Using Electronic Health Record Data to Identify Chronic Opioid Use in Patients with Osteoarthritis

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Chronic Opioid Use Should Be Avoided

- Opioids can be useful to manage short term pain
- For long term pain therapy, opioids are no more effective than safer therapies (e.g., NSAIDs) for osteoarthritis (OA) patients¹
- Nearly 25% of OA patients may receive opioids within a given year²
- Identifying patients with chronic opioid use is challenging
  - No commonly agreed upon definition of “chronic”
  - Definitions rely on pharmacy fill data (claims)
  - Electronic health record (EHR) systems lack claims data

Study Objective

Use commonly available EHR variables to identify patients with chronic opioid use

Data availability

Relevant information is often missing from EHR data, or captured in free text fields that are troublesome to reference

Goals

- Simple to implement and communicate
- Clinically defensible, driven by real world data
- Consistent with existing definitions

Methods

Study Population

27,034 adults (18-89) with OA across 16 healthcare organizations

- 16,147 patients had EHR and Claims data (direct comparison set)
- Index on first non-tramadol opioid Rx (03/01/2017 – 02/28/2019)
- No opioid prescription for 6 months prior to index prescription
- Opioids may be prescribed for any reason (not limited to OA)

Reference Definition

Selected most highly cited reference definition based on scoping literature review to serve as a reference for new definition development.³

- 90 days worth of opioid supply
- Maximum gap in supply less than 30 days
- At least 3 different prescriptions

Data Driven Development

Evaluate prescription patterns
Compare data sources (EHR vs. claims)
Quantitatively compare definitions

Incorporate Clinical Expert Feedback

Solicit feedback from practicing addiction specialist
Judge face validity: capture “spirit” of chronic use
Inform natural cut points

Results

1. Use claims data to identify patients with chronic use

2. Identify the same patients using EHR data alone

3. Evaluate multiple patterns against reference definition

- Operationalized as total duration and gap between consecutive Rx
- Values were selected based on clinical relevance (e.g., 30 days is a typical max Rx duration) rather than freely chosen
- Incidence was compared for each cut point against the reference incidence rate from claims data

4. Investigate discrepancies between definitions

Conclusions

EHR definition of chronic opioid use:
- Over 5% of OA patients experience a new period of chronic opioid use within a given year
- These patients can be identified using EHR data alone, allowing more timely intervention

Key Takeaways

- Over 5% of OA patients experience a new period of chronic opioid use within a given year
- These patients can be identified using EHR data alone, allowing more timely intervention

References


Acknowledgments

This study uses longitudinal clinical EHR data from 24 AMGA-member organizations, which were extracted, mapped, and normalized by Optum®. This study was funded by Pfizer Inc., who provided input on this project through authors EAM and LN. We would like to thank Chris Krieger, M.D. for clinical guidance during the development of this definition, Barbara Kaplan Pritchard for and Jamee Reiley for project development support, Caitlin Shaw for data assistance, and Janette Escobar and Cindy Shekails for administrative support.