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Supplemental Materials

Demographics of post-stroke aphasia recovery: a systematic review-informed individual participant data (IPD) meta-analysis

Supplement 1) Table I: Standardised measures for each language domain

Language domain	Standardised Measurement	Range
Overall Language Ability	Western Aphasia Battery (Aphasia Quotient)	0-100
Auditory Comprehension	Aachen Aphasia Test Token Test	0-50 (reflecting positive scoring)
Naming	Boston Naming Test	0-60
Reading	Reading subtest of the Comprehensive Aphasia Test	0-74
Writing	Writing subtest of the Comprehensive Aphasia Test	0-76
Other Spoken Language	Porch Index of Communicative Ability	0-16
Functional Communication	Aachen Aphasia Test Spontaneous Communication domain	0-5

Supplement 2) Table II: Participant Demography

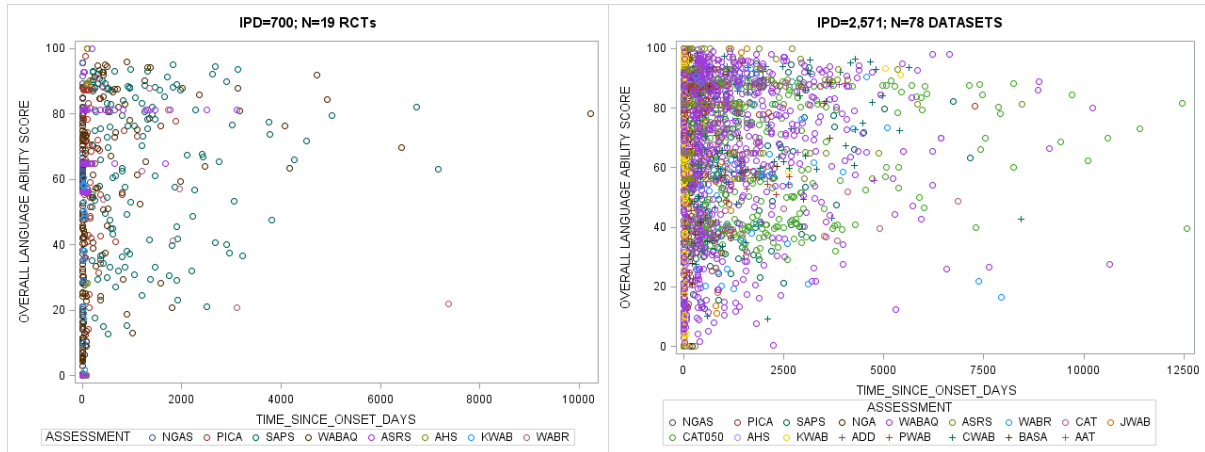
Parameter		Language Domain			
		Overall language ability N=943	Auditory comprehension N=1056	Naming N=791	Functional Communication N=974
Age, years (median, IQR)		63 (53-73), n=914	61 (51-69), n=1046	61 (52-69)	67 (57-77)
By age group	≤55 years	281	360 (34%)	269	208 (21
	56-65 years	(31%)	322 (31%)	(34%)	228 (23
	66-75 years	248	231 (22%)	245	267 (27
	>75 years	(27%)	133 (13%)	(31%)	271 (28
	Missing	195	10	190	0
		(21%)		(24%)	
		190		87	
		(21%)		(11%)	
		29		0	
Time since stroke, days (median, IQR)		36 (7-548), n=940	116 (18-883), n=1046	131 (30-883)	28 (6-244), n=962
By Time group	0-28 days	442	339 (32%)	194	501 (52
	4 weeks-3 months	(47%)	151 (14%)	(25%)	129 (13
	3-6 months	107	97 (9%)	143	69 (7
	>6 months	(11%)	459 (44%)	(18%)	263 (27
	Missing	59 (6%)	10	106	12
		332		(13%)	
		(35%)		348	
		3		(44%)	
				0	
Sex	Female	360	385 (37%)	278	417 (43
	Male	(40%)	660 (63%)	(36%)	557 (57
	Missing	544	11	502	0
		(60%)		(64%)	
		39		11	
Ethnicity	Asian	24 (2.5%)	22 (2%)	0	0
	Black	0	4 (0.4%)	5 (0.6%)	5 (0.5
	White	25 (2.5%)	71 (7%)	72 (9%)	80 (8
	Not specified	894	959 (91%)	714	889 (91
		(95%)		(90%)	
Handed	Right	616	852 (95%)	586	536 (94
	Left	(95%)	37 (4%)	(94%)	24 (4
	Ambidextrous	25 (5%)	12 (1%)	29 (5%)	10 (2
	Missing	7 (1%)	155	8 (1%)	404
		295		168	
Hemisphere	Left	627	725 (90%)	618	645 (98
	Right	(90%)	61 (8%)	(89%)	11 (2
	Bilateral	55 (8%)	20 (2%)	59 (9%)	5 (0.7

