



# Utility of Neuropsychological Screening in a Multidisciplinary Neurocutaneous Clinic

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## BACKGROUND

Children and adolescents with neurofibromatosis type 1 (NF1) are at increased risk for neurocognitive dysfunction and neurodevelopmental/psychiatric comorbidities (1, 2). These cognitive deficits can be identified utilizing neuropsychological testing and evaluation. The purpose of this project was to examine the utility of neuropsychological screening in a multidisciplinary neurocutaneous clinic and determine whether a brief evaluation can adequately screen children with NF1 for cognitive dysfunction or psychiatric comorbidities.

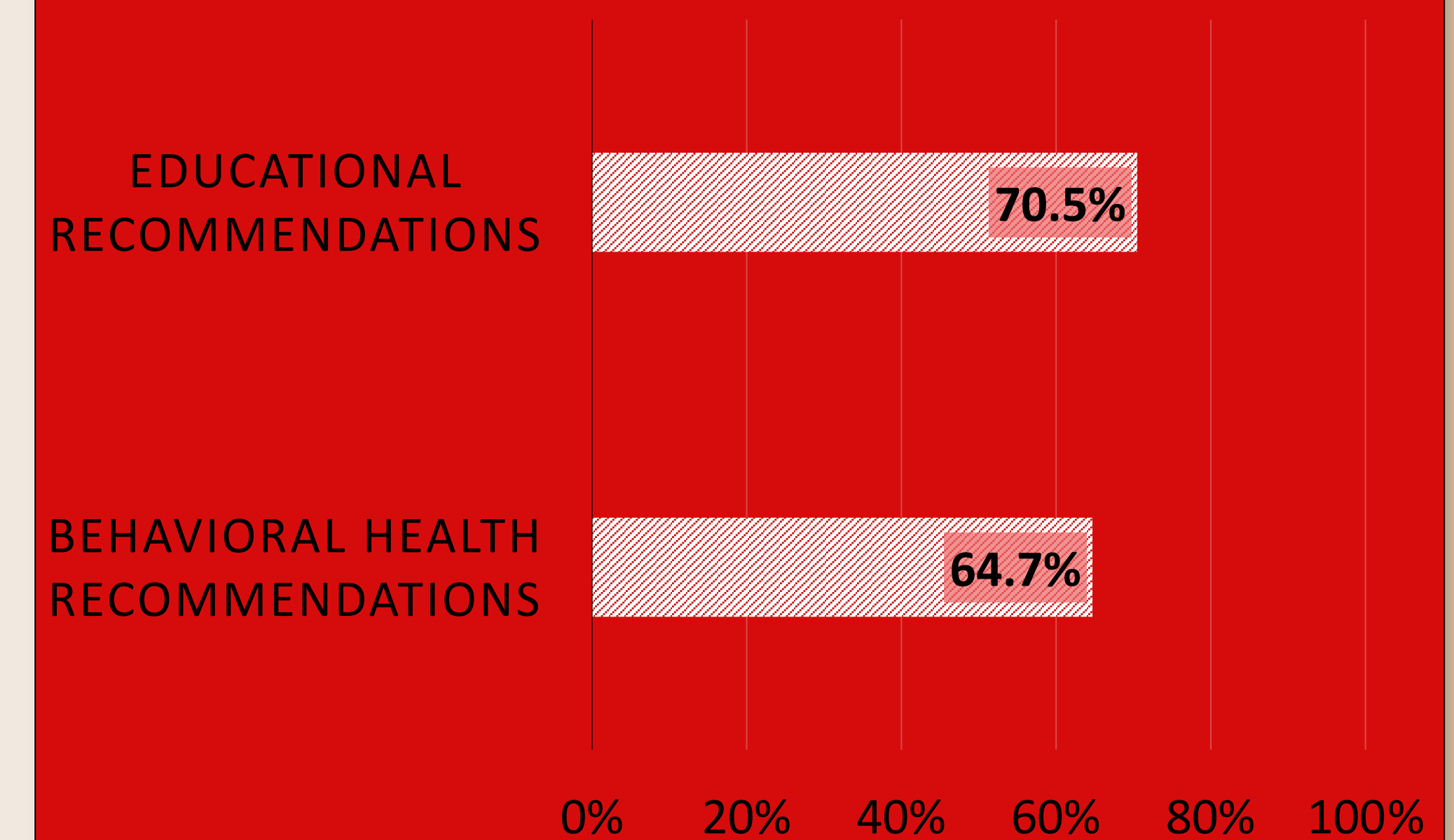
## METHODS

Children with neurofibromatosis type 1 underwent neuropsychological screening as part of their multidisciplinary clinic visit. This screening evaluation consisted of clinical interview, neuropsychological testing, and the completion of emotional/behavioral checklists. Our neuropsychological test battery included the Kaufman Brief Intelligence Test-Second Edition (KBIT-2), the NIH Toolbox Fluid Cognition Composite (consisting of 6 subtests), and the NIH Negative Affect Composite (questionnaires). Results were discussed with patients and the medical team during their multidisciplinary clinic visit.

A brief neuropsychological screening battery effectively identified neuropsychological diagnoses and deficits in a sample of children with NF1, and many children in this sample required recommendations to address deficits.

