Spirometry Testing Cohort

OBJECTIVES

BACKGROUND

Spirometry testing measures the degree of airflow limitation and is recommended to confirm a suspected COPD diagnosis. However, spirometry testing is not always performed because physicians to confirm COPD diagnosis.9

First studies indicate that only a third of patients with newly diagnosed COPD have a spirometry test performed.10

Limitations

• Limited real-world data exist comparing rates of spirometry testing and hospitalization and readmission across states in the US.

• To assess the percentage of patients with newly diagnosed COPD who had received spirometry testing around the time of their initial COPD diagnosis in 2011.

• To assess the percentage of patients experiencing COPD-related hospitalizations and 30-day readmissions in 2011.

METHODS

Stude Design

• Retrospective cohort study using a nationally representative administrative claims database from 2007 to 2011.

• RTI International’s institutional review board determined that this study met all criteria for exemption.

Data Source: Pharexius Plus Database

• Commercially available source of cross-organized administrative claims information covering more than 150 million lives across the US.

• Information includes demographics, health plan enrollment, diagnosis, dates and place of service, diagnostic testing, procedures, inpatient and outpatient physician services, and pharmacy claims data.

• Data are tracked longitudinally for enrollees via deidentified and unique identification numbers.

Study Population

• Patients with at least one emergency room or inpatient claim or at least two outpatient claims on different dates in 2011 with a diagnosis code of COPD (ICD-9-CM International Classification of Diseases, Ninth Edition. Clinical Modification ICD-9-CM codes 491.x, 492.x, 493.x) between 2007 and 2011 were initially selected.

• Patients with at least one emergency room or inpatient claim or at least two outpatient claims on different dates with a diagnosis code of COPD (International Classification of Diseases, Ninth Edition. Clinical Modification ICD-9-CM codes 491.x, 492.x, 493.x) between 2007 and 2011 were identified in the study datasets.

• Patients were included in the spirometry testing cohort if they were identified in the spirometry testing cohort, with at least 6 months of continuous enrollment after the index date.

• All patients were required to be at least 40 years of age on the date of their first observed COPD diagnosis.

• Two study cohorts were created.

Spirometry Testing Cohort

• First observed medical claim with an ICD-9-CM code for COPD on or after V/V/V was the date of the four CPCD-9-CM codes in 2011 were identified as this index date.

• The 30-day period of continuous enrollment before the index date and no ICD-9-CM diagnosis of COPD recorded during that period.

• At least 6 months of continuous enrollment after the index date.

Inpatient Readmission Cohort

• Making a hospitalization with a primary diagnosis code of COPD (ICD-9-CM codes 491.x, 492.x, 493.x) recorded during the 30 days of discharge from the first COPD-related hospitalization recorded in 2011 were identified as this index date.

• The 30-day period of continuous enrollment before the index date and no ICD-9-CM diagnoses of COPD recorded during that period.

• At least 6 months of continuous enrollment after the index date.

OBJECTIVES

RESULTS

The percentage of patients with a 30-day COPD-related readmission in the US at the state level.

Table 1. Demographic Characteristics, by Cohort

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Spirometry Testing Cohort</th>
<th>Inpatient Readmission Cohort</th>
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<tbody>
<tr>
<td>Overall (%)</td>
<td>94,778 (100.0)</td>
<td>49,980 (100.0)</td>
</tr>
<tr>
<td>Female (%)</td>
<td>50.1%</td>
<td>51.5%</td>
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<tr>
<td>Age in years</td>
<td>62.9 (12.5)</td>
<td>68.9 (13.1)</td>
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| CCI = Charlson Comorbidity Index; COPD = chronic obstructive pulmonary disease; HMO = health maintenance organization; PPO = preferred provider organization; SD = standard deviation.

Figure 1. Percentage of Patients Receiving Spirometry Testing, by State

Figure 2. Percentage of Patients With a 30-Day COPD-Related Readmission, by State

FINANCIAL DISCLOSURE

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REFERENCES


