Clarity, Consistency, and Transparency in Decision-Making: Testing a Novel P&T Framework for Assessing Evidence

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Disclosures

• Financial support for the project was provided by the National Pharmaceutical Council.

• Employed by the National Pharmaceutical Council, a policy research organization supported by the nation’s major research-based pharmaceutical companies.
Evidence + Judgment = Decision

Scientific judgments

Analysis and Synthesis of Evidence

Value Judgments

Preference judgments

Information about Outcomes

Decisions/policy

Clarity. Consistency. Transparency

Analysis and Synthesis of Evidence (BLACK BOX)

- Few standards for "Inclusion"
  - Scientific judgments
- Organization specific (outcomes based vs. cost-effective)
  - Preference judgments

Value Judgments

Information about Outcomes

Decisions/policy

Formulary

Transparency in Evidence Assessment: Study Design

**Objective:** Develop a framework for making access decisions that incorporates the available quality (or certainty) of evidence as well as clinical aspects

**Phase 2: Survey**

- Recruit medical and pharmacy directors (n=84) in 1:2 fashion involved in P&T decisions via email recruitment and P&T journal ad
- 4 hypothetical scenarios (HTN, Osteoporosis, Alzheimer’s, Breast Cancer)
- Distribution of ratings, means, medians and disagreement
- Mixed effects linear regression models

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Certainty of Safety Evidence</th>
<th>Certainty of Efficacy Evidence</th>
<th>No safety concerns in similar agents</th>
<th>Markedly higher cost ($125 vs. $75/month)</th>
<th>1 = No access; 3 = Low access; 5 = Medium access; 7 = High access; 9 = Open access</th>
</tr>
</thead>
<tbody>
<tr>
<td>SCENARIO #1</td>
<td>Low Medium High</td>
<td>Medium Certainty</td>
<td>Yes</td>
<td>No safety concerns in similar agents</td>
<td>1 = No access; 3 = Low access; 5 = Medium access; 7 = High access; 9 = Open access</td>
</tr>
<tr>
<td>SCENARIO #2</td>
<td>Low Medium High</td>
<td>High Certainty</td>
<td>Yes</td>
<td>No safety concerns in similar agents</td>
<td>1 = No access; 3 = Low access; 5 = Medium access; 7 = High access; 9 = Open access</td>
</tr>
<tr>
<td>SCENARIO #3</td>
<td>Low Medium High</td>
<td>Medium Certainty</td>
<td>Yes</td>
<td>No safety concerns in similar agents</td>
<td>1 = No access; 3 = Low access; 5 = Medium access; 7 = High access; 9 = Open access</td>
</tr>
<tr>
<td>SCENARIO #4</td>
<td>Low Medium High</td>
<td>High Certainty</td>
<td>Yes</td>
<td>No safety concerns in similar agents</td>
<td>1 = No access; 3 = Low access; 5 = Medium access; 7 = High access; 9 = Open access</td>
</tr>
</tbody>
</table>

*Refer to the definitions sheet for a description of the rating scale and for each drug.*
Defining the Safety, Efficacy and Cost Parameters

1. **Safety**: A drug may have no safety concerns in similar agents or some safety concerns in similar agents, although these concerns have not yet been seen in the new drug.

2. **Efficacy**: A drug may have the same level of efficacy or increased efficacy compared to current therapy or similar agents.

3. **Cost**: A drug may be moderately higher, or markedly higher than current therapy or similar agents.
Defining the Certainty of Evidence

- **Low Evidence Certainty**: Evidence is limited by small number/size of studies, study design flaws, or inconsistent findings across studies.
- **Medium Evidence Certainty**: Evidence is sufficient, but confidence is constrained by number, size, quality, or generalizability of studies.
- **High Evidence Certainty**: Evidence includes consistent results from well-designed, well-conducted studies in representative populations.

