

## Supplemental Appendix 1. Results by database, search strategy.

### Ovid MEDLINE — 1,644 results

Database: Ovid MEDLINE(R) 1946 to Present with Daily Update, Ovid MEDLINE(R) In-Process & Other Non-Indexed Citations <February 05, 2016> Search Strategy:

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- 1 Delirium/ (6,543)
  - 2 delirium.mp. (12,468)
  - 3 delirious.mp. (1,057)
  - 4 Confusion/ (4,229)
  - 5 confusion.mp. (27,489)
  - 6 confused.mp. (10,931)
  - 7 acute confusional state.mp. (298)
  - 8 acute brain failure.mp. (10)
  - 9 acute brain syndrome.mp. (42)
  - 10 metabolic encephalopathy.mp. (369)
  - 11 1 or 2 or 3 or 4 or 5 or 6 or 7 or 8 or 9 or 10 (49,390)
  - 12 "Predictive Value of Tests"/ (157,243)
  - 13 predict\*.mp. (1,137,238)
  - 14 12 or 13 (1,137,238)
  - 15 Models, Theoretical/ (117,825)
  - 16 Models, Statistical/ (73,929)
  - 17 "Sensitivity and Specificity"/ (296,641)
  - 18 "Reproducibility of Results"/ (304,605)
  - 19 (score or scores or scoring).mp. (600,687)
  - 20 (model or models or modeling).mp. (2,711,565)
  - 21 (test or tests or testing).mp. (2,425,782)
  - 22 (rule or rules).mp. (101,365)
  - 23 (index or indexes or indices).mp. (853,371)
  - 24 15 or 16 or 17 or 18 or 19 or 20 or 21 or 22 or 23 (5,899,933)
  - 25 11 and 14 and 24 (1,859)
  - 26 limit 25 to english language (1,787)
  - 27 limit 26 to yr="1990 – 2016" (1,694)
  - 28 exp animals/ not humans.sh. (4,180,573)
  - 29 27 not 28 (1,644)






















































## PsycINFO — 683 results

Database: PsycINFO <1806 to February Week 1 2016> Search Strategy:

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- 1 Delirium/ (2,633)
- 2 delirium.mp. (5,670)
- 3 delirious.mp. (1,004)
- 4 exp Mental Confusion/ (813)
- 5 confusion.mp. (16,365)
- 6 confused.mp. (4,947)
- 7 acute confusional state.mp. (117)
- 8 acute brain syndrome.mp. (35)
- 9 acute brain failure.mp. (9)
- 10 metabolic encephalopathy.mp. (63)
- 11 1 or 2 or 3 or 4 or 5 or 6 or 7 or 8 or 9 or 10 (26,106)
- 12 Prediction/ (17,641)
- 13 Prediction Errors/ (462)
- 14 predict\*.mp. (349,142)
- 15 12 or 13 or 14 (349,142)
- 16 testing/ (8,465)
- 17 Test Validity/ (60,712)
- 18 Test Reliability/ (43,071)
- 19 models/ (56,627)
- 20 (score or scores or scoring).mp. (264,381)
- 21 (model or models or modeling).mp. (566,430)
- 22 (test or tests or testing).mp. (640,268)
- 23 (rule or rules).mp. (48,243)
- 24 (index or indexes or indices).mp. (179,675)
- 25 16 or 17 or 18 or 19 or 20 or 21 or 22 or 23 or 24 (1,341,667)
- 26 11 and 15 and 25 (841)
- 27 limit 26 to (english language and yr="1990 – 2016") (683)

