Statewide Variation for Generic BPH Medications in Pennsylvania

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Brief Overview

• Pharmaceutical Supply Chain
• Statewide Price Variation Study
Pharmaceutical Supply Chain
Pharmaceutical Manufacturer

- Retail pharmacies
- Specialty Pharmacies
- Drug Wholesalers
- Hospitals

- Pharmacies (Big Chain, Independent) – 75%
- Hospitals, HMOs, Clinics, Nursing Homes, Federal Facilities – 25%
Distribution of pharmaceutical products

Manufacturing

Financing of pharmaceutical products

Distributor

Drug product $AMP

Chargeback $

Retailer

Drug product $WAC

Point-of-sale price and patient payment requirements

Product payment

Patient

Drug product

Full payment, copayment, or coinsurance payment

Insurance coverage

Insurance premium payment

Private health insurance

Public health insurance (Medicare; Medicaid)

Pharmacy benefit manager

Managed drug benefit

$Contract payment

Rebate share

Managed drug benefit

Formulary tier placement

Negotiated rebate

Dabora et. al, JAMA (2017)
<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Federal upper limit (FUL)</td>
<td>A price ceiling used by the Centers for Medicare and Medicaid Services (CMS) to control prices for certain medications paid to pharmacies</td>
</tr>
<tr>
<td>Maximum allowable cost (MAC)</td>
<td>A price ceiling, similar to the FUL, established at the state level</td>
</tr>
<tr>
<td>Usual and customary price (U&amp;C)</td>
<td>The average cash price paid at a retail pharmacy</td>
</tr>
<tr>
<td>Average wholesale price (AWP)</td>
<td>An estimate of the price retail pharmacies pay for drugs from their wholesale distributor. This price is calculated and published by companies such as Medi-Span and First Databank</td>
</tr>
<tr>
<td>Wholesale acquisition cost (WAC)</td>
<td>An estimate of the manufacturer’s list price for a drug to wholesalers or other direct purchasers, not including discounts or rebates. This price is defined by federal law</td>
</tr>
<tr>
<td>Average manufacturer price (AMP)</td>
<td>The price a manufacturer charges wholesalers or pharmacies that purchase directly from the manufacturer after discounts. This price is defined by federal law</td>
</tr>
<tr>
<td>Average sales price (ASP)</td>
<td>A calculation of the weighted average of manufacturer’s sales price for a drug for all purchasers, net of price adjustments. This price is defined by federal law</td>
</tr>
<tr>
<td>Estimated acquisition cost (EAC)</td>
<td>An estimate of the price generally paid by providers for a drug. Formula specific for each state as defined by the state Medicaid agency</td>
</tr>
<tr>
<td>Average Actual cost (AAC)</td>
<td>An estimate of retail pharmacy acquisition costs for drugs through a review of actual pharmacy invoices</td>
</tr>
<tr>
<td>Dispensing fee</td>
<td>The amount reimbursed to the pharmacy to cover the charge for professional services and overhead costs</td>
</tr>
<tr>
<td>National Drug Code (NDC)</td>
<td>An 11-digit code used by Medicaid to identify a drug based on its manufacturer, strength, and package size</td>
</tr>
</tbody>
</table>

Source: References 3-5, 7, 14.
Statewide Variation for Generic BPH Medications in Pennsylvania
Why is this important?

• Previous studies have shown significantly higher costs for generic BPH medications at big chain versus independent pharmacies at the local level (Pittsburgh, St. Louis)

• Price variation has not previously been studied for generic urologic medications at the statewide or national level

• Primary outcomes
  – Examine price variation between big chain and independent pharmacies for 4 generic BPH medications across Pennsylvania.
  – Examine whether there is a regional variation in the prices of these 4 drugs for each pharmacy type
<table>
<thead>
<tr>
<th>Pharmacy Type</th>
<th>Tamsulosin</th>
<th>Finasteride</th>
<th>Oxybutynin (5mg TID)</th>
<th>Oxybutynin XL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Independent (A), $</td>
<td>15</td>
<td>15</td>
<td>35</td>
<td>31</td>
</tr>
<tr>
<td>Big chain (B), $</td>
<td>66</td>
<td>68</td>
<td>49</td>
<td>79</td>
</tr>
<tr>
<td>Ratio (B/A)</td>
<td>4.40</td>
<td>4.54</td>
<td>1.40</td>
<td>2.52</td>
</tr>
<tr>
<td>Median test</td>
<td>p &lt; 0.001</td>
<td>p &lt; 0.001</td>
<td>p &lt; 0.001</td>
<td>p &lt; 0.001</td>
</tr>
</tbody>
</table>
Geographic Price Variation for Generic BPH Drugs Between Independent and Chain Pharmacies

