



# Do 30-Day Out-of-Pocket Costs Influence Rifaximin Treatment Retention in Patients with Hepatic Encephalopathy?

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## INTRODUCTION

### Background

- Hepatic encephalopathy (HE) is a prevalent and costly manifestation of liver cirrhosis.<sup>1</sup> Hospitalizations related to HE in the US estimated to have reached \$11.9 billion in 2014.<sup>2</sup>
- While rifaximin has demonstrated benefit for HE, it remains underutilized, perhaps due to higher cost than lactulose.<sup>3</sup>

### Objectives:

- Describe treatment pattern of HE
- Determine patients' out-of-pocket (OOP) costs for rifaximin and its impact on treatment retention and adherence.

## METHODS

- The study was a retrospective cohort study that used the IBM MarketScan Commercial Claims and Encounter Database.
- The study included patients aged 18-64 who used rifaximin for HE between January 2011 and December 2021. Patients with a rifaximin prescription in the 6-month pre-index period were excluded.
- Rifaximin retention was defined as at least 80% coverage of days with rifaximin at three different time thresholds (180, 360, and 540 days).
- The relationship between OOP cost and rifaximin retention was analyzed using Poisson regression models while controlling for confounding variables.

## RESULTS

- 6,839 patients with HE identified, 4,274 prescribed rifaximin during study.
- 56% received lactulose+rifaximin, 37.5% lactulose alone, and 6.5% rifaximin alone.
- For patients who used rifaximin, 58.4% were over 55 years old, 61.1% were male, 87.3 % were non-HDHP.
- Rifaximin retention decreased with longer treatment threshold: 42% at 180 days, 25% at 360 days, and 16% at 540 days.