	Missing	18 (3%) 243	250	16 (2%) 98	313
Type	ICH	90 (10%)	128 (12%)	76	70 (7
	Ischaemic	628	671 (64%)	(10%)	704 (74
	Mixed	(68%)	0	502	0
	SAH	29 (3%)	15 (1%)	(64%)	9 (1
	Unclassified	14 (1.5%)	227 (22%)	0	164 (17
	Missing	162 (18%) 20	15	8 (1%) 201 (26%) 4	19
Living context	Alone	55 (34%)	19 (18%)	23	86 (34
	Formal care	7 (4%)	30 (29%)	(21%)	30 (12
	Living with others	102 (62%)	55 (53%) 952	30 (27%)	136 (54 721
	Missing	776		58 (52%) 680	
Language	Arabic	29 (3%)	0	0	0
	Danish	19 (2%)	0	0	19 (2%)
	Dutch	0	292 (28%)	172	171 (18%)
	English	329	278 (26%)	(22%)	357 (37%)
	Finnish	(35%)	31 (3%)	309	23 (2%)
	French	36 (4%)	0	(39%)	0
	German	99 (11%)	175 (17%)	36 (5%)	112 (12%)
	Greek	128	0	0	38 (4%)
	Italian	(14%)	115 (11%)	42 (5%)	0
	Japanese	0	58 (5%)	38 (5%)	0
	Korean	0	21 (2%)	50 (6%)	0
	Norwegian	24 (3%)	39 (4%)	36 (5%)	0
	Portuguese	21 (2%)	25 (2%)	21 (3%)	23 (2%)
	Spanish	39 (4%)	0	39 (5%)	0
	Swedish	25 (3%)	22 (2%)	25 (3%)	231 (24%)
		0		10 (1%)	
		194		13 (2%)	
		(21%)			

Supplement 3) Figure I: Transformed language domain scores, stratified by contributing assessment tool

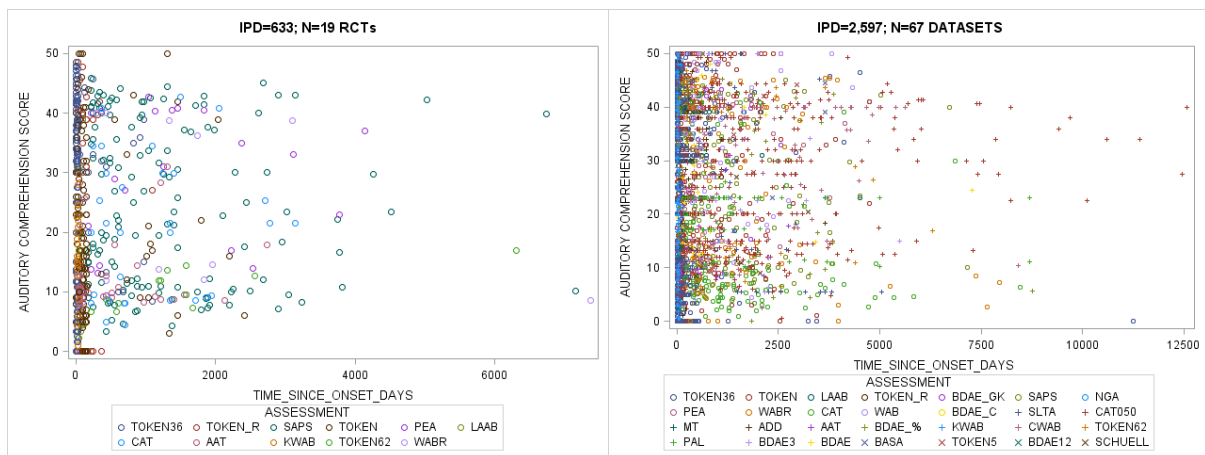
a) Overall-language-ability

Overall Language Ability: Standardised scores stratified by assessment tools used



