

Annex A

Table 1: List of assessments in each neuropsychological domain, symptoms and function. New additions since McGurk et al. 2007 are in italics.

<p>Attention/vigilance Wechsler Memory Scale (WMS) information and mental control subtests Search-a-Word Cancellation tasks Continuous Performance Tests Span of apprehension Labyrinth Test Sustained Attention Test Span: hits, time, and overall Preattentional processing Cross-over reaction time Cross-modal reaction time Embedded Figures Test COGLAB apprehension/masking Dichotic listening tasks</p>	<p>Reasoning and problem solving WAIS, WAIS-R, or WAIS-III similarities and picture arrangement subtests Wechsler Intelligence Scale for Children mazes subtest Stroop Test interference condition Independent Living Scale—problem solving Gorham’s Proverbs Test and other proverb interpretation tasks Wisconsin Card Sorting Test Trail Making Test (B – A) Hinting Task Labyrinth Test Tower of Hanoi Tower of London Response inhibition Six elements Categories COGLAB card sorting test</p>	<p>Visual learning and memory WMS, WMS-R, or WMS-III visual recall, visual reproduction, faces, and figural memory subtests Rey-Osterrieth Complex Figure Test Kimura recurring figures Denman Neuropsychological Memory Test</p> <p>Social cognition Social perception (Emotion Matching Test and Emotion Labeling Test) Bell-Lysaker Emotion Recognition Test Social cognition <i>Mayer-Salovey-Caruso Emotional Intelligence - Emotional intelligence quotient (EQ)</i></p>	<p>Function Bay Area Functional Performance Evaluation Percent “sick talk”/incoherence during the interview Life skills profile Global Assessment Scale Nurses’ Observation Scale for Inpatient Evaluation Disability Assessment Schedule Employment Social Behaviour Schedule Micro-Module Learning Test Assessment of Interpersonal Problem-Solving Skills Social adjustment <i>Comprehensive module test for the Basic Conversation Skills Module (BCSM)</i> <i>Maryland Assessment of Social Competence (MASC)</i> <i>University of California San Diego Performance-Based Skills Assessment (UPSA) - Household Chores, Communication, Finance, Transportation, Planning Recreational Activities and Total score</i> <i>Quality of life interview</i> <i>Work outcomes - number of jobs, weeks worked and hours worked</i></p>
<p>Speed of processing Trail Making Test, Parts A and B WAIS, WAIS-R, or WAIS-III digit symbol subtest Stroop Test, color and word conditions Reaction time tests Letters and category fluency</p>	<p>Nonverbal working memory Wechsler Memory Scale—Revised (WMS-R) visual span Dual span</p>	<p>Cognitive measures lacking consensus Cognitive style Hayling Sentence Completion Task Purdue Pegboard Tactile performance WMS orientation subtest <i>General aptitude Test Battery</i></p>	<p>Cognitive measures not considered sensitive to change Shipley Institute of Living Scale IQ estimate WAIS-R comprehension subtest Verbal IQ</p>
<p>Verbal learning and memory WMS, WMS-R, or WMS-III logical memory and verbal paired associates subtests California Verbal Learning Test Rey Auditory Verbal Learning Test Hopkins Verbal Learning Test Word List Recall Task Verbal learning paradigm Denman Neuropsychological Memory Test Span-Completeness Verbal Learning Test</p>	<p>Verbal working memory WAIS, WAIS-R, WAIS-III, or WMS digit span WAIS-III letter-number sequencing and arithmetic subtests Digit Span Distractibility Test Other digit span tasks Trained Word Recall Task Other arithmetic tasks Sentence span Dual span Paced Auditory Serial Addition Test Denman Neuropsychological Memory Test Span-Completeness Verbal Learning Test</p>	<p>Symptoms Scale for the Assessment of Positive Symptoms Scale for the Assessment of Negative Symptoms Positive and Negative Syndrome Scale Brief Psychiatric Rating Scale Present State Exam Paranoid Depression Scale Thought, language, and communication Holtzman Inkblot Test</p>	<p>Cognitive measures of multiple domains Global cognitive scores Mini-Mental State Examination <i>Subjective scale to assess cognition in schizophrenia</i></p>

Table 2: Description of the trials of cognitive remediation in schizophrenia: sample characteristics, remediation model and dose.

