

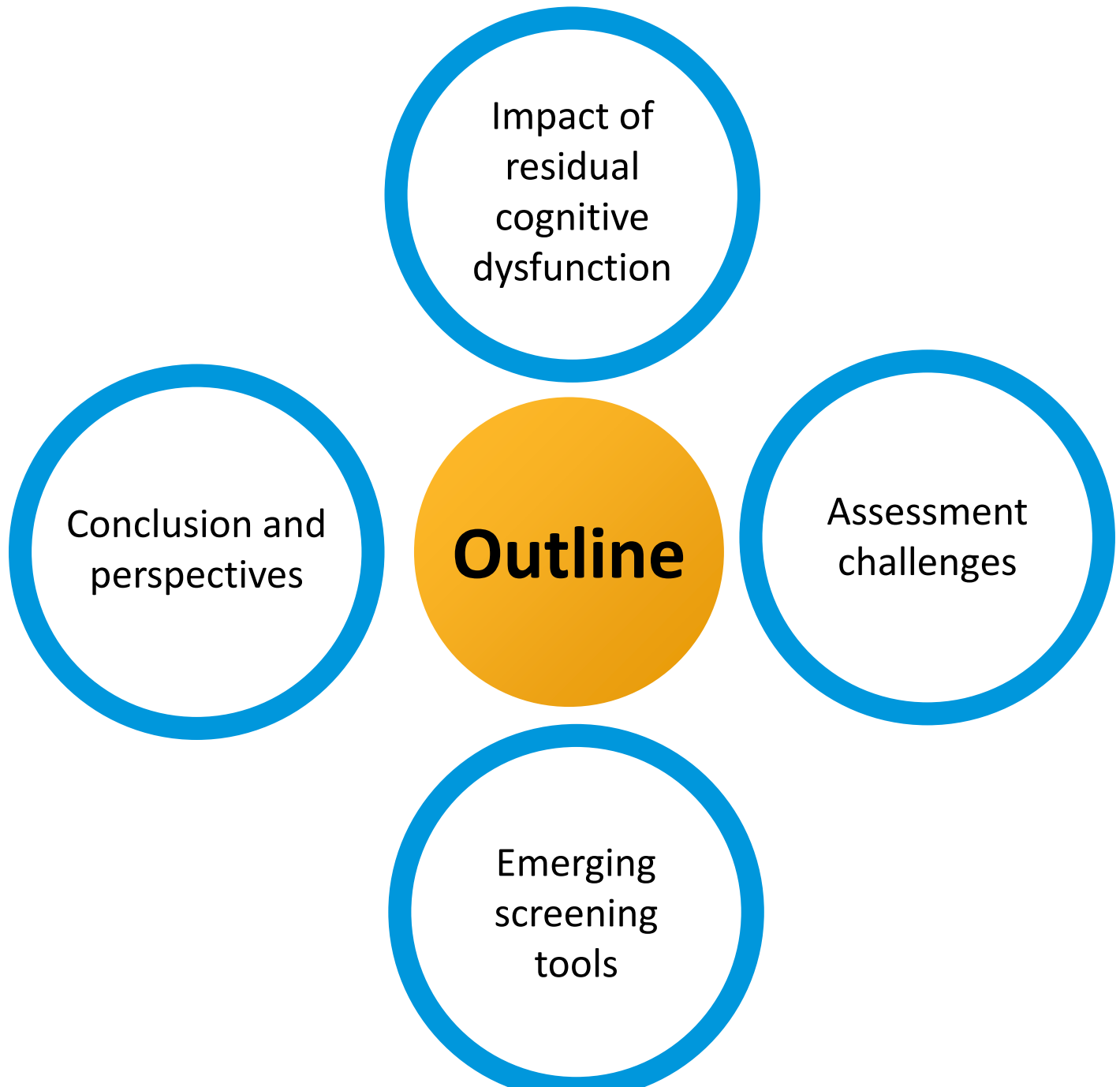
# Measuring cognition in clinical practice – challenges and new tools

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## Disclosures

<b>Consulting roles</b>	KM has acted as a consultant for Lundbeck A/S
<b>Honoraria</b>	KM has received honoraria from Lundbeck A/S
<b>Research or grants from private industries or non-profit funds</b>	-
<b>Advisory boards</b>	-
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Impact of  
residual  
cognitive  
dysfunction

Assessment  
challenges

Emerging  
screening  
tools

Conclusion and  
perspectives

## From 'remission' to 'functional recovery'

The diagram features a large, light-orange arrow pointing downwards and to the right. Inside the arrow, there is a blue rectangular box containing the text 'Resolution of symptoms'. At the tip of the arrow is a green circular box containing the text 'Success of antidepressant treatment'. To the right of the arrow, there is a separate orange rectangular box containing the text 'Functional improvement'.

Resolution of symptoms

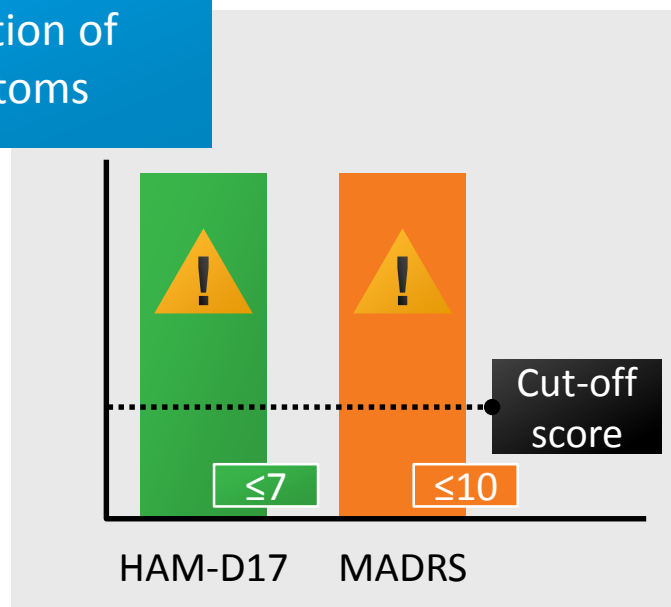
Functional improvement

Success of antidepressant treatment

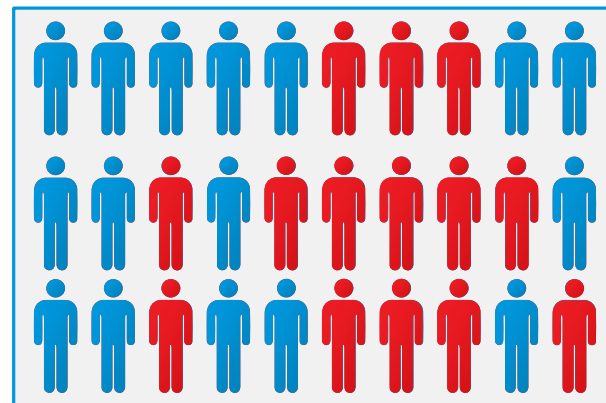
# From 'remission' to 'functional recovery'

