Differential prescribing across specialties of opioid analgesics for Medicaid patients with chronic non-cancer pain diagnoses
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Study sponsors

- National Center for Injury Prevention and Control, Centers for Disease Control and Prevention
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Introduction

- **Pain**
  - One of the most prevalent diagnoses in primary care settings
  - Complaint presented by almost 2/3rds of ED patients treated in US

- **Opioid analgesics**
  - Attributable deaths doubled over the last decade
  - Recommended treatment for moderate to severe pain
    - Opioid analgesics for the treatment of chronic pain highly variable
  - However, unclear what constitutes adequate treatment, for which conditions, and under what circumstances
Role of provider specialty in opioid prescribing practices

- **Study results mixed**
  - Are generalists or specialists more likely to prescribe opioids for chronic non-cancer pain (CNCP)?

- **Opioid prescribing practices**
  - Idiosyncratic
  - Based on differing factors (e.g., pain scores, pain-related behaviors)

- **National guidelines for pain treatment (APS, ASIPP)** focus on process management
  - Lack specific prescribing guidelines

- Some states have developed prescribing guidelines (e.g., WA), but not NC
OK Chris. In this slide we say that the question of provider specialty prescribing is
1. unknown
2. study result mixed
3. study result lead us to hypothesize GP > specialist

This is confusing
marianna garrettson, 6/4/2013
Research questions:

- Which specialists are most likely to prescribe to CNCP patients:
  - Initial opioid analgesics?
  - Early refill opioid analgesics?
Methods

Data
- Examined NC Medicaid claims data
- 12 month period beginning October 1, 2010

Limited Dataset
- Adults under the age of 65
- Medicaid patients with CNCP, defined as patients with:
  - Chronic pain syndrome
  - Headaches (migraine, tension, or chronic)
  - Back or neck
  - Spinal cord injury
  - Arthritic diseases (including lupus and fibromyalgia)
  - Sickle cell anemia
  - Burns
Methods (continued)

- CNCP patients identified as receiving an *initial* opioid analgesic if they filled the prescription either on the *same day* or the *day following* the date of the provider’s diagnosis

- *Early refill* opioid prescriptions defined as 2\(^{nd}\) or subsequent prescription within 23 days of the original
  - NC Medicaid’s definition of an “early refill”
Physician Specialties

- Ear, nose, and throat (ENT)
- Dentists
- General practitioners and family medicine (GP/FM)
- Internal medicine
- Emergency medicine
- Orthopedics
- Obstetrics, and gynecology (OB/GYN)
- Other
Analysis Plan

- Examined the likely impact on study findings of missing data in physician specialty field
- Chi-square analysis
  - Examined bivariate differences in prescribing practices by specialty
- Maximum likelihood logistic regression models
  - Examined effects of specialty on prescribing practices
  - Controlling for patients’
    - Demographic characteristics
    - Specific diagnoses
- Sandwich variance estimator
  - Accounted for correlations across multiple medications prescribed for a given patient by adjusting for standard errors for within-person similarities
Missing specialty data for opioid prescriptions by

- Sex: 58-60%
- Race/ethnicity: 57-59%
- Age groupings: 56-61%
- Diagnosis: 55-60%

Since these differences were modest, we did not impute data.

- To have done so would have assumed that specialty data were missing at random – that is, that they could have been explained with available data.
Results

- 1,280,000 patients between 18-64 years
- 215,463 filled a prescription for an opioid analgesic
- 81,459 had a diagnosis code for CNCP
- 51,793 had both a CNCP diagnosis and at least one prescription for an analgesic, either on the same day or day subsequent to the one on which their diagnosis was recorded
% of all $R_x$ and all opioid $R_x$ filled for CNCP population, by salient specialties
ORs that a given specialty will prescribe an initial opioid to a given patient

- Controlling for age, sex, race/ethnicity & pain diagnosis
- Referent group = general practitioners/family medicine
ORs that a given specialty will prescribe an *early refill* of an opioid to a given patient

- Controlling for age, sex, race/ethnicity & pain diagnosis
- Referent group = general practitioners/family medicine
Discussion

- Primary care physicians prescribe the most opioids overall.
- But patients of specialists are more likely to receive an opioid.
- Specialties with highest odds of prescribing initial opioid:
  - Orthopedists (7.1-1)
  - Dentists (3.5-1)
  - Emergency medicine physicians (2.7-1)
- Specialties with highest odds of prescribing an early refill opioid:
  - Orthopedists (2.0-1)
  - Ob/Gyns (1.4-1)
  - Dentists (1.3-1)
- Specialty with lowest odds for an early refill: ED providers (0.75-1)
Discussion (continued)

- Specialists more likely to prescribe opioid medications to CNCP patients than primary care providers
- Explanations for differential prescribing patterns across specialties are likely to differ
- *No specialty should be considered potentially suspect without considering the context in which it practices*
  - Orthopedists, dentists, and emergency medicine specialists may be most likely to encounter patients in acute or breakthrough pain that exacerbates chronic pain conditions
  - Orthopedists and dentists may be particularly likely to manage patients with chronic pain
Study limitations

- Study targeted Medicaid patients, who are twice as likely as patients in the general population to receive an opioid prescription
- High level of missing specialty data a cause for concern, but:
  - Data largely unrelated to sex, race/ethnicity, age, and pain diagnosis
Conclusions and Recommendations

- In Medicaid population, considerable variation in prescribing patterns across specialties
  - Specialties’ standards & norms re: prescribing opioids for CNCP patients appear to differ widely
- Increase efforts to share differing standards across specialties
- Increase evidentiary base concerning management of CNCP pain
- Develop guidelines and prescriber training programs related to safe prescribing of opioids
- Key specialties and PCPs should be engaged in their development and targeted in their implementation
Please come see me if you’d like to:

- Submit manuscripts!
- Review manuscripts!
- Guest edit a special issue on a prevention topic of your choice!
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