

Impact of Post-Discharge Rifaximin Use Following an Overt Hepatic Encephalopathy (OHE) Hospitalization on Annual Rates of OHE Rehospitalization in the United States

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Introduction

- Overt hepatic encephalopathy (OHE) is a severe complication of cirrhosis with a high risk of recurrence
- AASLD treatment guidelines recommend the use of rifaximin as an add-on treatment to lactulose after a breakthrough episode to prevent further OHE recurrence¹

Aim

To describe patterns of rifaximin (± lactulose) and lactulose monotherapy treatment before and after an initial OHE hospitalization, and assess the impact on subsequent rates of OHE rehospitalization, among US patients with commercial, Medicare, and Medicaid insurance

Method

Study design and data source: Retrospective cohort study using Komodo Research Dataset (01/2016 - 09/2023)

Study population: For each insurance type separately, adults with an OHE hospitalization^a (index hospitalization) who received treatment within 30 days following discharge (i.e., post-discharge; **Figure 1**) were classified into mutually exclusive cohorts:

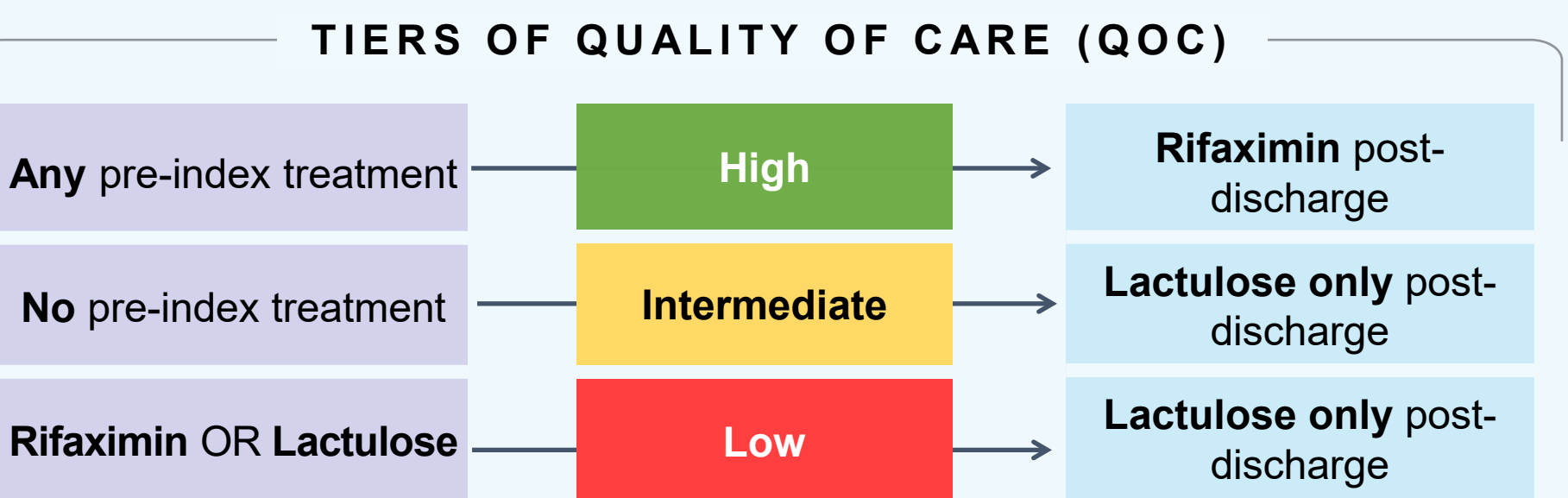
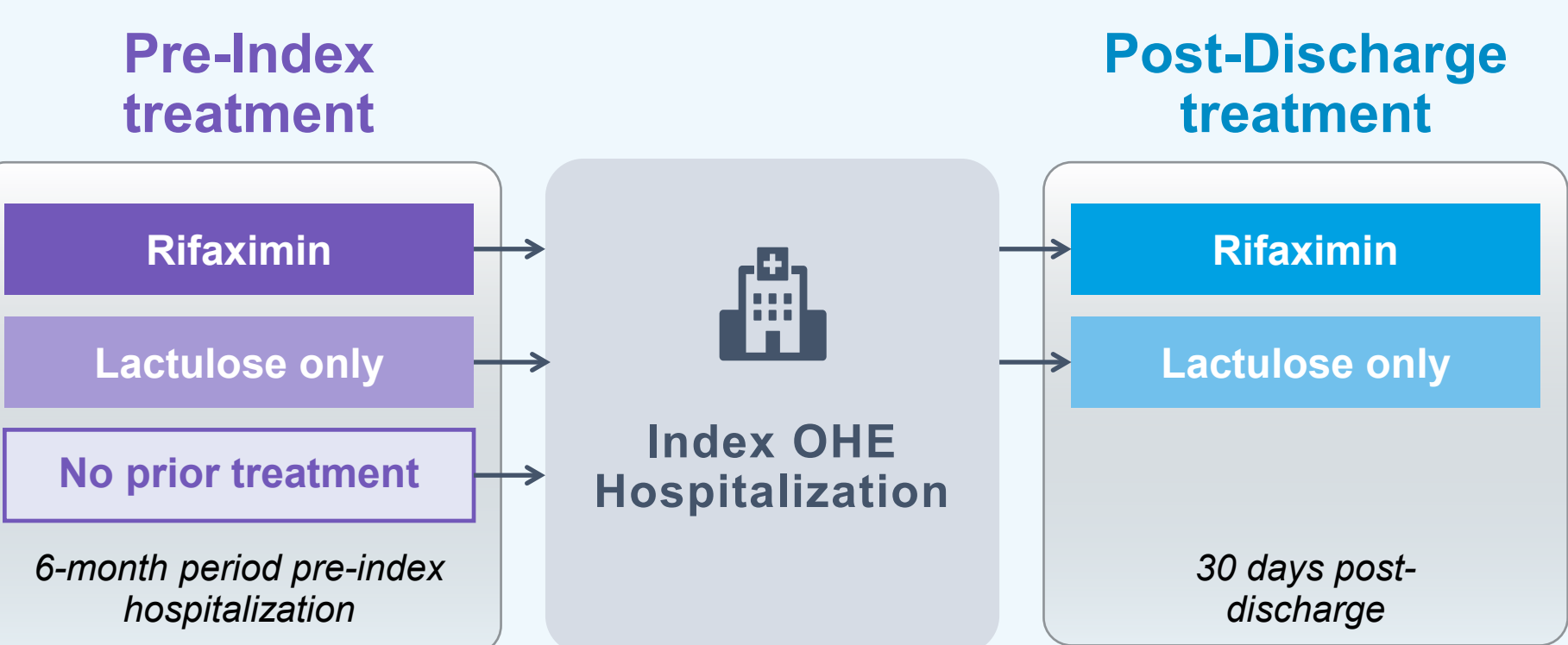
- Rifaximin cohort:** Received rifaximin post-discharge
- Lactulose only cohort:** Received lactulose only post-discharge