Resolution of symptoms

Residual symptoms common even in remission



Patients



Approximately half of patients do not consider themselves in remission<sup>1</sup>

Little attention to functional impairment

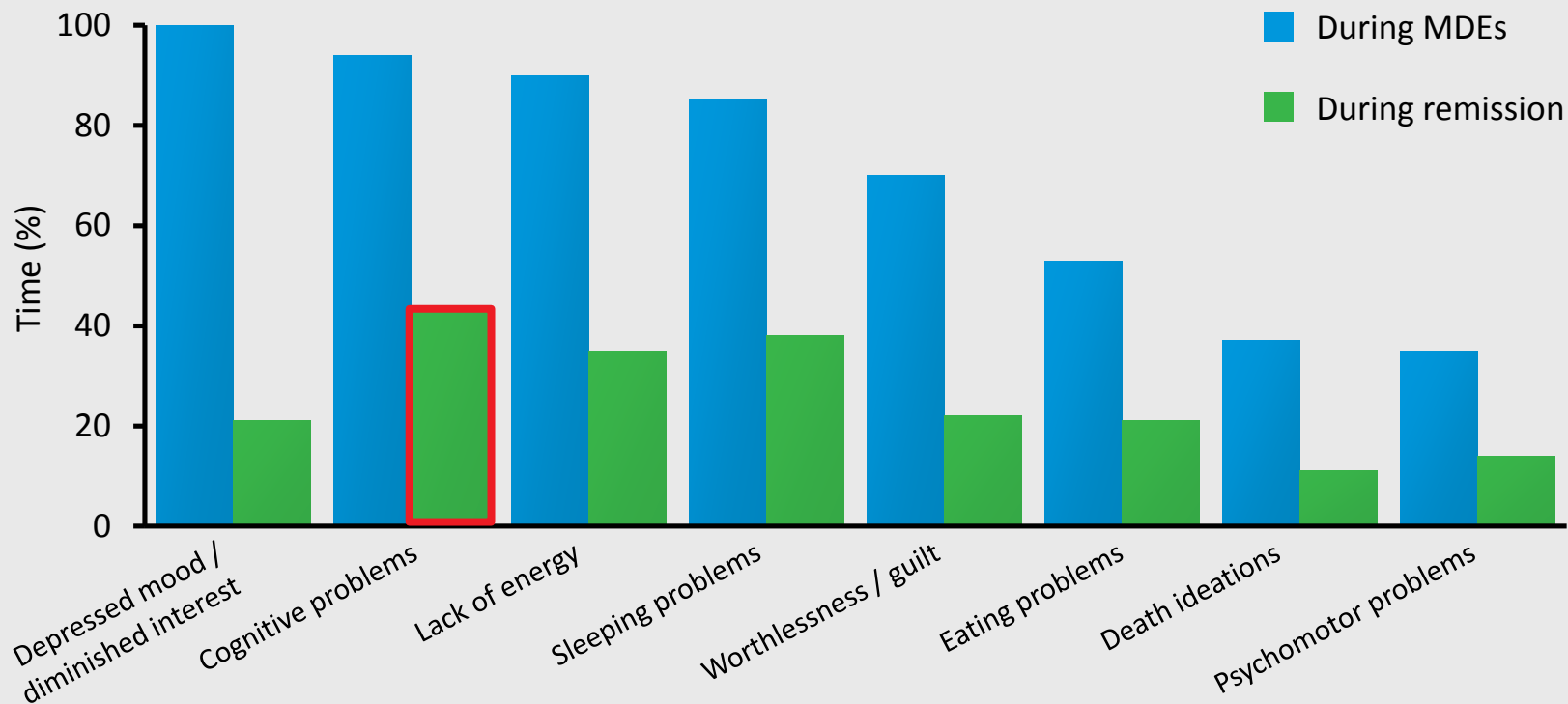
Workforce capacity

Social life

