

Supplementary Table 1 – PROBAST risk of bias for each study

Study ID	Participants	Predictors	Outcome	Analysis	Overall
AJNAKINA 2020	Low	Low	Low	High	High
BHATTACHARYYA 2021	Low	Low	Low	High	High
CHUA 2019	Low	High	Low	High	High
DEMJAHA 2017	Low	Low	Low	High	High
DENIJS 2019	Low	Low	Low	High	High
DERKS 2010	Low	Low	Low	High	High
FLYCKT 2006	Low	Low	Low	High	High
GONZALEZ-BLANCH 2010	Low	Low	Low	High	High
KOUTSOULERIS 2016	Low	Low	Low	High	High
LEIGHTON 2019 (1)	Low	Low	Low	High	High
LEIGHTON 2019 (2)	Low	Low	Low	High	High
LEIGHTON 2021	Low	Low	Low	Low	Low
PUNTIS 2021	Low	Low	Low	Low	Low

Population	Patients with a first episode of psychosis
Intervention (model)	Any prognostic prediction model
Comparator	N/A
Outcome(s)	Any outcome
Timing	Greater than three months from baseline
Setting	Any setting

PsycINFO Search:**Psychosis Terms:**

- 1.Acute Psychosis/ or Psychosis/
- 2.first episode psychosis.m_titl.
- 3.psychosis.m_titl.

4. 1 or 2 or 3

Outcomes Terms:

- 5.Treatment Outcomes/ or Health Outcomes/ or Psychotherapeutic Outcomes/ or Psychosocial Outcomes/ or Symptom Remission/
- 6.“recovery (disorders)”/ or relapse prevention/
- 7.treatment resistant disorders/
- 8.“quality of life”/ or “health related quality of life”/ or “quality of work life”/
- 9.vocational rehabilitation/
- 10.relapse prevention.m_titl.
- 11.(outcome* or remission or recovery).m_titl.
- 12.“treatment resis*.”.m_titl.
- 13.quality of life.m_titl.
- 14.social recovery.m_titl.
- 15.vocational recovery.m_titl.

16. 5 or 6 or 7 or 8 or 9 or 10 or 11 or 12 or 13 or 14 or 15

Prediction Terms:

- 17.exp Prognosis/ or exp Models/ or exp Algorithms/ or exp Prediction/ or exp Risk Factors/
- 18.(predict* or prognos* or model*).m_titl.
- 19.“risk predict*” .m_titl.

20. 17 or 18 or 19

21. 4 and 16 and 20

▼ Search History (21)						View Saved	⋮
<input type="checkbox"/>	# ▲	Searches	Results	Type	Actions	Annotations	
<input type="checkbox"/>	1	▶ Acute Psychosis/ or Psychosis/	27846	Advanced	Display Results More ▼		Contract
<input type="checkbox"/>	2	▶ first episode psychosis.m_titl.	1719	Advanced	Display Results More ▼		
<input type="checkbox"/>	3	▶ psychosis.m_titl.	15199	Advanced	Display Results More ▼		
<input type="checkbox"/>	4	▶ 1 or 2 or 3	31229	Advanced	Display Results More ▼		
<input type="checkbox"/>	5	▶ Treatment Outcomes/ or Health Outcomes/ or Psychotherapeutic Outcomes/ or Psychosocial Outcomes/ or Symptom Remission/	40206	Advanced	Display Results More ▼		
<input type="checkbox"/>	6	▶ "recovery (disorders)"/ or relapse prevention/	14476	Advanced	Display Results More ▼		
<input type="checkbox"/>	7	▶ treatment resistant disorders/	2709	Advanced	Display Results More ▼		
<input type="checkbox"/>	8	▶ "quality of life"/ or "health related quality of life"/ or "quality of work life"/	41505	Advanced	Display Results More ▼		
<input type="checkbox"/>	9	▶ vocational rehabilitation/	5930	Advanced	Display Results More ▼		
<input type="checkbox"/>	10	▶ relapse prevention.m_titl.	882	Advanced	Display Results More ▼		
<input type="checkbox"/>	11	▶ (outcome* or remission or recovery).m_titl.	75956	Advanced	Display Results More ▼		
<input type="checkbox"/>	12	▶ "treatment resis".m_titl.	2220	Advanced	Display Results More ▼		
<input type="checkbox"/>	13	▶ quality of life.m_titl.	21085	Advanced	Display Results More ▼		
<input type="checkbox"/>	14	▶ social recovery.m_titl.	37	Advanced	Display Results More ▼		
<input type="checkbox"/>	15	▶ vocational recovery.m_titl.	11	Advanced	Display Results More ▼		
<input type="checkbox"/>	16	▶ 5 or 6 or 7 or 8 or 9 or 10 or 11 or 12 or 13 or 14 or 15	156378	Advanced	Display Results More ▼		
<input type="checkbox"/>	17	▶ exp Prognosis/ or exp Models/ or exp Algorithms/ or exp Prediction/ or exp Risk Factors/	231175	Advanced	Display Results More ▼		
<input type="checkbox"/>	18	▶ (predict* or prognos* or model*).m_titl.	214264	Advanced	Display Results More ▼		
<input type="checkbox"/>	19	▶ "risk predict".m_titl.	193	Advanced	Display Results More ▼		
<input type="checkbox"/>	20	▶ 17 or 18 or 19	373744	Advanced	Display Results More ▼		
<input type="checkbox"/>	21	▶ 4 and 16 and 20	391	Advanced	Display Results More ▼		

