



How Does the Inclusion of New Drugs in National Reimbursement Drug List Influence Health Outcomes and Financial Burden for Multiple Sclerosis Patients

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Yusheng Jia¹, Hainan Li¹, Xuanqi Qiao¹, Hongfei Gu², Min Hu¹

¹ Fudan University, School of Public Health, Department of Health Economics, Shanghai, China

² Hongmian Cancers and Rare Disorders Charity Foundation of Guangzhou, Guangzhou, China

BACKGROUND

- Negotiating and adjusting the National Reimbursement Drug List (NRDL) in China plays a critical role in improving access to care. However, the long-term impact of these adjustments, particularly on patients from different socioeconomic backgrounds, has rarely been studied.

OBJECTIVES

- This study examines the distributional effects of the 2021 NRDL negotiations on health outcomes and financial burden for patients with multiple sclerosis (MS) across socioeconomic status.

METHODS

- We used an extended cost-effectiveness analysis (ECEA) to assess the impact of the 2021 NRDL negotiations on disease-modifying therapies (DMTs) for MS. This analysis compared pre- and post-negotiation scenarios - before 2021, only one DMT was covered, whereas after the negotiations, two additional DMTs were included in the NRDL. From a payer perspective, we can estimate both insurance and out-of-pocket (OOP) costs.
- We analyzed data from a patient survey conducted in 2022, including 642 MS patients' demographics, socioeconomic status, disease progression, treatment history, and associated costs.
- Using a Markov model, we projected lifetime outcomes in terms of quality-adjusted life-years (QALYs) and OOP expenses across household income quintiles.

RESULTS

- The usage of DMTs before and after 2021 NRDL negotiation increased from 33% to 58% (Figure 1). ECEA result suggests that the inclusion of new DMTs in the NRDL resulted in an average lifetime gain of 0.0087 QALYs per patient, with an increased financial burden of 5,352 CNY per patient (Table 1).
- However, this effect of the NRDL adjustment was not evenly distributed across income levels, indicating significant disparities in access to DMTs (Figure 2).
 - Wealthier patients benefited more in terms of both health outcomes and financial impact, while those in lower socioeconomic groups experienced smaller gains in QALYs and substantial increases in out-of-pocket costs, particularly the second-lowest income group.

CONCLUSIONS

- This analysis reveals a skewed benefit to wealthier individuals following NRDL updates related to DMTs for MS.
- Our findings underscore the critical need for continued emphasis on health equity in the aftermath of NRDL negotiations.
- Effective monitoring and intervention strategies are needed to ensure equitable access to therapies and to mitigate the financial impact on vulnerable groups.

CORRESPONDENCE

Min Hu, PhD, Associate Professor,
Department of Health Economics, Fudan University,
E-mail: humin@fudan.edu.cn.

Table 1. Summary findings for extended cost effectiveness analysis (per MS patient).

Variable	Total	Q1 (poorest)	Q2	Q3	Q4	Q5 (richest)
ΔQALYs	0.0087	0.0043	0.0089	0.0139	0.0089	0.0073
ΔInsurance payment by government (CNY)	9,531	7,534	9,058	14,933	9,696	6,679
ΔInsurance payment on DMTs	9,658	7,583	9,167	15,147	9,830	6,802
ΔInsurance payment on other services	-127	-48	-109	-214	-134	-123
ΔOut-of-pocket expenses (CNY)	5,352	1,648	7,315	7,010	5,806	4,335
ΔOOP expenses on DMTs	5,473	1,687	7,436	7,205	5,931	4,456
ΔOOP expenses on other services	-121	-39	-120	-195	-125	-121
ΔProductivity gains (CNY)	607	294	614	970	618	525

