Pulmonary arterial hypertension (PAH) is a syndrome resulting from restricted flow through the pulmonary arteries that causes increased pulmonary vascular resistance and ultimately results in right heart failure. Although considered a rare disease, PAH is associated with significant mortality.1,2 No studies have examined the cost of PAH in a privately-insured population in the U.S. Direct health care costs were calculated based on privately-insured claims data among the U.S. privately-insured population in the U.S.

Sample Selection
- PAH patients and controls
  - Patients ages 18-64 during 2002-2007 were identified from a database of over six million beneficiaries from 40 self-insured Fortune 500 companies with locations across the U.S.
  - Included eligibility, medical, and prescription drug information
  - Included all claims for all beneficiaries (e.g., employees, spouses, and dependents)

Patient Characteristics and Outcomes
- Demographics, comorbidity rates, and baseline resource use were measured during the six months prior to the index date ("baseline period")
- Study period resource use and health care costs were measured from the index date through the end of patient follow-up ("study period"), defined as the earliest of:
  - Patient’s 65th birthday
  - End of patient’s eligibility
  - End of 2007 (last year of available data)

Study Period Medical Resource Use
- PAH patients had significantly higher resource use than controls during the study period
  - PAH patients were 2.4 times more likely to have at least one inpatient stay compared to controls (52.5% vs. 21.6%)
  - PAH patients were 1.5 times more likely to have at least one outpatient Emergency Department visit (57.6% vs. 35.1%)
  - On average, PAH patients had 2.1 medical visits per patient-month compared to 0.9 for controls

Study Period Health Care Costs
- Mean health care costs per patient-month were significantly higher for PAH patients than controls ($1,775 vs. $441)
- Higher for PAH patients than controls ($1,775 vs. $441)
- Inpatient* Emergency Department* Other* Outpatient/other* Department* Any cause visits PAH-related visits
- PAH-related and other circulatory/respiratory-related treatment comprised 35.2% of excess costs

RESULTS (CONT.)

SUMMARY
- PAH patients had significantly higher rates of baseline resource use and comorbidities, most notably higher rates of congestive heart failure, liver disease, and cancer.
- PAH patients had significantly higher rates of study period medical resource use than demographically matched controls without PH
- As a consequence, health care costs per patient-month associated with PAH patients ($1,775) were significantly higher compared to that of controls ($441)
- Much of the excess cost ($1,334) can be attributed to inpatient treatment, which made up 48% of the difference in costs between PAH patients and controls

DISCUSSION
- There are limitations related to the use of claims data to analyze PAH
  - The identification of PAH is complicated, as there exists no single diagnostic test for the condition. However, the Venice Classification provides a roadmap which can be implemented to identify PAH patients in administrative claims data, as demonstrated in Peacock et al. (2007)3
  - Claims data capture a broad set of patients at various stages of illness. Results may not be directly comparable to previous research based on randomized controlled trials or PAH registry data, as these tend to focus on patients in NYHA functional classes III and IV
  - Further limitation of the definition of PAH (e.g., restricting the sample selection by requiring a specialist diagnosis or right heart catheterization) would likely result in higher excess health care costs.
  - Future research directions
    - Treatment patterns (e.g., prescription drug use, diagnostic and therapeutic procedures)
    - Costs of PAH in other populations (e.g., Medicare and Medicaid)
    - Prevalence of PAH in the United States
    - Costs and prevalence in the European Union
    - The impact of current treatments on health outcomes and costs

REFERENCES

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