of DOT visits occurred in the patient’s home. Costs for a home DOT visit ($32.70) were estimated using the 2001 Physicians’ Fee and Coding Guide Medicare Allowable Charge for a home DOT visit by a nurse ($49)\(^8\) and updating it to 2010 dollars using the change in home health care average weekly earnings\(^9\) and converting it to a cost by multiplying by 50.2%, the average cost to charge ratio for pulmonary diagnostic related group (DRG)\(^6\): (49*(484.58/364.51)*.502)). Costs for clinic DOT visits ($38.63) were estimated using the 2009 Physicians’ Fee and Coding Guide average outpatient physician visit charge for an established level 2 patient ($58.67 for Level 2 patient\(^5\)), then updated to 2010 dollars using the CPI/MC, converted to a cost by multiplying by 0.502, plus 15 minutes of a nurse based on the cost of an outpatient DOT visit: (58.67*(388.436/375.613)*.502)+(.25*(49*(484.58/364.51)*.502))).
- Estimated outpatient medication costs by multiplying the total outpatient mg. of each medication by its Red Book average wholesale price per mg.\(^9\) Added therapeutic monitoring costs (CBC $11.14, LFT $11.70), according to the Drug-Resistant Tuberculosis Survival Guide for Clinicians,\(^10\) for those on CYC, AMK, CAP, KAN.

Costs per mg by medication were:

- INH=(0.000517778)
- RIF=(0.006702778)
- RBT=(0.102664)
- RPT=(0.02765)
- PZA=(0.002381)
- EMB=(0.004448)
- SM=(0.00432)
- CAP=(0.175)
- KAN=(0.006041667)
- AMK=(0.06771)
- CIP=(0.0026254)
- LEV=(0.0385322)
- MOX=(0.048954167)
- GAT=(0.10723)
- ETH=(0.0168836)
- PAS=(0.000934417)
- CYC=(0.024)
- CLO=(0.2022)
- LIN=(0.194871667)
- CLR=(0.008477)
Estimated, using Centers for Medicare and Medicaid Lab Schedule Fees,7 outpatient lab
tests for baseline tests (CBC with WBC differential [$11.14], comprehensive metabolic
panel $15.14, LFT [$11.70], HIV EIA initial [$19.65] and follow-up Western Blot test
[$38.35] if positive, TSH [$24.06] if on CYC or ETH, and 6 drug levels [$21.59] for
those on CAP, KAN, AMK, SM, or CYC). Estimated ongoing lab tests, based on the
MDR-TB Survival Guide,10 for those on treatment longer than one week (monthly CBC,
monthly LFT, monthly comprehensive metabolic panel for those on CAP, KAN, AMK,
SM, monthly audiometry [$34.38] if on AMK, CAP, KAN, SM, monthly visual function
screening [$3.06] if on EMB, CLO, RBT, LIN, quarterly TSH for those on CYC, ETH,
PAS)

Estimated case management costs, based on the frequency of each type of case
management.

- Transportation costs were estimated at $20/week in LA, $29/week in NYC,
  $17.50/week in TX.
- Housing costs were estimated at $31/day in CA, $37/day in NY, $19/day in TX.11
- Social worker costs were estimated at $23.95 for 2 days consultation.12
- Interpreters were estimated at $21.73/hour 12

Calculated outpatient direct costs as the sum of outpatient diagnosis, outpatient DOT,
outpatient medication, outpatient lab, and case management costs.

**Cost Analysis: Total Direct Cost Estimation**
Estimated total direct costs as the sum of outpatient direct costs and inpatient direct costs.

**Cost Analysis: Productivity Loss Estimation**
Estimated productivity losses as follows:

- Calculated a disability adjustment based on responses to Adverse Events variable
  on the clinic form, 100% divided into 6 segments (100%, 83%, 67%, 50%, 33%,
  17%)
- Estimated inpatient productivity losses as follows: Applied a value of work plus
  home production, updated to 2010 dollars using the change in average hourly
  earnings,13 at $224/day for employed patients, and just home production ($40) for
  non-employed to each day hospitalized14
- Estimated outpatient productivity losses as follows: ½ day for each DOT day, a
  full day if in outpatient isolation, times the disability adjustment factor for all
  remaining outpatient days
- Estimated one year of productivity losses for one year after treatment for one
  person who had documentation, at 50% disability, and discounted it using a 3%
  social discount rate.
- For TB-related deaths (9/13 deaths), applied a value of remaining lifetime
  productivity, updated to 2010 dollars using the change in average hourly
  earnings,15 based on the age at death14
- Estimated total productivity loss as the sum of inpatient productivity loss,
  outpatient productivity loss, after treatment productivity loss, and productivity
  loss due to premature death.
Cost Analyses

