Proportion of Overlapping Volumes of Tissue Activated (VTA) in N = 30 GPi DBS Patients (60 bilateral VTA)

1/30 (3.3%)   5/30 (16.7%)   9/30 (30.0%)   14/30 (46.7%)   18/30 (60.0%)
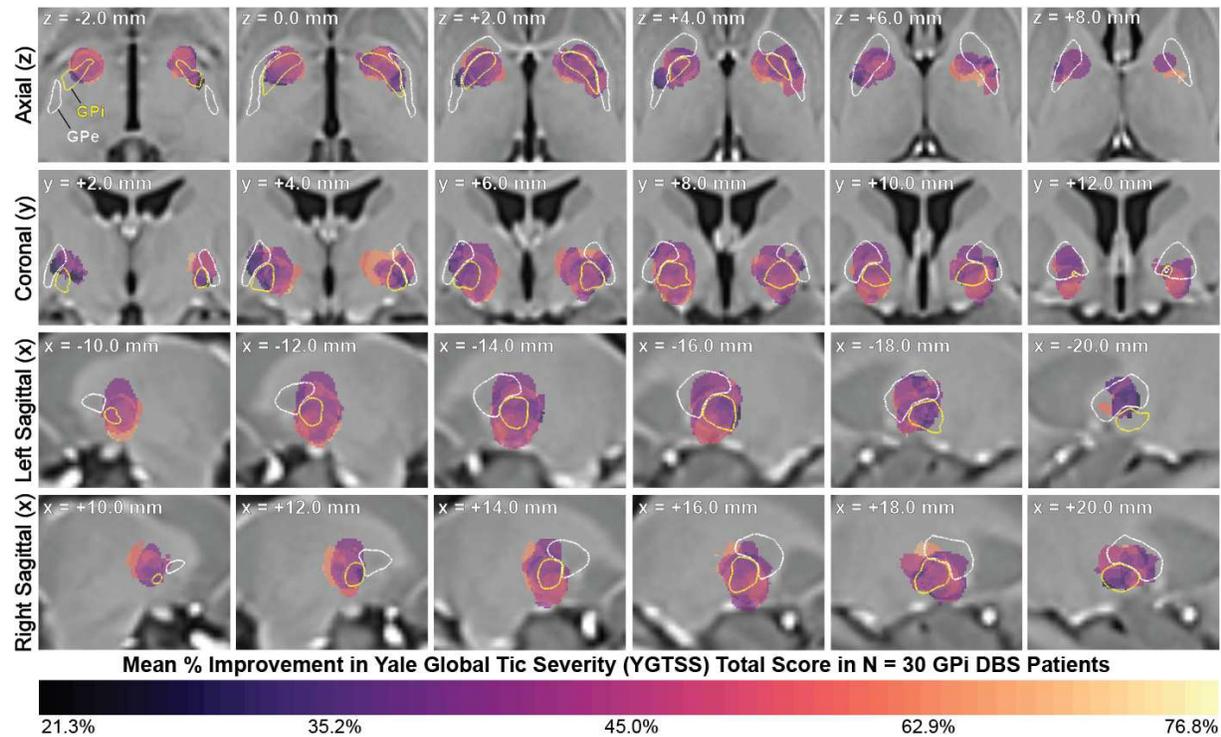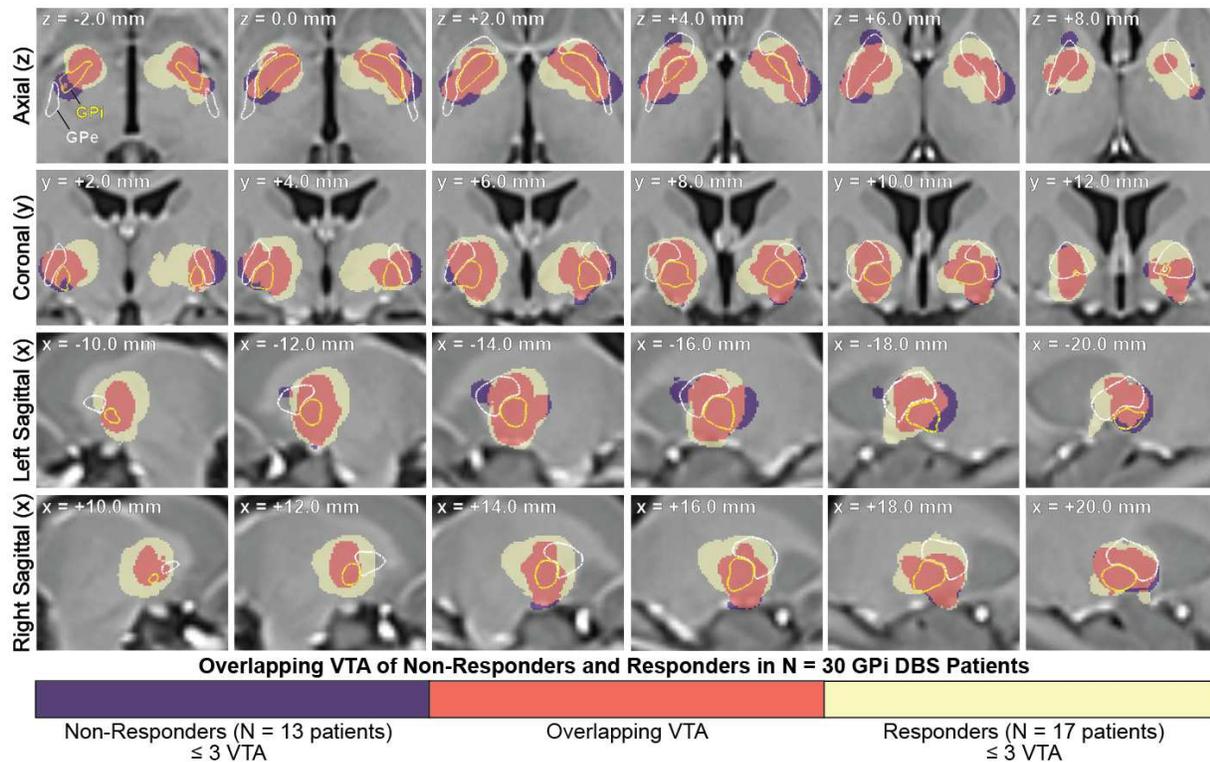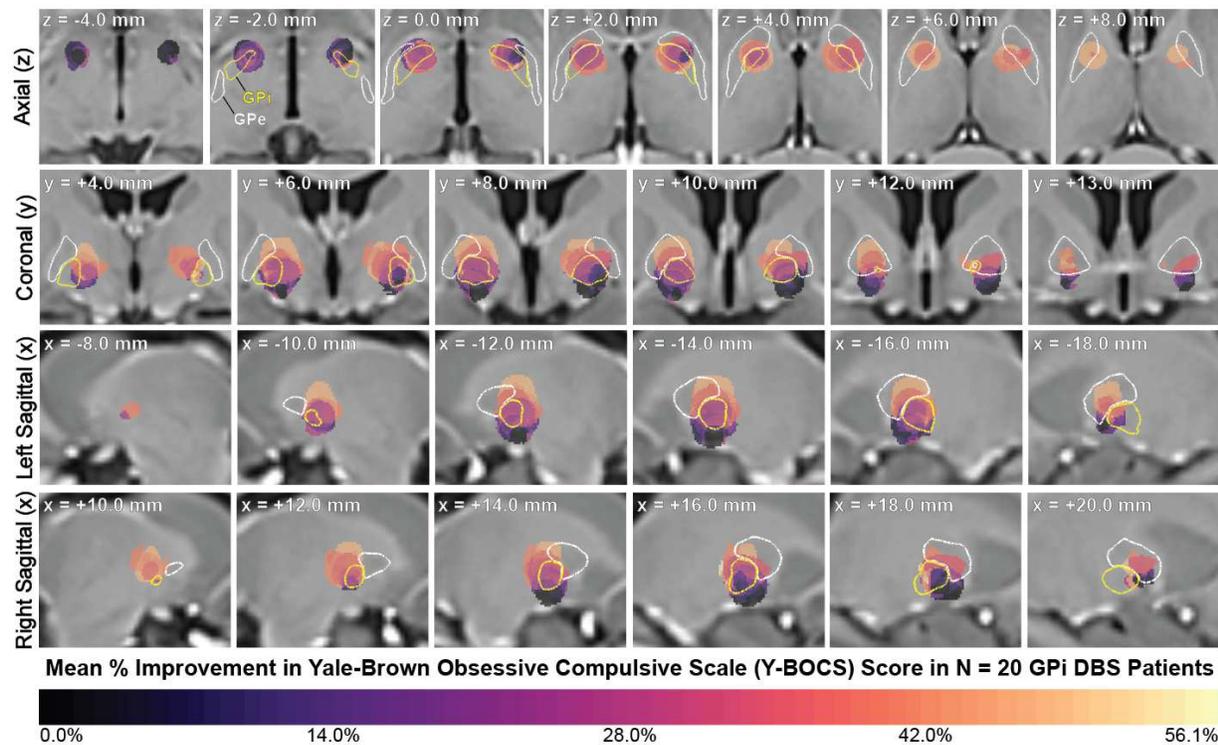
Supplementary Figure 1. Location of stimulation in cohort atlas space of GPi TS DBS patients.
The region with the greatest number of overlapping VTA across GPi DBS patients was located within amGPi and regions inferior of amGPi. Segmentations of nuclei are overlaid for reference (GPi – yellow, GPe – white).