<table>
<thead>
<tr>
<th></th>
<th>Independent</th>
<th>Chain</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tamsulosin</td>
<td><img src="image1" alt="Map Image" /></td>
<td><img src="image2" alt="Map Image" /></td>
</tr>
<tr>
<td>Finasteride</td>
<td><img src="image3" alt="Map Image" /></td>
<td><img src="image4" alt="Map Image" /></td>
</tr>
<tr>
<td>Oxybutynin</td>
<td><img src="image5" alt="Map Image" /></td>
<td><img src="image6" alt="Map Image" /></td>
</tr>
<tr>
<td>Oxybutynin ER</td>
<td><img src="image7" alt="Map Image" /></td>
<td><img src="image8" alt="Map Image" /></td>
</tr>
</tbody>
</table>

Percent deviation from median drug price

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What did we find?

• **Big chains cost more:** Big chain pharmacies can charge up to 4.5 times more for certain generic versions of BPH medications compared to independent pharmacies

• **Regional variation exists:** There is variation in drug prices across different regions of Pennsylvania
  – More with independent than big chain pharmacies

• So how do we explain these findings?
Possible Explanations

• Why big chains cost more?
  1. Large pharmacy chains have leverage; if insurers (and their PBMs) set a low MAC (how much they will pay a pharmacy), they can offset that by raising their U&C price (aka cash price charged to uninsured customers)
  2. Chain pharmacies also have a high non-pharmaceutical customer base and can afford to set high cash prices

• Why more regional variation with independent pharmacies?
  1. Chain pharmacies likely negotiate with the same wholesaler whereas independent pharmacies buy from different wholesalers
  2. Independent pharmacies can vary drug prices based on demand; chains don’t have to do this
Direct-to-consumer PDE-5 inhibitor telemedicine marketing platforms overlook crucial pathology: Quantifying the value added of the urology office consultation

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Division of Andrology, Department of Urology, David Geffen School of Medicine at UCLA
Direct-to-consumer PDE-5 inhibitor platforms

• What are they and what do they offer?
  • Online telemedicine providers
  • Access to prescription medications

• Who are their ideal customers?
  • Men under the age of 40
Direct-to-consumer PDE-5 inhibitor platforms

• How do these platforms evaluate patients?
  • Online questionnaires
  • Built-in roadblocks

Images taken from www.getroman.com
Motivation:
• Are online direct-to-consumer (DTC) providers a safe alternative to a traditional urology clinic visit?

Hypothesis:
• Internet platforms miss crucial pathology or conditions that warrant further assessment

Findings
N = 388
(Age 29 SD 5.0)

Men ≤ 40
We identified men with precursors to cardiovascular disease

- **Prediabetes or diabetes:**
  - Hemoglobin A1c checked in 135 men, 20% had A1c > 5.7%
  - Total cholesterol checked in 156 men, 29% had cholesterol > 200 mg/dL

- **Dyslipidemia:**
  - Total testosterone checked in 361 men, 20% had TT < 300 ng/dL
  - FSH checked in 329 men, 11% had FSH ≥ 7.5 miU/mL

- **Impaired semen analysis**
  - Semen analysis was performed in 64 men, 40% were abnormal (WHO 5th Edition)
  - LDL checked in 146 men, 54% had LDL > 100 mg/dL
  - Triglycerides checked in 153 men, 48% had TG > 200 mg/dL

- **Physical exam:**
  - Exam was performed in all 388 men, 35% had clinically detectable varicocele (30% of these, grade 3)
Conclusions

Men do not receive adequate evaluation with DTC telemedicine “pill mills”
  • Men have a poor track record of visiting a healthcare provider
  • Men who seek care from DTC platforms are missing opportunities for health optimization

