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Healthcare Resource Utilization and Costs Following Diagnosis of Nontuberculous Mycobacterial Lung Disease in the US

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Background
Nontuberculous mycobacterial lung disease (NTMLD) is an emerging infectious disease that poses significant economic burden in the United States. The high annual incidence and mortality rates of NTMLD create a substantial burden for the US healthcare system. The objective of this study was to describe healthcare resource utilization (HCRU) and associated costs in patients with NTMLD, to assess the impact of such resource utilization and costs on healthcare systems and patients, and to evaluate the effectiveness of current system in the management of NTMLD.

Methods
A retrospective analysis of claims data for patients with NTMLD was conducted. The study sample was derived from patients enrolled in a commercial health plan who had ≥2 separate claims for NTMLD (ICD-9 code 031.0 or ICD-10 code A31.0) within 6 months of their NTMLD diagnosis date. Patients with NTMLD were matched 2:1 to age, sex, and index date for the assessment of HCRU and its associated costs at year 1 and year 2 following the diagnosis of NTMLD. The control group was randomly selected from the plan members without NTMLD and matched 2:1 to the NTMLD sample by age, sex, and index date for the assessment of HCRU and its associated costs at year 1 and year 2 following the diagnosis of NTMLD.

Results
- The mean number of ER visits in the NTMLD cohort increased by 18% from baseline to year 1 and returned near the baseline level in year 2.
- In year 2, costs for the NTMLD patient population that included geriatric patients (19% of the NTMLD cohort) was significantly higher than the control cohort after adjustment (95% CI: $37,663-$50,697).
- Removing CF patients, the cost difference was $15,126 (95% CI: $12,100-$18,150). Total insurance costs = pharmacy costs + medical costs; medical costs = inpatient hospitalization costs + emergency room (ER) costs + outpatient/office visit costs + ancillary care costs.

Conclusion
The burden of pulmonary nontuberculous mycobacterial disease in the United States is significant, and has not been quantified. We believe that further research is needed in this area. The results of this study will be presented at: 58th Congress of the German Society of Pulmonology and Respiratory Medicine; March 22–25, 2017, Berlin, Germany.