EMBASE Search:**Psychosis Terms:**

- 1.*acute psychosis/ or *psychosis/
- 2.psychosis.m_titl.
3. 1 or 2

Outcomes Terms:

- 4.*treatment outcome/
- 5.*outcomes research/
- 6.*remission/
- 7.*"quality of life"/
- 8.*relapse/
- 9.*vocational rehabilitation/
- 10.relapse prevention.m_titl.
- 11.(outcome* or remission or recovery).m_titl.
- 12."treatment resis*".m_titl.
- 13.quality of life.m_titl.
- 14.social recovery.m_titl.
- 15.vocational recovery.m_titl.
16. 4 or 5 or 6 or 7 or 8 or 9 or 10 or 11 or 12 or 13 or 14 or 15

Prediction Terms:

- 17.*prognosis/
- 18.*computer model/ or *psychological model/ or *anatomic model/ or *individual based population model/ or *mathematical model/ or *statistical model/
- 19.*algorithm/
- 20.*algorithm/ or *classification algorithm/ or *coding algorithm/
- 21.*prediction/
- 22.*computer prediction/ or *"prediction and forecasting"/
- 23.*risk factor/
- 24.(predict* or prognos* or model*)m_titl.
- 25."risk predict*".m_titl.
26. 17 or 18 or 19 or 20 or 21 or 22 or 23 or 24 or 25
27. 3 and 16 and 26

<input type="checkbox"/>	# ▲ Searches	Results	Type	Actions	Annotations
<input type="checkbox"/>	1 *acute psychosis/ or *psychosis/	41983	Advanced	Display Results More ▾	<input type="checkbox"/>
<input type="checkbox"/>	2 psychosis.m_title.	24129	Advanced	Display Results More ▾	<input type="checkbox"/>
<input type="checkbox"/>	3 1 or 2	46952	Advanced	Display Results More ▾	<input type="checkbox"/>
<input type="checkbox"/>	4 *treatment outcome/	22783	Advanced	Display Results More ▾	<input type="checkbox"/>
<input type="checkbox"/>	5 *outcomes research/	7973	Advanced	Display Results More ▾	<input type="checkbox"/>
<input type="checkbox"/>	6 *remission/	15354	Advanced	Display Results More ▾	<input type="checkbox"/>
<input type="checkbox"/>	7 **quality of life*/	101021	Advanced	Display Results More ▾	<input type="checkbox"/>
<input type="checkbox"/>	8 *relapse/	15467	Advanced	Display Results More ▾	<input type="checkbox"/>
<input type="checkbox"/>	9 *vocational rehabilitation/	4438	Advanced	Display Results More ▾	<input type="checkbox"/>
<input type="checkbox"/>	10 relapse prevention.m_title.	960	Advanced	Display Results More ▾	<input type="checkbox"/>
<input type="checkbox"/>	11 (outcome* or remission or recovery).m_title.	591661	Advanced	Display Results More ▾	<input type="checkbox"/>
<input type="checkbox"/>	12 *treatment resis*.m_title.	5147	Advanced	Display Results More ▾	<input type="checkbox"/>
<input type="checkbox"/>	13 quality of life.m_title.	99823	Advanced	Display Results More ▾	<input type="checkbox"/>
<input type="checkbox"/>	14 social recovery.m_title.	48	Advanced	Display Results More ▾	<input type="checkbox"/>
<input type="checkbox"/>	15 vocational recovery.m_title.	18	Advanced	Display Results More ▾	<input type="checkbox"/>
<input type="checkbox"/>	16 4 or 5 or 6 or 7 or 8 or 9 or 10 or 11 or 12 or 13 or 14 or 15	743595	Advanced	Display Results More ▾	<input type="checkbox"/>
<input type="checkbox"/>	17 *prognosis/	44741	Advanced	Display Results More ▾	<input type="checkbox"/>
<input type="checkbox"/>	18 *computer model/ or *psychological model/ or *anatomic model/ or *individual based population model/ or *mathematical model/ or *statistical model/	61441	Advanced	Display Results More ▾	<input type="checkbox"/>
<input type="checkbox"/>	19 *algorithm/	54580	Advanced	Display Results More ▾	<input type="checkbox"/>
<input type="checkbox"/>	20 *algorithm/ or *classification algorithm/ or *coding algorithm/	56488	Advanced	Display Results More ▾	<input type="checkbox"/>
<input type="checkbox"/>	21 *prediction/	33843	Advanced	Display Results More ▾	<input type="checkbox"/>
<input type="checkbox"/>	22 *computer prediction/ or **prediction and forecasting*/	938	Advanced	Display Results More ▾	<input type="checkbox"/>
<input type="checkbox"/>	23 *risk factor/	74514	Advanced	Display Results More ▾	<input type="checkbox"/>
<input type="checkbox"/>	24 (predict* or prognos* or model*).m_title.	1288283	Advanced	Display Results More ▾	<input type="checkbox"/>
<input type="checkbox"/>	25 *risk predict*.m_title.	4254	Advanced	Display Results More ▾	<input type="checkbox"/>
<input type="checkbox"/>	26 17 or 18 or 19 or 20 or 21 or 22 or 23 or 24 or 25	1442386	Advanced	Display Results More ▾	<input type="checkbox"/>
<input type="checkbox"/>	27 3 and 16 and 26	383	Advanced	Display Results More ▾	<input type="checkbox"/>