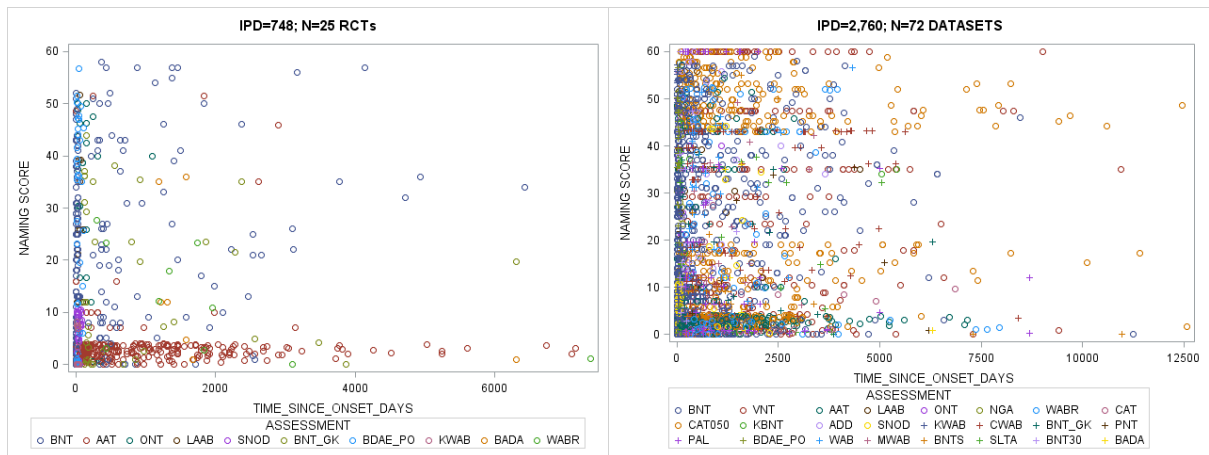
b) Auditory comprehension

Auditory comprehension: Standardised scores stratified by assessment tools used



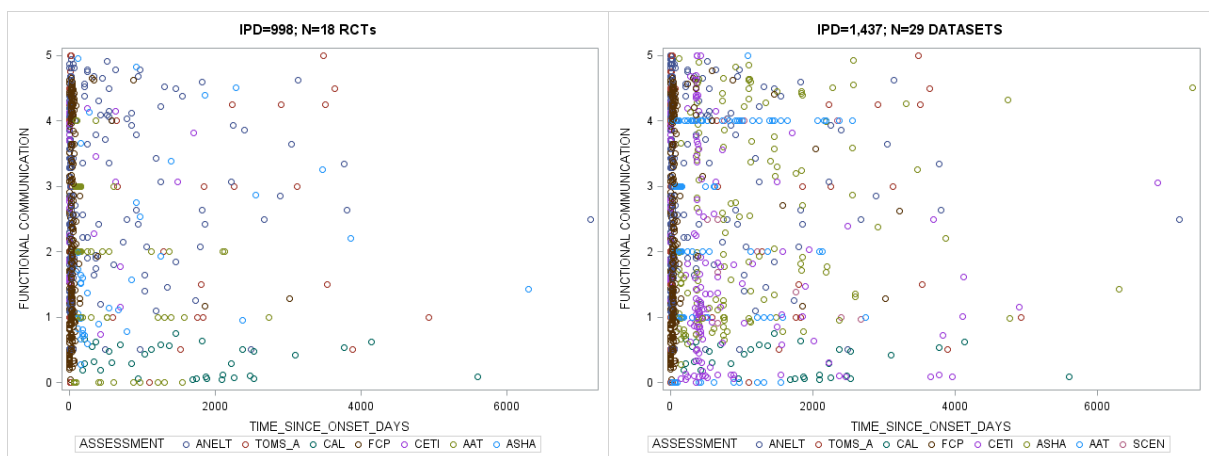
c) Naming

Naming: Standardised scores stratified by assessment tools used



d) Functional communication: observer-rated activity

Functional Communication: Standardised scores stratified by assessment tools used



The spread of data points overlapped, with no clustering of transformed scores from contributing assessment tools. The transformed values generated by each of the assessment tools were therefore considered to be valid and fell within an expected range.