- Estimated 3 illness severity categories similar to analysis done in the previous TB hospitalization study:
  - Category 1= those who died from TB-related causes
  - Category 2= any comorbidities, pregnancy, disseminated or extensive disease
  - Category 3= all remaining cases
- Calculated average costs by resistance pattern, by illness severity, and for each cost category
- Identified characteristics associated with high direct and societal costs
- Estimated U.S. MDR/XDR direct and direct-plus-productivity-loss costs during 2005-2007 by applying average costs per study patient to the U.S. cohort of cases during the period.
- Assessed who paid the costs by public sector/private sector insurance
Study Definitions
Initial diagnosis: earliest of TB medication start, collection of first positive specimen (AFB-smear, M. tuberculosis culture, PCR, HPLC, or NAA), or report date (date the health department first suspected a patient had TB)

First-line TB Medications: isoniazid (INH), rifampin (RIF), rifabutin (RBT), pyrazinamide (PZA), ethambutol (EMB), streptomycin (SM),
Second-line TB Medications: capreomycin (CAP), kanamycin (KAN), amikacin (AMK), any second-line injectable (INJ), ciprofloxacin (CIP), ofloxacain (OFL), levofloxacain (LEV), moxifloxacin (MOX), gatifloxacain (GAT), any fluoroquinolone (FQ), ethionamid (ETH), para-aminosalicylic acid (PAS), cycloserine (CYC),
Third-line TB Medications: clofazimine (CLO), linezolid (LIN), clarithromycin (CLR), azithromycin (AZI)

MDR TB: resistance to at least INH and RIF

Initial resistance: any resistance found on the initial TB isolate cultured within 30 days of specimen collection in the U.S.

Acquired resistance: any resistance found after a documented prior susceptible culture

Resistance patterns, mutually exclusive:
• INH/RIF/RBT-only
• INH/RIF/RBT-plus other resistance to any of the following: PZA, EMB, SM, PAS, ETH, or CYC (excluding total first-line resistance)
• Total First-line: resistance to INH, RIF, PZA, and EMB
• Pre-XDR: MDR TB plus resistance to a FQ or an INJ
• XDR: MDR TB plus resistance to both a FQ and a INJ

5-drug-regimen: an INJ, a FQ, and $\geq 3$ other medications to which M. tuberculosis was never resistant

Infectious period: began 12 weeks before earliest of first symptom, first medication, first positive specimen collection, or report date; ended at culture conversion, or, if no culture conversion, censored at medications stop

Date of culture conversion: After the last positive-sputum-culture, the first date ($\geq 7$ days after last positive) of 2 consecutive negative-sputum-culture results

Disseminated disease: $\geq 2$ non-contiguous sites of disease

Extensive disease: incapacitating, preventing normal everyday activities

Moderate disease: sufficiently discomorting to interfere with normal everyday activities
Minimal disease: causing minimal discomfort, easily tolerated, not interfering with everyday activities
Additional Results

Percent of Patients Having Isolates Tested within 30 days of Medications Start and Resistance to Medications, N=134

![Chart showing the percent of patients having isolates tested within 30 days of medications start and resistance to medications. The chart includes bars for each medication, indicating the percentage tested on initial DST, initial resistant, ever tested, and ever resistant.](chart.png)
Percentage of Patients on Various Medications at Any Time During Treatment
(N= 134 patients)*

* 1 patient was diagnosed at death and was not started on medications
Median Months to Event

<table>
<thead>
<tr>
<th>Patients on less than 5-drugs prior to culture conversion, n=59</th>
<th>2</th>
<th>2</th>
<th>22</th>
<th>25</th>
</tr>
</thead>
<tbody>
<tr>
<td>XDR</td>
<td>2</td>
<td>11</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Pre-XDR</td>
<td>2</td>
<td>2</td>
<td>19</td>
<td></td>
</tr>
<tr>
<td>First-line</td>
<td>2</td>
<td>2</td>
<td>21</td>
<td></td>
</tr>
<tr>
<td>INH/RIF/RBT-plus</td>
<td>2</td>
<td>1</td>
<td>22</td>
<td></td>
</tr>
<tr>
<td>INH/RIF/RBT-only</td>
<td>4</td>
<td>5</td>
<td>13</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Patients on a 5-drug regimen prior to culture conversion, n=46</th>
<th>2</th>
<th>2</th>
<th>19</th>
<th>24</th>
</tr>
</thead>
<tbody>
<tr>
<td>XDR</td>
<td>2</td>
<td>7</td>
<td>24</td>
<td></td>
</tr>
<tr>
<td>Pre-XDR</td>
<td>1</td>
<td>2</td>
<td>24</td>
<td></td>
</tr>
<tr>
<td>First-line</td>
<td>2</td>
<td>5</td>
<td>19</td>
<td></td>
</tr>
<tr>
<td>INH/RIF/RBT-plus</td>
<td>3</td>
<td>2</td>
<td>18</td>
<td></td>
</tr>
<tr>
<td>INH/RIF/RBT-only</td>
<td>2</td>
<td>1</td>
<td>16</td>
<td></td>
</tr>
</tbody>
</table>

