

Unmanaged Depression and Chronic Disease Medication Adherence in Medicare Advantage Beneficiaries: A Novel Claims-Based Analysis

Background

- Over one-quarter of patients enrolled in 2022 Humana Medicare Advantage Prescription Drug (MAPD) plans with hypertension, hyperlipidemia, or diabetes have comorbid depression.
- Depression is associated with lower adherence to medications for comorbid conditions.¹ Guideline-directed management of depression may help mitigate chronic disease medication adherence issues and improve health outcomes.¹⁻³
- It is unclear how depression management is related to CMS Star medication adherence measures for common chronic conditions.

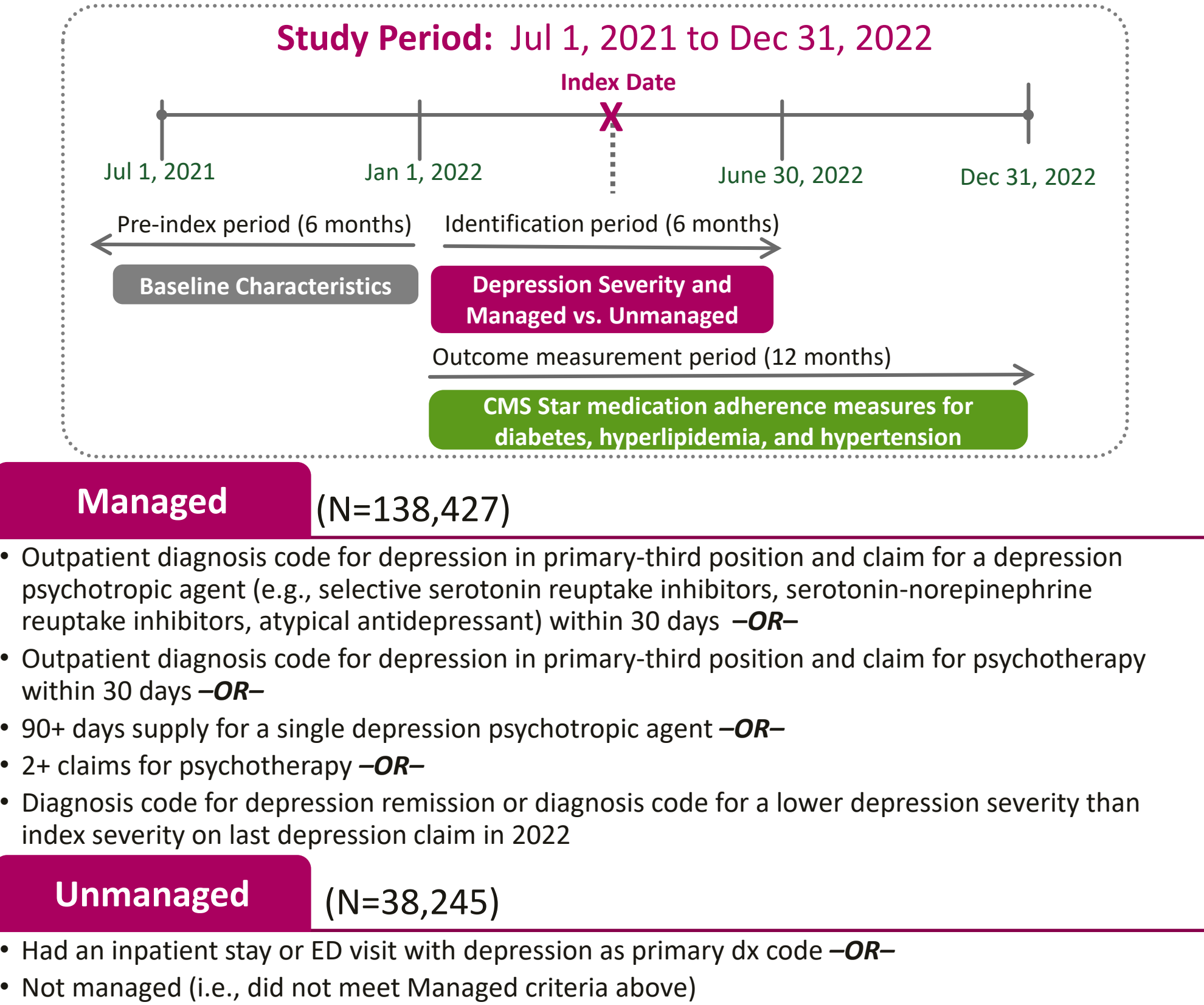
Objective

- To develop a novel claims-based measure of managed depression based on clinical guidelines and clinician expertise.
- To assess differences in adherence to chronic disease medications in patients with unmanaged vs. managed depression.

Methods

- Data Source:** Humana Research Database
- Study Design:** Retrospective analysis of administrative claims data