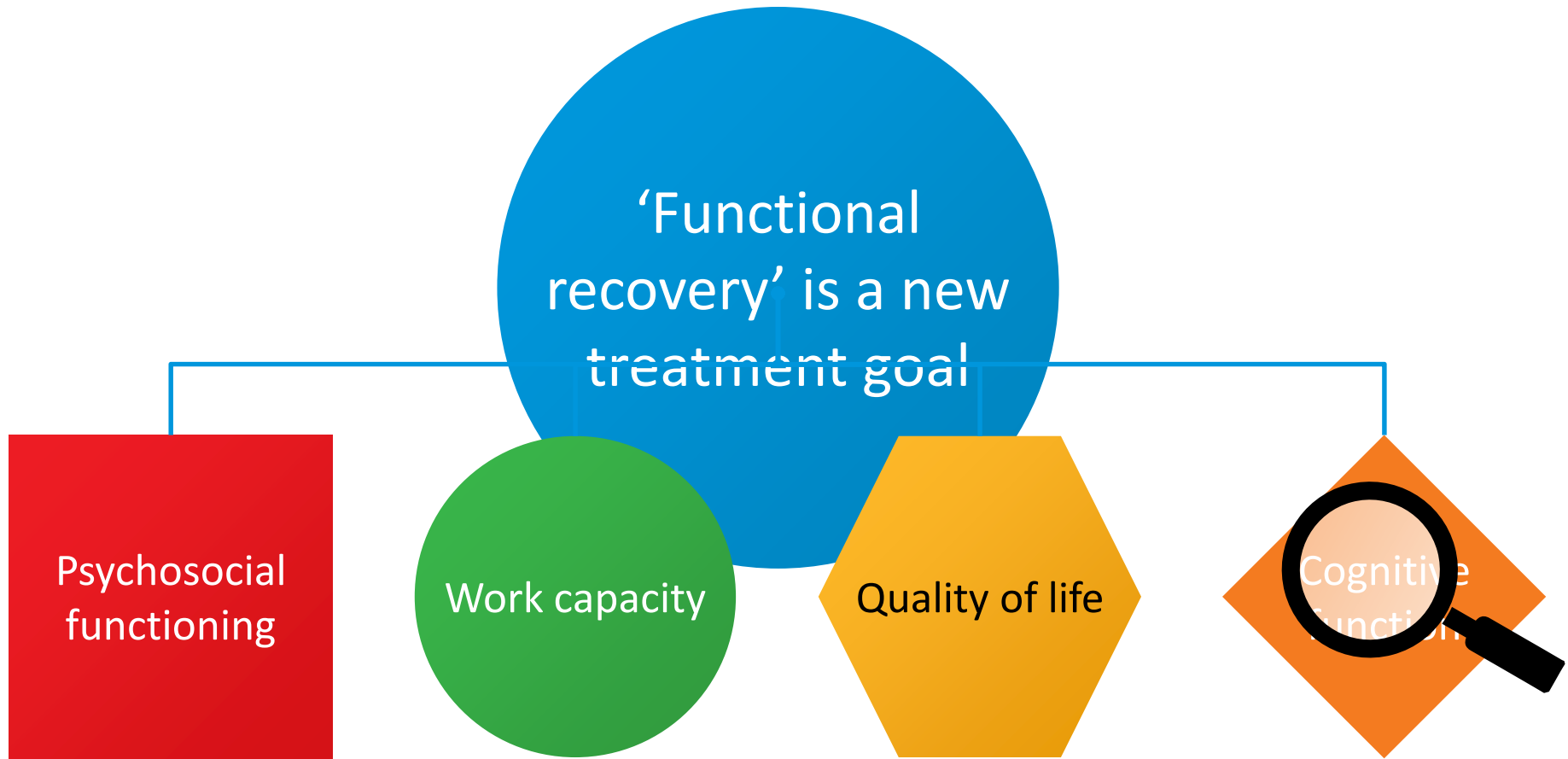
Home life

# Residual symptoms are common in remission in patients with depression

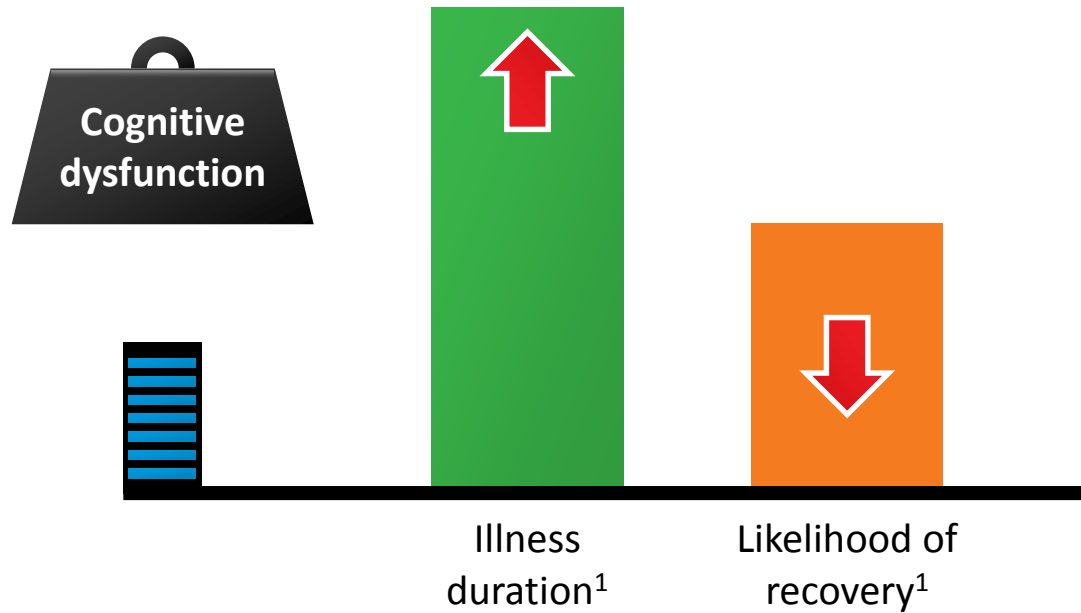
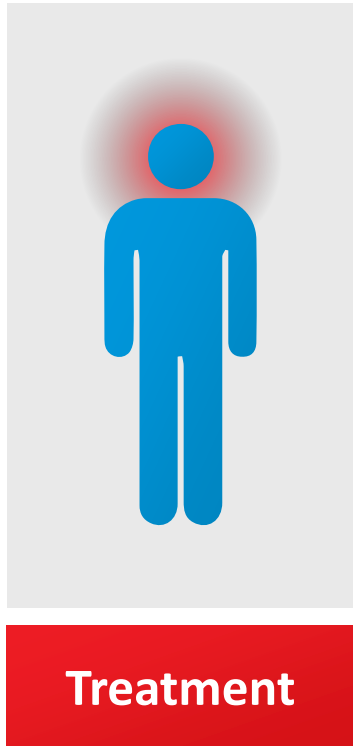
## Percentage of time that patients met DSM-IV criteria per symptom cluster



