This study used a large, privately insured claims database to examine...

The database covers over ten million lives from 2006–2009 and contains information from 18 large employer-computer operating databases.

The database includes the following information for all beneficiaries (i.e., employees, spouses, and dependents):

- Claims data include prescription, procedure, and inpatient claims
- Demographics
- Charlson Comorbidity Index
- Age
- Sex
- Insurance status (e.g., coverage through employer, Medicare, Medicaid, other)

Methods

- **Data**: Includes all prescription, procedure, and inpatient claims from 18 large employer-computer operating databases
- **Charlson Comorbidity Index**: Includes all prescription, procedure, and inpatient claims from 18 large employer-computer operating databases
- **Age**: Includes all prescription, procedure, and inpatient claims from 18 large employer-computer operating databases
- **Sex**: Includes all prescription, procedure, and inpatient claims from 18 large employer-computer operating databases
- **Insurance status**: Includes all prescription, procedure, and inpatient claims from 18 large employer-computer operating databases

**RESULTS**

The study defined chronic hydrocodone use as having at least 28 daily doses over a 15-month period following the initial hydrocodone prescription (i.e., at least one day of medication). The prevalence of chronic hydrocodone use was determined by a logistic regression model that included patient characteristics during the 6 months prior to the index date.

The final model predicting chronic hydrocodone use identified risk factors based on odds ratio with p<0.01.

**Variables and Risk Factors**

The final model predicting chronic hydrocodone use included demographic, diagnostic, and other available information within the 15-month period following the initial hydrocodone prescription.

**Regional Geographic Considerations**

Chronic hydrocodone use varied by geographic region. For example, a hydrocodone patient in the Pacific US Census Division is more likely to use hydrocodone chronically than a patient in the New England region. This is also true for patients in the other regional Census Divisions.

**Chronic vs. Non-Chronic Users**

Chronic and non-chronic users were assessed based on differences in demographic, diagnostic, and other available information within the 15-month period following the initial hydrocodone prescription.

**Other Opioid Use**

Chronic hydrocodone use was assessed for patients using long-acting opioids (e.g., opioids, SAOs) in addition to short-acting opioids.

Methodology

The model does not disentangle chronic hydrocodone use from other chronic opioid use. The results of this study are applicable to a broad array of industries.

**Limitations**

- Risk factors are predictive in the statistical sense – they describe characteristics associated with the risk of chronicity
- Identification of chronic use is based on overall average daily dose for patients who may not adhere to medication taking guidelines or intermittently refill their prescriptions
- The model does not distinguish chronic hydrocodone use from other opioid use

**Data**

- **Notes**: Includes all prescription, procedure, and inpatient claims from 18 large employer-computer operating databases
- **Demographics**: Includes all prescription, procedure, and inpatient claims from 18 large employer-computer operating databases
- **Geographic Region**: Includes all prescription, procedure, and inpatient claims from 18 large employer-computer operating databases
- **Other Opioid Use**: Includes all prescription, procedure, and inpatient claims from 18 large employer-computer operating databases

**References**

- Institute of Medicine. “Not enough is known about chronic pain therapy for cancer patients,” 2008.

**Conclusions**

- There is significant geographic variation in likelihood of chronic use
- Characteristics of chronic and non-chronic users were compared with a logistic regression model identifying key predictors of chronicity
- The following characteristics were identified as predictors of chronic use:
  - Based on a logistic regression
  - Age: 40+ (reference)
  - Sex: Male (reference)
  - Insurance status: Medicare, Medicaid, other (reference)
  - Geographic region: West North Central (reference)
  - Other opioid use

**Geographic Region**

The results of this study are applicable to a broad array of industries.

**Other Opioid Use**

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