**Pulmonary Nontuberculous Mycobacteria Infections: Pre-Index Comorbidity and Utilization Patterns at a Large US Health Plan**

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**ABSTRACT**

Objective: Nontuberculous mycobacteria (NTM) lung infections are difficult to diagnose since symptoms, such as coughing and fatigue, are also features of other respiratory diseases. Thus overlapping symptoms may mask the infection, delaying diagnosis. The incidence of NTM lung infection is growing among patients over 65 in the US. NTM lung infections may occur in patients with underlying disease and can exacerbate the deterioration of lung function associated with these diseases. NTM lung infections are challenging to diagnose and treat, which can lead to prolonged treatment with multiple antibiotics. Comorbidities, such as asthma, diabetes, and cardiovascular disease, have been associated with NTM lung infections. To examine the comorbidities and resource utilization occurring during the 18 months preceding diagnosis of NTM as a function of time in the pre-diagnosis period.

Methods: Medicare PNTM and control patients were matched on gender, age, and line of business. To examine the comorbidities and resource utilization occurring during the 18 months preceding diagnosis of NTM as a function of time in the pre-diagnosis period.

Results: Patients with PNTM infection had significantly higher Odds Ratio (OR) prior to their diagnosis than matched controls for 3 ICD-9-CM chapters: Respiratory System (OR = 35.3), Symptoms, Signs, and Efﬁcient Conditions (OR = 16.3), and Infectious and Parasitic Diseases (OR = 11.4). Patients with PNTM infection had significantly higher Odds Ratios (OR) during the pre-diagnosis period than matched controls. For ≥2 separate medical claims for PNTM infection (ICD-9-CM 031.0) with claim for first diagnosis serving as the index date and matched controls. An odds ratio (OR) was calculated for each ICD-9-CM category. An OR represents the likelihood that a patient with PNTM infection will be diagnosed compared with a matched control.

Conclusions: To examine the comorbidities and resource utilization occurring during the 18-month pre-diagnosis period of PNTM as a function of time in the pre-diagnosis period. Ordering a sputum mycobacterial test earlier may help in preventing misdiagnosis or a delay in diagnosis. Pre-diagnosis, both before and after diagnosis of PNTM infection, patients had significantly higher Odds Ratios (OR) of diagnosis compared with a matched control. This includes education about the role and timing of mycobacterial sputum testing in PNTM to future non-control patients to ensure appropriate mycobacterial sputum testing.