- **Initial TB Dx to start of 5-drug or ≥ 2 MDR drug regimen**
- **Start of 5-drug or ≥ 2 MDR drug regimen to culture conversion**
- **Culture Conversion to medication stop**
### Acquired Resistance Multivariate Models

<table>
<thead>
<tr>
<th>Variable</th>
<th>Initial Estimate</th>
<th>Initial 95% Confidence Limit</th>
<th>Final Estimate</th>
<th>Final 95% Confidence Limit</th>
<th>Odds Ratio</th>
<th>Pr &gt; ChiSq</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age 65 or over</td>
<td>&lt;0.001</td>
<td>&gt;999.999</td>
<td>0.973</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Black race</td>
<td>3.19</td>
<td>&gt;999.999</td>
<td>0.065</td>
<td></td>
<td>4.07</td>
<td>0.039</td>
</tr>
<tr>
<td>Recent homelessness</td>
<td>377.71</td>
<td>&gt;999.999</td>
<td>0.056</td>
<td></td>
<td>5.81</td>
<td>0.031</td>
</tr>
<tr>
<td>Pre-XDR or XDR TB</td>
<td>2.31</td>
<td>&gt;999.999</td>
<td>0.001</td>
<td></td>
<td>5.15</td>
<td>0.002</td>
</tr>
<tr>
<td>AFB smear positive</td>
<td>5.34</td>
<td>0.86</td>
<td>33.22</td>
<td></td>
<td>0.072</td>
<td></td>
</tr>
<tr>
<td>Age 25-44 years</td>
<td>0.65</td>
<td>20.30</td>
<td>0.124</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hispanic ethnicity</td>
<td>0.11</td>
<td>216.20</td>
<td>0.417</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>≥4 effective medications</td>
<td>1.11</td>
<td>29.47</td>
<td>0.256</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age 45-64 years</td>
<td>3.35</td>
<td>0.07</td>
<td>151.32</td>
<td></td>
<td>0.534</td>
<td></td>
</tr>
<tr>
<td>Asian race</td>
<td>0.15</td>
<td>28.64</td>
<td>0.577</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Disseminated TB disease</td>
<td>0.21</td>
<td>24.20</td>
<td>0.495</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Foreign born</td>
<td>0.15</td>
<td>28.64</td>
<td>0.577</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Recent cigarette smoker</td>
<td>1.96</td>
<td>9.31</td>
<td>0.397</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Recent excess alcohol use</td>
<td>0.39</td>
<td>4.92</td>
<td>0.463</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TB clinic outpatient management</td>
<td>0.00</td>
<td>5.08</td>
<td>0.291</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Recent injecting-drug or non-injecting-drug use</td>
<td>0.00</td>
<td>5.08</td>
<td>0.291</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Model Fit Statistics

<table>
<thead>
<tr>
<th>Criterion</th>
<th>Initial Model</th>
<th>Final Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>AIC</td>
<td>136.392</td>
<td>116.619</td>
</tr>
<tr>
<td>SC</td>
<td>198.964</td>
<td>127.996</td>
</tr>
<tr>
<td>-2 Log L</td>
<td>92.392</td>
<td>108.619</td>
</tr>
</tbody>
</table>
# Death During TB Treatment Multivariate Model A