## RESULTS CONT.

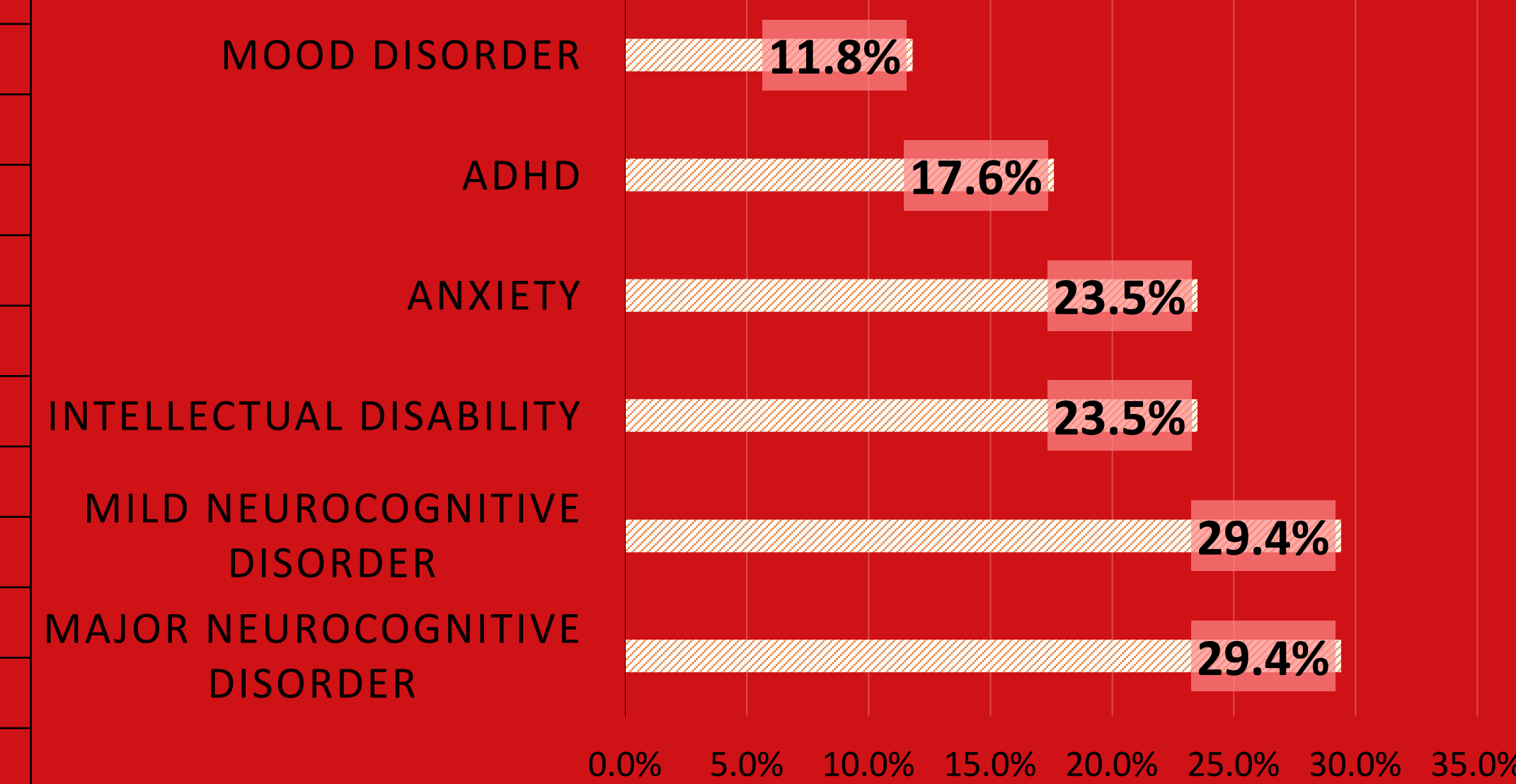
### PERCENT OF PATIENTS REQUIRING RECOMMENDATIONS



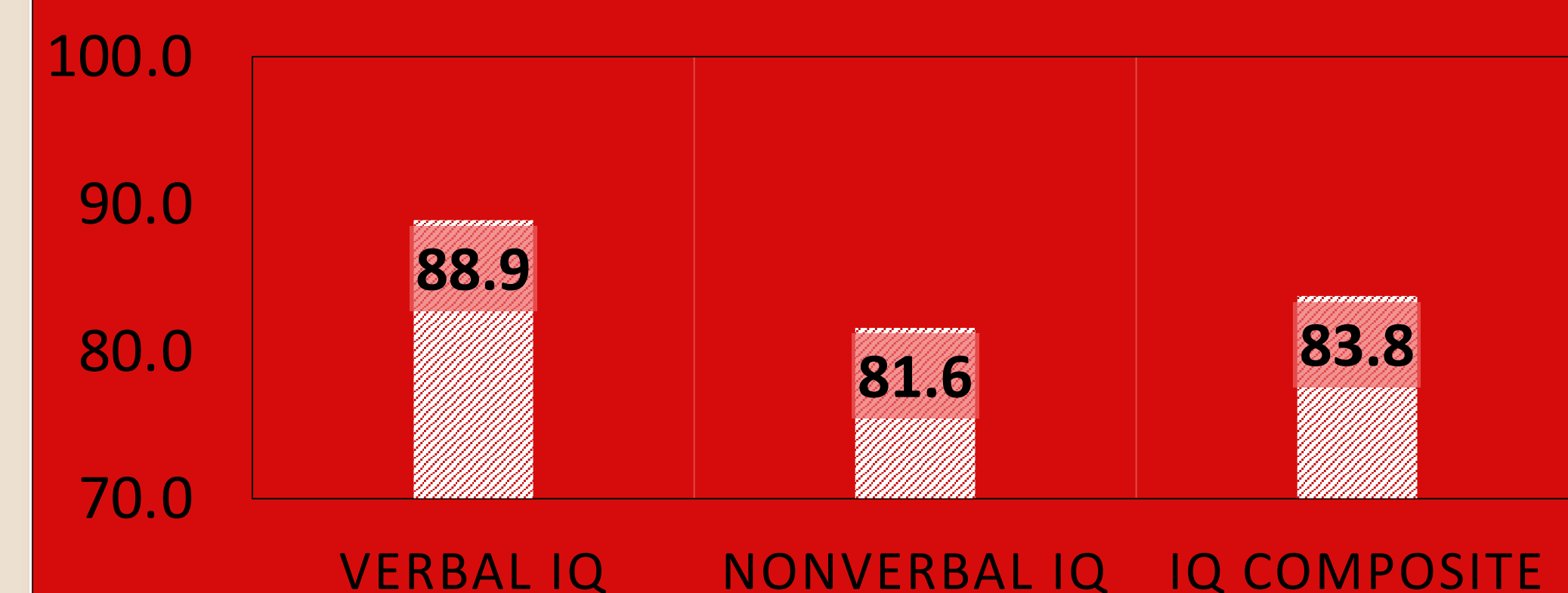
## RESULTS

DEMOGRAPHICS	
N =	17
Female =	53%
Male =	47%
Average age (years)	9.82
Age Range (years)	5-19
TESTING	
Average Testing Time (minutes)	53
DIAGNOSES	
Average number of new diagnoses	1.6
FOLLOW-UP	
Percent requiring neuropsychological follow-up	64.7%
Median Recommended Follow-up Interval (years)	1-2

