
# Cost-related Medication Management Strategies: Empirically Derived Domains and Associated Patient Outcomes

**Discussant: Junling Wang, PhD**
Professor, Vice Chair for Research, & Director of Graduate Affairs
The University of Tennessee Health Science Center College of Pharmacy
Department of Clinical Pharmacy & Translational Science

# Summary

# Objective & Methods

- Objective
  - Identify distinct domains of cost-related medication management strategies (CrMS) among Medicare beneficiaries
  - Examine associations between these domains and patient outcomes
- Data & methods
  - 2022 Medicare Current Beneficiary Survey (MCBS), N = 5,297 Medicare beneficiaries with prescription drug coverage
  - Exploratory Factor Analysis (EFA), Structural Equation Modeling (SEM), Sensitivity analysis using Seemingly Unrelated Regression (SUR)
- Five empirically derived domains
  - Coverage-related medication adjustments, cost-related healthcare rationing, prescription price-seeking behaviors, perceived prescription cost increase, financial & insurance coverage constraints

# Findings & Implications

- Main findings
  - Coverage-related medication adjustments were associated with worsening health & dissatisfaction with prescription drug costs
  - Cost-related healthcare rationing was associated with dissatisfaction and the quality of care
  - Perceived prescription cost increase was strongly associated with dissatisfaction with medical and prescription drug costs
  - Financial and insurance constraints were associated with dissatisfaction with medical costs
- Key conclusion
  - Cost-related medication behaviors are multidimensional
  - Different financial coping behaviors may require different interventions
  - Understanding behavioral domains may improve screening, policy design, and patient-centered affordability interventions

# Strengths

# Important and Timely Topic

- As the Medicare population grows and pharmaceutical innovation expands, understanding how patients respond to medication costs becomes increasingly important.
- Prescription drug affordability remains a major national policy issue for Centers for Medicare & Medicaid Services and Part D: e.g., drug price negotiations, Medicare redesign, out-of-pocket caps, and formulary management.
- The topic is especially relevant given growing use of high-cost medications such as GLP-1 receptor agonists, oncology drugs, and biologics.

# Zhang Linghe – Pursuit of Jade – A Tale of Two Lives

- GLP-1 therapies have generated substantial discussion because demand is rapidly increasing, and monthly costs can exceed $1,000.
- Patients may experience not only high costs, but also unpredictability in costs over time.

# Grounded in Established Conceptual Frameworks

- Financial toxicity frameworks: broader understanding of economic and psychosocial burden, such as medical costs, financial distress, coping resources, and downstream consequences
- Behavioral coping strategies: a wide range of strategies that cluster into distinct domains
- Patient-centered outcomes: links behavioral domains to outcomes that matter directly to patients
- Many traditional studies use simple binary indicators
  - Assume all cost-related behaviors are equivalent
- Cost-related medication management is behaviorally complex

# Methodological Strengths

- Innovative measurement approach
  - The use of EFA, empirically derived behavioral domains, instead of assuming all cost-related behaviors belong to one construct.
- Use of nationally representative data
  - MCBS: generalizability, policy relevance
- Rigorous statistical methods
  - Weighted least squares mean and variance-adjusted (WLSMV) estimation, SEM fit for each of the four outcomes, SUR in sensitivity analysis
- The psychometric approach is sophisticated for categorical items

# Methodological Strengths

- Clinically meaningful findings
  - The identified domains are interpretable and potentially actionable
  - May help tailor interventions
- Insightful sensitivity analysis
  - Correlated outcomes matter; associations weaken when outcomes are modeled jointly
  - This strengthens the discussion and avoids overinterpretation

# Weaknesses

# Design and Conceptual Heterogeneity

- Cross-sectional design
  - The biggest limitation is the inability to establish causality, or temporal ordering
    - Cost-related behaviors worsen health and satisfaction OR worsening health increases financial strain and coping behaviors
    - This leaves important dynamic questions unanswered
- Potential conceptual heterogeneity within factors
  - Some factors combine behaviors that may represent different constructs.
    - E.g., “Cost-related healthcare rationing” includes: medication underuse, delaying care, food insecurity, and physician avoidance
  - Overlapping but distinct dimensions of financial hardship

# Validation and MCBS Constraints

- Limited validation
  - The factor structure was not externally validated in an independent sample
  - Reproducibility remains uncertain
- MCBS variable constraints
  - The mapping from conceptual frameworks to MCBS items depended on available survey questions
  - Some domains may therefore be incompletely captured
- Self-reported outcomes
  - All outcomes are self-reported: worsening health, dissatisfaction, costs
  - Potential issues include recall bias, perception bias, and reporting heterogeneity

# Clinical Granularity

- Limited clinical granularity
  - The paper does not stratify by
    - Disease burden
    - Medication class
    - Specialty drug use
    - Chronic conditions
  - The effects of CrMS may differ substantially across clinical populations

# Overall Evaluation

- Strengths
  - Multidimensional conceptualization of CrMS
  - Methodologically strong
  - Conceptually innovative
  - Rigorous psychometric methods
  - Clinically interpretable findings
  - Policy relevant
- Limitations
  - Cross-sectional design
  - limited validation of the structure


THE UNIVERSITY OF
TENNESSEE
HEALTH SCIENCE CENTER.