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**ABSTRACT:** Background: Repetitive deep transcranial magnetic stimulation (dTMS) is efficacious for treatment resistant major depressive disorder (TRD) with the H1 coil by stimulating the prefrontal cortex, left more than right, at high frequency. Theoretically, the efficacy of dTMS could be optimized by simultaneously stimulating the right and left lateral prefrontal cortices (PFC) with different frequencies. This study tested the efficacy of a novel dual-channel dTMS stimulator with dual dTMS coils, in patients with TRD.

**METHODS:** This study recruited forty-seven outpatients diagnosed with TRD, age 18-65, Hamilton Depression Rating Scale (HDRS-21) score  $\geq 25$ . Each patient received 20 open label treatment sessions, five days a week for 4 consecutive weeks. Treatments were administered with the dual-channel stimulator (Brainsway Multiway dTMS device) using two channels: a. 10 Hz over the left PFC. b. 1 Hz over the right PFC. Primary and secondary efficacy outcome measures were the change in HDRS-21 score and response/remission rates at week 5, respectively.

**RESULTS:** The HDRS-21 score decreased from an average of 25.94 to 14.69 ( $P < 0.001$ ). Thirty-six patients completed four weeks of treatment. Of them, seventeen (47%) responded (HDRS-21 score decrease of  $\geq 50\%$  from their initial score) and eight (22%) remitted (HDRS-21 score of  $< 10$  at the end of the study).

**DISCUSSION:** This open study shows promising results for multichannel simultaneous dTMS treatment of TRD using the Brainsway Multiway Device. Further randomized controlled studies are necessary to aid the high number of patients with TRD.

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### Healthcare Utilization and Costs for Patients With Tardive Dyskinesia

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**ABSTRACT:** Introduction: Tardive dyskinesia (TD) is an often-irreversible movement disorder that usually results from prolonged use of antipsychotics. Although the burden of TD on patients' quality of life has been reported, there is limited evidence of its impact on the healthcare system.

**OBJECTIVE:** To assess healthcare utilization and costs between TD and non-TD patients in a sample of patients from the commercially insured and Medicare Supplemental US populations.

**METHODS:** A retrospective cohort analysis was conducted using Truven MarketScan Commercial/Medicare claims data. For each patient included in the analysis, the index date was set as the first TD diagnosis between 1/1/2008 and 9/30/2014. Patients with TD were then matched to similar patients without TD to compare resource utilization and costs. Descriptive statistics on the incidence of resource utilization and costs of healthcare were reported.

**RESULTS:** A total of 1020 patients were included in this analysis. TD patients had significantly greater annual all-cause (TD: \$54,656; non-TD: \$28,777) and mental health-related (TD: \$10,199; non-TD: \$2,605) healthcare costs compared with non-TD patients ( $P < 0.01$ ). This was primarily because a higher proportion of the TD patients experienced hospitalizations (all-cause 56%; mental health 17%) and emergency room visits (all-cause 62%; mental health 27%) compared with non-TD patients (hospitalizations: all-cause 26%, mental health 5%; emergency room visits: all-cause 41%; mental health 13%) (all  $P < 0.001$ ).

**CONCLUSIONS:** Patients identified as being diagnosed with TD demonstrate significantly higher healthcare utilization and costs in the 12 months after diagnosis than do similar patients without TD.

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### Dasotraline for the Treatment of Moderate to Severe Binge Eating Disorder in Adults: Results From a Randomized, Double-Blind, Placebo-Controlled Study

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