A US retrospective commercial claims analysis of healthcare utilization and costs of Huntington's disease by stage

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What does this study mean for the HD community?

Huntington's disease (HD) places a burden on healthcare costs and resources, which increase with severity of the disease. A disease-modifying treatment for HD, which currently remains an unmet need, would help alleviate the burden of HD on the healthcare system.

Conclusions

- This study highlighted the cost burden of HD on individuals with the disease and the US healthcare system.
- HRU and costs of care increased with disease stage, emphasising the need for a disease-modifying treatment for HD.

BACKGROUND

- HD is a rare, genetic, neurodegenerative and ultimately fatal disease that has a devastating impact on families across generations.[1,2]
- Insight into the burden of illness and unmet medical need of HD could be gained by quantifying direct healthcare costs and resource use associated with HD, overall and by disease stage using MarketScan data.

Objective: To describe the burden of illness and major cost drivers by stage among individuals with HD.

METHODS

- A retrospective cohort study was conducted using Truven MarketScan Commercial and Medicare Supplemental Databases.
- Adults with ≥1 HD claim (International Classification of Diseases-9/10-CM: 333.4, G10) between 1/1/2010 to 31/12/2017 and continuous enrolment for ≥12 months before and ≥3 months after the first HD claim (index date) were included in the HD cohort.
- An algorithm with a hierarchical assessment of markers of disease severity categorised individuals with HD into early, middle and late stages.[3]
- Initial disease stage was determined using a 12-month, pre-index period; participants could change stage post-index.
- Participants were followed until end of continuous enrolment or end of data, whichever occurred first.
- Healthcare resource utilisation (HRU) and costs/member/month post-index were evaluated overall and by disease stage.
- Data were analysed using the non-parametric Friedman test comparing early-, middle-, and late-stage HD.
  - Costs were adjusted to 2018 USD value using the medical care component of the consumer price index.

RESULTS

Demographics of study cohort

- 2,669 individuals with HD were identified: 53.7% early, 25.8% middle, 20.5% late stage.
  - Each group consisted of 52.6%, 59.4% and 61.1% female participants, respectively.
- Baseline patient characteristics are shown in **Table 1**.

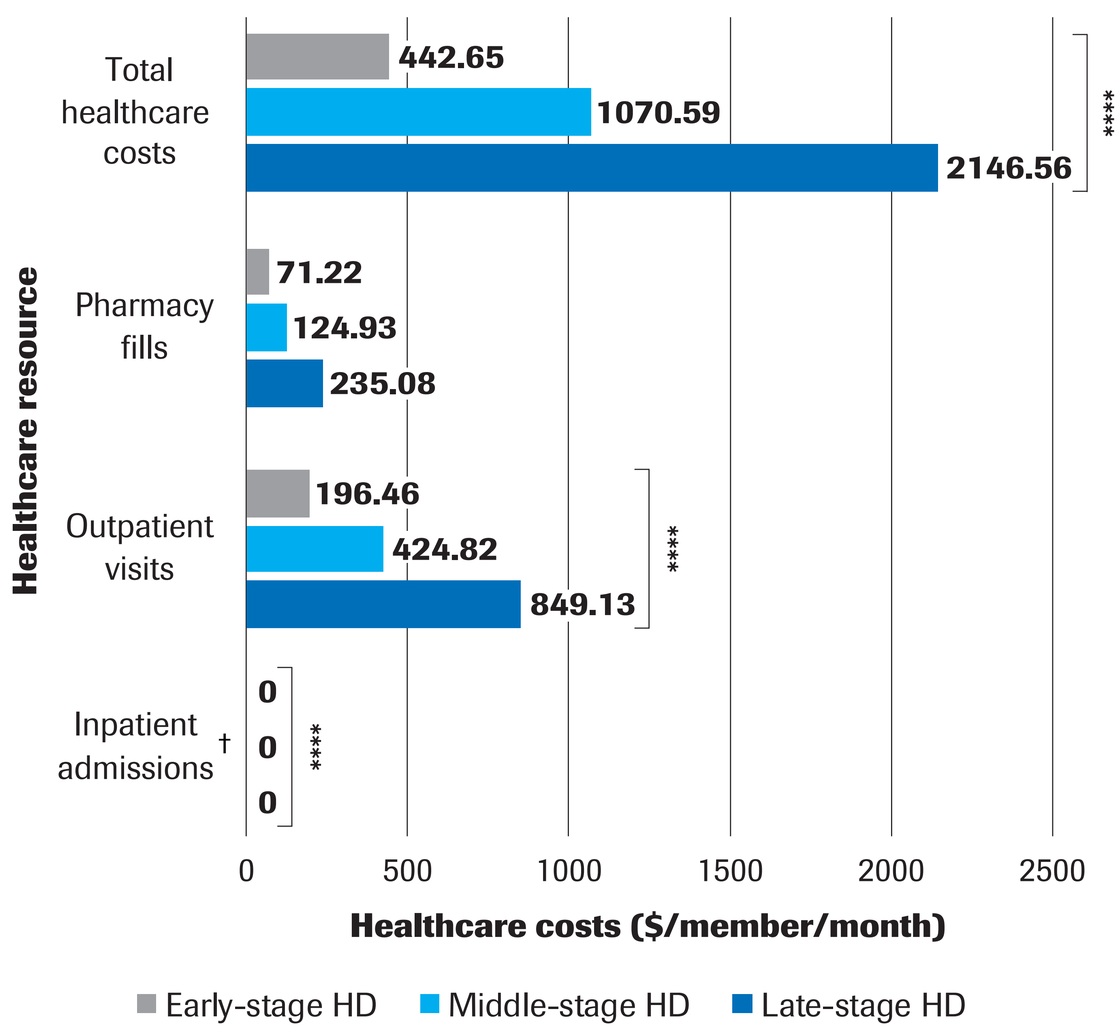
Table 1. Participant characteristics at baseline

