**Appendix A:** Patient groups according to NTMLD treatment regimen and regimen frequency.

|  |  |  |  |
| --- | --- | --- | --- |
| **Group** | **Antibiotic regimen** | **Number of patients on the regimen, n** | **Patients, %** |
| **GBTa,b** | AZITHROMYCIN+ETHAMBUTOL+RIFAMPIN | 170 | 58% |
|  | CLARITHROMYCIN+ETHAMBUTOL+RIFAMPIN | 92 | 31% |
|  | AZITHROMYCIN+ETHAMBUTOL+RIFABUTIN | 31 | 11% |
|  | AZITHROMYCIN+CIPROFLOXACIN+ETHAMBUTOL+RIFAMPIN | 21 | 7% |
|  | CLARITHROMYCIN+ETHAMBUTOL+RIFABUTIN | 14 | 5% |
|  | AZITHROMYCIN+ETHAMBUTOL+LEVOFLOXACIN+RIFAMPIN | 11 | 4% |
|  | AZITHROMYCIN+ETHAMBUTOL+MOXIFLOXACIN+RIFAMPIN | 10 | 3% |
|  | AZITHROMYCIN+CLARITHROMYCIN+ETHAMBUTOL+RIFAMPIN | 9 | 3% |
|  | CIPROFLOXACIN+CLARITHROMYCIN+ETHAMBUTOL+RIFAMPIN | 6 | 2% |
|  | CLARITHROMYCIN+ETHAMBUTOL+LEVOFLOXACIN+RIFAMPIN | 4 | 1% |
|  | CLARITHROMYCIN+ETHAMBUTOL+MOXIFLOXACIN+RIFAMPIN | 4 | 1% |
|  | AZITHROMYCIN+CLARITHROMYCIN+ETHAMBUTOL+RIFABUTIN | 3 | 1% |
|  | AZITHROMYCIN+ETHAMBUTOL+LEVOFLOXACIN+RIFABUTIN | 3 | 1% |
|  | AZITHROMYCIN+ETHAMBUTOL+RIFABUTIN+RIFAMPIN | 3 | 1% |
|  | AMIKACIN+AZITHROMYCIN+ETHAMBUTOL+RIFAMPIN | 2 | 1% |
|  | CIPROFLOXACIN+CLARITHROMYCIN+ETHAMBUTOL+RIFABUTIN | 2 | 1% |
|  | CLARITHROMYCIN+ETHAMBUTOL+LEVOFLOXACIN+RIFABUTIN | 2 | 1% |
|  | CLARITHROMYCIN+ETHAMBUTOL+RIFABUTIN+RIFAMPIN | 2 | 1% |
|  | AMIKACIN+AZITHROMYCIN+ETHAMBUTOL+MOXIFLOXACIN+RIFAMPIN | 1 | 0% |
|  | AZITHROMYCIN+CIPROFLOXACIN+ETHAMBUTOL+LEVOFLOXACIN+RIFAMPIN | 1 | 0% |
|  | AZITHROMYCIN+CIPROFLOXACIN+ETHAMBUTOL+MOXIFLOXACIN+RIFAMPIN | 1 | 0% |
|  | AZITHROMYCIN+CIPROFLOXACIN+ETHAMBUTOL+RIFABUTIN | 1 | 0% |
|  | AZITHROMYCIN+CLARITHROMYCIN+ETHAMBUTOL+RIFABUTIN+RIFAMPIN | 1 | 0% |
|  | AZITHROMYCIN+ETHAMBUTOL+LEVOFLOXACIN+MOXIFLOXACIN+RIFAMPIN | 1 | 0% |
|  | CLARITHROMYCIN+ETHAMBUTOL+LINEZOLID+RIFAMPIN | 1 | 0% |
|  | CLARITHROMYCIN+ETHAMBUTOL+MOXIFLOXACIN+RIFABUTIN | 1 | 0% |
| **Non-GBTa,c** | AZITHROMYCIN | 129 | 43% |
| CLARITHROMYCIN | 90 | 30% |
| ETHAMBUTOL | 81 | 27% |
| AZITHROMYCIN+ETHAMBUTOL | 55 | 18% |
| ETHAMBUTOL+RIFAMPIN | 51 | 17% |
| CIPROFLOXACIN | 47 | 16% |
| RIFAMPIN | 44 | 15% |
| CLARITHROMYCIN+ETHAMBUTOL | 38 | 13% |
| AZITHROMYCIN+RIFAMPIN | 29 | 10% |
| LEVOFLOXACIN | 26 | 9% |
| AZITHROMYCIN+CIPROFLOXACIN | 24 | 8% |
| MOXIFLOXACIN | 23 | 8% |
| CLARITHROMYCIN+RIFAMPIN | 19 | 6% |
| AZITHROMYCIN+LEVOFLOXACIN | 15 | 5% |
| CIPROFLOXACIN+CLARITHROMYCIN | 14 | 5% |
| RIFABUTIN | 14 | 5% |
| AZITHROMYCIN+CLARITHROMYCIN | 13 | 4% |
| AZITHROMYCIN+MOXIFLOXACIN | 13 | 4% |
| ETHAMBUTOL+RIFABUTIN | 11 | 4% |
| CLARITHROMYCIN+LEVOFLOXACIN | 10 | 3% |
| CLARITHROMYCIN+RIFABUTIN | 10 | 3% |
| CLARITHROMYCIN+MOXIFLOXACIN | 9 | 3% |
| AMIKACIN | 8 | 3% |
| AMIKACIN+AZITHROMYCIN | 8 | 3% |
| LINEZOLID | 8 | 3% |
| **Untreated** | N/A |  |  |