# Cognition as an important dimension of functional recovery

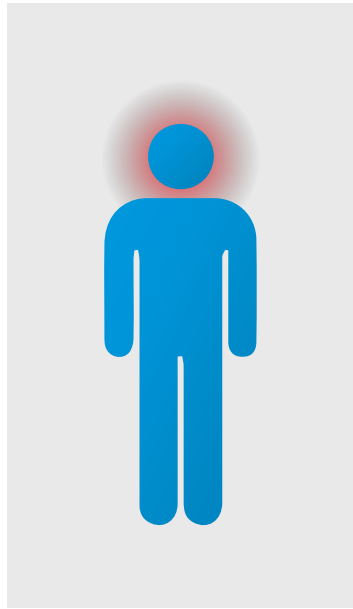


# Cognitive dysfunction in MDD





# Cognitive dysfunction in MDD



**Treatment**



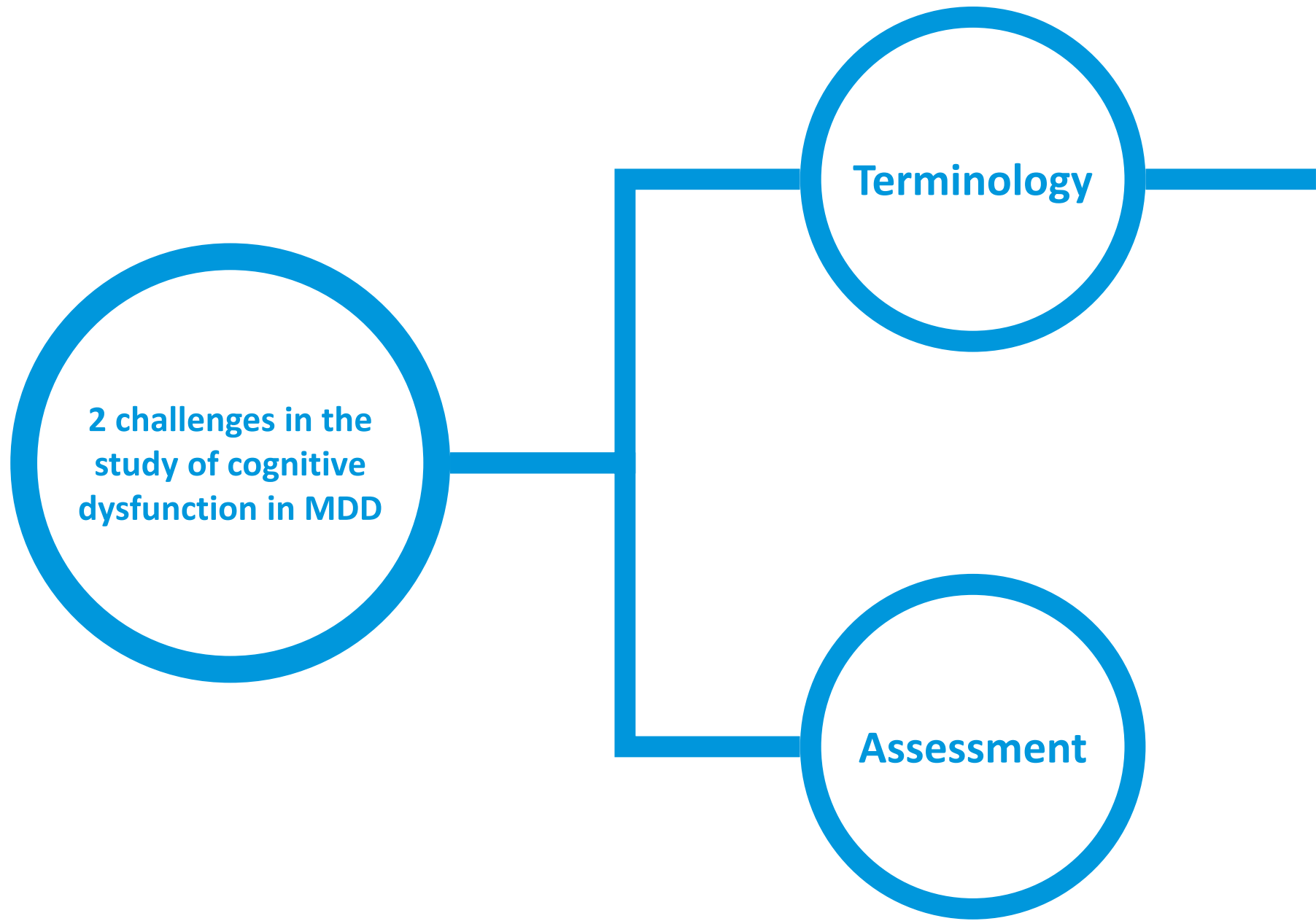
**Remission**

**Persists into remission  
and is partially separate from mood  
symptoms<sup>2</sup>**

**Cognitive  
dysfunction**

**Poor socio-occupational outcome  
independent of mood<sup>3,4</sup>**

**Should be assessed and monitored to improve functional recovery**



## Challenge 1: terminology

### Lack of consensus creates confusion

What is meant by terms used?

What is being studied? How do the findings relate to one another?

### Terminology related to 3 types of assessment

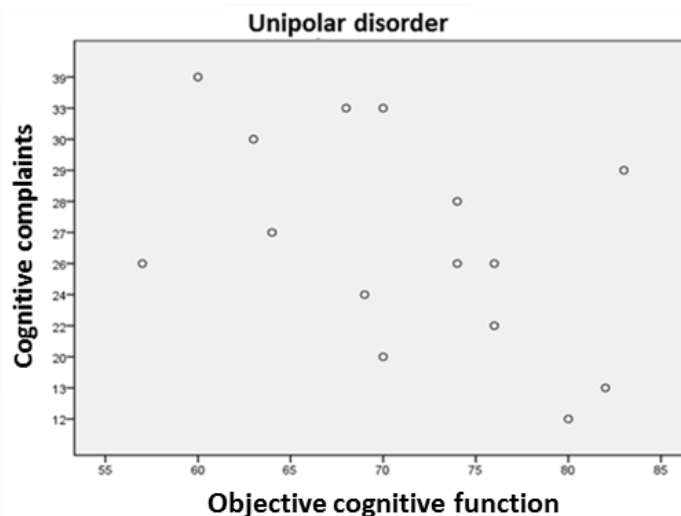
**Subjective** measures

**Observer-based** measures

**Objective** measures

# Is there an association between subjective and objective measures of cognitive function in patients with affective disorders?

ANNE M. SVENDSEN, LARS V. KESSING, KLAUS MUNKHOLM, MAJ VINBERG, KAMILLA W. MISKOWIAK



Studies generally show no or a weak correlation between objective and subjective measures