Pre-index treatment stratification: Patients were further stratified by treatment(s) received in the 6 months before index hospitalization (i.e., pre-index; **Figure 1**) as follows:

- Rifaximin pre-index
- Lactulose pre-index
- No pre-index treatment

Tiers of quality of care (QoC): Defined based on combinations of pre-index and post-discharge treatment, aligned with clinical guidelines¹ (**Figure 1**)

Figure 1. Study design and cohorts

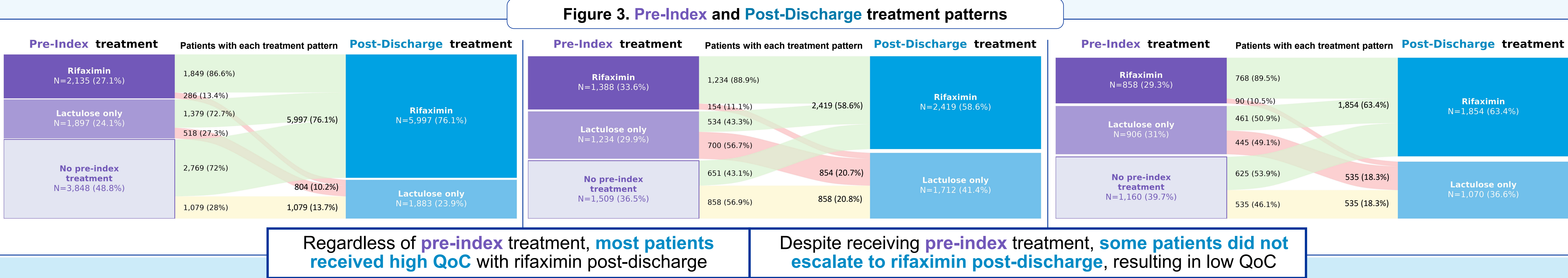
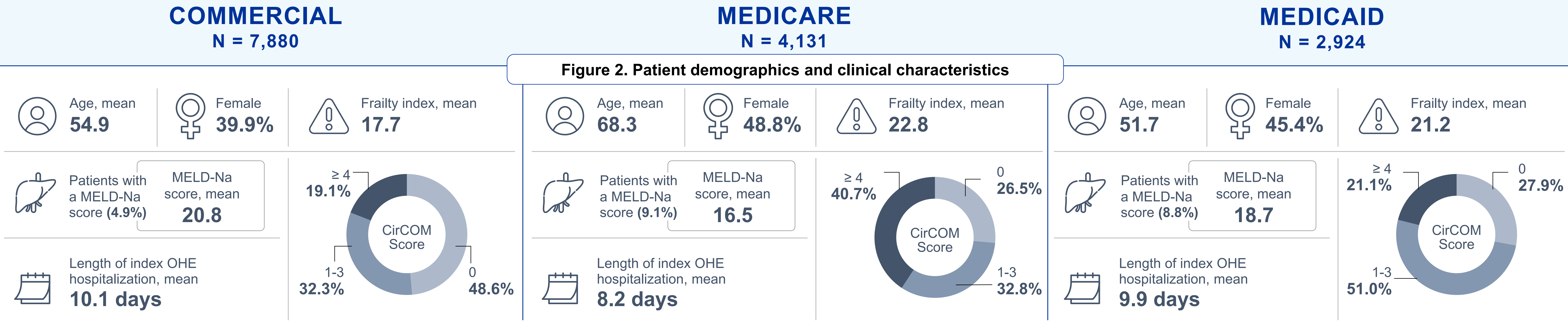