GBT, guidelines-based treatment; N/A, not applicable; NTMLD, nontuberculous mycobacterial lung disease.

Numbers sum to greater than 100% because many patients received greater than 1 regimen

aDrug usage was evaluated during Year 1. To meet the definition of ‘treated,’ patients were required to have ≥30 days of continuous supply of antibiotics during Year 1 after NTMLD diagnosis. A regimen was defined as an antibiotic or combination thereof supplied for at least 30 consecutive days.

bTwenty-six different drug combinations were observed across 294 patients.

cOnly regimens (n=27) used by at least 3% patients in the non-GBT group is listed. Total number of regimens in this group was 116

**Appendix B.** Listing of ICD codes for baseline diseases.

|  |  |  |
| --- | --- | --- |
| **Baseline Variables** | **ICD-9** | **ICD-10** |
| Aspergillosis | 117.3x, 484.6x, 518.6x | B44.x |
| Asthma | 493.x | J45.x |
| Atherosclerosis | 440.x  | I70.x |
| Bronchiectasis | 4940, 4941, 74861 ,0115  | J479, J471, J470 |
| CAD | 414.0x | I25.1x |
| Cancer | 140.x-172.x, 174.x-195.8, 200.x-208.x, 238.6 | C00.x-C26.x, C30.x-C34.x, C37.x-C41.x, C43.x, C45.x-C58.x, C60.x-C76.x, C81.x-C85.x, C88.x, C90.x-C97.x |
| CHF | 398.91, 402.01, 402.11, 402.91, 404.01, 404.03, 404.11, 404.13, 404.91, 404.93, 425.4-425.9, 428.x  | I09.9, I11.0, I13.0, I13.2, I25.5, I42.0, I42.5-I42.9, I43.x, I50.x, P29.0  |
| Colitis | 556.x, 558.9 | K52.x  |
| COPD | 490.x, 491.x, 492.x, 496.x  | J20.x, J21.x, J40.x, J41.x, J42.x, J43.x, J44.x |
| Cystic fibrosis | 277.02  | E84.0  |
| Crohn’s disease | 555.x | K50.x |
| Depression | 311.x, 296.3 | F33.x, F32.x |
| Diabetes | 250.0-250.3, 250.4-250.7, 250.8, 250.9  | E10.0, E10.l, E10.6, E10.8, E10.9, E11.0, E11.1, E11.6, E11.8, E11.9, E12.0, E12.1, E12.6, E12.8, E12.9, E13.0, E13.1, E13.6, E13.8, E13.9, E14.0, E14.1, E14.6, E14.8, E14.9, E10.2-E10.5, E10.7, E11.2-E11.5, E11.7, E12.2-E12.5, E12.7, E13.2-E13.5, E13.7, E14.2-E14.5, E14.7 |
| GERD | 530.81, 530.84, 530.85  | K210, K219 |
| HIV  | 042.x-044.x  | B20.x-B22.x, B24.x |
| Hyperlipidemia | 272.0, 272.1, 272.2, 272.3, 272.4  | E78.x |
| Hypertension | 401.x  | I10.x, I11.x, I12.x, I13.x, I15.x |
| Immune deficiency | 042.x, 279.x, 204.x, 202.4 | D80, D80.x, D81, D81.x, D83, D83.x, D84, D84.x, D89, D89.x, D89.xx |
| Lung cancer | 162.x | C34.x |
| Mental disorder | 290-319 | F00-F79 |
| Metastatic carcinoma | 196.x-199.x  | C77.x-C80.x |
| Multiple sclerosis | 340.x | G35.x |
| Moderate or severe liver disease | 456.0-456.2, 572.2-572.8  | I85.0, I85.9, I86.4, I98.2, K70.4, K71.1, K72.1, K72.9, K76.5, K76.6, K76.7  |
| Myocardial infarction | 410.x, 412.x  | I21.x, I22.x, I25.2  |
| Obesity | 278.x  | E66.x |
| Organ transplant | V42.0, V42.1, V42.6, V42.7 | Z94 |
| Pectus excavatum | 738.3, 754.81 | Q67.6, M95.4 |
| Pneumonia | 480, 481, 482, 483, 484, 485, 486  | J12, J12.x, J13, J14, J15, J15.x, J15.xx, J15.xxx, J16, J16.x, J17, J18 |
| Rheumatoid disease | 446.5, 710.0-710.4, 714.0-714.2, 714.8, 725.x  | M05.x, M06.x, M31.5, M32.x-M34.x, M35.1, M35.3, M36.0 |
| Tobacco use | 305.1x, 6490.x, 989.84  | Z72.0, F17.2, 099.33 |
| Tuberculosis | 011.x  | A15.x |