<table>
<thead>
<tr>
<th>Variable</th>
<th>Initial</th>
<th>95%</th>
<th>95%</th>
<th>Final</th>
<th>95%</th>
<th>95%</th>
<th>Pr &gt; ChiSq</th>
</tr>
</thead>
<tbody>
<tr>
<td>Odds Ratio</td>
<td>Estimate</td>
<td>Lower Limit</td>
<td>Upper Limit</td>
<td>Odds Ratio</td>
<td>Estimate</td>
<td>Lower Limit</td>
<td>Upper Limit</td>
</tr>
<tr>
<td>Recent cigarette smoker</td>
<td>&gt;999.999</td>
<td>2.60</td>
<td>&gt;999.999</td>
<td>0.023</td>
<td>6.39</td>
<td>1.04</td>
<td>39.41</td>
</tr>
<tr>
<td>Age 45-64 years</td>
<td>&gt;999.999</td>
<td>&lt;0.001</td>
<td>&gt;999.999</td>
<td>0.924</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age 25-44 years</td>
<td>&gt;999.999</td>
<td>&lt;0.001</td>
<td>&gt;999.999</td>
<td>0.947</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age 65 or over</td>
<td>&gt;999.999</td>
<td>&lt;0.001</td>
<td>&gt;999.999</td>
<td>0.890</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Recent excess alcohol use</td>
<td>690.52</td>
<td>0.16</td>
<td>&gt;999.999</td>
<td>0.126</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Foreign born</td>
<td>303.05</td>
<td>0.10</td>
<td>&gt;999.999</td>
<td>0.164</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HIV infection</td>
<td>99.82</td>
<td>0.09</td>
<td>&gt;999.999</td>
<td>0.201</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TB clinic outpatient management</td>
<td>17.19</td>
<td>0.13</td>
<td>&gt;999.999</td>
<td>0.251</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hispanic ethnicity</td>
<td>17.14</td>
<td>0.00</td>
<td>&gt;999.999</td>
<td>0.567</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Black race</td>
<td>14.02</td>
<td>0.00</td>
<td>&gt;999.999</td>
<td>0.565</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Asian race</td>
<td>6.00</td>
<td>0.00</td>
<td>&gt;999.999</td>
<td>0.682</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Disseminated TB disease</td>
<td>2.23</td>
<td>0.01</td>
<td>852.99</td>
<td>0.792</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Recent unemployment</td>
<td>0.83</td>
<td>0.05</td>
<td>14.21</td>
<td>0.900</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Recent homelessness</td>
<td>0.48</td>
<td>0.00</td>
<td>82.71</td>
<td>0.777</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre-XDR or XDR TB</td>
<td>0.36</td>
<td>0.01</td>
<td>16.56</td>
<td>0.598</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>History of TB disease</td>
<td>0.26</td>
<td>0.01</td>
<td>6.02</td>
<td>0.401</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Diabetes</td>
<td>0.04</td>
<td>&lt;0.001</td>
<td>12.94</td>
<td>0.268</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>0.02</td>
<td>&lt;0.001</td>
<td>2.40</td>
<td>0.107</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Recent injecting-drug or non-injecting-drug use</td>
<td>0.01</td>
<td>&lt;0.001</td>
<td>12.50</td>
<td>0.186</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pregnant</td>
<td>0.00</td>
<td>&lt;0.001</td>
<td>&gt;999.999</td>
<td>0.990</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Correctional inmate</td>
<td>&lt;0.001</td>
<td>&lt;0.001</td>
<td>&gt;999.999</td>
<td>0.971</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## Model Fit Statistics

<table>
<thead>
<tr>
<th>Criterion</th>
<th>Initial Model</th>
<th>Final Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>AIC</td>
<td>72.127</td>
<td>56.51</td>
</tr>
<tr>
<td>SC</td>
<td>135.88</td>
<td>68.101</td>
</tr>
<tr>
<td>-2 Log L</td>
<td>28.127</td>
<td>48.51</td>
</tr>
</tbody>
</table>
## Death During TB Treatment Multivariate Model B