# Both subjective and objective measures are important

## Subjective reports (eg PDQ, CPFQ)

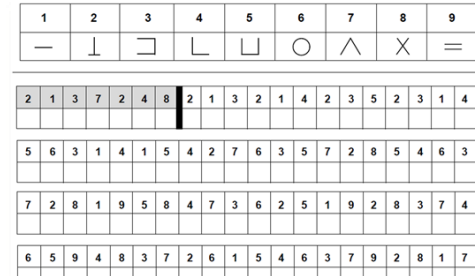


Directly reflect depressive symptoms

But may also capture **change** from pre-morbid levels

Give insight into the **meaning** of cognitive dysfunction in MDD

## Objective neuropsychological tests (eg DSST, RAVLT)



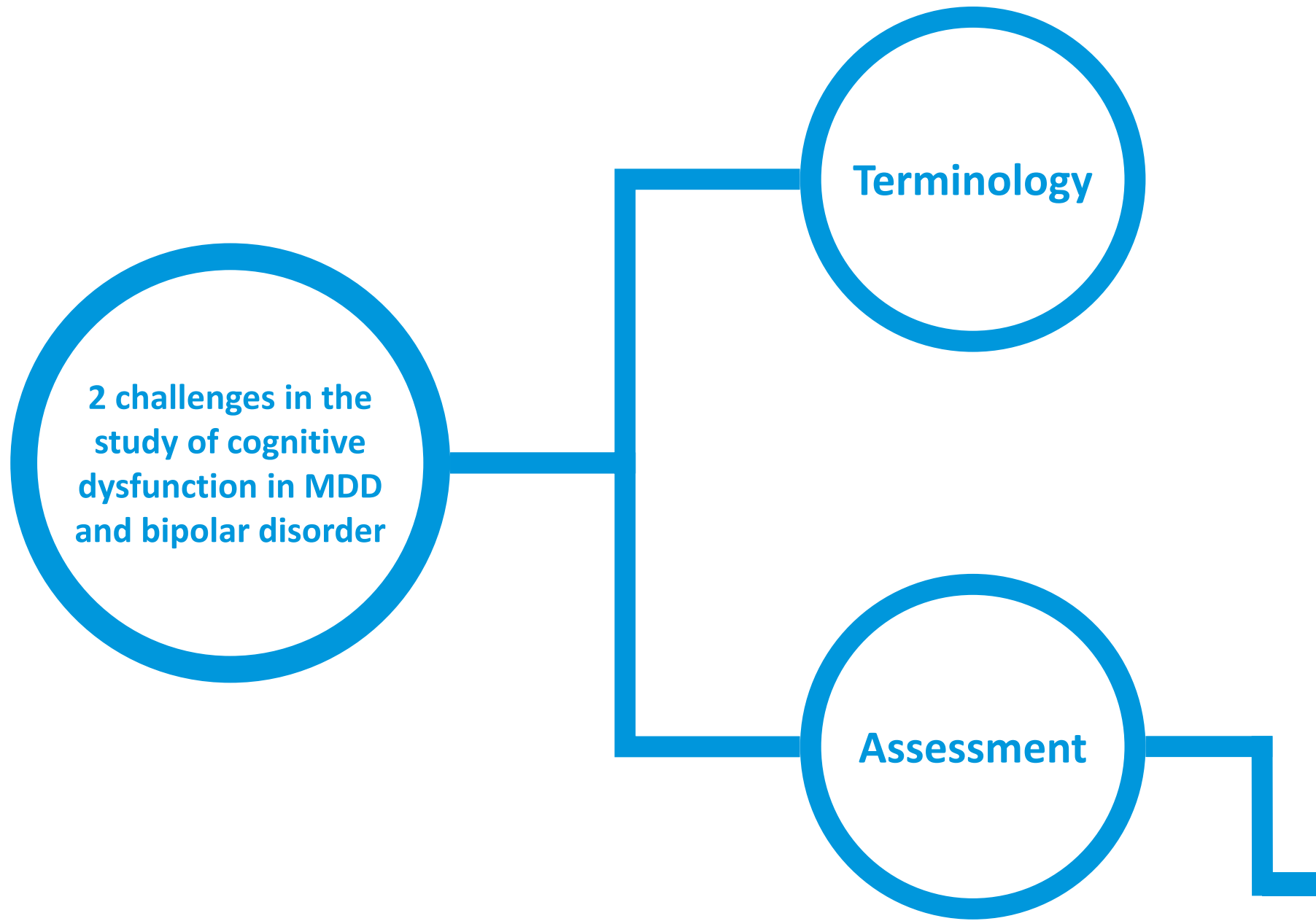
The DSST

Highly **structured**, limited naturalistic validity

No insight into pre-morbid cognitive function

**Predict efficacy** of treatments targeting cognition<sup>1</sup>

Both related to socio-occupational functioning