Supplementary Figure 2. Probabilistic stimulation atlases (PSAs) of the change in YGTSS total score in GPi DBS patients. The percent improvement in YGTSS total score was obtained from the final follow-up time point for each patient. There were several disjointed regions associated with higher and lower mean percent change in tic severity. Segmentation outlines of nuclei are overlaid for reference (GPi – yellow, GPe – white).

Supplementary Figure 3. Probabilistic stimulation atlas (PSA) of the responder, non-responder, and regions of overlapping VTA in GPi DBS patients. There was substantial overlap of effective regions and regions that were associated with little to no therapeutic benefit. Segmentation outlines of nuclei are overlaid for reference (GPi – yellow, GPe – white).

Supplementary Figure 4. Probabilistic stimulation atlas (PSA) of the percent change in Y-BOCS total score from baseline in GPi DBS patients. The percent improvement in Y-BOCS total score was taken from the final follow-up time point for each patient. VTA of patients who did not reach a 25% improvement extended below the GPi. VTA of patients who reached a >25% improvement were located within pallidum and/or medial or superior to pallidum and did not extend below the GPi. Segmentation outlines of nuclei are overlaid for reference (GPi – yellow, GPe – white).
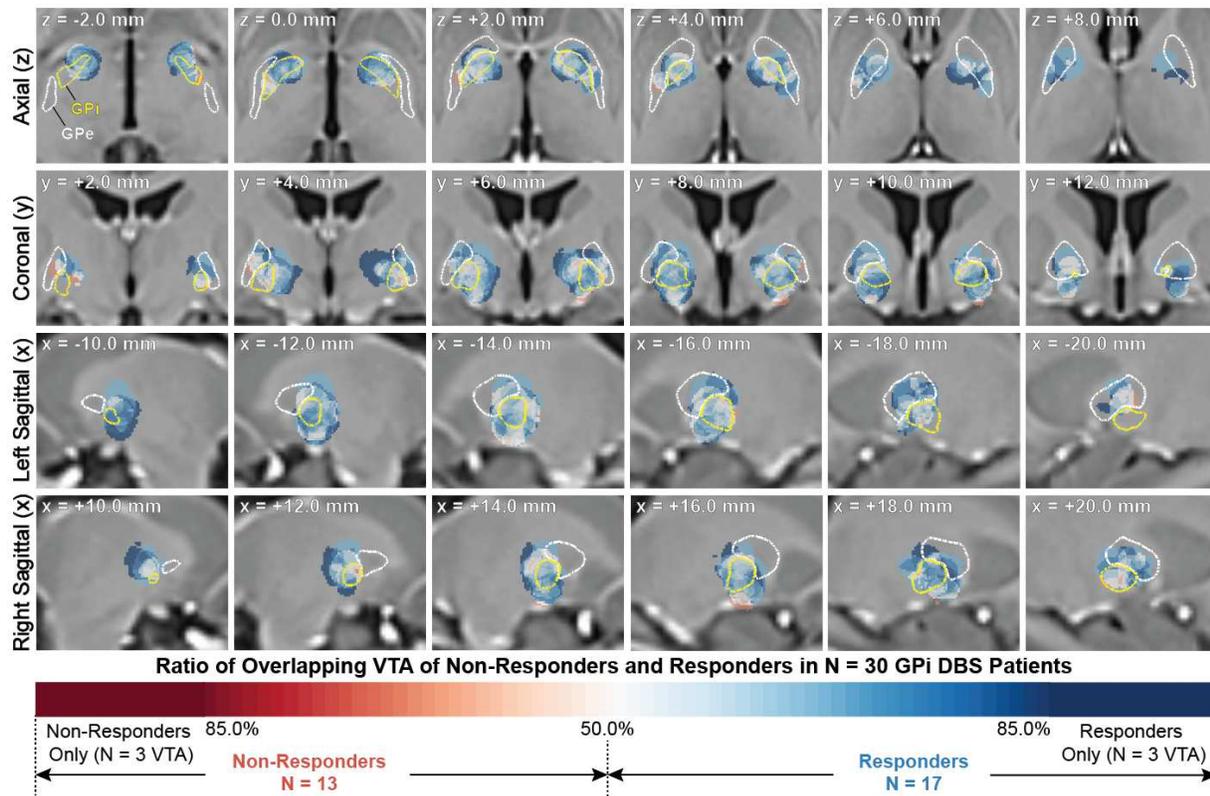
Supplementary Figure 5. Ratio of overlapping VTA in non-responders and responders in GPi DBS patients. Across GPi DBS patients, there were regions with more VTA of responders than non-responders and several regions with an equal proportion of VTA from both groups. Segmentation outlines of nuclei are overlaid for reference (GPi – yellow, GPe – white).