

	Algorithm 1				Algorithm 2			
	Baseline		Year 5 ^a		Baseline		Year 5 ^a	
Concurrent validity	TP/TP+FN Sens, % (CI)	TN/TN+FP Spec, %, (CI)	TP/TP+FN Sens % (CI)	TN/TN+FP Spec, % (CI)	TP/TP+FN Sens, % (CI)	TN/TN+FP Spec, % (CI)	TP/TP+FN Sens, % (CI)	TN/TN+FP Spec, % (CI)
PINE study only vs Barthel Index	18/60 30 (19-43)	94/95 99 (94-100)	28/69 41 (29-53)	37/37 100 (91-100)	38/60 63 (50-75)	95/95 100 (96-100)	51/69 74 (62-84)	37/37 100 (91-100)
All studies vs S&E <80	38/110 35 (26-44)	517/522 99 (98-100)	122/212 58 (51-64)	409/413 99 (98-100)	71/110 65 (55-73)	497/522 95 (93-97)	180/212 85 (79-89)	365/413 88 (85-91)
Convergent validity	Adjusted difference ^b (95% CI)	P-value	Adjusted difference ^b (95% CI)	P-value	Adjusted difference ^b (95% CI)	P-value	Adjusted difference ^b (95% CI)	P-value
PDQ-39	16.1 (11.3 – 20.9)	<0.001	24.7 (20.8 – 28.7)	<0.001	17.4 (14.3 – 20.4)	<0.001	22.7 (19.6 – 25.7)	<0.001
MMSE	-1.5 (-1.9 – -1.0)	<0.001	-4.5 (-5.3 – -3.8)	<0.001	-0.8 (-1.1 – -0.5)	<0.001	-2.9 (-3.5 – -2.2)	<0.001
UPDRS/MDS-UPDRS part 3	13.4 (10.5 – 16.3)	<0.001	15.9 (13.5 – 18.3)	<0.001	12.7(10.7 – 14.6)	<0.001	16.4 (14.5 – 18.3)	<0.001
Predictive validity	HR for mortality, dependent vs independent (95% CI)	P value	HR for mortality, dependent vs independent (95% CI)	P value	HR for mortality, dependent vs independent (95% CI)	P value	HR for mortality, dependent vs independent (95% CI)	P value
All studies	1.7 (1.2 – 2.3)	0.002	2.6 (1.9 – 3.5)	<0.001	1.6 (1.2 – 2.1)	<0.001	2.2 (1.6 – 3.0)	<0.001

Table 2: Concurrent validity, convergent validity, and predictive validity of the two dependency algorithms. ^a4.5 years in ICICLE-PD. ^bAdjusted difference represents the difference in score between dependent and independent as defined by the algorithm, adjusted for age and sex. A positive difference in PDQ-39 score indicates worse quality of life, a negative difference in MMSE indicates poorer cognition and a positive difference in UPDRS part 3 indicates a more severe motor impairment in those who are dependent. Abbreviations: CI = confidence interval; FN = false negative; FP = false positive; HR = hazard ratio; MDS-UPDRS = Movement Disorder Society revision of the Unified Parkinson's disease rating scale; MMSE = mini-mental state examination; PDQ-39 = Parkinson's disease questionnaire – 39 item; S&E = Schwab & England; TN = true negative; TP = true positive; UPDRS = Unified Parkinson's disease rating scale.