HD stage	Age (years) (mean [SD])	CCI (mean [SD])	Follow-up time (months)(mean [SD])
Early (n=1432)	50.44 (15.42)	0.47 (1.18)	28.6 (21.56)
Middle (n=689)	56.26 (16.57)	1.47 (2.19)	26.74 (20.72)
Late (n=548)	63.29 (15.72)	2.57 (2.74)	23.84 (20.27)

Healthcare costs

- Median healthcare costs/member/month differed by post-index HD stage ($p<0.0001$) and increased with disease severity (**Figure 1**).

Figure 1. Median healthcare costs/member/month by post-index HD stage

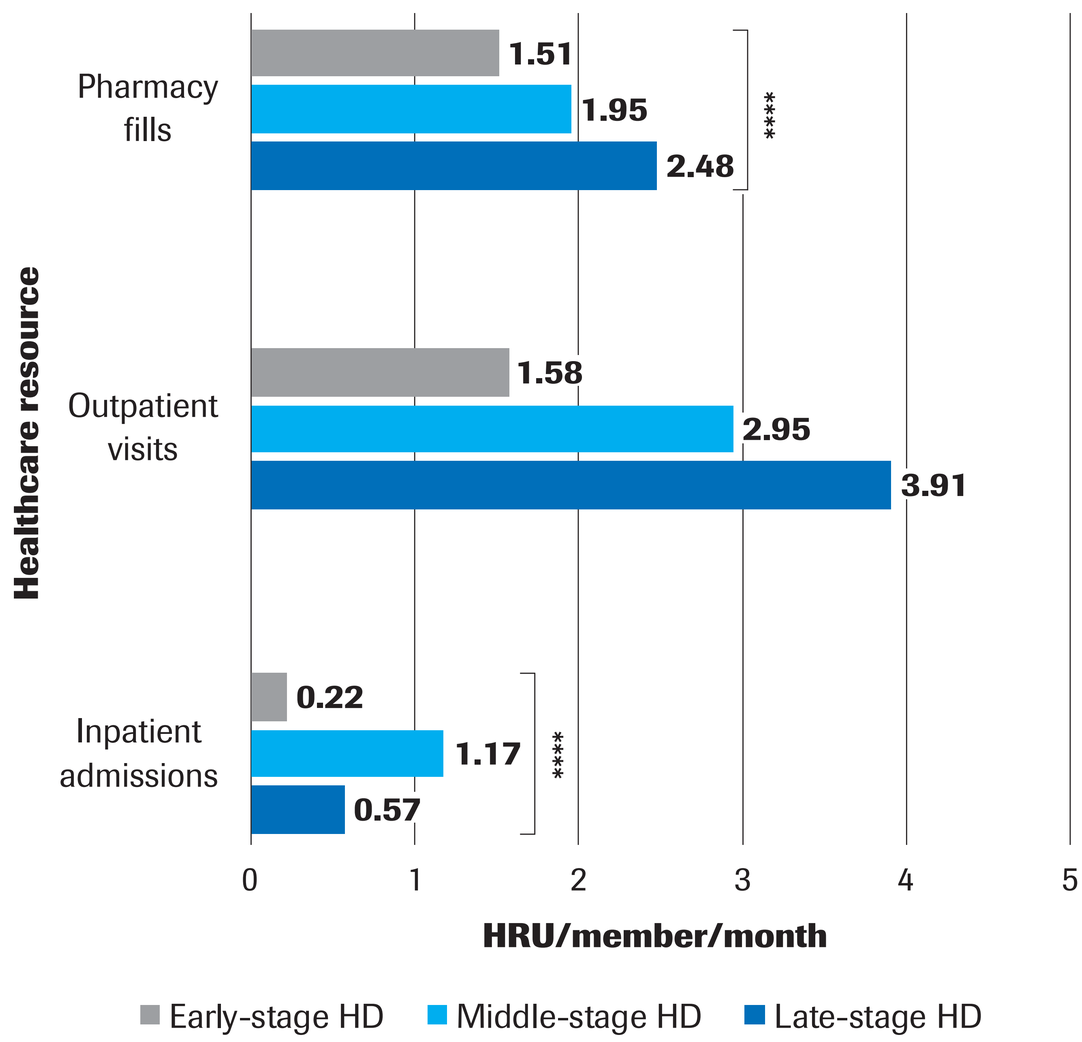


****p<0.0001 †At least half of the patients did not have any inpatient costs.

Healthcare resource utilisation

- Mean HRU/member/month by post-index HD stage for inpatient admissions, outpatient admissions, and pharmacy fills are shown in **Figure 2**.

Figure 2. Mean HRU/member/month by post-index HD stage



****p<0.0001

Acknowledgements

We thank all the patients who participate in our studies and their families. This study is funded by F. Hoffmann-La Roche Ltd. The authors thank Shuang Song, of Meditech Media UK for providing editorial support for this poster, which was funded by F. Hoffmann-La Roche Ltd in accordance with Good Publication Practice (GPP3) guidelines (http://www.ismpp.org/gpp3).

Abbreviations

CCI, Charlson Comorbidity Index; HD, Huntington's disease; HRU, healthcare resource utilisation; SD, standard deviation.

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Presented at Virtual ISPOR 2020, May 18–20 2020