Supplement 4a) Table III: Associations between demographic factors and overall language ability (WAB-AQ)

Variable	RCTs	IPD*	Estimate of means	Lower Quartile	Upper Quartile	All Studies Designs	IPD	Estimate of means	Lower Quartile	Upper Quartile
Female	11	206	14.25	9.01	19.50	16	250	14.15	9.66	18.65
Male	11	276	12.30	7.16	17.44	17	378	12.17	7.89	16.46
<55 years	11	136	15.43	9.95	20.91	17	192	16.51	10.03	22.99
56-65 years	11	141	12.36	6.90	17.82	16	178	12.88	6.38	19.38
66-75	10	96	11.49	5.73	17.25	14	123	13.22	6.69	19.75
>75	7	109	13.81	7.82	19.81	9	135	13.83	6.94	20.73
0-28 days	8	260	19.14	13.89	24.39	9	335	20.99	13.78	28.20
1-3 months	6	64	16.17	10.20	22.13	8	71	16.44	9.02	23.86
3-6 months	3	16	9.60	0.07	19.14	5	19	9.58	-0.07	19.22
>6 months	4	142	8.19	-0.12	16.50	8	203	9.44	2.81	16.07
					Random (no)	6	146	14.17	7.36	20.99
					Random (yes)	11	482	12.37	7.70	17.04

*Individual participant data

Supplement 4b) Table IV: Associations between demographic factors and auditory comprehension (AAT-TT)

Variable	RCTs	IPD*	Estimate of means	Lower Quartile	Upper Quartile	All Study Designs	IPD	Estimate of means	Lower Quartile	Upper Quartile
Female	16	211	3.82	0.98	6.66	22	239	4.92	2.15	7.70
Male	16	329	3.10	0.35	5.85	21	402	4.35	1.65	7.04
<55 years	16	178	6.05	3.16	8.94	22	232	7.05	4.32	9.77
56-65 years	16	182	2.83	-0.04	5.71	22	212	4.31	1.52	7.09
66-75	15	116	3.50	0.46	6.53	19	131	4.61	1.65	7.58
>75	12	64	1.46	-1.90	4.82	14	66	2.57	-0.74	5.88
0-28 days	6	139	5.25	1.69	8.82	6	139	6.33	2.57	10.08
1-3 months	9	97	4.27	1.07	7.47	10	106	5.16	1.99	8.34
3-6 months	6	61	2.88	-1.81	7.56	8	65	4.32	0.04	8.60
>6 months	9	243	1.44	-1.85	4.72	15	331	2.73	0.12	5.34
					Random (no)	5	101	6.11	1.65	10.57
					Random (yes)	16	540	3.16	0.67	5.65

*Individual participant data

Supplement 4c) Table V: Associations between demographic factors and naming (BNT)

Variable	RCTs	IPD*	Estimate of means	Lower Quartile	Upper Quartile	All Study Designs	IPD	Estimate of means	Lower Quartile	Upper Quartile
Female	13	165	6.92	2.47	11.36	21	219	7.54	3.84	11.23
Male	13	220	6.70	2.33	11.07	21	333	7.73	4.10	11.36
<55 years	13	103	9.31	4.71	13.90	21	181	9.72	6.00	13.44
56-65 years	13	124	7.34	2.79	11.90	21	169	8.08	4.30	11.87
66-75	12	97	6.16	1.48	10.84	18	134	7.35	3.48	11.22
>75	11	61	4.42	-0.56	9.40	15	68	5.38	1.11	9.66
0-28 days	5	129	11.12	5.71	16.54	6	138	11.35	6.62	16.09
1-3 months	8	93	7.74	2.89	12.59	10	116	8.70	4.56	12.84
3-6 months	6	70	4.26	-1.58	10.10	9	92	5.70	1.17	10.23
>6 months	7	93	4.11	-1.08	9.29	15	206	4.78	1.08	8.48
					Random (no)	8	167	8.56	2.88	14.24
					Random (yes)	13	385	6.71	2.57	10.85

