

## OBJECTIVE

To investigate clinical practices for Deep Brain Stimulation (DBS) pre-operative evaluations for Parkinson's disease (PD) Non-Motor Symptoms (NMS)

## BACKGROUND

- NMS are frequently factored into discussions regarding DBS surgical candidacy.
- The clinical practices for preoperative NMS evaluations have not been commonly assessed, which we aimed to do across PSG clinics.
- The Parkinson Study Group (PSG) is a non-profit group of physicians and other health care providers from medical centers in the United States, Canada and Puerto Rico experienced in the care of PD patients and dedicated to clinical research of PD.

## METHODS

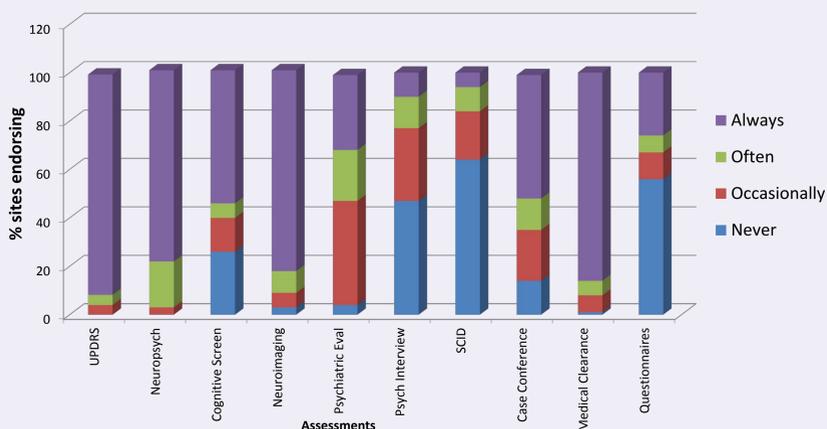
- The NSWG drafted an on-line survey and piloted the survey to a group of expert Movement Disorder Neurologists, Coordinators, and Neuropsychologists.
- The on-line survey (Survey Monkey) was sent to all 131 PSG sites to assess the clinical practices regarding evaluation of a comprehensive range of NMS before and after DBS.

## RESULTS

- 67/131 PSG sites completed the survey (51%).
- 82% of the surveys were completed by a Neurologist.
- DBS sites were primarily academic settings (76%) in which greater than 30 surgeries were performed in the prior year.
- Over 1/2 of the DBS programs had existed for >10 years.
- 47% of the sites had 4 or more Movement Disorder Neurologists.
- 73% of sites performed post-operative imaging for lead localization.

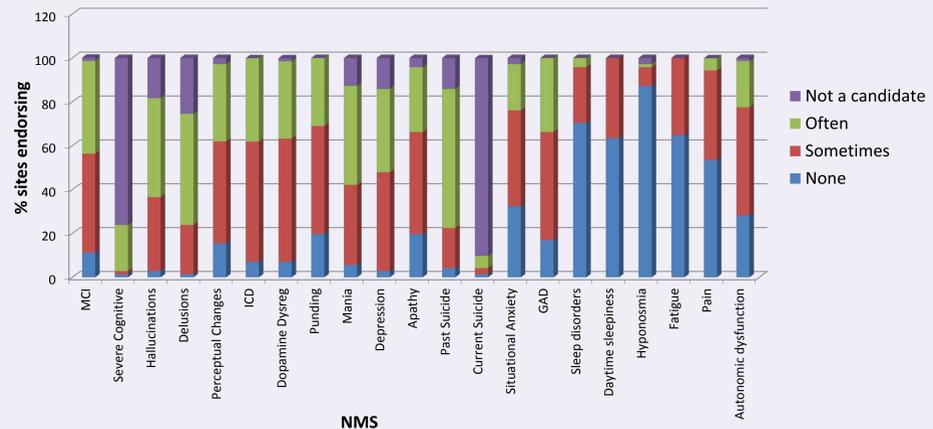
## SURVEY RESULTS

What assessments do you use regularly to make decisions regarding surgical candidacy?

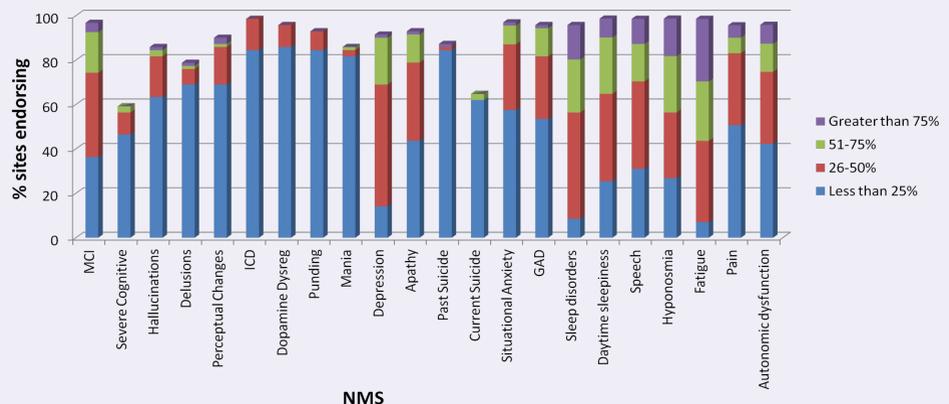


## SURVEY RESULTS

How much do these NMS factor into your decision if the patient is a good candidate?



How often do your patients or their caregivers report these NMS prior to surgery?



- The majority of sites noted that up to 50% of their patients reported Mild Cognitive Impairment (MCI), depression, apathy, sleep disturbance, and/or fatigue prior to surgery.
- The majority of centers elected bilateral subthalamic nucleus (STN) surgery, even if NMS were present.
- There were several exceptions for apathy (globus pallidus internus (GPI) preferred), and speech difficulties or MCI (unilateral STN or GPI surgeries preferred).
- The ranking of Neuropsychological domains by importance in decision making for candidacy was: Executive Functioning, Memory, Language, Attention, and Visuospatial Functioning
- The NMS most often reported by patients prior to surgery are the symptoms that do not factor highly into DBS surgical decision making.

## SUMMARY & CONCLUSIONS

- The majority of PSG DBS sites placed a high importance on some NMS more than others when making candidacy decisions, which differed from NMS reported by patients/caregivers.
- The sites placed particular emphasis on cognition, hallucinations, mania, and suicidal ideation.
- When patients were deemed good candidates, the site of surgery was not often affected by the presence of NMS; however, there were individual exceptions and practice pattern variations that will be explored further.
- The study reports perceptions of DBS treatment teams. Future research will also investigate direct patient perceptions of pre- and post-DBS NMS, as this comparison may prove to be a valuable addition to the literature and can inform future studies of the DBS on NMS.

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