

BACKGROUND & SIGNIFICANCE

Health-Related Social Needs (HRSNs)

- Health-Related Social Needs (HRSNs) include food insecurity, transportation barriers, and financial strain
- These non-medical factors significantly impact chronic disease management and outcomes
- Emphasis in literature on measuring multiple needs together^{2,3}
- HRSNs go beyond medical care - they are social and environmental conditions that impact whether a patient can follow through with treatment

Chronic Disease Management

- Studies show that social risk factors influence chronic disease management, especially Hypertension (HTN) and Diabetes (DM)^{2,3}
- Prior studies show cumulative social needs worsen health outcomes²
- By analyzing multiple HRSNs together, we can identify high risk groups for chronic disease complications
- Understanding how these unmet needs vary across patient populations is essential for developing targeted and equitable

METHODS

Primary Objective: To examine whether patients with chronic conditions, specifically Hypertension or Type 2 Diabetes, have higher rates of reported unmet Health-Related Social Needs

Secondary Objective: To identify which specific HRSNs are most common among patients with Hypertension and Type 2 Diabetes

Data

- Jefferson Health Patients (Green Cities Cohort)¹
- N = 62,251 adult patients
- Included adults with available HRSN responses and diagnoses data

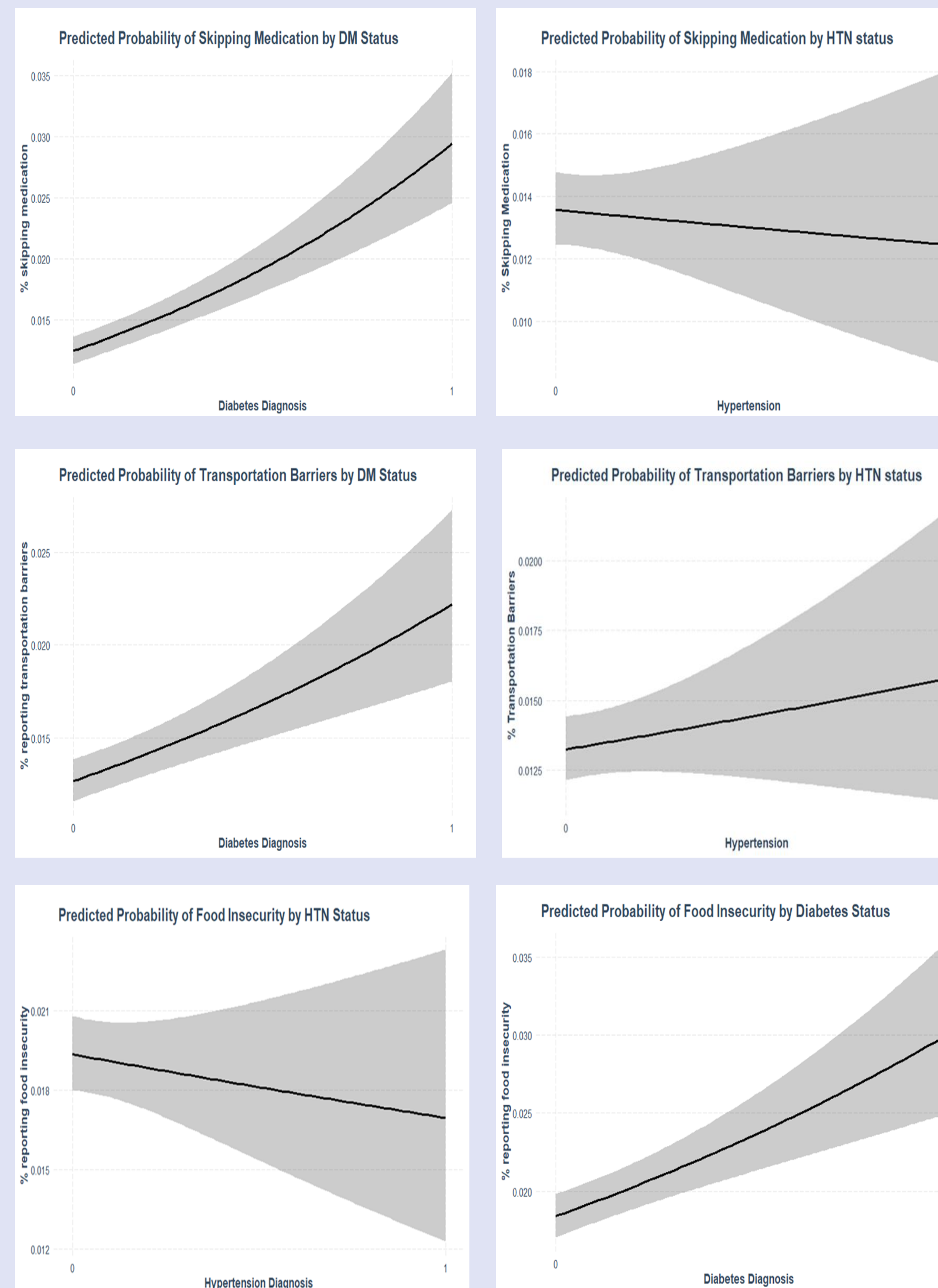
Retrospective Observational Analysis

- Logistic regression models used to estimate adjusted odds ratios (OR) and 95% confidence intervals (CI) for three priority HRSN domains
- Predictors: DM, HTN, Sex, Race (collapsed into 6 categories), ZIP Code
- Outcomes: Individual HRSN domains
 - Food insecurity
 - Transportation difficulties
 - Medication finance barriers
- Focused on significant associations
- Predicted probability plots were generated to visualize patterns across disease groups, race, sex, and urban versus non-urban neighborhood

KEY ASSOCIATIONS

Adjusted Logistic Regression Models			
Predictor	Outcome	OR (95% CI)	P-value
HTN	Food Insecurity	0.66 (0.48-0.92)	0.015
DM	Transportation Difficulties	1.29 (1.03-1.62)	0.025