### Death During Treatment Model B Final Final

<table>
<thead>
<tr>
<th>Variable</th>
<th>Initial Est.</th>
<th>Pr &gt; ChiSq</th>
<th>Initial Est.</th>
<th>Pr &gt; ChiSq</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age ≥65</td>
<td>0.00</td>
<td>0.9774</td>
<td>61.926</td>
<td>0.0069</td>
</tr>
<tr>
<td>Age ≥65*Excess alcohol</td>
<td>1.00</td>
<td>0.9986</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age ≥65*Black race</td>
<td>1.00</td>
<td>0.9996</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age ≥65*Efficfluorom</td>
<td>1.00</td>
<td>0.9996</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age ≥65*Foreign born</td>
<td>1.00</td>
<td>0.9996</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age ≥65*Homeless</td>
<td>1.00</td>
<td>0.9996</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age ≥65*Hispanic</td>
<td>1.00</td>
<td>0.9996</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age ≥65*IDU or NIDU</td>
<td>1.00</td>
<td>0.9996</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age ≥65*Male</td>
<td>1.00</td>
<td>0.9996</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age ≥65*TB clinic</td>
<td>1.00</td>
<td>0.9996</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age ≥65*TB history</td>
<td>0.00</td>
<td>0.9996</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Excess alcohol</td>
<td>0.00</td>
<td>0.9996</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Excess alcohol*Efficfluorom</td>
<td>1.00</td>
<td>0.9996</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Excess alcohol*Effective FQ med</td>
<td>1.00</td>
<td>0.9996</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Excess alcohol*Effective INJ med</td>
<td>1.00</td>
<td>0.9996</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Excess alcohol*Homeless</td>
<td>1.00</td>
<td>0.9996</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Excess alcohol*TB clinic</td>
<td>1.00</td>
<td>0.9996</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Excess alcohol*TB history</td>
<td>1.00</td>
<td>0.9996</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Effective FQ med</td>
<td>0.00</td>
<td>0.9996</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Effective INJ med</td>
<td>0.00</td>
<td>0.9996</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Effective INJ med*effective FQ med</td>
<td>1.00</td>
<td>0.9996</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Effective INJ med*Effective FQ med</td>
<td>1.00</td>
<td>0.9996</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Effective INJ med*Effective INJ med</td>
<td>1.00</td>
<td>0.9996</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Effective INJ med*Effective INJ med</td>
<td>1.00</td>
<td>0.9996</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Effective INJ med*Effective FQ med</td>
<td>1.00</td>
<td>0.9996</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Effective INJ med*Effective INJ med</td>
<td>1.00</td>
<td>0.9996</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Effective INJ med*Effective FQ med</td>
<td>1.00</td>
<td>0.9996</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Effective INJ med*Effective INJ med</td>
<td>1.00</td>
<td>0.9996</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Effective INJ med*Effective FQ med</td>
<td>1.00</td>
<td>0.9996</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Effective INJ med*Effective INJ med</td>
<td>1.00</td>
<td>0.9996</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Effective INJ med*Effective FQ med</td>
<td>1.00</td>
<td>0.9996</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Effective INJ med*Effective INJ med</td>
<td>1.00</td>
<td>0.9996</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Effective INJ med*Effective FQ med</td>
<td>1.00</td>
<td>0.9996</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Effective INJ med*Effective INJ med</td>
<td>1.00</td>
<td>0.9996</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Effective INJ med*Effective FQ med</td>
<td>1.00</td>
<td>0.9996</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Effective INJ med*Effective INJ med</td>
<td>1.00</td>
<td>0.9996</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Effective INJ med*Effective FQ med</td>
<td>1.00</td>
<td>0.9996</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Effective INJ med*Effective INJ med</td>
<td>1.00</td>
<td>0.9996</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Effective INJ med*Effective FQ med</td>
<td>1.00</td>
<td>0.9996</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Model Fit Statistics

<table>
<thead>
<tr>
<th>Model</th>
<th>Intercept</th>
<th>Covariates</th>
<th>Intercept</th>
<th>Covariates</th>
</tr>
</thead>
<tbody>
<tr>
<td>AIC</td>
<td>140.006</td>
<td>40.652</td>
<td>532.65</td>
<td>532.52</td>
</tr>
<tr>
<td>Log-L</td>
<td>0.006</td>
<td>0.006</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Inpatient Direct Costs

Standard error of the mean:

- Other MDR: 12,200
- XDR: 70,829
Outpatient Direct Costs

<table>
<thead>
<tr>
<th>Condition</th>
<th>Standard Error of the Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Other MDR</td>
<td>4,991</td>
</tr>
<tr>
<td>XDR</td>
<td>56,374</td>
</tr>
</tbody>
</table>
Total Direct Costs

Standard error of the mean:

Other MDR  9,683
XDR  73,109
Productivity Losses

Standard error of the mean:
Other MDR  22,520
XDR  59,594
Direct Costs and Productivity Losses

Standard error of the mean:
Other MDR 23,212
XDR 127,707
# MDR-TB Direct Costs Multivariate Model

