

Real-World Trends in the Prevalence of Cirrhosis and Rates of Overt Hepatic Encephalopathy Among Commercially Insured Adults in the United States From 2006-2020

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BACKGROUND

- Progression of chronic liver disease to cirrhosis is associated with significant morbidity and mortality^[1]
- Understanding the epidemiology of cirrhosis-related complications can help guide healthcare policy and resource allocation

OBJECTIVE

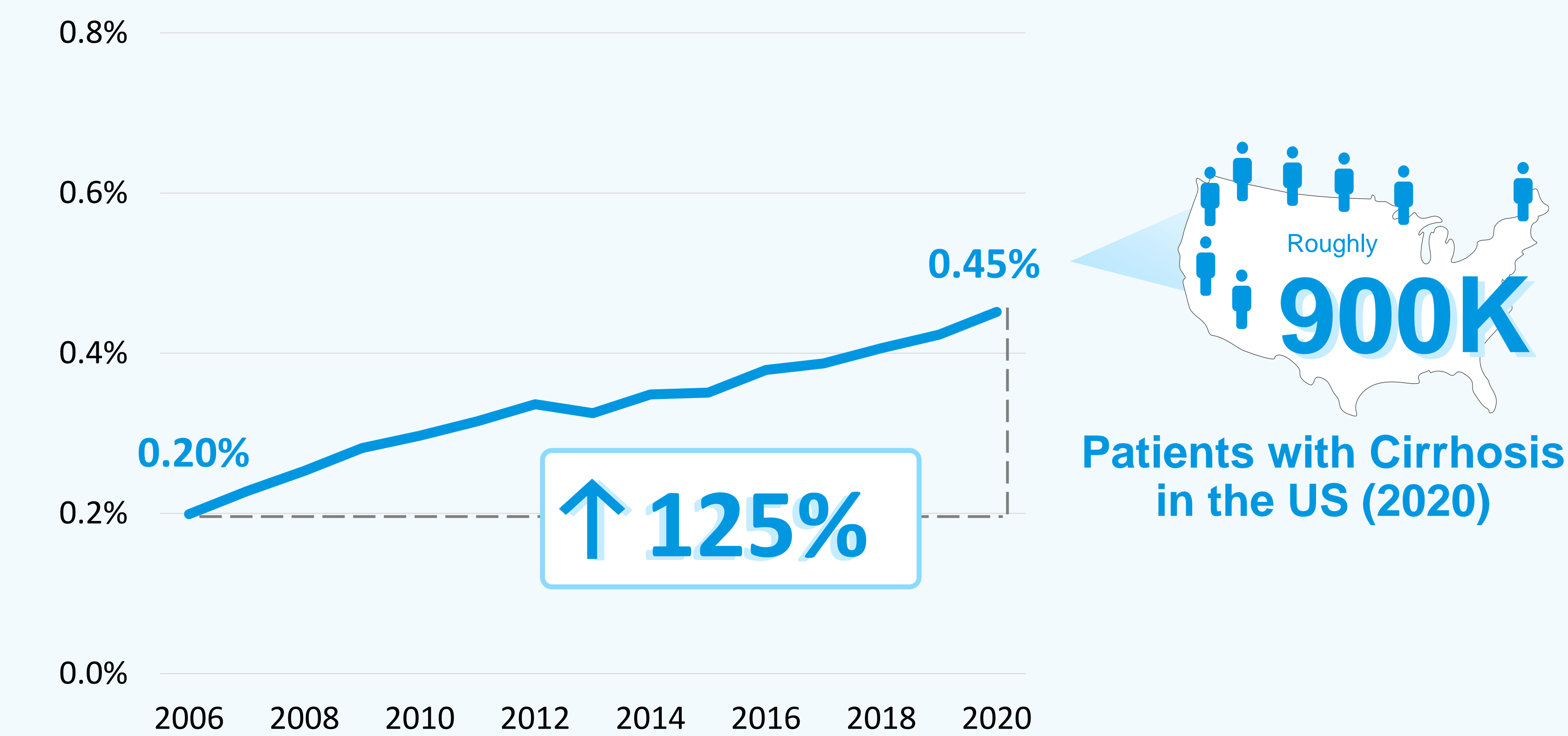
To provide updated trends in the prevalence of cirrhosis and cirrhosis-related complications, including overt hepatic encephalopathy (OHE), among commercially insured adults (18-64 years) in the United States (US)

