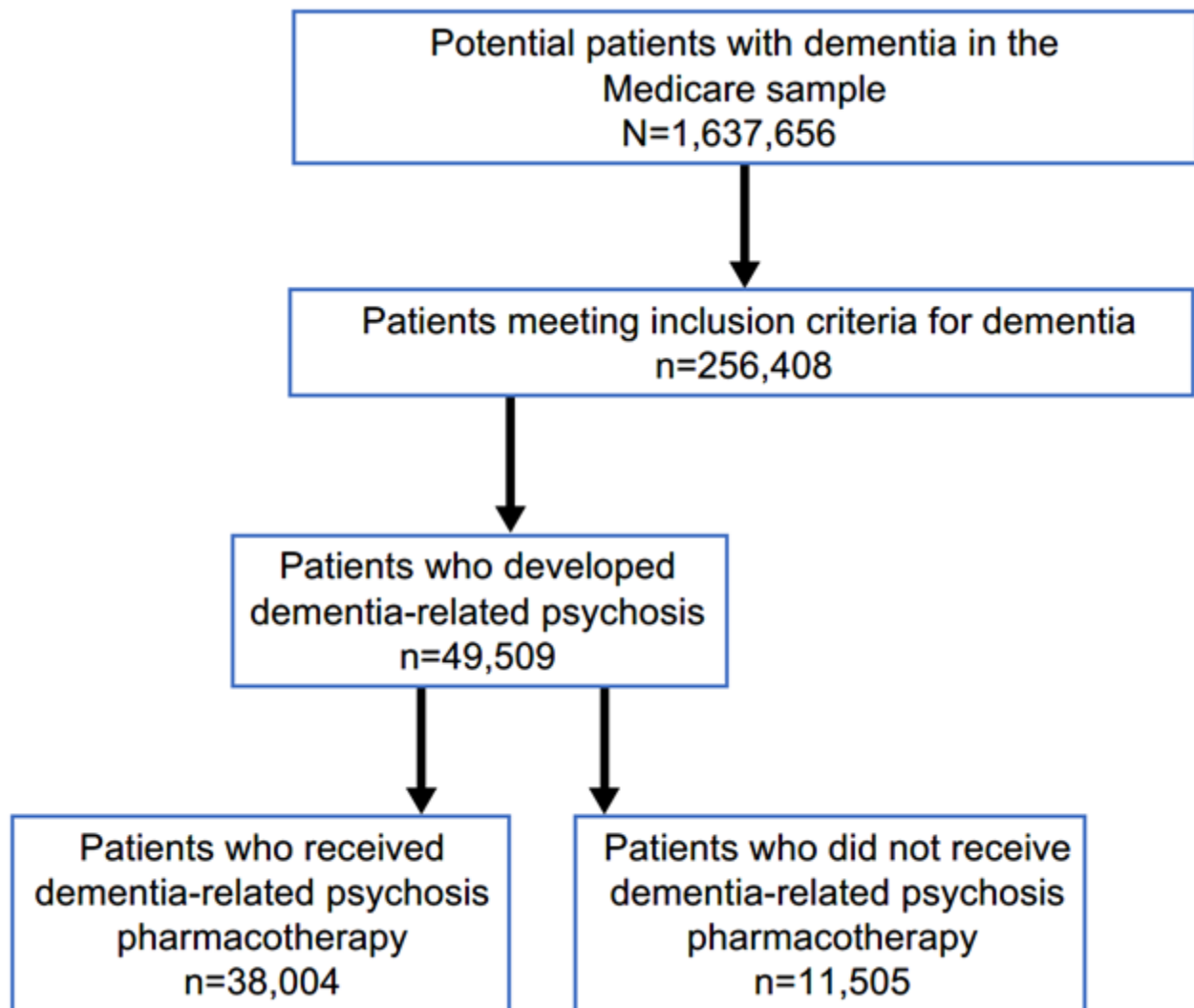


Supplemental Material

Supplemental Figure Legend

Supplemental Figure 1. Patient flow



Supplemental Table 1. ICD (9th and 10th Revisions) clinical modification codes for dementia

Dementia type	Dementia diagnosis codes
Alzheimer's disease and senile dementia	ICD 9: 331.0, 290.0, 290.10, 290.13, 290.21, 797, 331.2 ICD 10: G30.0, G30.1, G30.8, G30.9, G31.1
Parkinson's disease dementia	ICD 9: 332 ICD 10: G20
Lewy body dementia	ICD 9: 331.82 ICD 10: G31.83
Frontotemporal dementia	ICD 9: 331.19, 331.11 ICD 10: G31.09, G31.01
Vascular dementia	ICD 9: 290.40, 290.43, 438.0 ICD 10: F01.50
Other/unspecified dementia	ICD 9: 294.10, 294.20 ICD 10: F03.90, F02.80

ICD, International Classification of Diseases.