The need for telemedicine is evident
  • DTC platforms provide a service
    • Avoid long wait times
    • Reduce potential embarrassment of in person evaluation
    • Address lack of access to care
Conclusions

Important for urologists to continue to evolve

• Telemedicine is surging
  • COVID-19 has galvanized the adoption of telemedicine
  • Urologists are uniquely suited to capitalize on technology
• Ultimately, urologists are positioned to increase access to proper care for our patients
Patient-reported outcomes following opioid-free prostatectomy and nephrectomy

Hermoan Worku, Kody Arman, Natalie Pace, Devin Rogers, Kelly Pekala, Bruce Jacobs, Benjamin Davies

5/15/20
• This work was supported in part by
  – Shadyside Hospital Foundation
  – Tippins Foundation Scholar Award
Behavioral Intervention

- Grand rounds
- Individual audit feedback
- Peer comparison performance feedback
Outcomes

• Quantity of opioids prescribed in oral morphine equivalents after hospital discharge

• Patients’ perceptions about their postoperative pain management
International Pain Outcomes questionnaire

- Pain control
- Activity level
- Psychiatric symptoms
  - anxiety, depression, being frightened, helplessness
- Somatic symptoms
  - nausea, drowsiness, itchiness, dizziness
- Scored 0 to 10
  - 0 indicates no symptoms; 10 indicates severe symptoms
A) Prostatectomy: Pain management

B) Prostatectomy: Activity level

- Least pain experienced
- Worst pain experienced
- Persistent pain
- Time in severe pain (hrs)

Outcomes

- Difficulty turning, sitting up, repositioning in bed
- Difficulty walking, sitting in a chair, standing
- Difficulty falling asleep
- Difficulty staying asleep

Mean Response Score

- Opioid
- Non-opioid
C) Prostatectomy: Psychiatric symptoms

- Anxious
- Depressed
- Frightened
- Helpless

D) Prostatectomy: Somatic symptoms

- Nausea
- Drowsiness
- Itchiness
- Dizziness

Outcomes:

- Opioid
- Non-opioid

* p < 0.05
G) Nephrectomy: Psychiatric symptoms

- Anxious
- Depressed
- Frightened
- Helpless

H) Nephrectomy: Somatic symptoms

- Nausea
- Drowsiness
- Itchiness
- Dizziness

- Opioid
- Non-opioid
Conclusions

• Majority of patients can have adequate pain control without opioids after prostatectomy and nephrectomy

• Evidence for minimal to no opioid use for other major abdominal surgeries
MP83-13: An Opiate-Free Pathway Does Not Negatively Impact Patient-Reported Outcomes Following Ureteroscopy

Ivan Rakic, BS
Background

• Opiates are often prescribed after ureteroscopy (URS) and may lead to dependence.

• Effects of an Opiate-Free (OF) postoperative pain pathway are important and uncertain

• **Objective:** Determine impact of an OF pathway on Patient Reported Outcomes (PRO)
Methods

• All patients undergoing URS at the University of Michigan Health System were eligible

• Patient-Reported Outcomes Measurement System (PROMIS®) questionnaire was administered:
  • Preoperative → Postoperative day 7-10 → 4-6 weeks postoperative

• Clinical and operative characteristics were abstracted by chart review.
Demographics

- **84** patients were on the OF pathway (80.8%).
  - Age: 54.1 years
  - Avg. Stone size: 7.46 mm

- **20** patients received opiates after URS (19.2%).
  - Avg. age: 53.8 years old
  - Avg. stone size: 7.1 mm

- **Stone Locations**
  - Kidney: 36 (43%)
  - Ureter: 33 (39%)
  - Both: 15 (18%)

- **Stone Locations**
  - Kidney: 11 (55%)
  - Ureter: 5 (25%)
  - Both: 4 (20%)
Figures and Results

• OF patients reported significantly lower pain intensity scores (p=0.029; Fig. 1)

![Figure 1. PROMIS Pain intensity score comparison.](image)

• No differences within the reported pain interference scores (Fig. 2).

![Figure 2. PROMIS Pain interference score comparison.](image)
Conclusion

• Our work illustrates that an Opiate-Free pathway:
  - Does not negatively impact PRO
  - Does not increase pain intensity
  - Does not worsen patients’ quality of life