METHODS

- Data source: MarketScan® Commercial Claims Database (2006-2020)
- Adults (18-64 years) with cirrhosis were identified based on literature and medical expert input^[1], which included the presence of ≥2 diagnoses of cirrhosis¹ or cirrhosis-related complications² (including varices, hepatorenal syndrome, OHE, spontaneous bacterial peritonitis)
- Annual prevalence of cirrhosis from 2006 to 2020 was calculated based on patients who had continuous commercial health plan enrollment for the entire calendar year of interest
- Among patients with cirrhosis, the proportion with decompensated cirrhosis³ (including ascites, variceal bleeding, hepatorenal syndrome, OHE, spontaneous bacterial peritonitis) and OHE was evaluated
- Sensitivity analyses were performed that incorporated various definitions⁴ for OHE including OHE-related treatments (lactulose or rifaximin 550mg twice daily (BID) for ≥30 days)
- Trends in cirrhosis and cirrhosis-related complications were stratified by sex and age (18-44 and 45-64 years)

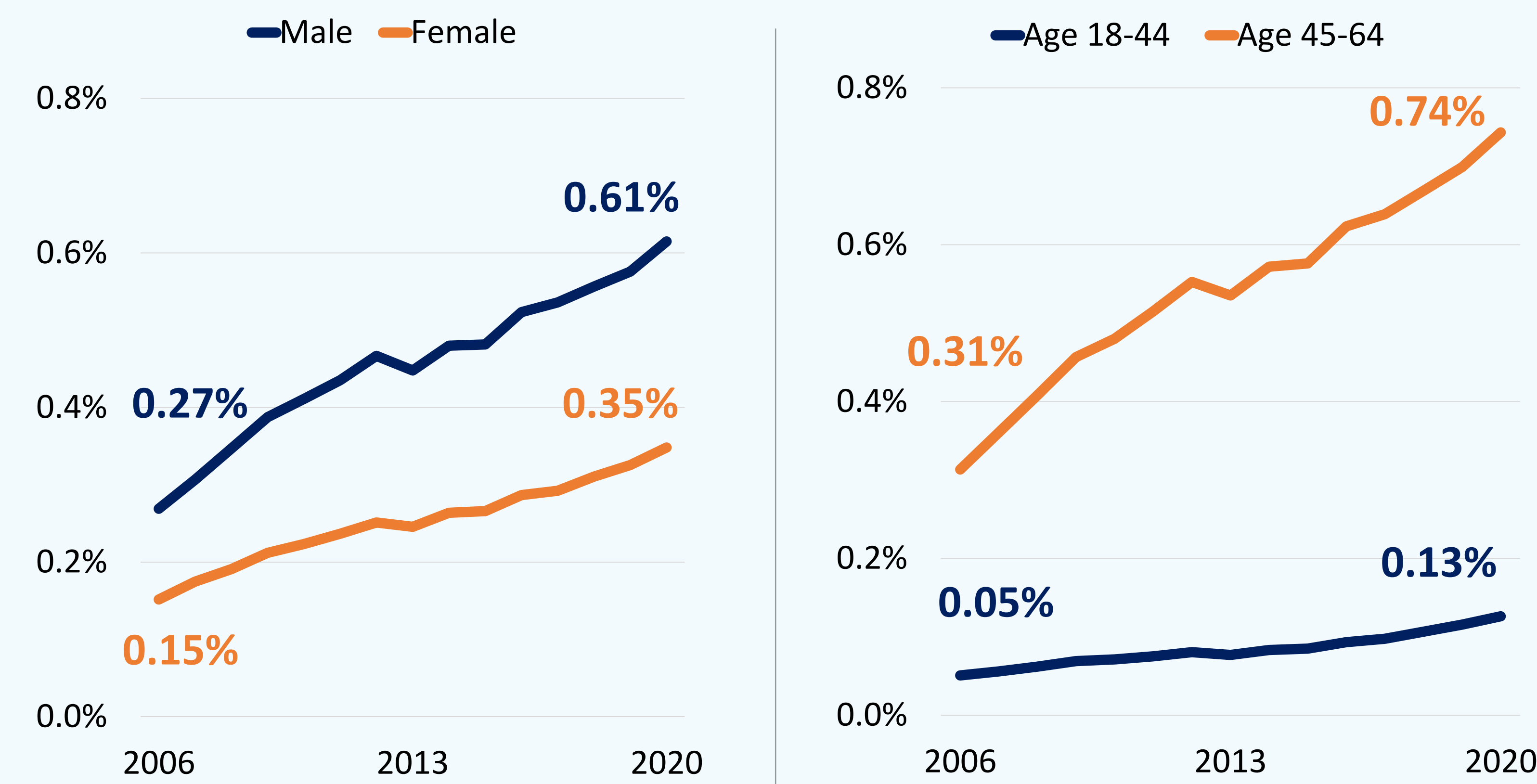
RESULTS

Figure 1. Prevalence of diagnosed cirrhosis among commercially insured adults in the US



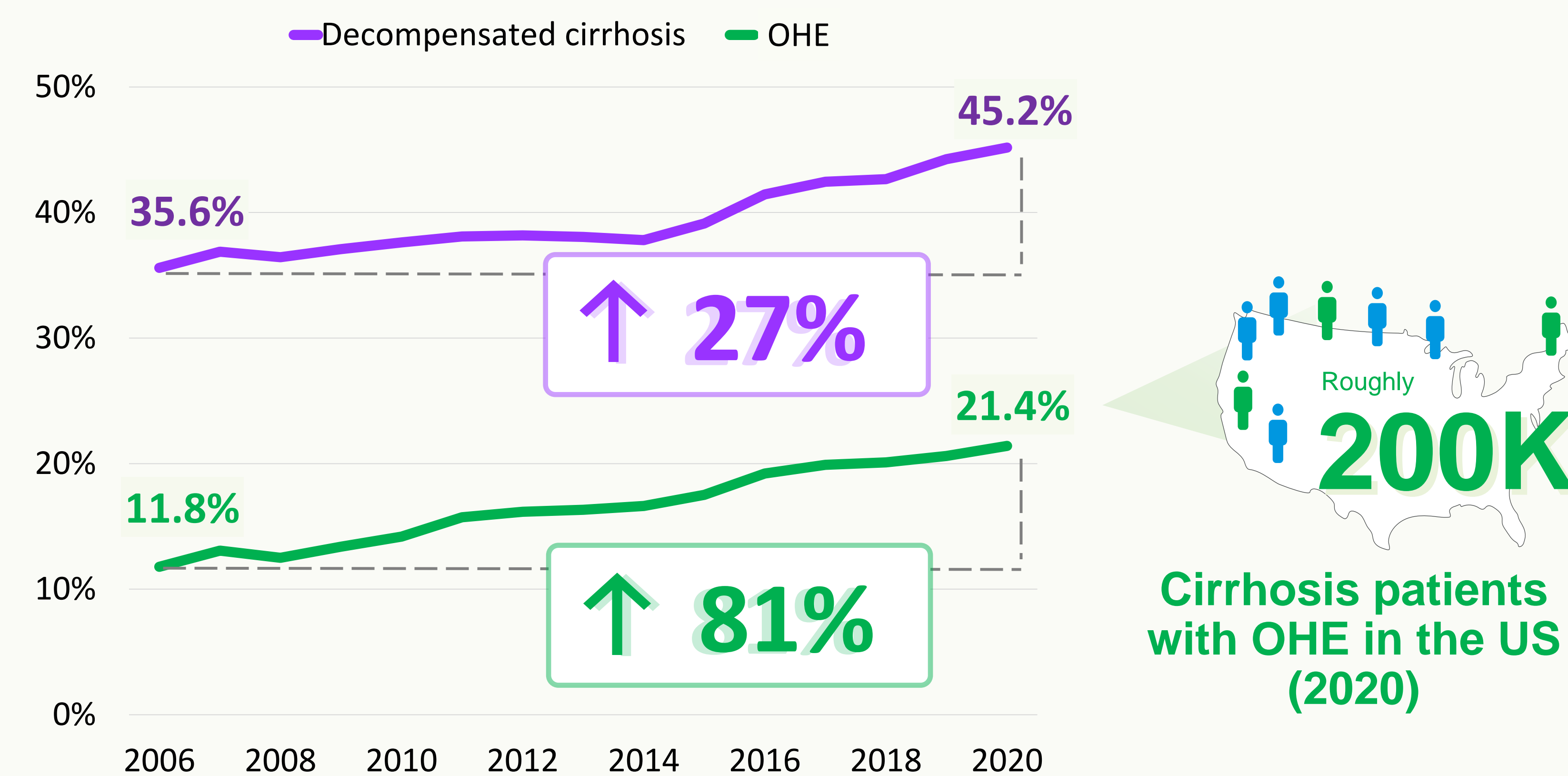
- The prevalence of cirrhosis increased significantly from **0.20% in 2006 to 0.45% in 2020 (p<0.001)**

