

Supplemental Data

Table S.1. Neuropsychological measures used for cognitive diagnosis across sites

Neuropsychological measures			
Cognitive domain	University of Washington/Oregon Health and Sciences University	Stanford University	University of Pennsylvania
Memory	Hopkins Verbal Learning Test-Revised [1] Logical Memory I & II [2] Brief Visual Memory Test-Revised [4]	Hopkins Verbal Learning Test-Revised [1] Craft Story Recall [3] Benson Complex Figure recall [5]	Hopkins Verbal Learning Test-Revised [1] Mattis Dementia Rating Scale – Memory [16]
Visuospatial	Judgment of Line Orientation [6] Clock copy [7] Brief Visual Memory Test-Revised copy [4]	Judgment of Line Orientation [6] Clock copy [7] Benson Complex Figure copy [5]	Judgment of Line Orientation [6] Mattis Dementia Rating Scale – Construction [16]
Language	Boston Naming Test [8] Shipley Vocabulary [10] Semantic verbal fluency [12]	Multilingual Naming Test [9] Wechsler Test of Adult Reading [11] Semantic verbal fluency [12]	Boston Naming Test [8] Semantic verbal fluency [12]
Executive/Attention/Working Memory	Clock Drawing Test [7] Phonemic verbal fluency [12] Trailmaking test, parts A & B [12] Letter-Number Sequencing [13] Digit Symbol [14] Digit Span [14] Stroop (Golden version)[15]	Clock Drawing Test [7] Phonemic verbal fluency [12] Trailmaking test, parts A & B [12] Letter-Number Sequencing [13] Digit Symbol [14] Number Span Stroop (Victoria version) [12]	Clock Drawing Test [7] Phonemic verbal fluency [12] Letter-Number Sequencing [13] Mattis Dementia Rating Scale – Initiation & Perseveration, Attention, Conceptualization [16]

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Table S2. Baseline characteristics by cognitive diagnosis

	Nondemented n = 588	PDD n = 108	p*
Age (years)			
mean (sd)	68.0 (8.0)	73.4 (8.0)	<0.0001
range	41.9 – 94.0	52.5 – 89.0	
Education (years)			
mean (sd)	16.1 (2.5)	15.6 (2.6)	0.038
range	8 - 20	8 - 20	
Sex			
N (%) male	387 (65.8)	91 (84.3)	<0.001
Disease duration (years)			
mean (sd)	8.1 (5.7)	10.9 (6.1)	<0.0001
range	0 - 35	1 – 28	
MDS-UPDRS part III			
mean (sd)	26.2 (12.5)	39.9 (16.3)	<0.0001
range	1 – 72.4	11 – 85.6	
LEDD mg/d			
mean (sd)	634.5 (505.3)	690.8 (423.6)	0.277
range	0 - 3375	0 - 2095	
Geriatric Depression Scale			
mean (sd)	3.9 (2.7)	5.9 (2.8)	<0.0001
range	0 - 13	0 - 14	
PD-MCI			
N (%)	270 (45.9)	-	-
APOE ε4 allele (n = 654)			
N (%)	132 (24.0)	31 (29.8)	0.209
GBA variant (n = 648)			
N (%)	43 (7.9)	22 (21.4)	<0.001
MoCA score (n = 506)			
mean (sd)	25.6 (2.9)	17.9 (4.6)	<0.0001
range	17 - 30	6 - 27	

*p-values based on t-tests for continuous variable and chi-square tests for discrete variables.

Abbreviations: *APOE*, apolipoprotein E; *GBA*, *glucocerebrosidase gene*; LEDD, levodopa equivalent daily dose; MDS-UPDRS, United Parkinson's Disease Rating Scale, Movement Disorders Society revision; PDD, Parkinson's disease dementia

Table S3. Baseline characteristics, nonconverters vs. converters

	Nonconverters n = 329	Converters n = 115	p*
Age (years)			
mean (sd)	66.6 (7.9)	71.5 (7.2)	<0.0001
range	43.0 – 88.0	54.8 – 94.0	
Education (years)			
mean (sd)	16.2 (2.5)	15.7 (2.6)	0.088
range	10 - 20	8 - 20	
Sex			
N (%) male	207 (62.9)	85 (73.9)	0.032
Disease duration (years)			
mean (sd)	7.2 (5.1)	9.5 (5.9)	0.0001
range	0 - 35	1 – 33	
Length of follow up (years)			
mean (sd)	4.4 (2.6)	4.8 (2.4)	0.187
range	1 - 11	1 - 11	
Number of visits			
median	4	5	0.049
range	2 - 9	2 - 8	
MDS-UPDRS part III			
mean (sd)	24.4 (11.5)	31.3 (13.0)	<0.0001
range	2.3 – 72.4	4.7 – 71.3	
LEDD mg/d			
mean (sd)	611.3 (453.7)	795.1 (560.9)	0.0005
range	0 - 2328	0 - 2960	
Geriatric Depression Scale			
mean (sd)	3.3 (2.7)	4.1 (3.0)	0.013
range	0 - 12	0 - 13	
PD-MCI			
N (%)	112 (34.0)	69 (60.0)	<0.001
APOE ε4 allele (n = 412)			
N (%)	66 (21.6)	34 (32.1)	0.030
GBA variant (n = 410)			
N (%)	15 (4.9)	10 (9.5)	0.089
MoCA score (n = 298)			
mean (sd)	26.0 (2.7)	23.9 (2.6)	<0.0001
range	18 - 30	18 - 29	

*p-values based on t-tests for continuous variable, chi-square tests for discrete variables, and the Kruskal Wallis test for medians.

Abbreviations: *APOE*, apolipoprotein E; *GBA*, *glucocerebrosidase gene*; LEDD, levodopa equivalent daily dose; MDS-UPDRS, United Parkinson's Disease Rating Scale, Movement Disorders Society revision; PDD, Parkinson's disease dementia