



Implementing UDS4: Subjective Cognitive Decline (SCD)

Presented by: Aimee Pierce, MD, Oregon ADRC, CTF

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Highlighted Differences between UDSv3 and UDSv4

UDSv3

- “D1 Clinician Diagnosis” cognitive and behavioral status categories:
 - normal cognition
 - Dementia
 - MCI
 - Cognitively impaired, not MCI
- MCI core clinical criteria grouped together
- “Cognitively impaired, not MCI” listed as option to catch those not falling into MCI or dementia categories

UDSv4

- “D1 Clinician Diagnosis” cognitive and behavioral status categories:
 - normal cognition
 - ***Subjective cognitive decline***
 - Dementia
 - MCI
 - ***Cognitively impaired, not MCI***
 - ***Mild behavioral impairment (MBI)***
- MCI core clinical criteria listed individually to identify which elements met
- “Cognitively impaired, not MCI” identifies why participant did not meet MCI criteria

Subjective Cognitive Decline (SCD)

- A 2014 international working group, SCD-initiative (SCD-I) proposed criteria* with 2 major features:
 - 1) Self-experienced persistent decline in cognitive capacity, compared with a previously normal cognitive status, unrelated to an acute event
 - 2) Normal performance on standardized cognitive tests, adjusted for age, sex, education

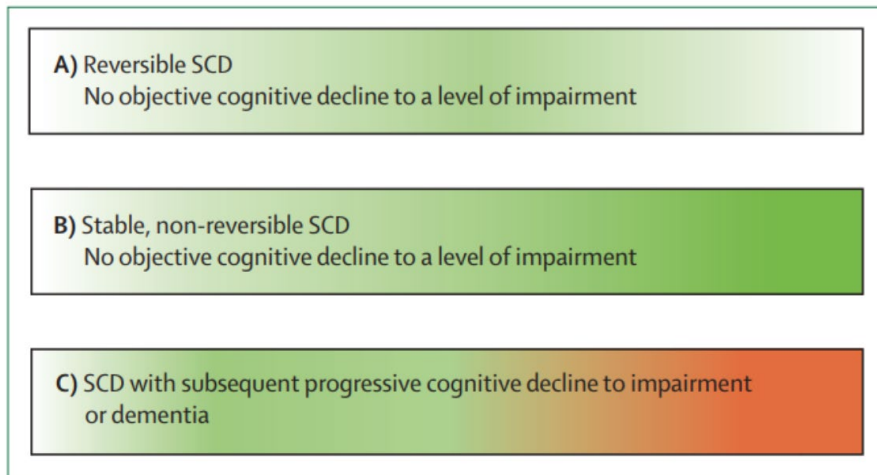


Figure 1: Schematic representation of trajectories of SCD and objective cognitive function over time