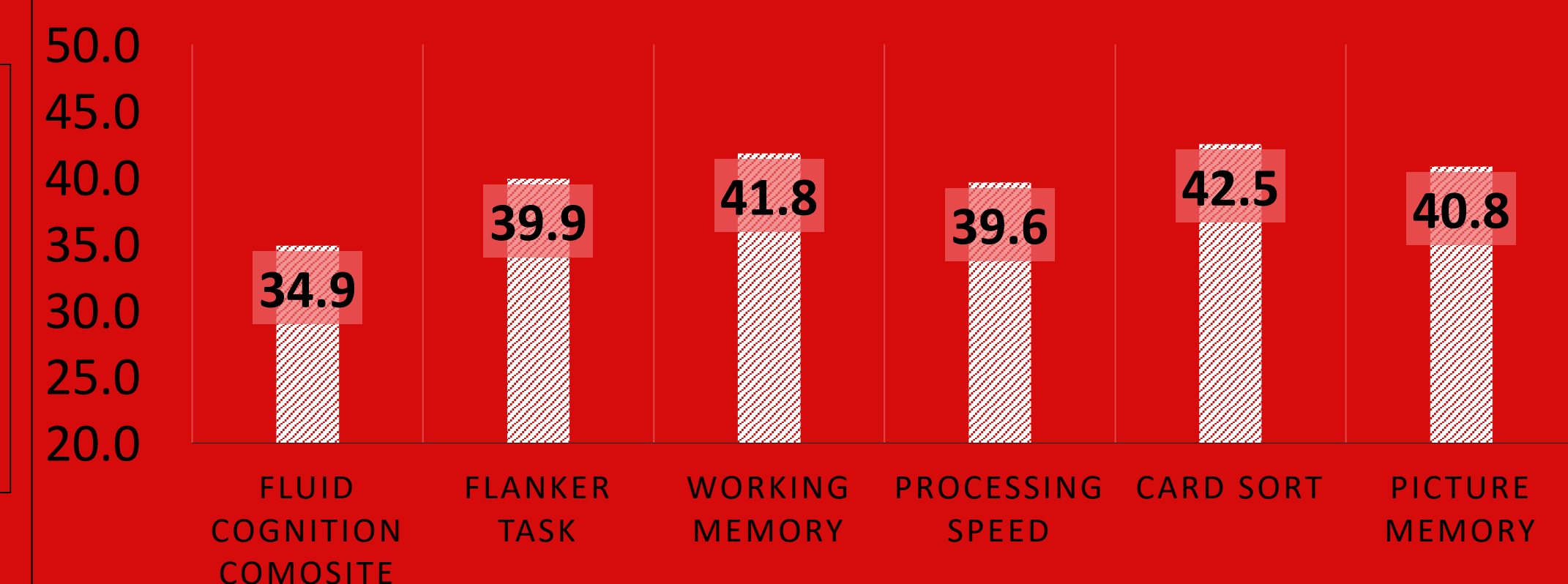
### MOST COMMON NEW DIAGNOSES



### AVERAGE KBIT-2 IQ SCORES



### NIH TOOLBOX AVERAGE T-SCORES



## CONCLUSIONS AND ADDITIONAL KEY INFORMATION

### Conclusions:

A brief neuropsychological screening battery completed as part of a multidisciplinary neurocutaneous clinic was efficient and useful in identifying cognitive deficits and neuropsychological diagnoses in children with NF1.

### References:

- Lehtonen, A., Howie, E., Trump, D., & Huson, S. M. (2013). Behaviour in children with neurofibromatosis type 1: cognition, executive function, attention, emotion, and social competence. *Developmental Medicine & Child Neurology*, 55(2), 111-125.
- Levine, T. M., Materek, A., Abel, J., O'Donnell, M., & Cutting, L. E. (2006, March). Cognitive profile of neurofibromatosis type 1. In *Seminars in pediatric neurology* (Vol. 13, No. 1, pp. 8-20). WB Saunders.

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