CINAHL Plus Search:**Psychosis Terms:**

- S1 (MH "Psychotic Disorders")
- S2 TI psychosis

- S3 S1 or S2

Outcomes Terms:

- S4 (MH "Outcomes (Health Care)") OR (MH "Treatment Outcomes") OR (MH "Outcomes Research")
- S5 (MH "Recovery")
- S6 (MH "Quality of Life") OR (MH "Psychological Well-Being")
- S7 (MH "Rehabilitation, Vocational") OR (MH "Rehabilitation, Psychosocial")
- S8 TI relapse prevention
- S9 TI (outcome* OR remission OR recovery)
- S10 TI treatment resis*
- S11 TI quality of life
- S12 TI social recovery
- S13 TI vocational recovery

- S14 S4 OR S5 OR S6 OR S7 OR S8 OR S9 OR S10 OR S11 OR S12 OR S13

Prediction Terms:

- S15 (MH "Prognosis")
- S16 (MH "Models, Psychological") OR (MH "Models, Anatomic") OR (MH "Models, Statistical")
- S17 (MH "Algorithms")
- S18 (MH "Predictive Research")
- S19 (MH "Risk Factors")
- S20 TI risk predict*
- S21 TI (predict* OR prognos* OR model*)

- S22 S15 OR S16 OR S17 OR S18 OR S19 OR S20 OR S21

- S23 S3 AND S14 AND S22

Search ID#	Search Terms	Search Options	Actions
<input type="checkbox"/> S23	S3 AND S14 AND S22	Expanders - Apply equivalent subjects Search modes - Boolean/Phrase	View Results (246) View Details Edit
<input type="checkbox"/> S22	S15 OR S16 OR S17 OR S18 OR S19 OR S20 OR S21	Expanders - Apply equivalent subjects Search modes - Boolean/Phrase	View Results (467,072) View Details Edit
<input type="checkbox"/> S21	T1 (predict* OR prognos* OR model*)	Expanders - Apply equivalent subjects Search modes - Boolean/Phrase	View Results (217,676) View Details Edit
<input type="checkbox"/> S20	T1 risk predict*	Expanders - Apply equivalent subjects Search modes - Boolean/Phrase	View Results (6,385) View Details Edit
<input type="checkbox"/> S19	(MH "Risk Factors")	Expanders - Apply equivalent subjects Search modes - Boolean/Phrase	View Results (162,689) View Details Edit
<input type="checkbox"/> S18	(MH "Predictive Research")	Expanders - Apply equivalent subjects Search modes - Boolean/Phrase	View Results (2,092) View Details Edit
<input type="checkbox"/> S17	(MH "Algorithms")	Expanders - Apply equivalent subjects Search modes - Boolean/Phrase	View Results (33,815) View Details Edit
<input type="checkbox"/> S16	(MH "Models, Psychological") OR (MH "Models, Anatomic") OR (MH "Models, Statistical")	Expanders - Apply equivalent subjects Search modes - Boolean/Phrase	View Results (43,628) View Details Edit
<input type="checkbox"/> S15	(MH "Prognosis")	Expanders - Apply equivalent subjects Search modes - Boolean/Phrase	View Results (73,492) View Details Edit
<input type="checkbox"/> S14	S4 OR S5 OR S6 OR S7 OR S8 OR S9 OR S10 OR S11 OR S12 OR S13	Expanders - Apply equivalent subjects Search modes - Boolean/Phrase	View Results (592,390) View Details Edit
<input type="checkbox"/> S13	T1 vocational recovery	Expanders - Apply equivalent subjects Search modes - Boolean/Phrase	View Results (13) View Details Edit
<input type="checkbox"/> S12	T1 social recovery	Expanders - Apply equivalent subjects Search modes - Boolean/Phrase	View Results (211) View Details Edit