CAD, coronary artery disease; CHF, congestive heart failure; COPD, chronic obstructive pulmonary disease; GBT, guidelines-based treatment; GERD, gastroesophageal reflux disease; HIV, human immunodeficiency virus; ICD, International Classification of Diseases.

**Appendix C.**

**Table.** Most frequently assigned\* principal causes (ICD-9 or ICD-10 codes) for hospitalization in Year 2, accounting for 47.5% of total all-cause admissions (N=510).

|  |  |  |
| --- | --- | --- |
| **ICD-9 or****ICD-10** | **Description** | **Number of Occurrences** |
|  | **Total respiratory hospitalizations, n** | **163 b** |
| 486 | Pneumonia | 35 |
| 49121 | Obstructive chronic bronchitis with (acute) exacerbation | 27 |
| 27702 | Cystic fibrosis with pulmonary manifestations | 25 |
| 0310 | NTMLD | 14 |
| 4821 | Pneumonia due to Pseudomonas | 10 |
| 51881 | Acute respiratory failure | 10 |
| 49122 | Obstructive chronic bronchitis with acute bronchitis | 9 |
| 4941 | Bronchiectasis with acute exacerbation | 9 |
| 41519 | Other pulmonary embolism and infarction | 8 |
| 515 | Post-inflammatory pulmonary fibrosis | 8 |
| 51884 | Acute and chronic respiratory failure | 8 |
|  | **Total non-respiratory hospitalizations, n** | **79 b** |
| V5789 | Care involving other specified rehabilitation procedure | 33 |
| 0389 | Unspecified septicemia | 10 |
| 5990 | Urinary tract infection, site not specified | 10 |
| 42731 | Atrial fibrillation | 9 |
| 5849 | Acute kidney failure, unspecified | 9 |
| 042 | Human immunodeficiency virus [HIV] disease | 8 |

a Most frequently assigned principal diagnostic codes defined as those individually responsible for ≥1.5% of the admissions overall

b There are 242 hospitalizations assigned with these 17 most frequent principal causes.

**Figure.** Proportions of respiratory vs non-respiratory hospitalizations in the individual groups and overall as measured by the most frequently assigned principal causes (ICD-9 or ICD-10 codes) for hospitalization in Year 2. There were 122 all-cause hospitalizations in the GBT group, 160 in the non-GBT group, and 228 in the untreated group.