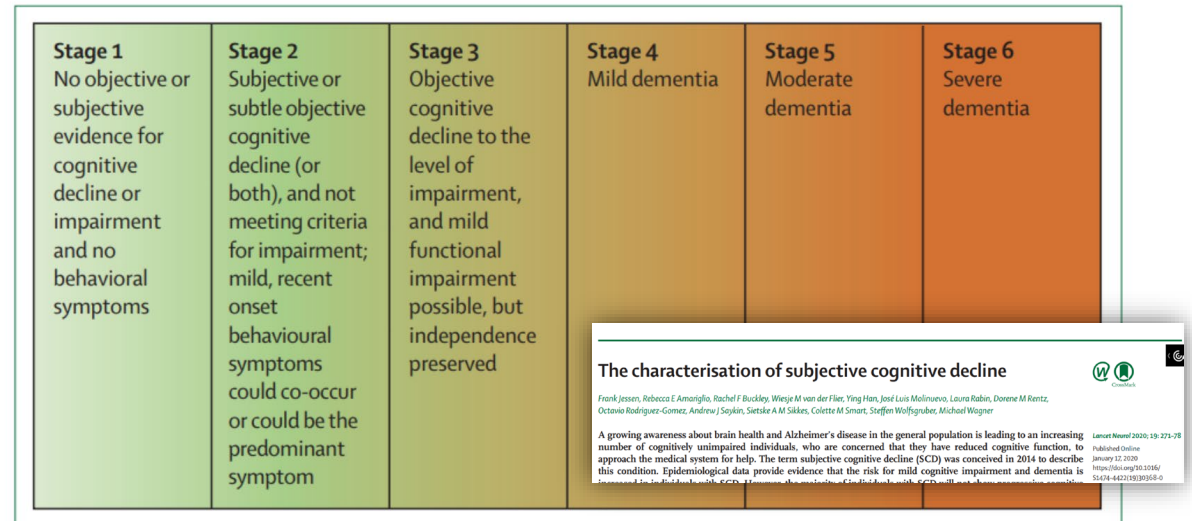


Figure 2: Symptomatic stages of Alzheimer's disease according to the NIA-AA research framework

Highlighted Differences between UDSv3 and UDSv4

UDSv3

SCD may be coded as “normal cognition” or “impaired not MCI”

SECTION 1: Cognitive and behavioral status

2. Does the subject have normal cognition (global CDR=0 and/or neuropsychological testing within normal range) and normal behavior (i.e., the subject does not exhibit behavior sufficient to diagnose MCI or dementia due to FTLD or LBD)?

- 0 No (CONTINUE TO QUESTION 3)
 1 Yes (SKIP TO QUESTION 6)

UDSv4

SCD may be coded directly

Section 1 – Level of impairment – Unimpaired cognition, SCD, MCI/MBI, or dementia

2. Does the participant have:

1. Unimpaired cognition (for example, cognitive performance and functional status (i.e., CDR) judged to be unimpaired)?

AND

2. Unimpaired behavior (i.e., the participant does not exhibit behavior sufficient to diagnose MBI (see MBI section starting at Q7) or dementia due to FTLD or LBD and/or FTLD behavior and language domains=0)?

- 0 No (SKIP TO QUESTION 3) 1 Yes (CONTINUE TO QUESTION 2a)

Note: For those with longstanding cognitive impairment that does not represent a decline from their usual functioning, consider checking **Question 6a** for a diagnosis of “**Cognitively Impaired, Not MCI/dementia**”.

Subjective Cognitive Decline

2a. Does the participant have 1) concerns about changes in cognition **AND** 2) no neuropsychological evidence of decline **AND** 3) no functional decline?

- 0 No
 1 Yes

Addition of subjective memory questions to UDSv4 – A1 Participant Demographics Form

Section 2 — Memory

18.	Do you feel like your memory is becoming worse?	<input type="checkbox"/> 0 No <input type="checkbox"/> 1 Yes, but this does not worry me <input type="checkbox"/> 2 Yes, and this worries me <input type="checkbox"/> 9 Don't know / Prefer not to answer
19.	About how often do you have trouble remembering things?	<input type="checkbox"/> 1 Never <input type="checkbox"/> 2 Rarely <input type="checkbox"/> 3 Sometimes <input type="checkbox"/> 4 Often <input type="checkbox"/> 5 Very often <input type="checkbox"/> 9 Don't know / Prefer not to answer
20.	Compared to 10 years ago, would you say that your memory is much worse, a little worse, the same, a little better, or much better?	<input type="checkbox"/> 1 Much better <input type="checkbox"/> 2 A little better <input type="checkbox"/> 3 The same <input type="checkbox"/> 4 A little worse <input type="checkbox"/> 5 Much worse <input type="checkbox"/> 9 Don't know / Prefer not to answer

Case Example: Subjective Cognitive Decline (SCD)

PARTICIPANT: 82-year-old man, initial ADRC study visit **CO-PARTICIPANT:** His wife.

EDUCATION: 19 years of education, J.D.

WORK HISTORY: Attorney, retired age 70.

PRESENT MEMORY/COGNITIVE ISSUES:

Participant reports “my memory is moderately deteriorating” over the past 5 years.