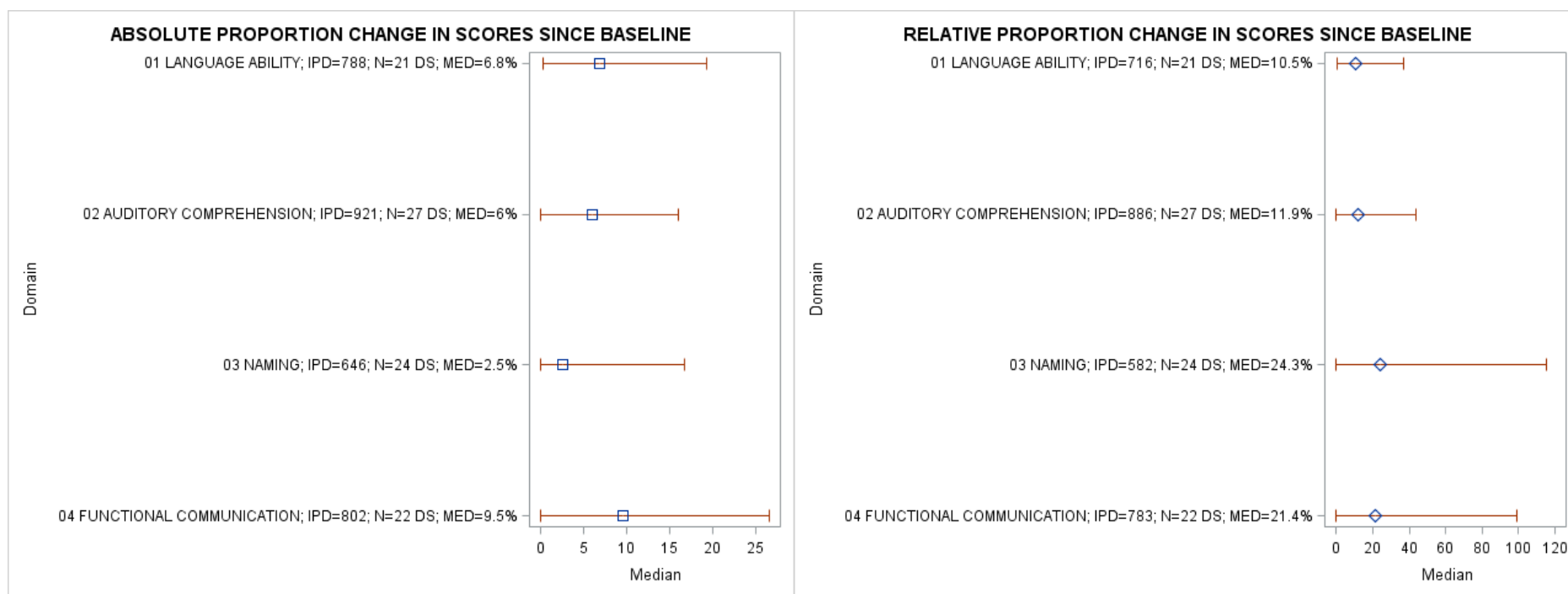
*Individual participant data

Supplement 4d) Table VI: Associations between demographic factors and functional communication (AAT-SC)

Variable	RCTs	IPD*	Estimate of means	Lower Quartile	Upper Quartile	All Study Designs	IP D	Estimate of means	Lower Quartile	Upper Quartile
Female	14	236	0.76	0.48	1.03	18	275	0.69	0.40	0.98
Male	14	296	0.57	0.30	0.84	19	372	0.54	0.26	0.83
<55 years	14	147	0.75	0.46	1.04	19	181	0.69	0.39	0.99
56-65 years	13	145	0.70	0.41	1.00	18	170	0.66	0.36	0.96
66-75	14	121	0.55	0.25	0.85	18	148	0.52	0.21	0.82
>75	12	119	0.65	0.34	0.96	15	148	0.61	0.30	0.92
0-28 days	6	232	1.05	0.70	1.40	7	277	0.97	0.61	1.34
1-3 months	5	68	0.87	0.51	1.23	6	70	0.83	0.46	1.21
3-6 months	4	62	0.40	-0.06	0.87	5	63	0.37	-0.10	0.83
>6 months	7	170	0.33	0.00	0.66	11	237	0.30	0.01	0.60
					Random (no)	5	115	0.57	0.11	1.03
					Random (yes)	14	532	0.67	0.41	0.94

*Individual participant data

Supplement 5) Figure II: Absolute and Relative Proportion of Change from Baseline in Language Domain Scores across All Study Designs



Key: IPD= Individual Participant Data; N=number of datasets; MED=median proportion of recovery