Supplemental Table 2. ICD (9th and 10th Revisions) clinical modification codes used to define exclusions for conditions potentially associated with psychosis

Exclusions	Diagnosis codes
Chronic psychiatric disease	ICD 9: 295, 296, 297, 298.3, 293.83, 293.84, 301.20, 301.22, 291.1, 291.2, 291.3, 291.5, 292.11, 292.12, 292.82, 293.81, 293.82 ICD 10: F20, F21, F24, F25, F30, F31, F32.3, F33.3, V11.0, F1015, F10232, F10250, F10251, F10259, F10950, F10951, F10959, F11122, F11150, F11151, F11159, F11222, F11250, F11251, F11259, F11922, F11950, F11951, F11959, F12122, F12150, F12151, F12159, F12222, F12250, F12251, F12259, F12922, F12950, F12951, F12959, F13150, F13151, F13159, F13232, F13250, F13251, F13259, F13932, F13950, F13951, F13959, F14122, F14150, F14151, F14159, F14222, F14250, F14251, F14259, F14922, F14950, F14951, F14959, F15122, F15150, F15151, F15159, F15222, F15250, F15251, F15259, F15922, F15950, F15951, F15959, F16122, F16150, F16151, F16159, F16183, F16250, F16251, F16259, F16283, F16950, F16951, F16959, F16983, F18150, F18151, F18159, F18250, F18251, F18259, F18950, F18951, F18959, F19122, F19150, F19151, F19159, F19222, F19232,

	F19250, F19251, F19259, F19922, F19932, F19950, F19951, F19959
Seizures	ICD 9: 345, 310, 333.2, 649.4, 780.33, 300.11, 780.39, 341.81, 333.2 ICD 10: F482, G25.3, R56.1, G40, F44.5, R56.9, G93.81, G83.84, G25.3
Chronic alcohol-induced dementia	ICD 9: 291.2 ICD 10: F10.27, G312
Drug-induced persisting dementia	ICD 9: 292.82 ICD 10: F19.97
Ischemic, hemorrhagic, other stroke	ICD 9: 430, 431, 432.0, 432.1, 432.9, 433.x1, 434.x1 ICD 10: I60.X, I61.X, I62.X, I63.X, I64, I67.X, I69.X except I69.310
Cerebral amyloid angiopathy	ICD 10: I68.0
Central nervous system neoplasm malignancy	ICD 9: 191.X, 192.1, 239.6, 198.3, 225.0, 225.2 ICD 10: C70.0, C70.9, C71.X, C72.9, C72.1, C79.31, C79.32, D33.0, D33.1, D33.2, D33.7, D33.9 D32.0, .9, D49.6
Huntington's disease	ICD 10: G10
Vascular malformation	ICD 9: 747.81 ICD 10: Q28.2, 28.3

Other

ICD 9: 331.7, 331.81, 331.89, 437.1, 198.3, 192.8, 192.9

ICD 10: G13.2,G13.8,G93.7,G31.89,G31.9,G46

ICD, International Classification of Diseases.

Supplemental Table 3. ICD (9th and 10th Revisions) clinical modification codes for manifestations of psychosis used to establish the presence of dementia-related psychosis

Disease manifestation	Psychosis diagnosis codes
Psychosis	ICD 9: 293.81, 293.82, 290.8, 290.9, 297.1, 298.0, 298.1, 298.4, 298.8, 298.9, 368.16, 780.1, 290.12, 290.20, 290.42 ICD 10: F06.2, F06.0, F22, F23, F28, F29, H53.16, R44.0, R44.1, R44.2, R44.3

ICD, International Classification of Diseases.

Supplemental Table 4. Patterns of prescription drug use in patients treated with either an antipsychotic or divalproex for incident dementia-related psychosis

		First-line agent					
		Divalproex (n=5539)	Haloperidol (n=3279)	Aripiprazole (n=1123)	Olanzapine (n=3097)	Risperidone (n=9630)	Quetiapine (n=15,090)
Continuous users		2173 (39.2)	665 (20.3)	278 (24.8)	997 (32.2)	3122 (32.4)	5799 (38.4)
Discontinuation users without switching ^a		1701 (30.7)	1435 (43.8)	490 (43.6)	1238 (40.0)	4281 (44.5)	6401 (42.4)
Switching users		1665 (30.1)	1179 (36.0)	355 (31.6)	862 (27.8)	2227 (23.1)	2890 (19.2)
Second-line agent	Divalproex	---	140 (4.3)	56 (5.0)	160 (5.2)	498 (5.2)	845 (5.6)
	Haloperidol	185 (3.3)	---	26 (2.3)	88 (2.8)	274 (2.8)	493 (3.3)
	Aripiprazole	70 (1.3)	33 (1.0)	---	26 (0.8)	88 (0.9)	141 (0.9)
	Olanzapine	205 (3.7)	145 (4.4)	38 (3.4)	---	249 (2.6)	439 (2.9)
	Risperidone	515 (9.3)	355 (10.8)	92 (8.2)	241 (7.8)	---	972 (6.4)
	Quetiapine	690 (12.5)	506 (15.4)	143 (12.7)	347 (11.2)	1118 (11.6)	---

Note: Data are number (%) of patients. ^aA small number of patients could have switched to an agent that is not listed.