Figure 2. Prevalence of diagnosed cirrhosis among commercially insured adults in the US by sex and age



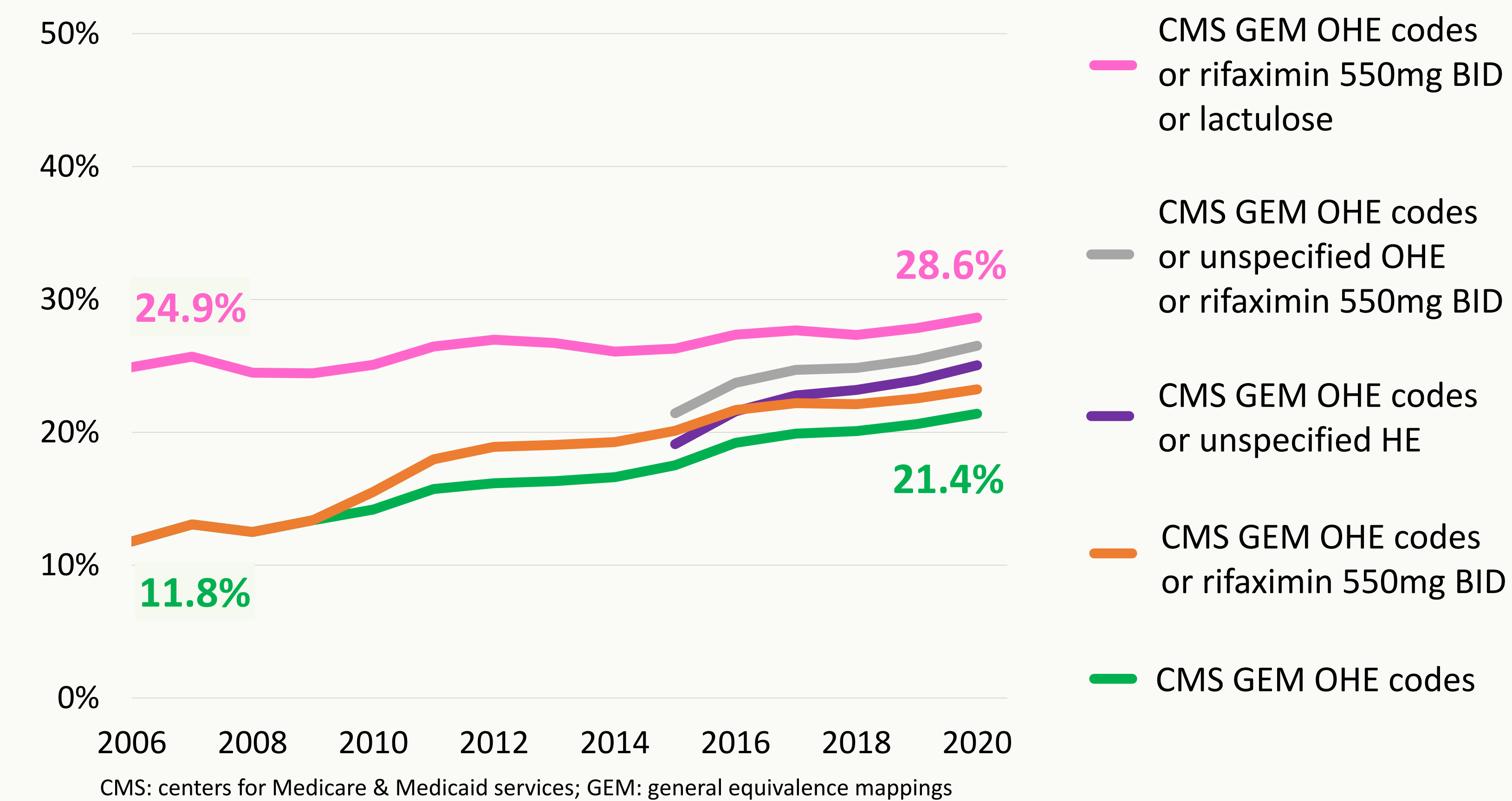
- The prevalence of cirrhosis remained **higher among men and among those aged 45-64 years**

