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Introduction

- **Potentially Inappropriate Prescriptions (PIP)** occur when the potential risk of a medication outweighs the potential benefits.^{1,2}
- Given the increased susceptibility to multiple comorbidities, **older people with HIV (PWH) are at an especially high-risk for PIP**, which can exacerbate symptoms of comorbidities and lower adherence.^{1,3,4}
- **Screening Tool of Older People's Prescriptions (STOPP)** is a commonly used screening tool to evaluate PIP.⁵

ex. Anti-muscarinic bronchodilator prescription in a patient with a history of narrow angle glaucoma

Objective #1: Characterize PIP among older PWH and evaluate factors that may be associated with PIP.

Objective #2: Evaluate the relationship between PIP, quality of life (QOL), and symptom burden and determine whether symptom burden mediates the relationship.

Methods



This was a prospective cohort study using data from a subset of participants in the **DC Cohort – a longitudinal cohort of 12,000 PWH** receiving care in Washington, DC.

Eligible Participants

- ≥ 50 years old
- ≥ 1 Comorbidity (diabetes, hypertension, hyperlipidemia)
- Completed the **Patient Reported Outcomes (PROs) Survey** by 04/01/23



Participant medications taken from DC Cohort electronic database.



Symptom burden, quality of life, and social determinants taken from PROs survey.

Statistical Analysis

- **STOPP criteria** applied to list of medications to evaluate PIP.
- **Logistic regressions** used to evaluate factors related to PIP.
- **Structural equation modeling** used to evaluate whether symptom burden mediates the relationship between PIP and quality of life.

Results

In total, we evaluated **902** eligible DC Cohort participants, of which **511 (56.6%)** were found to have at least one STOPP-designated PIP.

PIP were most commonly found to be related to the musculoskeletal system (38.7%), central nervous system (37.1%), and the urogenital system (28.7%)

Hypertension is a highly associated with having a potentially inappropriate prescription. Older age, white race, housing and utility needs, and receiving care at a hospital site are also associated with an increased likelihood of having a potentially inappropriate prescription.