- Difficulty remembering names of acquaintances and celebrities
- He has missed appointments and family birthdays.
- He left the car running when he went to play a tennis match. He left his glasses on an airplane.
- Occasional word-finding difficulty, difficulty learning Spanish on Duolingo.

Co-participant denies problems with memory and thinking.

Clinician who evaluated him did not note any concerns about memory or thinking.

NO MOOD OR BEHAVIOR SYMPTOMS

NO FUNCTIONAL IMPAIRMENT:

Independent personal finances, medications, driving, household chores and hobbies. Remains active in real estate investments and volunteer work.

Case Example: Subjective Cognitive Decline (SCD)

PAST MEDICAL HISTORY: Hypertension, hyperlipidemia, BPH, bilateral sensorineural hearing loss, basal cell carcinoma

PAST SURGICAL HISTORY: Keratotomy 1980, basal cell carcinoma excision 2017

CURRENT MEDICATIONS: amlodipine 5mg, olmesartan/HCTZ 20-12.5mg, atorvastatin 10mg, finasteride 5mg, tamsulosin 0.4mg, ASA 81mg, vitamin D3 1000iu, MVI, fish oil, red yeast rice, CoQ10

SOCIAL HISTORY: Never smoked, no alcohol use, no other substance use. Member of the Church of Jesus Christ of Latter-day Saints (Mormon). Married to his second wife for 1 year. His first wife died 3 years prior.

FAMILY HISTORY: Mother: Died age 97, developed dementia unknown type starting age 92.

Father: Died age 84, developed dementia unknown type age 80. 1 brother had multiple sclerosis (died age 65). 1 sister had DM2, ovarian cancer (died age 79).

Case Example: Subjective Cognitive Decline (SCD)

PHYSICAL EXAM: BP 118/56 P 66 BMI 27

+ Bilateral hearing aids in place, otherwise normal.

NEUROLOGICAL EXAM: Absent vibration bilateral toes, reduced arm swing on the right, otherwise normal.

LABS: Hemoglobin A1c 6.0%, TSH 1.69

IMAGING: None

CDR:	Sum of Boxes	Global
Initial CDR	0.0	0.0

Case Example: Subjective Cognitive Decline (SCD)

	raw	age, education, & sex matched	
		z-score	percentile
Overall cognition			
MoCA	28	0.60	73
WRAT-R2 Reading	82	0.08	53
Attention/Processing Speed			
Digit Span Forward	12	1.44	93
Digit Span Backward	12	2.09	98
Trails A	25	0.67	75
Stroop Color	88	2.43	99
Stroop Word	129	2.78	100
WAIS-IV Digit Span Sequencing	11	1.29	90
WAIS-R Digit Symbol	50	1.23	89
Visuospatial/Construction			
Benson Figure Copy	17	0.97	83
WAIS-R Block Design	38	0.74	77
Language			
MiNT	28	-1.42	8
Category Fluency animals	21	-0.15	44
Category Fluency vegetables	13	-0.22	41
Phonemic Fluency F	19	0.72	76
Phonemic Fluency L	22	1.64	95
Learning & Memory			
Craft Story Immediate	20	-0.24	40
Craft Story Delay	22	0.51	70
Benson Figure Delay	14	0.92	82
WMS-R VRI	39	1.05	85
WMS-R VR II	37	1.59	94
CERAD WL Total Correct	25	1.83	97
CERAD WL Delay Correct	9	1.52	94
CERAD WL Recog Correct	20	0.98	84
Executive Functioning			
Trails B	63	0.42	66
Stroop Color-Word	46	1.62	95

Self-reported depressive symptoms were in the minimal range (GDS = 1).

SUMMARY OF COGNITIVE ASSESSMENT:

MoCA: 28/30

Scores were largely intact, with the exception of a borderline score on a test of naming (MiNT).

Case Example: Subjective Cognitive Decline (SCD)

IMPRESSION: 82-year-old man, retired attorney, with memory and naming concerns x 5 years, without significant impairment noted by his wife or ADRC clinician. No functional impairment.