Figure 3. Rates of decompensation and OHE among commercially insured adults with cirrhosis in the US



- Among patients with cirrhosis, the rate of decompensated cirrhosis increased significantly from **35.6% in 2006 to 45.2% in 2020 (p<0.001)** and the rate of OHE increased significantly from **11.8% in 2006 to 21.4% in 2020 (p<0.001)**

Figure 4. Rates of OHE – Sensitivity analyses for various definitions of OHE



- From the sensitivity analyses, the proportion of cirrhosis patients with OHE ranged from **11.8% - 24.9% in 2006 and from 21.4% - 28.6% in 2020**

CONCLUSIONS

The prevalence of cirrhosis among commercially insured US adults was estimated at **0.45% in 2020**

The prevalence of cirrhosis and cirrhosis-related complications **increased significantly** from 2006-2020

Study findings indicate that there were approximately **900,000 adults with cirrhosis, 450,000 with decompensated cirrhosis, and 200,000 with OHE** in the US in 2020

Trends over time may be influenced by changes in coding practices, guidelines, shifting etiologies of cirrhosis, awareness of disease complications, and an overall aging population

LIMITATIONS

- This claim-based study is subject to common limitations including billing inaccuracies and missing data
- Definitions of OHE and decompensation were based on literature and medical expert inputs, but no unanimous consensus on the ICD codes for OHE exists for 2015 through the analysis period
- Results pertain to a commercially insured population and may not be representative of the US adults with public or no health insurance

REFERENCES

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DISCLOSURE

RW has received consulting fees from Bausch Health Companies, Inc. PGS, JM, WQ, and AG are employees of Analysis Group, Inc., a consulting company that has provided paid consulting services to Bausch Health Companies, Inc., which funded the development and conduct of this study. AAD, BB, and GJ are employees of Bausch Health Companies, Inc. ZH is an employee of Salix Pharmaceuticals. DB and OO are postdoctoral fellows with Rutgers Pharmaceutical Industry Fellowship Program.

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¹ Cirrhosis was defined as ICD-9 571.2, 571.5, 571.6 or ICD-10 K70.3, K71.7, K74.3, K74.4, K74.5, K74.6; ² Varices was defined as ICD-9 456.0, 456.1, 456.2 or ICD-10 I85, I86.4; hepatorenal syndrome was defined as ICD-9 572.4 or ICD-10 K76.7, K91.83; OHE was defined as ICD-9 572.2 or ICD-10 K72.01, K72.11, K72.90, K72.91, K70.41, K71.11; spontaneous bacterial peritonitis was defined as ICD-9 567.23 or ICD-10 K65.2; ³ Ascites was defined as ICD-9 789.5 or ICD-10 K70.11, K70.31, K71.51, R18; variceal bleeding was defined as ICD-9 456.0 or ICD-10 I85.01, I85.11, I86.4; ⁴ OHE definitions for sensitivity analyses include unspecified OHE for years 2015 - 2020, defined as ICD-10 G93.40, G93.41, G93.49