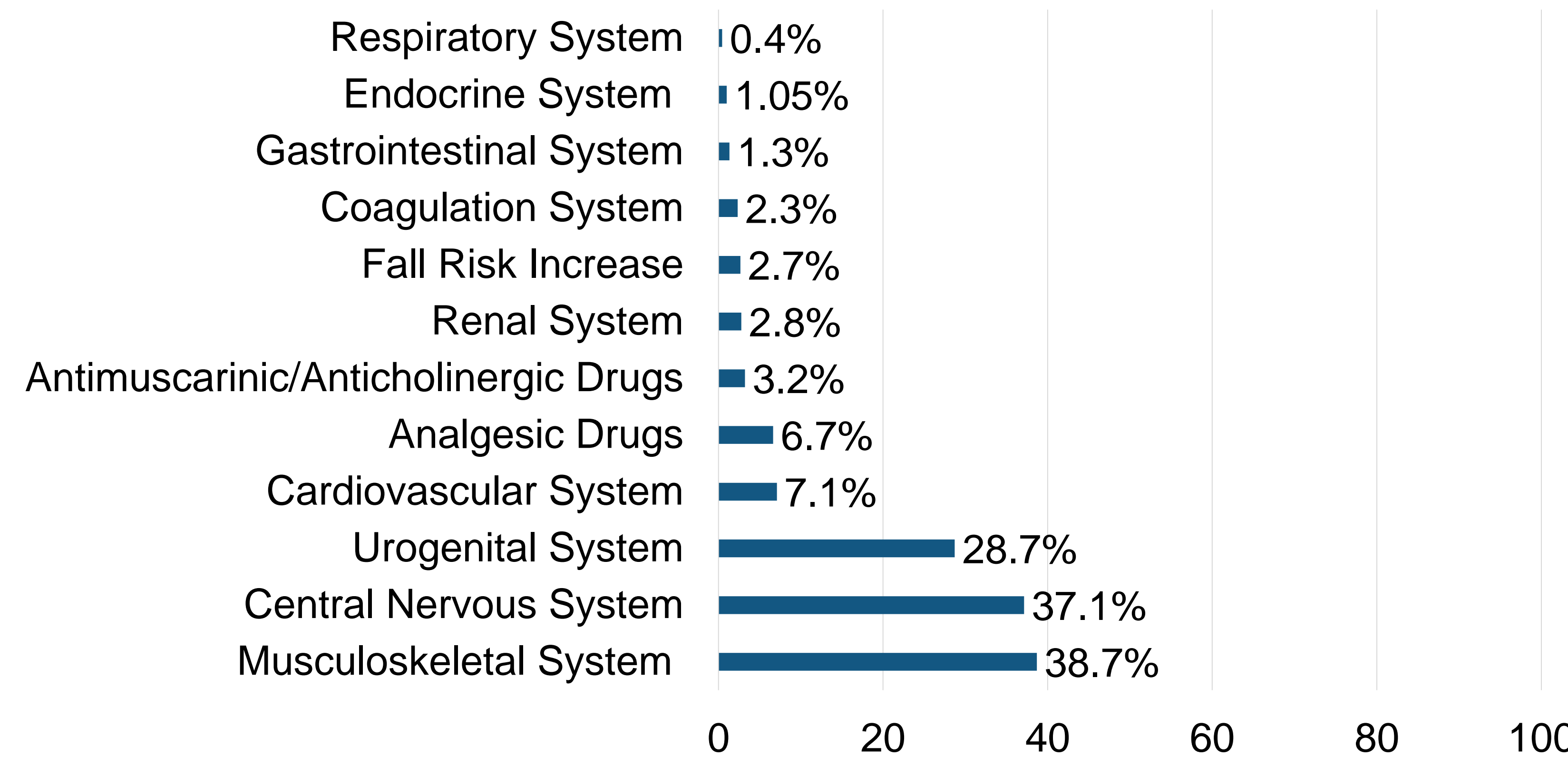


Figure 1. Percent of participants with a PIP related to each respective physiological system.

Table 1. Unadjusted and adjusted odds ratios evaluating patient characteristics associated with having at least one PIP.

Demographic	Crude Model	Model I	Model II
	Unadjusted OR (95% CI)	Adjusted OR (95% CI) ^a	Adjusted OR (95% CI) ^b
Age	1.12 (1.10, 1.14)	1.04 (1.01, 1.07)	1.05 (1.02, 1.07)
Race/Ethnicity			
Non-Hispanic Black	REF	REF	REF
Non-Hispanic White	6.95 (4.96, 9.74)	2.06 (1.11, 3.82)	2.45 (1.42, 4.23)
Hispanic	0.50 (0.23, 1.08)	0.58 (0.22, 1.55)	0.62(0.25, 1.59)
Other Race	0.34 (0.04, 3.10)	0.30 (0.03, 2.97)	0.36 (0.04, 3.44)
Unknown Race	0.92 (0.26, 3.29)	1.57 (0.18, 13.49)	1.87 (0.26, 13.58)
Social Determinants			
Housing Need	7.17 (5.15, 9.98)	2.55 (1.63, 3.99)	2.38 (1.56, 3.64)
Transportation Need	0.55 (0.35, 0.86)	1.36 (0.75, 2.48)	-
Utility Need	11.59 (7.74, 17.35)	2.31 (1.30, 4.08)	2.15 (1.25, 3.72)
Food Insecurity	0.32 (0.23, 0.45)	0.81 (0.49, 1.34)	-
Comorbidities			
Diabetes	0.67 (0.49, 0.93)	1.00 (0.63, 1.58)	-
Hypertension	9.53 (6.29, 14.46)	5.30 (3.14, 8.94)	5.17 (3.15, 8.51)
Hyperlipidemia	2.38 (1.47, 3.85)	1.48 (0.77, 2.83)	-
Site Type			
Community Site	REF	REF	REF
Hospital Site	3.74 (2.80, 5.00)	1.90 (1.18, 3.03)	1.87 (1.22, 2.87)