Measures, outcomes, and statistical analyses

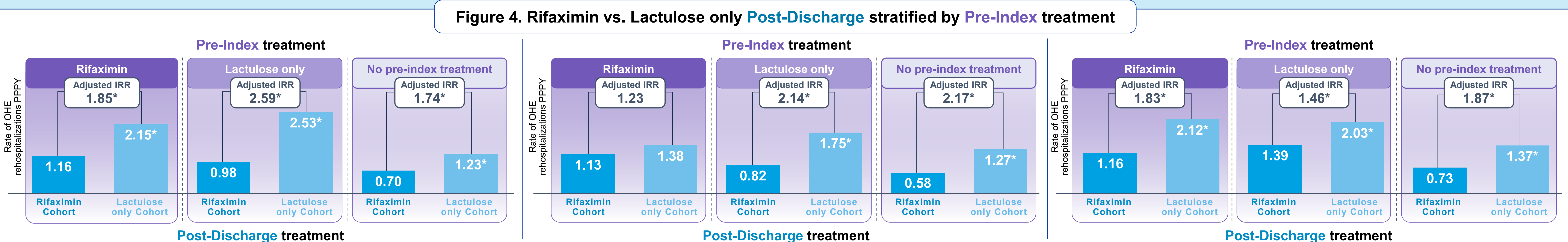
- Baseline (i.e., 6 months pre-index) and index hospitalization characteristics were described
- Rates of OHE rehospitalization^a were compared using negative binomial regressions adjusted for characteristics, reported as incidence rate ratios (IRRs) and point estimates

Note: ^aOHE hospitalization was defined as either (1) a primary diagnosis for OHE (ICD-10-CM: K72.90, K72.91, K70.41, K71.11, K72.01, K72.11, K70.82) AND a diagnosis-related group [DRG] code of 441, 442, 443, or (2) a prescription of rifaximin 550mg twice daily with 530-day supply during the hospital stay

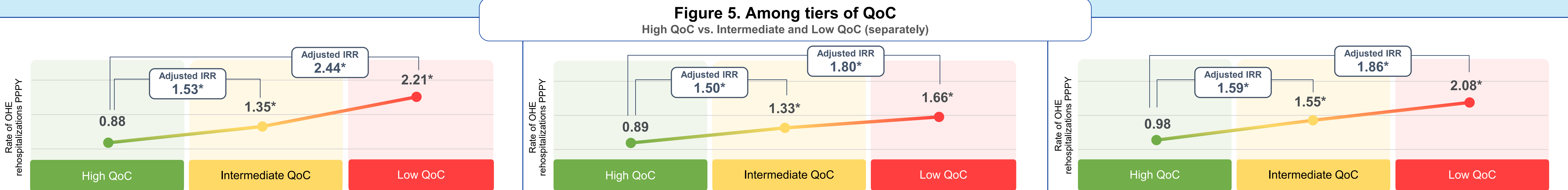
Results



Annual rates of OHE rehospitalization



Regardless of pre-index treatment, **annual rates of OHE rehospitalization were higher among patients who received lactulose only post-discharge** compared to those who received rifaximin post-discharge



Abbreviations: IRR: incidence rate ratio; OHE: overt hepatic encephalopathy; PPPY: per-patient-per-year; QoC: quality of care. Note: An OHE event was defined as an inpatient stay within a continuous period of payer coverage, meeting one of the following criteria: i) a primary OHE diagnosis with a related DRG code (441, 442, 443), or ii) a rifaximin 550mg twice daily prescription (≥ 30-day supply). IRRs were derived from generalized linear models (negative binomial family, log link) with robust standard errors. Adjusted models controlled for age, sex, region, ethnicity/race, baseline comorbidities, frailty index, CirCom score, and index OHE event duration; *p<0.05.

Conclusions

Rifaximin use following discharge from an OHE hospitalization was associated with a significant reduction in subsequent annual OHE rehospitalization rates, regardless of pre-index OHE treatment

Improved quality of care based on treatment guidelines, resulted in lower annual OHE rehospitalization rates

This study demonstrates the efficacy of rifaximin to mitigate OHE recurrence irrespective of treatment history

Limitations

- This claims-based study is subject to common limitations including billing inaccuracies and missing data
- Patients with OHE were identified using an algorithm developed in collaboration with medical experts based on real-world clinical practice for coding for OHE
- Results pertain to commercial, Medicare, and Medicaid insured populations and may not be representative of all US adults

Reference

¹Vilstrup H, Amodio P, Bajaj J, et al. Hepatic encephalopathy in chronic liver disease: AASLD and EASL practice guideline. *Hepatology*. 2014;60(2):715-735.

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Disclosures

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