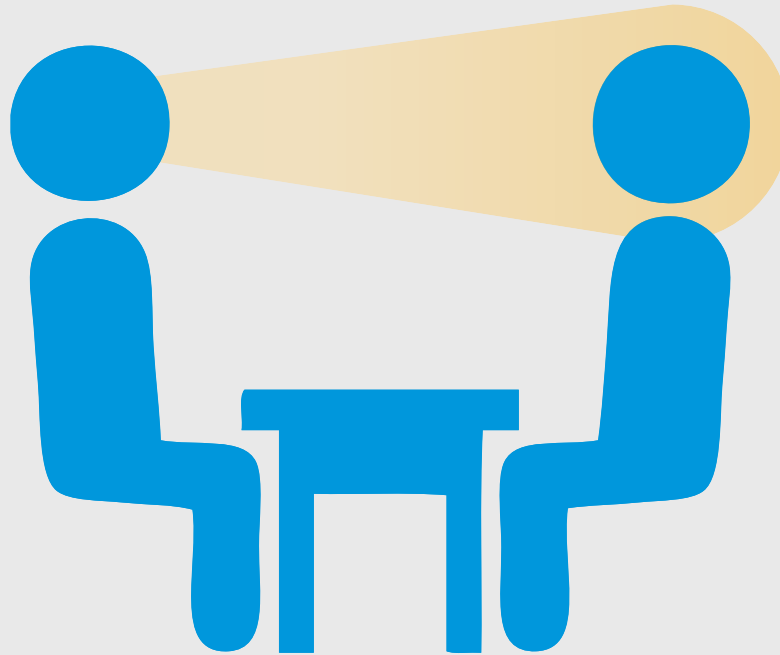


**2 challenges in the study of cognitive dysfunction in MDD and bipolar disorder**

**Terminology**

**Assessment**

## Challenge 2: assessment

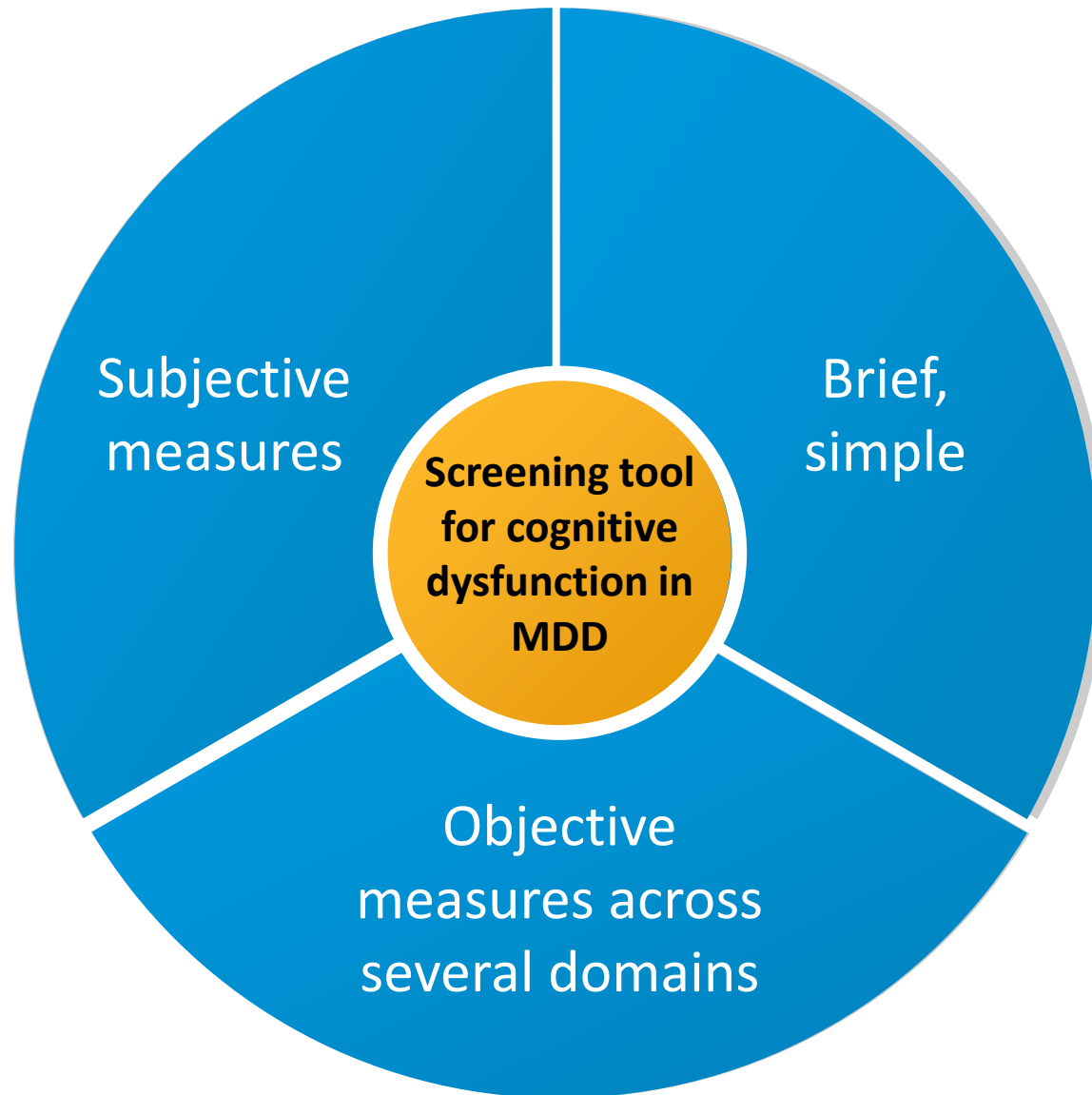


Cognition assessed almost exclusively with subjective and / or observer-based measures

Assumption that they reflect the same thing as objective measures

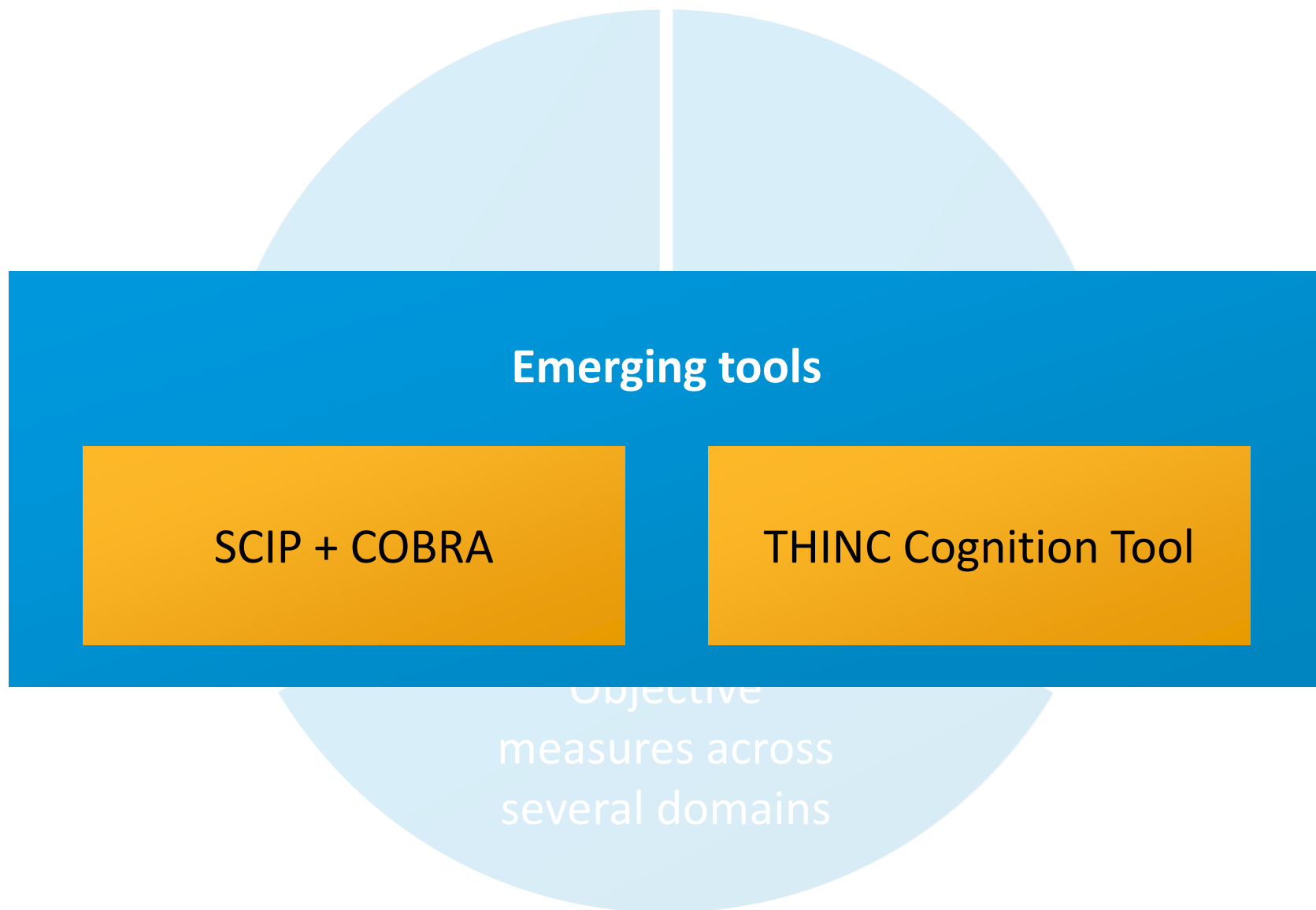
**No feasible screening tools**

## Prerequisites and emerging tools





## Prerequisites and emerging tools



SCIP, Screen for Cognitive Impairment in Psychiatry;  
COBRA, Cognitive Complaints in Bipolar disorder Rating Assessment