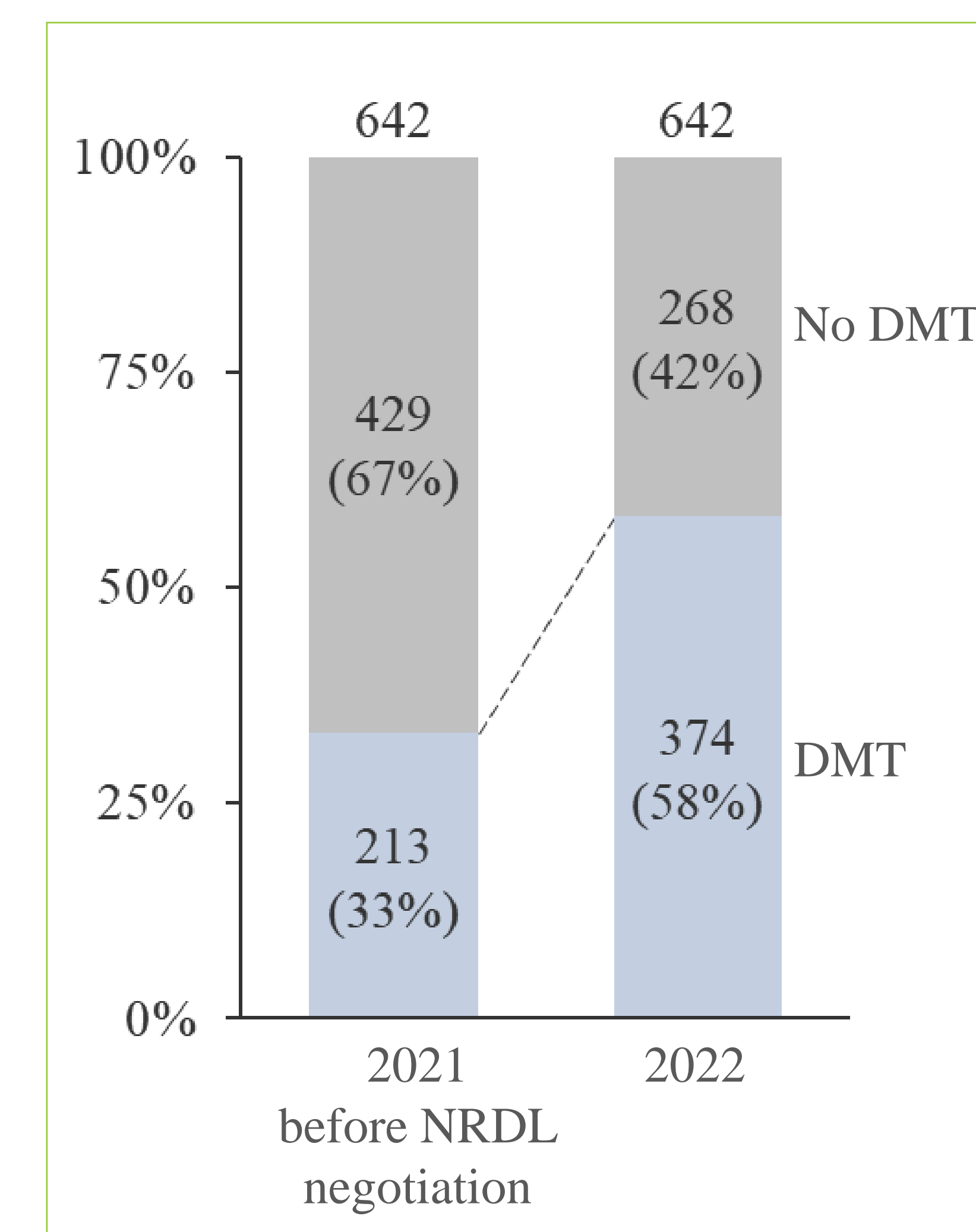


Figure 1. Use of DMTs before and after 2021 NRDL negotiation.