^aAdjusted for age, race/ethnicity, gender, HIV transmission risk factor, social determinants of health, comorbidities, viral suppression, and site type; ^bAdjusted for age, race/ethnicity, housing need, utility need, hypertension, and site type

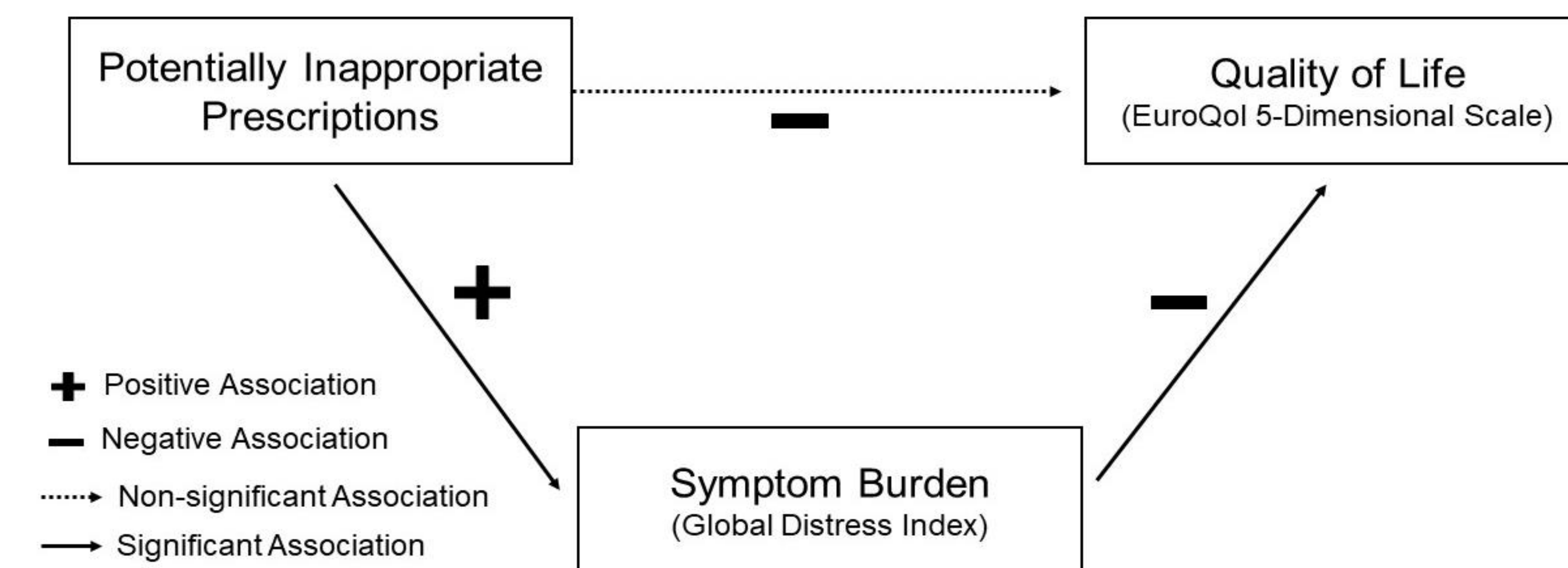


Figure 2. Overview of the statistical relationship between potentially inappropriate prescriptions, symptom burden, and quality of life.

Conclusions

- **Over half of our participants had a PIP**
- PIP were most commonly found to be related to the musculoskeletal system, central nervous system, and urogenital system
- Age, race/ethnicity, housing need, utility need, and site type (community vs. hospital) are all associated with having at least one PIP
- **Hypertension is a strong predictor of having at least one PIP**
- **Symptom burden mediates the relationship between PIP and Quality of Life**
- **PIP that are highly associated with increased symptom burden should be prioritized** for interventions to most effectively improve quality of life among PWH and at least one PIP.

Increased access to care and size of the clinic site may explain the associations found here. Future studies should use these findings to develop interventions targeted towards at-risk populations.

Limitations: It is currently unknown whether the PIPs flagged by the STOPP represent major or minor errors in prescribing, or simple differences in judgement calls. Future studies should assess the validity of this screening tool in our population.

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