# SCIP: Screen for Cognitive Impairment in Psychiatry<sup>1</sup>

Designed to detect cognitive dysfunction in psychotic and affective disorders

15 min, paper and pencil, 3 parallel forms

5 sub-tests

**5. Visuomotor tracking test: After practice items, allow 30 seconds to complete left to right to bottom.**

M	F	X	D	W	J
--	..-.	-...-	-...	.---	.----

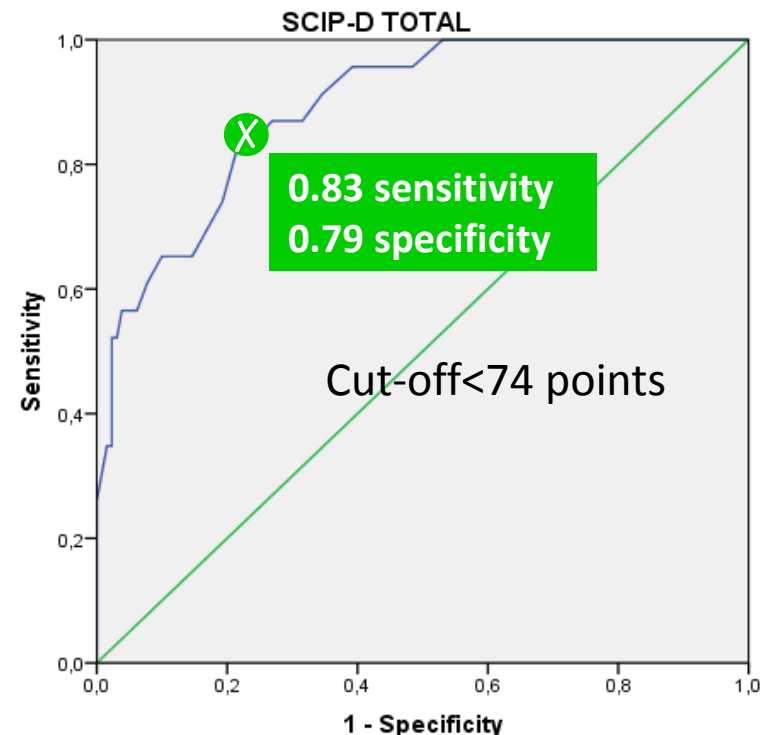
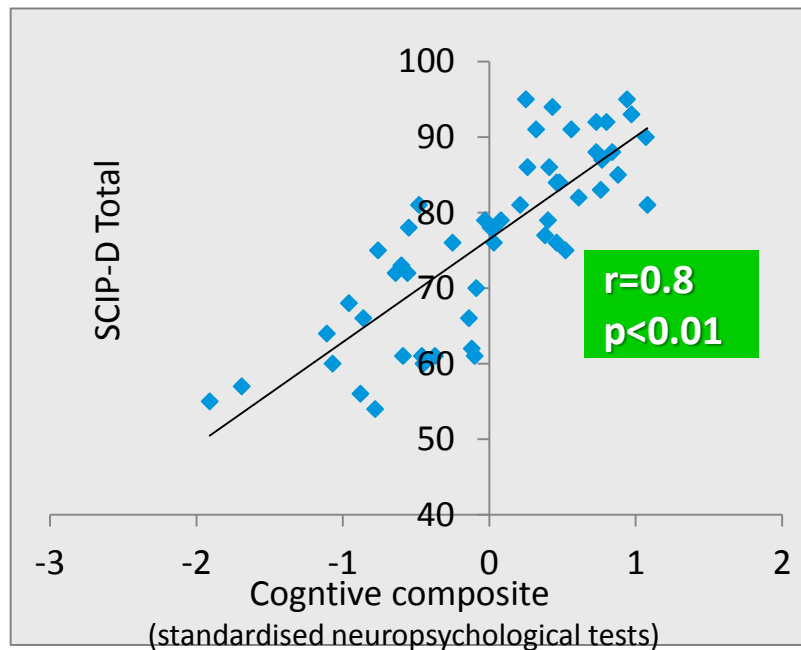
Practice						Test		
W	D	X	J	M	F	X	M	W
F	J	D	W	D	M	J	X	F
M	X	J	W	D	F	X	J	F
D	W	M	F	X	W	M	F	J

# SCIP: Screen for Cognitive Impairment in Psychiatry<sup>1</sup>

High validity, reliability and sensitivity for cognitive dysfunction in bipolar disorder<sup>1,2</sup>

Validation study of SCIP-D in unipolar disorder<sup>3</sup>

53 patients with unipolar disorder in full or partial remission, 104 healthy controls



1. Rojo E et al. Schizophr Res 2010;116:243-51
2. Jensen JH et al J Affect Disord 2015;187:10-9
3. Ott CV et al. J Affect Disord 2015; in press

# COBRA: Cognitive Complaints in Bipolar disorder Rating Assessment<sup>1</sup>

New self-report instrument developed for bipolar disorder

16 questions about memory, attention, executive function

Do you have difficulty finding objects that are used daily (keys, glasses, wristwatch...)?

Do you find it hard to concentrate when reading a book or a newspaper?

Do you have the feeling that you do not finish what you begin?

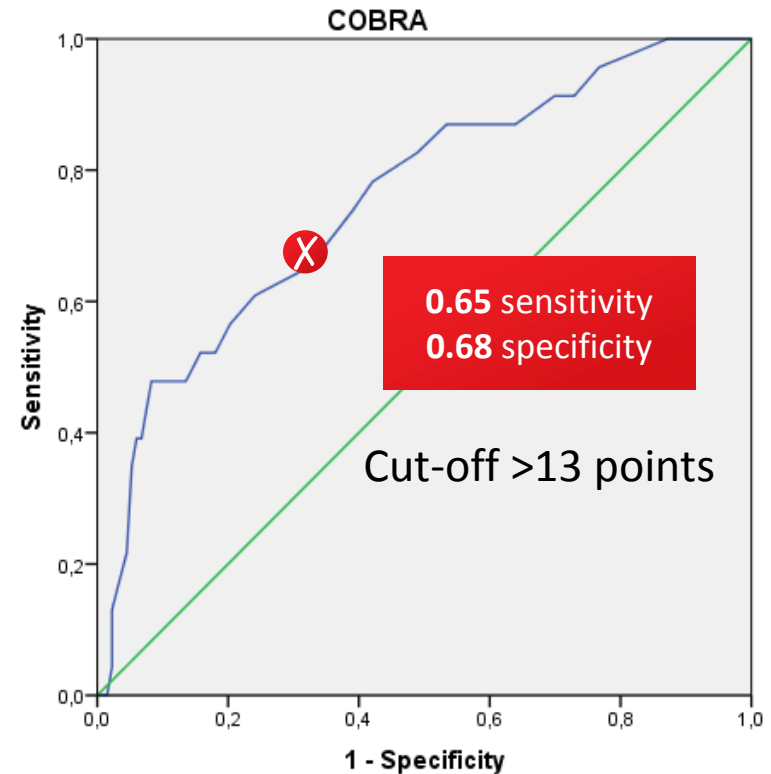
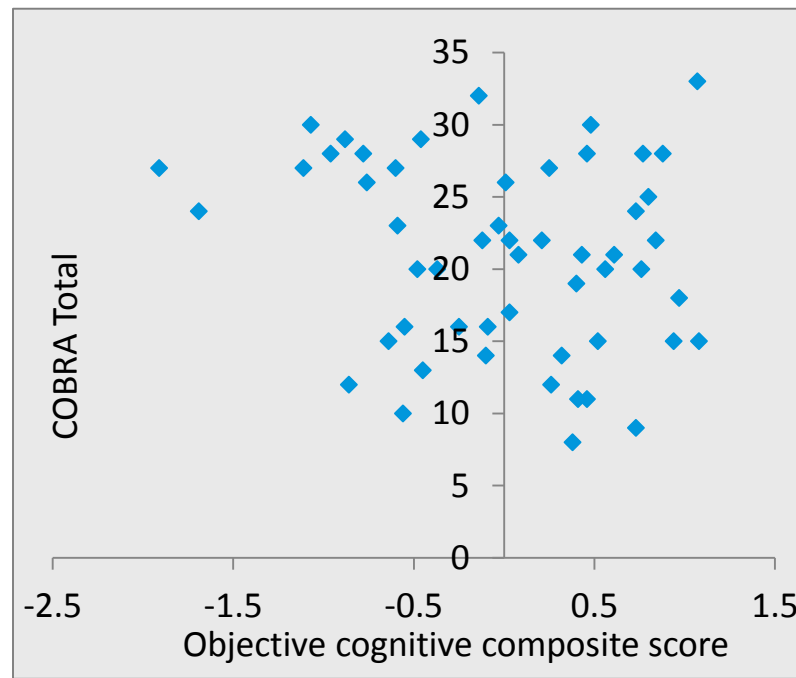
Do you find it hard to do simple mental calculations?