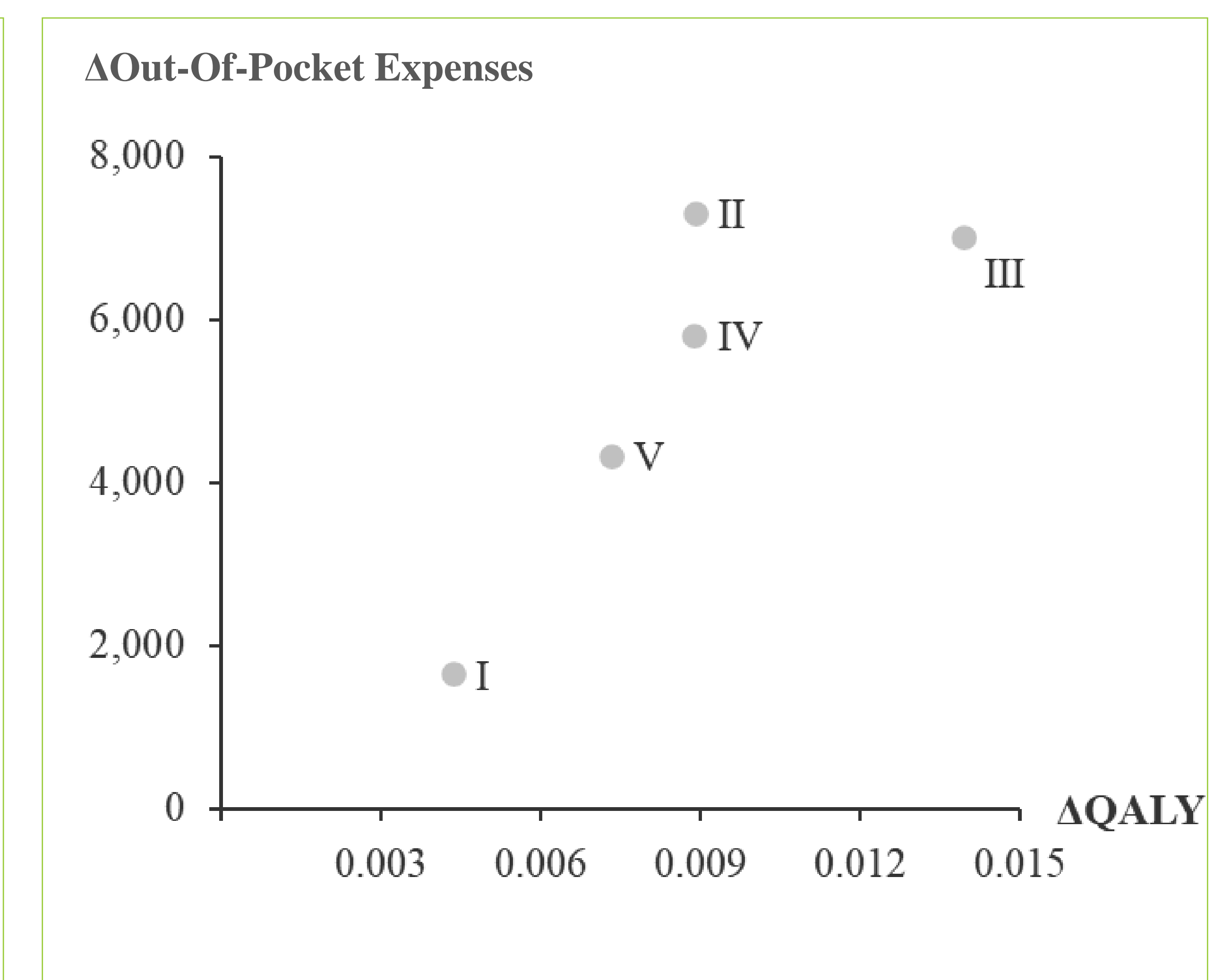


Figure 2. Out-Of-Pocket Expenses versus Health Gains (QALYs) for NRDL Adjustment per patient