<input type="checkbox"/> S11	T1 quality of life	Expanders - Apply equivalent subjects Search modes - Boolean/Phrase	View Results (36,786) View Details Edit
<input type="checkbox"/> S10	T1 treatment resis*	Expanders - Apply equivalent subjects Search modes - Boolean/Phrase	View Results (2,695) View Details Edit
<input type="checkbox"/> S9	T1 (outcome* OR remission OR recovery)	Expanders - Apply equivalent subjects Search modes - Boolean/Phrase	View Results (167,643) View Details Edit
<input type="checkbox"/> S8	T1 relapse prevention	Expanders - Apply equivalent subjects Search modes - Boolean/Phrase	View Results (417) View Details Edit
<input type="checkbox"/> S7	(MH "Rehabilitation, Vocational") OR (MH "Rehabilitation, Psychosocial")	Expanders - Apply equivalent subjects Search modes - Boolean/Phrase	View Results (8,270) View Details Edit
<input type="checkbox"/> S6	(MH "Quality of Life") OR (MH "Psychological Well-Being")	Expanders - Apply equivalent subjects Search modes - Boolean/Phrase	View Results (118,485) View Details Edit
<input type="checkbox"/> S5	(MH "Recovery")	Expanders - Apply equivalent subjects Search modes - Boolean/Phrase	View Results (29,255) View Details Edit
<input type="checkbox"/> S4	(MH "Outcomes (Health Care)") OR (MH "Treatment Outcomes") OR (MH "Outcomes Research")	Expanders - Apply equivalent subjects Search modes - Boolean/Phrase	View Results (361,369) View Details Edit
<input type="checkbox"/> S3	S1 OR S2	Expanders - Apply equivalent subjects Search modes - Boolean/Phrase	View Results (12,635) View Details Edit
<input type="checkbox"/> S2	T1 psychosis	Expanders - Apply equivalent subjects Search modes - Boolean/Phrase	View Results (6,103) View Details Edit
<input type="checkbox"/> S1	(MH "Psychotic Disorders")	Expanders - Apply equivalent subjects Search modes - Boolean/Phrase	View Results (10,866) View Details Edit

Web of Science – Core Collection Search:**Psychosis Terms:**

#1 TS=Psychosis

Outcome Terms:

#2 TI=(outcome* OR recovery OR remission OR "quality of life" OR treatment resis*)

Prediction Terms:

#3 TI=(predict* OR prognos* OR model*)

#4 #3 AND #2 AND #1

# 4	493	#3 AND #2 AND #1 <i>Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, ESCI, CCR-EXPANDED, IC Timespan=All years</i>	Edit	<input type="checkbox"/>	<input type="checkbox"/>
# 3	3,154,077	TI=(predict* OR prognos* OR model*) <i>Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, ESCI, CCR-EXPANDED, IC Timespan=All years</i>	Edit	<input type="checkbox"/>	<input type="checkbox"/>
# 2	783,746	TI=(outcome* OR recovery OR remission OR "quality of life" OR treatment resis*) <i>Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, ESCI, CCR-EXPANDED, IC Timespan=All years</i>	Edit	<input type="checkbox"/>	<input type="checkbox"/>
# 1	62,890	TS=Psychosis <i>Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, ESCI, CCR-EXPANDED, IC Timespan=All years</i>	Edit	<input type="checkbox"/>	<input type="checkbox"/>