<table>
<thead>
<tr>
<th>Variable</th>
<th>Parameter (Initial)</th>
<th>Final Parameter</th>
<th>Standard Error</th>
<th>F Value</th>
<th>Pr &gt; F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>29,310</td>
<td>80,807</td>
<td>11,139</td>
<td>52.620</td>
<td>&lt;.0001</td>
</tr>
<tr>
<td>XDR TB</td>
<td>242,811</td>
<td>219,438</td>
<td>42,494</td>
<td>26.670</td>
<td>&lt;.0001</td>
</tr>
<tr>
<td>Long-term care facility resident</td>
<td>208,619</td>
<td>182,545</td>
<td>64,022</td>
<td>8.130</td>
<td>0.005</td>
</tr>
<tr>
<td>Recent non-injecting-drug use</td>
<td>119,934</td>
<td>112,203</td>
<td>42,984</td>
<td>6.810</td>
<td>0.010</td>
</tr>
<tr>
<td>Black race</td>
<td>86,395</td>
<td>69,368</td>
<td>33,234</td>
<td>4.360</td>
<td>0.039</td>
</tr>
<tr>
<td>HIV infection</td>
<td>58,745</td>
<td>57,221</td>
<td>17,052</td>
<td>11.260</td>
<td>0.001</td>
</tr>
<tr>
<td>Asian race</td>
<td>54,566</td>
<td>43,185</td>
<td>10,287</td>
<td>5.120</td>
<td>0.026</td>
</tr>
<tr>
<td>Recent homelessness</td>
<td>44,402</td>
<td>43,185</td>
<td>10,287</td>
<td>5.120</td>
<td>0.026</td>
</tr>
<tr>
<td>Public insurance</td>
<td>43,185</td>
<td>57,221</td>
<td>17,052</td>
<td>11.260</td>
<td>0.001</td>
</tr>
<tr>
<td>Hispanic ethnicity</td>
<td>41,324</td>
<td>43,185</td>
<td>10,287</td>
<td>5.120</td>
<td>0.026</td>
</tr>
<tr>
<td>Total firstline resistance</td>
<td>28,626</td>
<td>31,516</td>
<td>7,089</td>
<td>20.290</td>
<td>&lt;.0001</td>
</tr>
<tr>
<td>Foreign born</td>
<td>11,142</td>
<td>9,828</td>
<td>6,060</td>
<td>4.360</td>
<td>0.039</td>
</tr>
<tr>
<td>Male</td>
<td>9,828</td>
<td>9,263</td>
<td>6,060</td>
<td>4.360</td>
<td>0.039</td>
</tr>
<tr>
<td>Pre-XDR TB</td>
<td>9,263</td>
<td>9,263</td>
<td>6,060</td>
<td>4.360</td>
<td>0.039</td>
</tr>
<tr>
<td>Diabetes</td>
<td>3,845</td>
<td>3,845</td>
<td>6,060</td>
<td>4.360</td>
<td>0.039</td>
</tr>
<tr>
<td>No. of days hospitalized</td>
<td>451</td>
<td>426</td>
<td>60</td>
<td>50.540</td>
<td>&lt;.0001</td>
</tr>
<tr>
<td>Recent injecting-drug use</td>
<td>-324,397</td>
<td>-315,716</td>
<td>70,089</td>
<td>20.290</td>
<td>&lt;.0001</td>
</tr>
<tr>
<td>Recent excess alcohol use</td>
<td>-78,044</td>
<td>-74,682</td>
<td>33,009</td>
<td>5.120</td>
<td>0.026</td>
</tr>
<tr>
<td>Age 45-64 years</td>
<td>-34,156</td>
<td>-30,517</td>
<td>487</td>
<td>0.487</td>
<td></td>
</tr>
<tr>
<td>Age 65 or over</td>
<td>-34,156</td>
<td>-30,517</td>
<td>487</td>
<td>0.487</td>
<td></td>
</tr>
<tr>
<td>Correctional inmate</td>
<td>-24,708</td>
<td>-24,708</td>
<td>632</td>
<td>0.632</td>
<td></td>
</tr>
<tr>
<td>Recent unemployment</td>
<td>-14,145</td>
<td>-14,145</td>
<td>535</td>
<td>0.535</td>
<td></td>
</tr>
<tr>
<td>Age 25-44 years</td>
<td>-14,145</td>
<td>-14,145</td>
<td>535</td>
<td>0.535</td>
<td></td>
</tr>
<tr>
<td>Native Hawaiian/Other Pacific Islander</td>
<td>-1,829</td>
<td>-1,829</td>
<td>986</td>
<td>0.986</td>
<td></td>
</tr>
</tbody>
</table>

**Model Statistics**

Adj R-Square = 0.52

Adj R-Square = 0.55

**Analysis of Variance**

<table>
<thead>
<tr>
<th>Source</th>
<th>Degrees of freedom</th>
<th>Sum of Squares</th>
<th>Mean Square</th>
<th>F Value</th>
<th>Pr &gt; F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model</td>
<td>8</td>
<td>1,160,877,000,000</td>
<td>145,109,600,000</td>
<td>18.84</td>
<td>&lt;.0001</td>
</tr>
<tr>
<td>Error</td>
<td>111</td>
<td>854,750,200,000</td>
<td>7,700,452,335</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corrected</td>
<td>119</td>
<td>2,015,627,000,000</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## MDR-TB Direct Costs and Productivity Losses
### Multivariate Model