DM	Medication Cost Barrier	2.02 (1.65-2.47)	< 0.001

PREDICTED PROBABILITY CURVES



DISCUSSION

Key Results

- Hypertension:** Associated with lower odds of food insecurity (OR = 0.66)
- Type 2 Diabetes:**
 - Associated with higher odds of reporting transportation difficulties (OR = 1.29)
 - Associated with higher odds of reporting medication cost barriers (OR = 2.02)
- Predicted Probability Curves:**
 - Demonstrated consistently higher unmet needs among diabetes patients, with notable geographic patterns showing elevated need in Philadelphia ZIP codes compared to non-urban regions
 - Women exhibited higher predicted probabilities across all three domains

Implications

- Social needs directly impact chronic disease management
- Diabetes patients face significantly higher social burden across the domains of medication affordability and transportation, while hypertension patients demonstrate lower likelihood of food insecurity
- Geographic and racial patterns reveal substantial variation in social needs distribution, particularly between Urban and non-urban zip codes.

RECOMMENDATIONS

Integrate transportation, food access, and medication affordability initiatives into chronic disease management programs to address the most prevalent social barriers identified in this analysis

- Expand transportation assistance programs
- Strengthen food insecurity partnerships
- Improve access to medication financial support

Develop targeted interventions and outreach, specifically with high-need populations (diabetic patients, women, and urban ZIP codes), based on predicted probability patterns showing consistently elevated unmet needs in these groups

Leverage findings to strengthen structured HRSN screening programs, aligning with evidence that unmet social needs contribute to poorer chronic disease management

CONCLUSION

- Unmet social needs worsen chronic disease management, underscoring the need for structured HRSN screening programs
- Diabetic patients experience the greatest burden of social risk factors
- Targeted interventions for high-need groups can improve health outcomes and care engagement

References

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