PubMed Search:**Psychosis Terms**

#1 psychosis[Title/Abstract]

Outcome Terms

#2 (((((((((((("outcome assessment, health care"[MeSH Major Topic]) OR "treatment outcome"[MeSH Major Topic]) OR "quality of life"[MeSH Major Topic]) OR "mental health recovery"[MeSH Major Topic]) OR "rehabilitation, vocational"[MeSH Major Topic]) OR relapse prevention[Title]) OR treatment resis*[Title]) OR outcome*[Title]) OR remission[Title]) OR recovery[Title]) OR "quality of life"[Title]) OR social recovery[Title]) OR vocational recovery[Title]

Prediction Terms

#3 (((((((((((("prognosis"[MeSH Major Topic]) OR "forecasting"[MeSH Major Topic]) OR "algorithms"[MeSH Major Topic]) OR "models, psychological"[MeSH Major Topic]) OR "models, statistical"[MeSH Major Topic]) OR "risk factors"[MeSH Major Topic]) OR predict*[Title]) OR prognos*[Title]) OR model*[Title]) OR risk predict*[Title]

#4

((psychosis[Title/Abstract]) AND (((((((((((("outcome assessment, health care"[MeSH Major Topic]) OR "treatment outcome"[MeSH Major Topic]) OR "quality of life"[MeSH Major Topic]) OR "mental health recovery"[MeSH Major Topic]) OR "rehabilitation, vocational"[MeSH Major Topic]) OR relapse prevention[Title]) OR treatment resis*[Title]) OR outcome*[Title]) OR remission[Title]) OR recovery[Title]) OR "quality of life"[Title]) OR social recovery[Title]) OR vocational recovery[Title])) AND (((((((((((("prognosis"[MeSH Major Topic]) OR "forecasting"[MeSH Major Topic]) OR "algorithms"[MeSH Major Topic]) OR "models, psychological"[MeSH Major Topic]) OR "models, statistical"[MeSH Major Topic]) OR "risk factors"[MeSH Major Topic]) OR predict*[Title]) OR prognos*[Title]) OR model*[Title]) OR risk predict*[Title])

History

[Download history](#) [Clear history](#)

Search	Add to builder	Query	Items found	Time
#4	Add	Search ((psychosis[Title/Abstract]) AND (((((((((((("outcome assessment, health care"[MeSH Major Topic]) OR "treatment outcome"[MeSH Major Topic]) OR "quality of life"[MeSH Major Topic]) OR "mental health recovery"[MeSH Major Topic]) OR "rehabilitation, vocational"[MeSH Major Topic]) OR relapse prevention[Title]) OR treatment resis*[Title]) OR outcome*[Title]) OR remission[Title]) OR recovery[Title]) OR "quality of life"[Title]) OR social recovery[Title]) OR vocational recovery[Title])) AND (((((((((((("prognosis"[MeSH Major Topic]) OR "forecasting"[MeSH Major Topic]) OR "algorithms"[MeSH Major Topic]) OR "models, psychological"[MeSH Major Topic]) OR "models, statistical"[MeSH Major Topic]) OR "risk factors"[MeSH Major Topic]) OR predict*[Title]) OR prognos*[Title]) OR model*[Title]) OR risk predict*[Title])	328	10:20:08
#3	Add	Search (((((((((((("prognosis"[MeSH Major Topic]) OR "forecasting"[MeSH Major Topic]) OR "algorithms"[MeSH Major Topic]) OR "models, psychological"[MeSH Major Topic]) OR "models, statistical"[MeSH Major Topic]) OR "risk factors"[MeSH Major Topic]) OR predict*[Title]) OR prognos*[Title]) OR model*[Title]) OR risk predict*[Title])	1165269	10:19:42
#2	Add	Search (((((((((((("outcome assessment, health care"[MeSH Major Topic]) OR "treatment outcome"[MeSH Major Topic]) OR "quality of life"[MeSH Major Topic]) OR "mental health recovery"[MeSH Major Topic]) OR "rehabilitation, vocational"[MeSH Major Topic]) OR relapse prevention[Title]) OR treatment resis*[Title]) OR outcome*[Title]) OR remission[Title]) OR recovery[Title]) OR "quality of life"[Title]) OR social recovery[Title]) OR vocational recovery[Title]	526390	10:11:26
#1	Add	Search psychosis[Title/Abstract]	36962	10:05:33

Google Scholar Search:

Allintitle: psychosis AND (predict OR prognos OR model)