<table>
<thead>
<tr>
<th>Safety Information</th>
<th>Efficacy Information</th>
<th>Cost data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Certainty of safety evidence</td>
<td>Certainty of efficacy evidence</td>
<td>Certain safety evidence</td>
</tr>
<tr>
<td>Low</td>
<td>Medium</td>
<td>High</td>
</tr>
<tr>
<td>Low</td>
<td>Low</td>
<td>—</td>
</tr>
</tbody>
</table>

A product which has only a moderate certainty of evidence surrounding efficacy but strong evidence on safety would be placed in this cell.
Rating the Level of Access

- A 9-point rating scale was used to indicate the appropriate level of access for the product

<table>
<thead>
<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Not on formulary, 100% co-pay</td>
<td>Substantial restrictions, high tier, prior authorization, multiple step edits, high co-pay</td>
<td>Medium tier, step edits</td>
<td>Few restrictions, low tier, quantity limits, low co-pay</td>
<td>No restrictions, low tier, generic co-pay</td>
</tr>
</tbody>
</table>
## Sample Survey Tool

<table>
<thead>
<tr>
<th>Drug</th>
<th>Medium Certainty of Efficacy Evidence</th>
<th>High Certainty of Efficacy Evidence</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>alendronate</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>esophageal events, hypocalcemia, muscle pain, osteonecrosis, atypical femur fracture</td>
<td>Certainty of safety evidence</td>
<td>Certainty of safety evidence</td>
</tr>
<tr>
<td></td>
<td>Low</td>
<td>Medium</td>
</tr>
<tr>
<td>Vertebral Fx: ARR 7.1%, RRR 47%</td>
<td>Tier 1 Low copay 2</td>
<td>Cost: $10/month</td>
</tr>
<tr>
<td>ibandronate</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Similar safety to generic alendronate</td>
<td>Certainty of safety evidence</td>
<td>Certainty of safety evidence</td>
</tr>
<tr>
<td></td>
<td>Low</td>
<td>Medium</td>
</tr>
<tr>
<td>Vertebral Fx: ARR 4.9%, RRR 52%</td>
<td>Tier 3</td>
<td>Cost: $120/month</td>
</tr>
<tr>
<td>denosumab</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A different set of concerns</td>
<td>Certainty of safety evidence</td>
<td>Certainty of safety evidence</td>
</tr>
<tr>
<td></td>
<td>Low</td>
<td>Medium</td>
</tr>
<tr>
<td>Vertebral Fx: ARR 4.8%, RRR 68%</td>
<td>Cost: $140/month</td>
<td></td>
</tr>
</tbody>
</table>
Survey Demographics Varied

Respondents:
- Screened and Mailed survey
- Incomplete block randomization with 48 scenarios/respondent
- 79 respondents
- 3783 scores (94%) complete scores
  - 2823 (75%) from pharmacy directors
  - 960 (25%) from medical directors
Individual Raters

- Individuals exhibited a wide range of ratings across scenarios
- Individual raters had substantial disagreement in individual scenario ratings (MAD 0.25-2.19)

Disagreement defined when at least one rater scored in the lowest tertile (1-3) while at least one other rater scored in the highest tertile (7-9)
Clinical Conditions Matter in Access Ratings

1= Not on formulary, 100% co-pay 5= Medium tier, step edits 9= No restrictions, low tier, generic co-pay

* p-value <0.001 ; n=79 raters 3783 responses
Rating Constructs Held in Access Ratings

1= Not on formulary, 100% co-pay  
5= Medium tier, step edits  
9= No restrictions, low tier, generic co-pay

* p-value <0.001 ; n=79 raters 3783 responses
Limitations

• Limited number of factors (efficacy, safety, cost, evidence certainty) may overlook other factors of importance

• Modest number of participants across varying degrees and levels of formulary access
  – Open formularies vs. closed formularies
Conclusions

• Rating framework and constructs held in a broad survey of decision-makers
  – Across clinical conditions
  – Certainty of evidence (both safety and efficacy) and costs were greater drivers of change in access then the magnitude of efficacy benefit or safety concern

• Greater clarity, consistency and transparency may assist
  – Patients: clarity for future disease coverage
  – Employers: clarity in benefit decisions
  – Biopharmaceutical companies: clarity in evidence evaluation
Questions?