Trial No.	Trial	Sample characteristics – Inpatients/Outpatients; Mean age (years); Mean education (years); % male; CGI score	% - Sz; Sz Aff; Psy NOS; Schitypal: Bipolar; Mood; OCD; Personality; Delusional	Treatment group (N) at posttest	Drill and practice/Drill and strategy coaching	Cognitive remediation program included psychiatric rehabilitation (yes/no)	Compute rised (yes/no)	Control group (active/passive (A/P) N) at posttest	Aim for the duration of treatment : hours	Aim for the duration of treatment : weeks	Intensity (hours/weeks of cognitive remediation therapy)	Country (United States of America = Yes)
1	Meichenbaum & Cameron(33) study 2	Inpatients; 36; not reported; 100; not reported	100;	5	Drill and practice	No	No	5A	3	4.1	1.37	No
1	Meichenbaum & Cameron(33) study 1	Inpatients; 36; not reported; 100; not reported	100;	5	Drill and practice	No	No	5A	3	4.1	1.37	No
2	Benedict & Harris(46)	Inpatients; 30.3; not reported; not reported;	100;	10	Drill and practice	No	Yes	20A	11	12.5	1.25	Yes
3	Olbrich & Mussgay(47)	Inpatients; 30.7; 10.2; 57; 4	100;	15	Drill and practice	No	No	15A	3	12	4	No
4	Hermanutz & Gestrich(48)	Inpatients; 30.8; 10.97; not reported; 5	100;	10	Drill and practice	No	Yes	10A	7.5	3.5	2.1	No
5	Benedict et al(49)	Outpatients; 38.8; 11.04; 52; not reported	100;	16	Drill and practice	No	Yes	17P	11	12.5	3.1	Yes
6	Burda(50)	Inpatients; 46.6; 12.5; 97; not reported	68; 32	40	Drill and practice	No	Yes	29P	8	12	1.5	Yes
7	Field(51)	Outpatients;28.6; not reported; 90; not reported	100	5	Drill and practice	No	Yes	5A	3	6	2	No
8	Medalia(52)	Inpatients; 32.5; 10.8; 78; 3	100	27	Drill and practice	No	Yes	27A	6	6	1	Yes
9	Spaulding(53)	Inpatients; 35.7; 11.9; 63; not reported	75;10;0;7;2; 1;1;1;0	45	Drill and strategy coaching	Yes	No	41A	26	96	4	Yes
10	Wykes(54, 55)	Outpatients; 38.5; 12; 76; 4	100	17	Drill and strategy coaching	No	No	15A	9	32	3.2	No
11	Medalia(56, 57)* treatment 1	Inpatients; 36.3; 10.5; 59; 4	76;24	18	Drill and practice	No	Yes	18P	5	4.17	0.83	Yes

