Changing Physician and Patient Perceptions About Generic Drugs

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Disclosure

- I have no actual or potential conflicts of interest in relation to this presentation.
The Case for Generic Drugs

- **Savings**
  - $1.7 trillion over the past decade
  - 88% of prescription drugs filled, 28% of costs

- **Clinical interchangeability**
  - Substitution with “A-rated” interchangeable generic drugs
    - Bioequivalent: 90% confidence intervals for brand-to-generic ratios of the maximum serum concentration ($C_{\text{max}}$) and area under the serum concentration curve (AUC) must fall within 0.80 to 1.25
    - Pharmaceutically equivalent: same dosage strength and form
  - Review of all A-rated generic drugs approved 1996-2007
    - Average difference: $C_{\text{max}}$=4.4%, AUC=3.6%
  - No randomized controlled trials have identified clinically significant variations in outcomes between brand-name and A-rated generic drugs.
Media Spotlighting: Generic Drug Issues

- Adequacy of approval standards
  - Erroneous understanding
    - “A generic’s maximum concentration of active ingredient in the blood must not fall more than 20% below or 25% above that of a brand name.”
    - Eban, Fortune (2013).

- Non-rigorous case reports and observational studies

- Of particular concern
  - Narrow therapeutic index drugs
    - E.g., levothyroxine
  - Extended-release products
    - E.g., extended-release methylphenidate
Objectives

- To compare pharmacists’ and patients’ perceptions of, preferences for, and responses to changes in pill appearance
Methods: Physicians

- Target population: actively practicing physicians
  - 300 internists
  - 900 specialists: endocrinology, hematology, and infectious diseases
- Data source: American Board of Internal Medicine Master File
- Honorarium: $50
- Instrument
  - Questions
    - Demographic information
    - Perceptions of generic drugs
    - Frequency of prescribing generic drugs
    - Mode of administration: email invitation, online completion
- Date: August 2014-January 2015
Methods: Patients

- Target population: 1,450 patients
  - Self-reported chronic conditions
  - Filled at least 1 prescription in past 3 months
- Data source: CVS Advisor Panel
- Honorarium: CVS Extra Bucks; starting: 2; completing: 15
- Instrument
  - Questions
    - Demographic information
    - Perceptions of generic drugs
    - Frequency of requesting generic drugs
  - Mode of administration: email invitation, online completion
- Date: August 2014
## Response Rates and Demographics

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Physicians N=718 (62% response)</th>
<th>Patients N=933 (65% response)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>% (n/N respondents)</td>
<td>% (n/N respondents)</td>
</tr>
<tr>
<td>Age (mean [SD])</td>
<td>50 (13)</td>
<td>46 (10)</td>
</tr>
<tr>
<td>Sex</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Male</td>
<td>54 (374/687)</td>
<td>41 (306/742)</td>
</tr>
<tr>
<td>- Female</td>
<td>46 (313/687)</td>
<td>59 (436/742)</td>
</tr>
<tr>
<td>Race/ethnicity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Caucasian</td>
<td>58 (393/675)</td>
<td>80 (586/733)</td>
</tr>
<tr>
<td>- Non-Caucasian</td>
<td>42 (282/675)</td>
<td>20 (147/733)</td>
</tr>
<tr>
<td>Education</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- US-trained</td>
<td>61 (387/639)</td>
<td>N/A</td>
</tr>
<tr>
<td>- Non-US-trained</td>
<td>39 (252/639)</td>
<td>N/A</td>
</tr>
<tr>
<td>- College graduate</td>
<td>N/A</td>
<td>59 (433/733)</td>
</tr>
<tr>
<td>- Non-college graduate</td>
<td>N/A</td>
<td>41 (300/733)</td>
</tr>
</tbody>
</table>
Perceptions

Generic Drugs Have The Same [____] As Brand-Name Drugs

- **Effectiveness**: Physicians 89%, Patients 87%
- **Safety**: Physicians 91%, Patients 88%
- **Active Ingredient**: Physicians 80%, Patients 84%
- **Side-Effects**: Physicians 73%, Patients 84%
Evolving Perceptions

Generic Drugs Are As Effective as Brand-Name Drugs

- Shrank et al., Health Aff (2009).
Physician Preferences

Would rather prescribe a generic drug over a brand-name drug: 70%

Prefer generic drugs when taking medications: 78%

Recommend generic drugs when advising family members: 79%
Patient Preferences

- **Brand-Name Drug**: 37%
- **No Preference**: 35%
- **Generic Drug**: 27%

**Comfort With**

- Asking to be prescribed a generic drug: 94%
- Taking a prescribed generic drug: 97%
- A pharmacist filling a prescription for a brand-name drug with a generic drug: 90%
- An insurer requiring use of a generic version of a prescribed brand-name drug: 60%
How often do you prescribe a generic drug, if one is available, for a patient who needs a prescription?

- Sometimes: 7%
- Usually: 66%
- Always: 27%

When you write a prescription for a brand-name drug for which an FDA-approved generic version is available, how often do you specifically request pharmacists not fill it with the generic?

- Never: 13%
- <1%: 25%
- 1-5%: 27%
- 6%-20%: 16%
- 21%-50%: 10%
- >50%: 8%
How many times have you asked a doctor to prescribe a brand-name drug rather than a generic in the last year?

- **Never**: 54%
- **1 time**: 15%
- **2-3 times**: 20%
- **4 or more times**: 10%
Predictors of Perceptions and Actions

- Multivariable logistic regression
  - Adjustments
    - Physicians: demographic and practice variables
    - Patients: household income, education, and age

- Physicians
  - Learning about generic drug availability from drug representatives
    - Generic skepticism: 35% vs. 30% (p=0.26)
    - Brand-name only prescribing: 47% vs. 30% (p<0.001)

- Patients
  - Non-Caucasians
    - Generic skepticism: 43% vs. 29% (p<0.01)
    - Requested brand-name drugs: 56% vs. 43% (p<0.01)
Conclusions

- Vast majority of physicians and patients have positive views of generics
  - Substantial increase over earlier national surveys

- Lingering negative perceptions and suboptimal practices exist
  - Generic skepticism: 32%
  - Dispense as written >5% of prescribing: 34%

- Targeted educational outreach possibly beneficial
  - Minority patients
  - Physicians who frequently interact with brand-name drug companies
Acknowledgements

- Aaron S. Kesselheim, M.D., J.D., M.P.H
- Joshua J. Gagne, Pharm.D., Sc.D.
- Wesley Eddings, Ph.D.
- Jessica M. Franklin, Ph.D.
- Kathryn M. Ross, MBE
- Lisa A. Fulchino
- Eric G. Campbell, Ph.D.
- Jerry Avorn, M.D.