

1 **Appendix 1: Supplementary methods**

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3 Table S1. International Classification of Diseases codes for attention-deficit hyperactivity
4 disorder

5 Table S2. International Classification of Diseases codes for mood and anxiety disorders

6 Table S3. International Classification of Diseases codes for dementia

7 Table S4. International Classification of Diseases codes for Parkinson's disease

Table S1. International Classification of Diseases codes for attention-deficit hyperactivity disorder	
One or more hospitalizations with a diagnosis of hyperkinetic syndrome	
ICD-9-CM	ICD-10-CA
314	F90
One or more physician visits with a diagnosis of hyperkinetic syndrome	
ICD-9-CM	
314	
Two or more prescriptions for ADHD drugs without a diagnosis of:	
Conduct disorder	
ICD-9-CM	ICD-10-CA
312	F63
	F91
	F92
Disturbance of emotions	
ICD-9-CM	ICD-10-CA
313	F93
	F94
Cataplexy/narcolepsy	
ICD-9-CM	ICD-10-CA
347	G47.4
One prescription for ADHD drugs in one year and a diagnosis of hyperkinetic syndrome in the previous three years	
ADHD medications were identified by	
ATC code	Drug class/name
N06BA	Centrally acting sympathomimetics
ICD-9-CM, International Classification of Diseases, Ninth Revision, Clinical Modification.	
ICD-10-CA, International Classification of Diseases, Tenth Revision, Canada.	

Table S2. International Classification of Diseases codes for mood and anxiety disorders	
One or more hospitalizations with a diagnosis for depressive disorder, affective psychoses, neurotic depression or adjustment reaction	
ICD-9-CM	ICD-10-CA
296.1-296.8	F31
300.4	F32
309	F33
311	F34.1
	F38.0
	F38.1
	F41.2
	F43.1
	F43.2
	F43.8
	F53.0
	F93.0
One or more hospitalizations with a diagnosis for an anxiety state, phobic disorders, or obsessive-compulsive disorders	
ICD-9-CM	ICD-10-CA
300	F40
300.2	F41.0
300.3	F41.1
300.7	F41.3
	F41.8
	F41.9
	F42
	F45.2
One or more hospitalizations with a diagnosis for anxiety disorders	
ICD-9-CM	ICD-10-CA
300	F32
	F34.1
	F40
	F41
	F42
	F44
	F45.0
	F45.1
	F45.2
	F48
	F68.0
	F99

Table S2. International Classification of Diseases codes for mood and anxiety disorders (continued)	
and one or more prescriptions for an antidepressant or mood stabilizer	
ATC code	Drug class/name
N05AN01	Lithium
N05BA	Benzodiazepine derivative anxiolytics
and one or more prescriptions for an antidepressant or mood stabilizer	
ATC code	Drug class/name
N06A	Antidepressants
One or more physician visits with a diagnosis for depressive disorder or affective psychoses	
ICD-9-CM	
296	
311	
One or more physician visits with a diagnosis for anxiety disorders	
ICD-9-CM	
300	
and one or more prescriptions for an antidepressant or mood stabilizer	
ATC code	Drug class/name
N05AN01	Lithium
N05BA	Centrally acting sympathomimetics
N06A	Antidepressants
Three or more physician visits with a diagnosis for anxiety disorders or adjustment reaction	
ICD-9-CM	
300	
309	
ICD-9-CM, International Classification of Diseases, Ninth Revision, Clinical Modification.	
ICD-10-CA, International Classification of Diseases, Tenth Revision, Canada.	

Table S3. International Classification of Diseases codes for dementia	
One or more hospitalizations with a diagnosis for dementia, including organic psychotic conditions, cerebral degenerations and senility	
ICD-9-CM	ICD-10-CA
290	F00
291.1	F01
291.2	F02
292.82	F03
294	F04
331	F05.1
797	F06.5
	F06.6
	F06.8
	F06.9
	F09
	F10.7
	F11.7
	F12.7
	F13.7
	F14.7
	F15.7
	F16.7
	F17.7
	F18.7
	F19.7
	G30
	G31.0
	G31.1
	G31.9
	G32.8
	G91
	G93.7
	G94
	R54
One or more physician visits with a diagnosis for dementia	
ICD-9-CM	
290	
294	
331	
797	

Table S3. International Classification of Diseases codes for dementia (continued)	
One or more prescriptions for anti-dementia drugs	
ATC code	Drug class/name
N06DA	Anticholinesterases
N06DX01	Memantine
ICD-9-CM, International Classification of Diseases, Ninth Revision, Clinical Modification.	
ICD-10-CA, International Classification of Diseases, Tenth Revision, Canada.	

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Table S4. International Classification of Diseases codes for Parkinson's disease	
One or more hospitalizations with a diagnosis for Parkinson's disease	
ICD-9-CM	ICD-10-CA
332	G20
One or more physician visits with a diagnosis for Parkinson's disease	
ICD-9-CM	
332	
One or more prescriptions for anti-Parkinson's drugs	
ATC code	Drug class/name
N04B	Dopaminergic agents
ICD-9-CM, International Classification of Diseases, Ninth Revision, Clinical Modification.	
ICD-10-CA, International Classification of Diseases, Tenth Revision, Canada.	

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