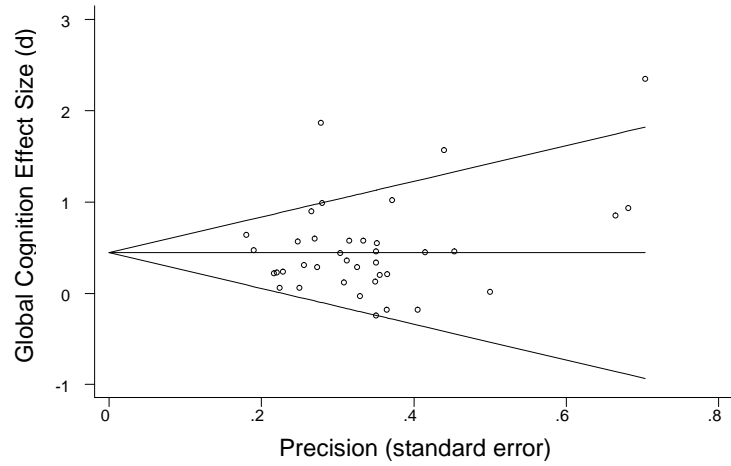
Trial No.	Trial	Sample characteristics – Inpatients/Outpatients; Mean age (years); Mean education (years); % male; CGI score	% - Sz; Sz Aff; Psy NOS; Schitypal; Bipolar; Mood; OCD; Personality; Delusional	Treatment group (N) at posttest	Drill and practice/Drill and strategy coaching	Cognitive remediation program included psychiatric rehabilitation (yes/no)	Computerised (yes/no)	Control group (active/passive (A/P) N) at posttest	Aim for the duration of treatment : hours	Aim for the duration of treatment : weeks	Intensity (hours/weeks of cognitive remediation therapy)	Country (United States of America = Yes)
12	Bell et al. (2001-2005*)(2, 58-62)	Outpatients; 41.3; 13.25; 78; 4	-	18	Drill and practice	Yes	Yes	18A	36	26	1.38	Yes
13	Hadas-Lidor(63)	Outpatients; 36; not reported; 60.3; not reported	100	29	Drill and strategy coaching	No	No	29A	130	52	2.5	No
14	Medalia(64) treatment 2	Inpatients; 36.3; 11.5; 59; 4	74;24	18	Drill and strategy coaching	No	Yes	18P	5	4.17	0.83	Yes
15	Belluci(65)	Outpatients; 42; 12.6; 47; not reported	47;53	17	Drill and practice	No	Yes	17P	8	8	1	Yes
16	Van der Gaag(66)	Inpatients; 31.05; not reported; 64; not reported	100	21	Drill and strategy coaching	Yes	No	21A	8	12	0.66	No
17	Lopez-Luengo & Vazquez(67)	Outpatients; 33.6; not reported; 83; 3	100	13	Drill and practice	No	No	11P	43	24	0.56	No
18	Hogarty(68, 69)	Outpatients; 37.3; not reported; 59; not reported	70;30	61	Drill and strategy coaching	Yes	Yes	46A	75	104	0.72	Yes
19	Ueland & Rund(22, 70)	Inpatients; 15.3; not reported; 50; 5	62;11;4;8;11;4;0;0;0	14	Drill and strategy coaching	No	No	11A	12	30	2.5	No
20	McGurk(3, 4)	Outpatients; 35.6; 11.2; 55; not reported	73;4;0;0;0;2;3;0;0;0	23	Drill and strategy coaching	Yes	Yes	21A	12	24	3.4	Yes
21	Sartory(42)	Inpatients; 31.9; 10.3; 67; not reported	100	21	Drill and practice	No	Yes	21P	15	3	5	No
22	Silverstein(71)	Inpatients; 39.3; 10.6; 87; not reported	100	18	Drill and practice	Yes	No	13A	18	6	3	Yes
23	Vauth et al.(72)	Inpatients; 28.8; 12.5; 65; 2	100	37	Drill and strategy	Yes	Yes	35A	24	8	3	No
24	Wolwer(73)	Inpatients; 34.3; not reported; 78; 3	100	14	Drill and practice	No	Yes	19A	6	9	1.5	No
25	Penades(74)	Outpatients; 36.2;	100	16	Drill and			17A	16	40	2.5	No