UDS4 B9: Clinician Judgement of Symptoms

Section 1 – Declines in function

Reported by participant.

1.	Does the <u>participant</u> report a decline in any cognitive domain (<i>relative to stable baseline prior to onset of current syndrome</i>)?	<input type="checkbox"/> 0 No <input checked="" type="checkbox"/> 1 Yes	<input type="checkbox"/> 8 Could not be assessed / participant is too impaired
2.	Does the <u>participant</u> report a decline in any motor domain (<i>relative to stable baseline prior to onset of current syndrome</i>)?	<input checked="" type="checkbox"/> 0 No <input type="checkbox"/> 1 Yes	<input type="checkbox"/> 8 Could not be assessed / participant is too impaired
3.	Does the <u>participant</u> report the development of any significant neuropsychiatric/behavioral symptoms (<i>relative to stable baseline prior to onset of current syndrome</i>)?	<input checked="" type="checkbox"/> 0 No <input type="checkbox"/> 1 Yes	<input type="checkbox"/> 8 Could not be assessed / participant is too impaired

Reported by co-participant.

4.	Does the <u>co-participant</u> report a decline in any cognitive domain (<i>relative to stable baseline prior to onset of current syndrome</i>)?	<input checked="" type="checkbox"/> 0 No <input type="checkbox"/> 1 Yes	<input type="checkbox"/> 8 There is no co-participant
5.	Does the <u>co-participant</u> report a change in any motor domain (<i>relative to stable baseline prior to onset of current syndrome</i>)?	<input checked="" type="checkbox"/> 0 No <input type="checkbox"/> 1 Yes	<input type="checkbox"/> 8 There is no co-participant
6.	Does the <u>co-participant</u> report the development of any significant neuropsychiatric/behavioral symptoms (<i>relative to stable baseline prior to onset of current syndrome</i>)?	<input checked="" type="checkbox"/> 0 No <input type="checkbox"/> 1 Yes	<input type="checkbox"/> 8 There is no co-participant

Reported by clinician

7.	Does the participant have any neuropsychiatric/behavioral symptoms or declines in any cognitive or motor domains?	<input checked="" type="checkbox"/> 0 No (END FORM HERE) <input type="checkbox"/> 1 Yes
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Case Example: Subjective Cognitive Decline (SCD)

IMPRESSION: 82-year-old man, retired attorney, with memory and naming concerns x 5 years, without significant impairment noted by his wife or ADRC clinician. No functional impairment.

UDS4 D1a: Clinical Syndrome

Section 1 – Level of impairment – Unimpaired cognition, SCD, MCI/MBI, or dementia

2. Does the participant have:

1. Unimpaired cognition (for example, cognitive performance and functional status (i.e., CDR) judged to be unimpaired)?

AND

2. Unimpaired behavior (i.e., the participant does not exhibit behavior sufficient to diagnose MBI (see MBI section starting at Q7) or dementia due to FTLD or LBD and/or FTLD behavior and language domains=0)?

0 No (SKIP TO QUESTION 3) 1 Yes (CONTINUE TO QUESTION 2a)

Note: For those with longstanding cognitive impairment that does not represent a decline from their usual functioning, consider checking **Question 6a** for a diagnosis of “**Cognitively Impaired, Not MCI/dementia**”.

Subjective Cognitive Decline

2a. Does the participant have 1) concerns about changes in cognition **AND** 2) no neuropsychological evidence of decline **AND** 3) no functional decline?

0 No
 1 Yes

2b. As a clinician, how certain are you that the subjective cognitive decline determination is clinically meaningful?

1 Slightly (END FORM HERE)
 2 Somewhat (END FORM HERE)
 3 Moderately (END FORM HERE)
 4 Reasonably (END FORM HERE)
 5 Highly (END FORM HERE)

Case Example: Subjective Cognitive Decline (SCD)

CONSENSUS DIAGNOSIS: Subjective Cognitive Decline

Discussion points on UDS4 - designed to capture:

- presence of subjective cognitive decline
- level of clinician certainty that SCD determination is clinically meaningful

Discussion