- Inclusion Criteria:**
 - Patients enrolled in MAPD with a diagnosis of mild, moderate, or severe depression between 1/1/2022 to 6/30/2022 (index = first claim with depression severity)
 - Eligible for CMS Star medication adherence measure for diabetes, hypertension, and/or hyperlipidemia during calendar year 2022
 - Continuous MAPD enrollment for six-months pre-index and full year 2022
- Outcomes:**
 - Rate of unmanaged depression by index severity
 - Proportion of days covered (PDC) and adherence (% of patients with PDC≥0.8) to diabetes, hypertension, and hyperlipidemia medications in 2022
- Statistical Analyses:**
 - Adjusted logistic regression models estimating odds of adherence for unmanaged vs. managed patients, by severity and chronic condition

Figure 1. Study Design and Measure of Depression Management



Results

Using the novel claims-based measure of depression management, the rate of unmanaged depression was:

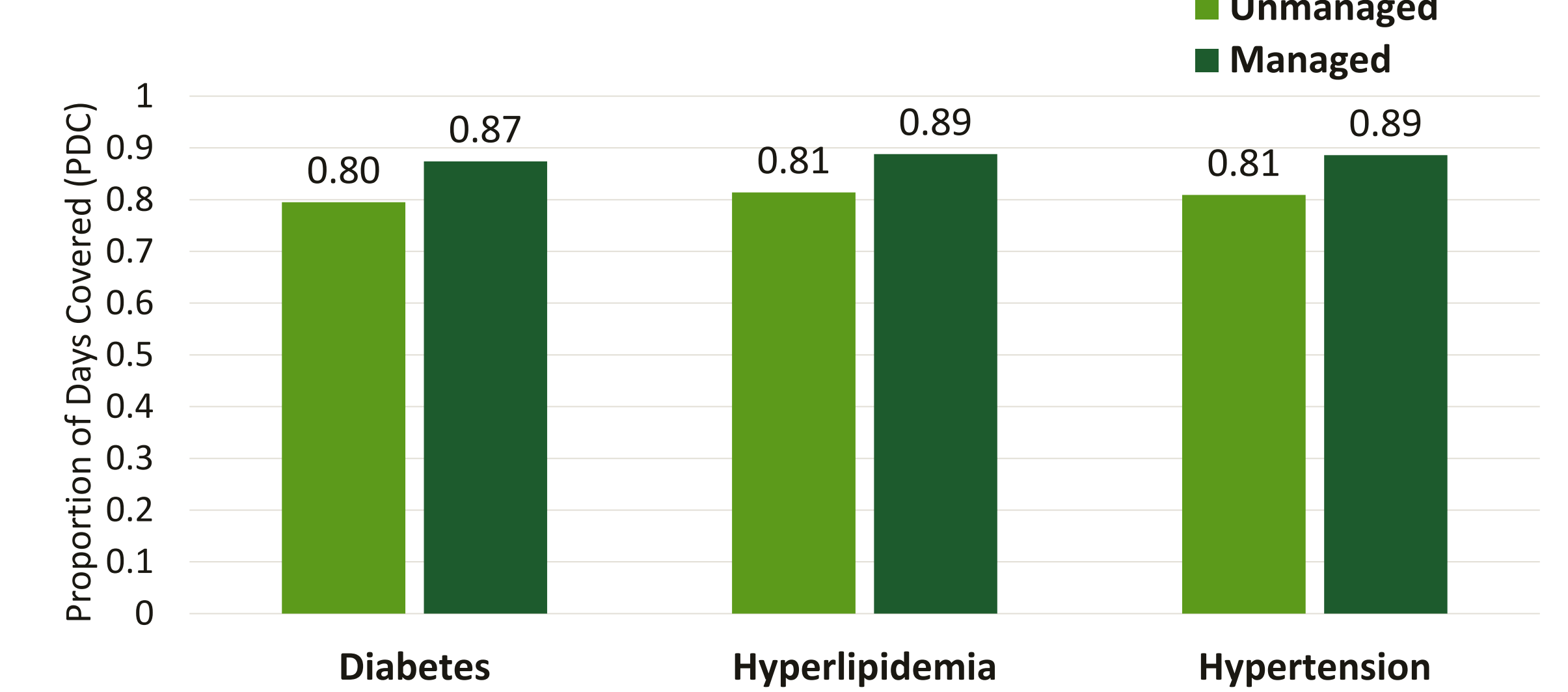
26.6% among mild
17.6% among moderate
19.3% among severe (demographics shown below)