Trial No.	Trial	Sample characteristics – Inpatients/Outpatients; Mean age (years); Mean education (years); % male; CGI score	% - Sz; Sz Aff; Psy NOS; Schitypal; Bipolar; Mood; OCD; Personality; Delusional	Treatment group (N) at posttest	Drill and practice/Drill and strategy coaching	Cognitive remediation program included psychiatric rehabilitation (yes/no)	Computerised (yes/no)	Control group (active/passive (A/P) N) at posttest	Aim for the duration of treatment : hours	Aim for the duration of treatment : weeks	Intensity (hours/weeks of cognitive remediation therapy)	Country (United States of America = Yes)
		10.2; 57; 2			strategy coaching	No	No					
26	Wykes, Newton et al.(23)	Inpatients; 18.2; not reported;65;3	100	21	Drill and strategy coaching	No	No	19P	12	40	3.33	No
27	Wykes, Reeder et al.(44)	Both; 36; not reported; 73; 3	100	41	Drill and strategy coaching	No	No	39P	12	40	3.33	No
28	Greig et al.(75, 76)	Outpatients;40.4; 12.73; 53; 4	66;34	33	Drill and practice	Yes	Yes	29A	126	34	3.9	Yes
29	Kurtz et al.(77)	Outpatients;35.0; 13.15; 67; not reported	-	23	Drill and practice	No	Yes	19A	100	52	1.92	Yes
30	Redoblado-Hodge et al.(78)	Both; 31.3; 11; 60; 3	100	22	Drill and strategy coaching	No	Yes	18P	24	12	2	No
31	Twamley et al.(79)	Outpatients;48.3; 13; 65.8; 4	47;47;5;0;0; 0;0;0;0	14	Strategy coaching alone	No	No	20P	24	12	2	Yes
32	Lindenmayer et al.(82)	Inpatients; 43.5; 10.63; 89; 4	-	43	Drill and practice	Yes	Yes	35A	24	12	2	Yes
33	Cavallaro et al.(80)	Outpatients;33.2; 11.65; not reported; 3	-	50	Drill and practice	No	Yes	36A	36	12	3	No
34	Kern et al.(81)	Outpatients;47.6; 12.4; 30; 5	-	13	Strategy coaching alone	No	No	8A	24	12	2	Yes
35	Silverstein et al.(83)	Inpatients; 39.0; 11.34; 61; not reported	100	47	Strategy coaching alone	Yes	No	35A	34	17	2	Yes
36	Fisher et al.(31, 84)	Outpatients;44.0; 13.38; 73; 2	100	29	Drill and practice	No	Yes	26A	50	10	5	Yes
37	Lecardeur et al.(41)	Outpatients;43; 12.5; 75; 3	63;33;0;0;0; 0;0;0;4	8	Strategy coaching alone	No	No	8A	10	5	2	No
38	Dickinson et al.(21)	Both; 47.6; 12.5; 70; 3	78;22	30	Drill and strategy coaching	No	Yes	20A	15	36	3	Yes

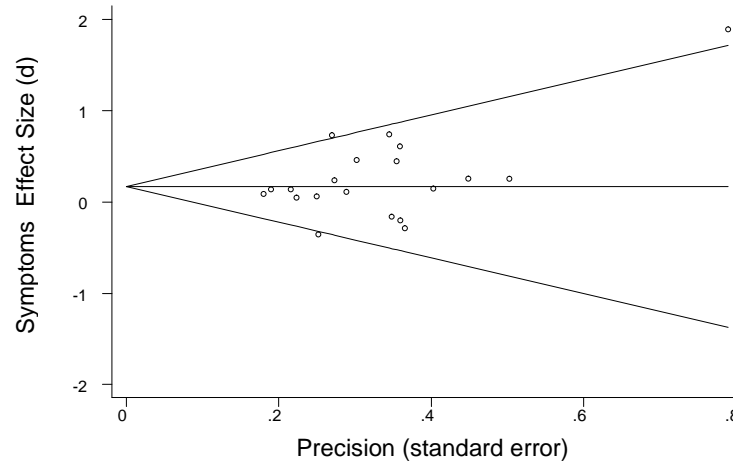
Trial No.	Trial	Sample characteristics – Inpatients/Outpatients; Mean age (years); Mean education (years); % male; CGI score	% - Sz; Sz Aff; Psy NOS; Schitypal: Bipolar; Mood; OCD; Personality; Delusional	Treatment group (N) at posttest	Drill and practice/Drill and strategy coaching	Cognitive remediation program included psychiatric rehabilitation (yes/no)	Compute rised (yes/no)	Control group (active/passive (A/P) N) at posttest	Aim for the duration of treatment : hours	Aim for the duration of treatment : weeks	Intensity (hours/weeks of cognitive remediation therapy)	Country (United States of America = Yes)
39	Eack et al.(85)	Outpatients; 25.9; not reported; 69.5; 4	66;34	31	Drill and strategy coaching	Yes	Yes	27A	60	104	0.58	Yes

Figure 1: Funnel plots representing global cognition, symptom and functioning effect sizes against precision (standard error [se] of effect size).

2a: Global cognition



2b: Symptoms



2c: Functioning