## CINAHL (Cumulative Index to Nursing and Allied Health Literature) — 500 results

<input type="checkbox"/>	S28	 S11 AND S15 AND S25	Limiters - English Language; Published Date: 19900101-20161231 Search modes - Boolean/Phrase	<a href="#">View Results</a> (500) 
<input type="checkbox"/>	S27	 S11 AND S15 AND S25	Limiters - English Language Search modes - Boolean/Phrase	<a href="#">View Results</a> (503) 
<input type="checkbox"/>	S26	 S11 AND S15 AND S25	Search modes - Boolean/Phrase	<a href="#">View Results</a> (508) 
<input type="checkbox"/>	S25	 S16 OR S17 OR S18 OR S19 OR S20 OR S21 OR S22 OR S23 OR S24	Search modes - Boolean/Phrase	<a href="#">View Results</a> (731,247)
<input type="checkbox"/>	S24	 index OR indexes OR indices	Search modes - Boolean/Phrase	<a href="#">View Results</a> (120,804)
<input type="checkbox"/>	S23	 rule OR rules	Search modes - Boolean/Phrase	<a href="#">View Results</a> (15,731) 
<input type="checkbox"/>	S22	 test OR tests OR testing	Search modes - Boolean/Phrase	<a href="#">View Results</a> (471,098)
<input type="checkbox"/>	S21	 model OR models OR modeling	Search modes - Boolean/Phrase	<a href="#">View Results</a> (213,794)
<input type="checkbox"/>	S20	 score OR scores OR scoring	Search modes - Boolean/Phrase	<a href="#">View Results</a> (102,981)
<input type="checkbox"/>	S19	 (MH "Reproducibility of Results")	Search modes - Boolean/Phrase	<a href="#">View Results</a> (16,101) 
<input type="checkbox"/>	S18	 (MH "Sensitivity and Specificity")	Search modes - Boolean/Phrase	<a href="#">View Results</a> (30,720) 
<input type="checkbox"/>	S17	 (MH "Models, Statistical")	Search modes - Boolean/Phrase	<a href="#">View Results</a> (10,773) 
<input type="checkbox"/>	S16	 (MH "Models, Theoretical")	Search modes - Boolean/Phrase	<a href="#">View Results</a> (24,329) 
<input type="checkbox"/>	S15	 S12 OR S13 OR S14	Search modes - Boolean/Phrase	<a href="#">View Results</a> (129,416)
<input type="checkbox"/>	S14	 "predict"	Search modes - Boolean/Phrase	<a href="#">View Results</a> (129,416)
<input type="checkbox"/>	S13	 (MH "Predictive Validity")	Search modes - Boolean/Phrase	<a href="#">View Results</a> (3,363) 
<input type="checkbox"/>	S12	 (MH "Predictive Value of Tests")	Search modes - Boolean/Phrase	<a href="#">View Results</a> (19,537) 
<input type="checkbox"/>	S11	 S1 OR S2 OR S3 OR S4 OR S5 OR S6 OR S7 OR S8 OR S9 OR S10	Search modes - Boolean/Phrase	<a href="#">View Results</a> (11,341) 
<input type="checkbox"/>	S10	 "metabolic encephalopathy"	Search modes - Boolean/Phrase	<a href="#">View Results</a> (22)  
<input type="checkbox"/>	S9	 "acute brain syndrome"	Search modes - Boolean/Phrase	<a href="#">View Results</a> (1)  
<input type="checkbox"/>	S8	 "acute brain failure"	Search modes - Boolean/Phrase	<a href="#">View Results</a> (3)  
<input type="checkbox"/>	S7	 "acute confusional state"	Search modes - Boolean/Phrase	<a href="#">View Results</a> (59)  
<input type="checkbox"/>	S6	 "confused"	Search modes - Boolean/Phrase	<a href="#">View Results</a> (1,625) 
<input type="checkbox"/>	S5	 "confusion"	Search modes - Boolean/Phrase	<a href="#">View Results</a> (6,158) 
<input type="checkbox"/>	S4	 (MH "Confusion")	Search modes - Boolean/Phrase	<a href="#">View Results</a> (1,254) 
<input type="checkbox"/>	S3	 "delirious"	Search modes - Boolean/Phrase	<a href="#">View Results</a> (193) 
<input type="checkbox"/>	S2	 "delirium"	Search modes - Boolean/Phrase	<a href="#">View Results</a> (4,360) 
<input type="checkbox"/>	S1	 (MH "Delirium")	Search modes - Boolean/Phrase	<a href="#">View Results</a> (3,115) 

## EMBASE — 1,466 results

<input type="checkbox"/> <b>History</b>	Save   Delete   Print view   Export   Email	
<input type="checkbox"/> <b>Combine &gt;</b>	using <input checked="" type="radio"/> And <input type="radio"/> Or	<a href="#">^ Collapse</a>
<input type="checkbox"/> <b>#17</b>	<b>#15 AND [embase]/lim NOT [medline]/lim AND [humans]/lim</b>	1,466
<input type="checkbox"/> <b>#16</b>	<b>#15 AND [embase]/lim NOT [medline]/lim</b>	1,727
<input type="checkbox"/> <b>#15</b>	<b>#5 AND #6 AND #13 AND [english]/lim AND [1990-2016]/py</b>	3,860
<input type="checkbox"/> <b>#14</b>	<b>#5 AND #6 AND #13</b>	4,117
<input type="checkbox"/> <b>#13</b>	<b>#7 OR #8 OR #9 OR #10 OR #11 OR #12</b>	7,231,758
<input type="checkbox"/> <b>#12</b>	<b>index OR indexes OR indices</b>	1,147,499
<input type="checkbox"/> <b>#11</b>	<b>rule OR rules</b>	128,758
<input type="checkbox"/> <b>#10</b>	<b>model OR models OR modeling</b>	3,270,728
<input type="checkbox"/> <b>#9</b>	<b>test OR tests OR testing</b>	2,940,749
<input type="checkbox"/> <b>#8</b>	<b>score OR scores OR scoring</b>	945,882
<input type="checkbox"/> <b>#7</b>	<b>'statistical model'/de OR 'theoretical model'/de OR 'reproducibility'/de OR 'sensitivity and specificity'/de</b>	531,798
<input type="checkbox"/> <b>#6</b>	<b>'predictive value'/de OR predict*</b>	1,459,778
<input type="checkbox"/> <b>#5</b>	<b>#1 OR #3 OR #4</b>	105,431
<input type="checkbox"/> <b>#4</b>	<b>'altered mental status' OR acute AND brain AND failure OR acute AND confusional AND state OR acute AND brain AND syndrome</b>	20,472
<input type="checkbox"/> <b>#3</b>	<b>'confusion'/de OR confusion OR confused OR 'acute confusion'/de</b>	65,905
<input type="checkbox"/> <b>#1</b>	<b>'delirium'/exp OR delirium OR delirious</b>	24,241