Do you...?

# COBRA: Cognitive Complaints in Bipolar disorder Rating Assessment

Previous evidence for correlations with objective memory and executive function<sup>1</sup>

Danish validation study: no correlation with objective cognition in the MDD group and suboptimal sensitivity and specificity for objective cognitive dysfunction<sup>2</sup>

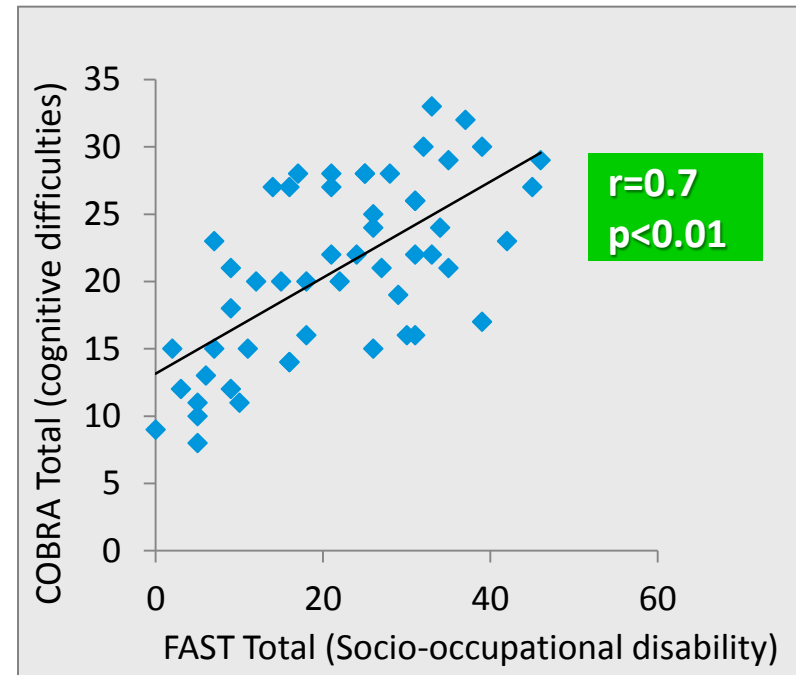
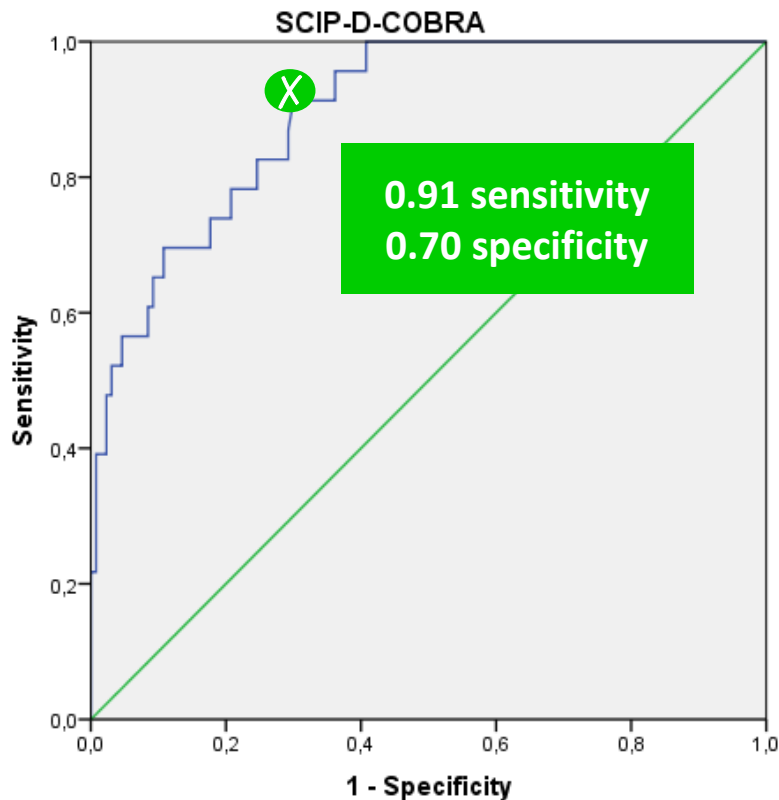


1. Rosa AR et al. J Affect Disorder 2013;150:29-36;  
2. Ott CV et al. J Affect Disord 2015; in press

# Combined SCIP-D-COBRA measure

Best sensitivity and acceptable specificity for objective cognitive dysfunction in MDD

Cognitive complaints are strongly correlated with psychosocial disability  
- and are therefore clinically relevant



# THINC Cognition Tool for cognitive dysfunction in MDD (THINC-it)

Currently being evaluated in a validation study – expected completion May 2016

## Tests

Code Breaker  
(DSST type)

Spotter  
(CRT type)

Trails  
(TMT-B type)

Symbol check  
(1-back type)

PDQ – D5

Tests are included in animated format in 1 program  
for use on desktop / tablet computers

Patients complete  
themselves

~15 minutes

Immediate clinical  
report

## Conclusions

Depression rating scales in patients with depression fail to capture cognitive and functional impairments

Cognitive dysfunction is a common residual symptom with direct negative impact on workforce capacity

Cognitive dysfunction in depression should be assessed and monitored clinically

Need for clear terminology

Need for short, feasible screening tools

Screening for residual cognitive dysfunction in depression may aid functional recovery