<table>
<thead>
<tr>
<th>Variable</th>
<th>Initial Parameter Estimate</th>
<th>Pr &gt; F</th>
<th>Final Parameter Estimate</th>
<th>Standard Error</th>
<th>Final F Value</th>
<th>Pr &gt; F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>41,006</td>
<td>0.688</td>
<td>175,161</td>
<td>27,059</td>
<td>41.900</td>
<td>&lt;.0001</td>
</tr>
<tr>
<td>Died</td>
<td>837,849</td>
<td>&lt;.0001</td>
<td>810,082</td>
<td>82,887</td>
<td>95.520</td>
<td>&lt;.0001</td>
</tr>
<tr>
<td>XDR TB</td>
<td>322,504</td>
<td>0.001</td>
<td>315,817</td>
<td>91,413</td>
<td>11.940</td>
<td>0.001</td>
</tr>
<tr>
<td>Recent non-injecting-drug use</td>
<td>188,405</td>
<td>0.158</td>
<td>240,819</td>
<td>93,512</td>
<td>6.630</td>
<td>0.011</td>
</tr>
<tr>
<td>Hispanic ethnicity</td>
<td>151,102</td>
<td>0.112</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HIV infection</td>
<td>144,532</td>
<td>0.084</td>
<td>151,514</td>
<td>71,251</td>
<td>4.520</td>
<td>0.036</td>
</tr>
<tr>
<td>Asian race</td>
<td>137,699</td>
<td>0.154</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Native Hawaiian/Other Pacific Islander</td>
<td>104,329</td>
<td>0.628</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Diabetes</td>
<td>83,578</td>
<td>0.140</td>
<td>123,628</td>
<td>47,944</td>
<td>6.650</td>
<td>0.011</td>
</tr>
<tr>
<td>Male</td>
<td>63,478</td>
<td>0.104</td>
<td>65,679</td>
<td>35,964</td>
<td>3.340</td>
<td>0.071</td>
</tr>
<tr>
<td>Recent injecting-drug use</td>
<td>91,371</td>
<td>0.588</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Black race</td>
<td>52,318</td>
<td>0.566</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Public insurance</td>
<td>57,079</td>
<td>0.209</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total firstline resistance</td>
<td>24,606</td>
<td>0.584</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age 25-44 years</td>
<td>37,381</td>
<td>0.470</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No. of days hospitalized</td>
<td>525</td>
<td>0.000</td>
<td>424</td>
<td>128</td>
<td>11.020</td>
<td>0.001</td>
</tr>
<tr>
<td>Age 65 or over</td>
<td>-379,300</td>
<td>0.000</td>
<td>-428,817</td>
<td>80,756</td>
<td>28.200</td>
<td>&lt;.0001</td>
</tr>
<tr>
<td>Long-term care facility resident</td>
<td>-357,057</td>
<td>0.020</td>
<td>-280,788</td>
<td>137,546</td>
<td>4.170</td>
<td>0.044</td>
</tr>
<tr>
<td>Correctional inmate</td>
<td>-158,124</td>
<td>0.134</td>
<td>-180,258</td>
<td>91,947</td>
<td>3.840</td>
<td>0.053</td>
</tr>
<tr>
<td>Recent excess alcohol use</td>
<td>-149,285</td>
<td>0.049</td>
<td>-179,858</td>
<td>67,536</td>
<td>7.090</td>
<td>0.009</td>
</tr>
<tr>
<td>Age 45-64 years</td>
<td>-67,604</td>
<td>0.253</td>
<td>-123,917</td>
<td>39,748</td>
<td>9.720</td>
<td>0.002</td>
</tr>
<tr>
<td>Recent unemployment</td>
<td>-68,354</td>
<td>0.146</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre-XDR TB</td>
<td>-50,252</td>
<td>0.328</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Foreign born</td>
<td>-35,118</td>
<td>0.627</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Recent homelessness</td>
<td>5,003</td>
<td>0.956</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Model Statistics**
- Adj R-Square = 0.64
- Adj R-Square = 0.66

**Analysis of Variance**

<table>
<thead>
<tr>
<th>Source</th>
<th>Degrees of freedom</th>
<th>Sum of Squares</th>
<th>Mean Square</th>
<th>F Value</th>
<th>Pr &gt; F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model</td>
<td>12</td>
<td>7,719,364,000,000</td>
<td>643,280,300,000</td>
<td>19.91</td>
<td>&lt;.0001</td>
</tr>
<tr>
<td>Error</td>
<td>107</td>
<td>3,456,381,000,000</td>
<td>32,302,623,791</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corrected</td>
<td>119</td>
<td>11,175,740,000,000</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Estimate of the Average Cost of Non-MDR TB, 2010 U.S. Dollars