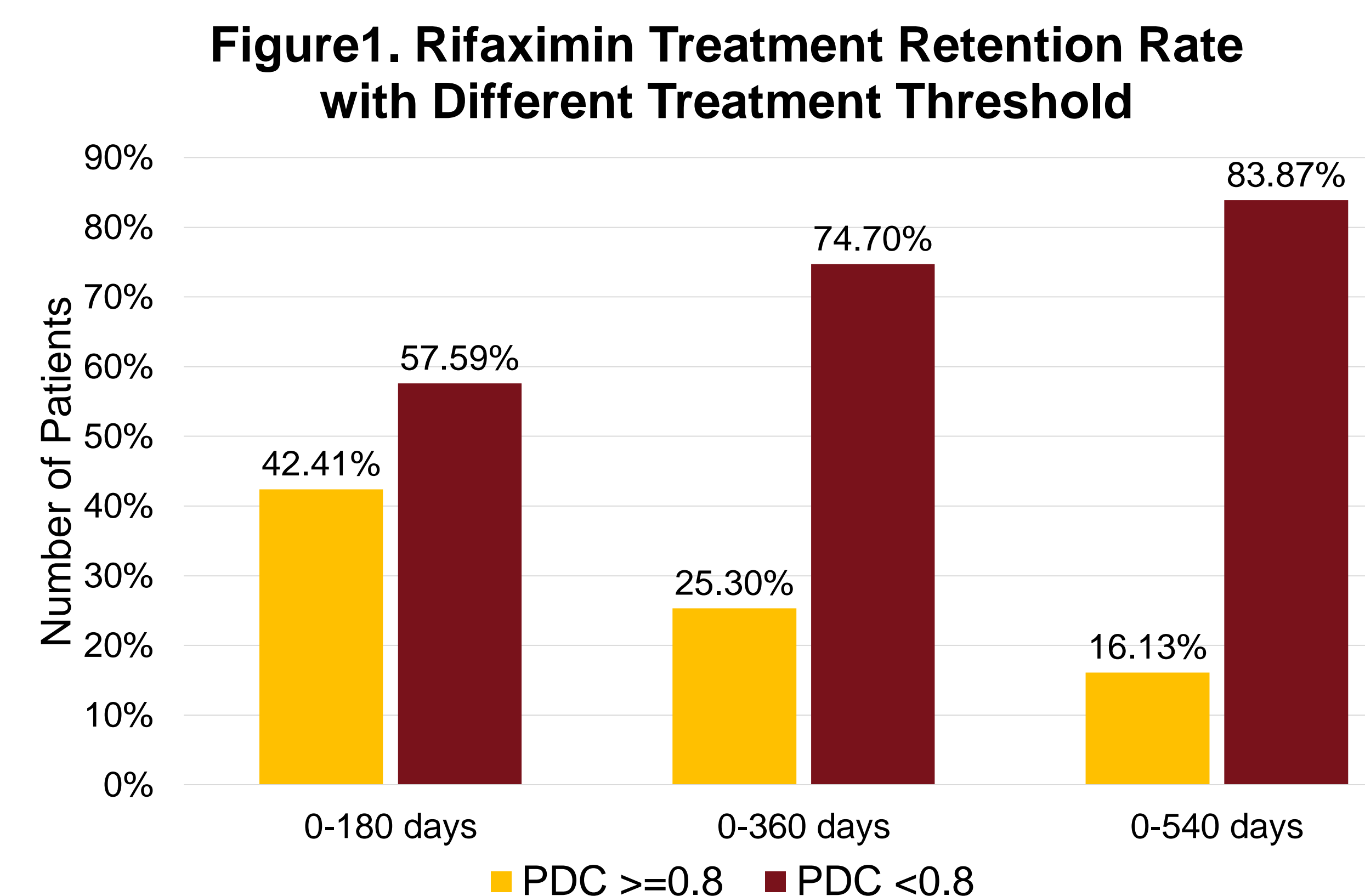


Table 1. Impact of out-of-pocket cost for rifaximin on treatment retention after adjustment

Demographics	180 days			360 days			540 days		
	RR	95% CI	p-value	RR	95% CI	p-value	RR	95% CI	P-value
<b>30-day OOP cost</b>									
< \$50	1.00			1.00			1.00		
\$50-149	0.95	0.86-1.06	0.41	0.90	0.78-1.04	0.17	0.87	0.72-1.05	0.14
≥ \$150	0.67	0.56-0.82	<0.0001	0.62	0.48-0.80	0.0002	0.60	0.43-0.83	0.0020
<b>Gender</b>									
Female	1.00			1.00			1.00		
Male	1.07	0.97-1.18	0.21	1.07	0.94-1.22	0.27	1.09	0.93-1.28	0.30
<b>Age Group</b>									
18-34 years	0.54	0.36-0.80	0.0022	0.48	0.28-0.83	0.01	0.31	0.14-0.70	0.0050
35-44 years	0.86	0.71-1.04	0.12	0.75	0.58-0.97	0.03	0.60	0.43-0.86	0.0045
45-54 years	0.90	0.81-1.01	0.08	0.99	0.75-1.02	0.08	0.84	0.69-1.01	0.06
55-64 years	1.00			1.00			1.00		
<b>Comorbid Conditions</b>									
No Comorbid Conditions	1.00			1.00			1.00		
Diabetes	1.04	0.94-1.17	0.44	1.09	0.94-1.26	0.25	1.22	1.02-1.46	0.03
Metastatic Cancer	0.70	0.52-0.93	0.02	0.73	0.49-1.07	0.11	0.75	0.45-1.24	0.26
Depression	0.87	0.78-0.97	0.01	0.93	0.80-1.07	0.29	0.92	0.77-1.10	0.33
Anxiety	0.90	0.77-1.05	0.18	0.91	0.75-1.12	0.38	1.03	0.81-1.32	0.80
<b>Concomitant Lactulose Use</b>									
No Lactulose Use	1.00			1.00			1.00		
Lactulose Use	1.19	1.00-1.40	0.04	1.24	0.99-1.55	0.06	1.23	0.93-1.63	0.15
<b>Charlson Comorbidity Index<sup>e</sup></b>									
	1.02	0.99-1.04	0.17	1.00	0.98-1.03	0.76	0.99	0.95-1.02	0.53

## RESULTS (CONT'D)

- The median 30-day cost of rifaximin was \$35 for patients who continued treatment for 180 days, compared to \$40 for those who discontinued within 180 days.
- After adjustment, patients who paid over \$150 for a 30-day OOP cost of rifaximin were less likely to continue treatment for 180, 360, and 540 days ( $p < 0.001$ ).
- Patients aged 18-34 ( $p < 0.001$ ), with metastatic cancer ( $p = 0.02$ ), or with depression ( $p = 0.01$ ) were less likely to continue treatment for 180 days.

## CONCLUSIONS

- Low rates of rifaximin treatment retention were found in patients with HE, with only 42% taking rifaximin regularly over 180 days.
- High 30-day OOP cost (> \$150) was associated with reduced rifaximin retention
- Multipronged efforts, including addressing cost barriers and improving patient education, are needed to enhance medication adherence and optimize care for HE.

## REFERNECES

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