Table 1. Baseline Characteristics for Patients with Severe Depression

Measure	Managed	Unmanaged
N (%)	18,629 (80.7%)	4,452 (19.3%)
Age, Mean [SD]	65.2 [10.4]	65.4 [11.2]
Female, n (%)	13,144 (70.6)	2,628 (59.0%)*
White, n (%)	14,800 (79.4)	3,217 (72.3%)*
Black, n (%)	2,508 (13.5)	866 (19.5%)*
LIS/Dual Eligible, n (%)	7,611 (40.9)	1,980 (44.5%)
Elixhauser Score, Mean [SD]	0.7 [1.6]	1.4 [2.3]*
Rx Risk V-Score, Mean [SD]	4.1 [3.3]	3.7 [3.2]
Use of psychotherapy, n (%)	837 (4.5)	171 (3.8)
Use of depression psychotropic agent, n (%)	16,639 (89.3)	2,144 (48.2)*
Diagnosis of depression, n (%)	2,843 (15.3)	958 (21.5)*

LIS, Low-income subsidy
*Standardized difference >0.1

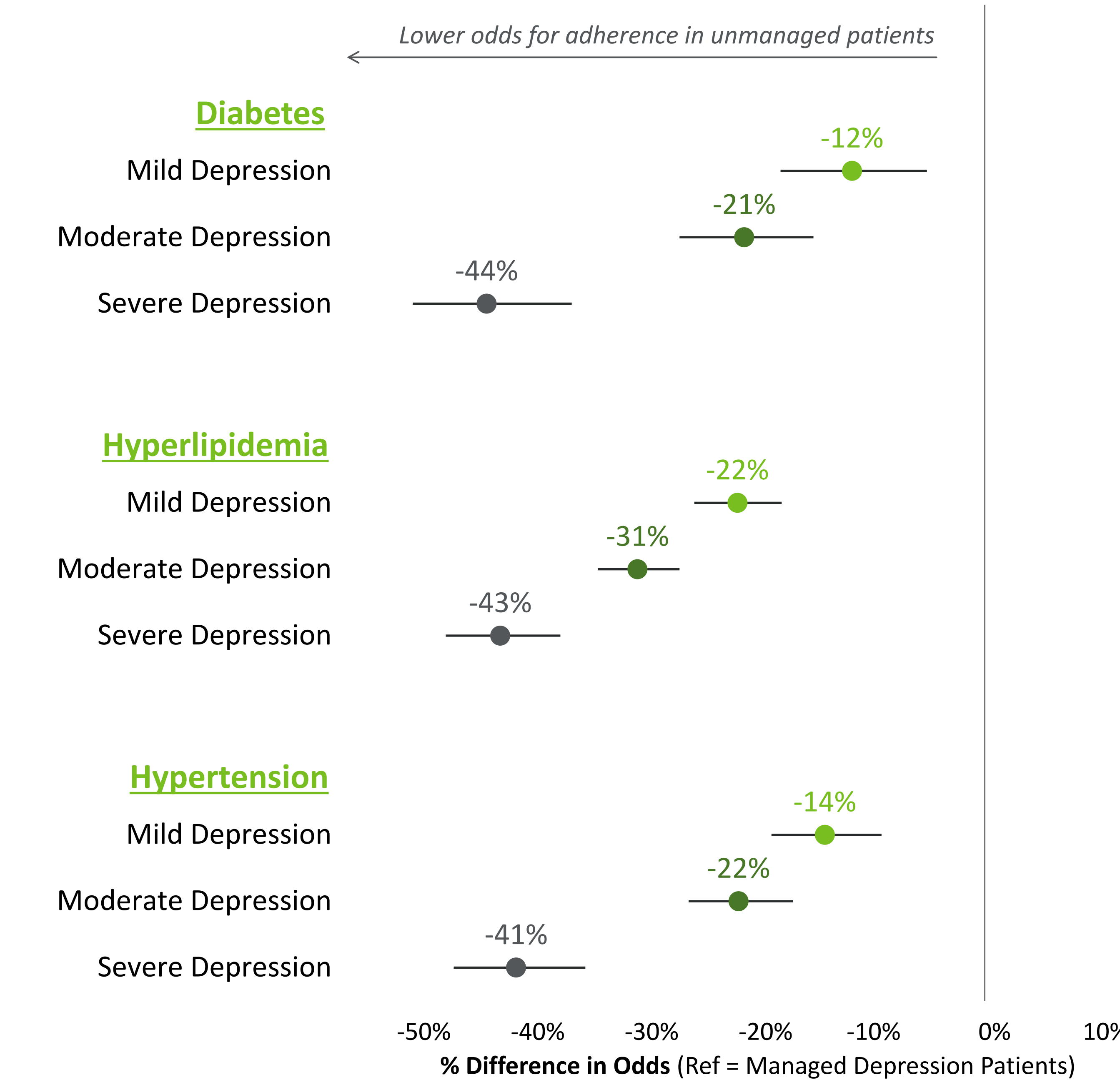
Figure 3. Mean PDC for Unmanaged and Managed Depression by CMS Stars Chronic Conditions



Patients with unmanaged depression had lower mean PDC (compared to managed patients), consistent across all Star chronic conditions and depression severities.

Figure 2. Adjusted Percent Difference in Odds of Adherence: Unmanaged vs. Managed Depression Patients

Among patients with severe depression, unmanaged patients were over 40% less likely to be adherent to medications for chronic conditions compared to managed patients.



Conclusions

- Depression management, particularly among patients with severe depression, is associated with better adherence to medications used to treat common chronic conditions.
- Unmanaged depression may contribute to lower compliance with Star medication adherence measures and plan ratings.
- The claims-based measure of depression management can be a tool for health plans and pharmacy benefit managers to develop clinical programs that increase receipt of guideline-directed depression management.

Limitations

- Depression severity may be subject to misclassification bias, as the study could not account for patient-reported outcomes or daily fluctuation in patients' symptoms, and diagnostic assessments rely on individual clinician judgement.
- The claim-based definition depression management could not capture all clinical guideline criteria or management decisions. For example, patients sometimes receive psychotherapy without insurance, and guidelines encourage shared decision making between patients and providers.
- Results may be biased towards overestimating the association between unmanaged depression and adherence, given potential misclassification bias and unobserved confounding.
- No causal inference can be ascertained from this cross-sectional study.

References

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