<table>
<thead>
<tr>
<th>Site</th>
<th>Avg hospitalization length</th>
<th>1998$ avg cost per patient hospitalized*</th>
<th>2010$ avg cost per patient hospitalized**</th>
<th>2010$ avg hospital physician cost***</th>
<th>2010$ avg total hospitalization cost per patient</th>
<th>Weight</th>
<th>2010$ weighted avg cost per pt. hospitalized</th>
<th>2010$ outpatient cost per patient****</th>
<th>2010$ avg cost per TB patient*****</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>17</td>
<td>$11,987</td>
<td>$19,233</td>
<td>$1,290</td>
<td>$20,523</td>
<td>6.2</td>
<td>$127,485</td>
<td>$3,419</td>
<td>$3,419</td>
</tr>
<tr>
<td>2</td>
<td>37</td>
<td>$22,518</td>
<td>$36,130</td>
<td>$2,605</td>
<td>$38,735</td>
<td>12.2</td>
<td>$473,212</td>
<td>$3,419</td>
<td>$3,419</td>
</tr>
<tr>
<td>3</td>
<td>35</td>
<td>$12,231</td>
<td>$19,623</td>
<td>$2,474</td>
<td>$22,097</td>
<td>7.1</td>
<td>$157,255</td>
<td>$3,419</td>
<td>$3,419</td>
</tr>
<tr>
<td>4</td>
<td>15</td>
<td>$13,631</td>
<td>$21,871</td>
<td>$1,159</td>
<td>$23,030</td>
<td>10.8</td>
<td>$248,245</td>
<td>$3,419</td>
<td>$3,419</td>
</tr>
<tr>
<td>5</td>
<td>22</td>
<td>$15,114</td>
<td>$24,250</td>
<td>$1,619</td>
<td>$25,869</td>
<td>5.5</td>
<td>$141,508</td>
<td>$3,419</td>
<td>$3,419</td>
</tr>
<tr>
<td>6</td>
<td>20</td>
<td>$17,651</td>
<td>$28,320</td>
<td>$1,487</td>
<td>$29,808</td>
<td>13.6</td>
<td>$404,616</td>
<td>$3,419</td>
<td>$3,419</td>
</tr>
<tr>
<td>7</td>
<td>24</td>
<td>$17,009</td>
<td>$27,290</td>
<td>$1,751</td>
<td>$29,040</td>
<td>14.1</td>
<td>$409,356</td>
<td>$3,419</td>
<td>$3,419</td>
</tr>
<tr>
<td>8</td>
<td>36</td>
<td>$22,316</td>
<td>$35,806</td>
<td>$2,540</td>
<td>$38,345</td>
<td>17.9</td>
<td>$685,538</td>
<td>$3,419</td>
<td>$3,419</td>
</tr>
<tr>
<td>9</td>
<td>23</td>
<td>$10,438</td>
<td>$16,746</td>
<td>$1,685</td>
<td>$18,431</td>
<td>13.8</td>
<td>$254,907</td>
<td>$3,419</td>
<td>$3,419</td>
</tr>
<tr>
<td>10</td>
<td>16</td>
<td>$11,970</td>
<td>$19,205</td>
<td>$1,224</td>
<td>$20,429</td>
<td>14.7</td>
<td>$299,492</td>
<td>$3,419</td>
<td>$3,419</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>115.8</td>
<td>$3,201,614</td>
<td></td>
<td>$16,963</td>
</tr>
</tbody>
</table>

Average

$27,640 $3,419 $16,963

* From reference 16: 49% of TB patients were hospitalized; included MDR TB costs for 13/733 hospitalized patients

** Converted from 1998 dollars to 2010 dollars using the consumer price index for medical care (388.436/242.1) reference 2

*** Average of lower and upper physician fees (reference 5) for one day of initial hospital care ($206,$271)=$238, and remaining days at Level 2 subsequent care ($113,$149)=$131, converted to a cost using the cost-to-charge ratio for the respiratory Diagnostic Related Group (reference 6), multiplied by 0.502

**** From reference 17, $2985 from Nashville, TN, adjusted to a US basis using the Census Bureau Cost of Living Index 87.3 (reference 18)

***** (Weighted average hospitalization cost X 49% of patients hospitalized)+average outpatient cost

### References


