# Supplementary Figure 1. Directed acyclic graphs for the main analysis.



*SUD, substance use disorder.*

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# Supplementary Figure 2. Risk of hospitalization for mental disorders (including psychosis) in the year after ADHD medication initiation.

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*ADHD, attention-deficit/hyperactivity disorder; aHR, adjusted hazard ratio; AMP, amphetamine; AP, antipsychotic; ATX, atomoxetine; CI, confidence interval; CU, current use; GP, general practitioner; H, hospitalization; MPH, methylphenidate; Rx, medication; SES, socioeconomic status; SUD, substance use disorder.*

*aHR (95% CI) associated with each covariable.*

# Supplementary Figure 3. Risk of hospitalization for mental disorders other than psychosis in the year after ADHD medication initiation.

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*ADHD, attention-deficit/hyperactivity disorder; aHR, adjusted hazard ratio; AMP, amphetamine; AP, antipsychotic; ATX, atomoxetine; CI, confidence interval; CU, current use; GP, general practitioner; H, hospitalization; MPH, methylphenidate; Rx, medication; SES, socioeconomic status; SUD, substance use disorder*

*aHR (95% CI) associated with each covariable.*

# **Supplementary Table 1.** List and description of ICD-9 and ICD-10 for psychosis.

|  |  |  |  |
| --- | --- | --- | --- |
| **ICD-9** | **Description** | **ICD-10** | **Description** |
| **295** | **Schizophrenic disorders** | **F20** | **Schizophrenia** |
| 295.0 | Simple type | F20.0 | Paranoid schizophrenia |
| 295.1 | Hebephrenic type | F20.1 | Hebephrenic schizophrenia |
| 295.2 | Catatonic type | F20.2 | Catatonic schizophrenia |
| 295.3 | Paranoid type | F20.3 | Undifferentiated schizophrenia |
| 295.4 | Acute schizophrenic episode | F20.4 | Post-schizophrenic depression |
| 295.5 | Latent schizophrenia | F20.5 | Residual schizophrenia |
| 295.6 | Residual schizophrenia | F20.6 | Simple schizophrenia |
| 295.7 | Schizo-affective type | F20.8 | Other |
| 295.8 | Other | F20.9 | Unspecified |
| 295.9 | Unspecified | **F21** | **Schizotypal disorder** |
| **297** | **Paranoid states** | **F22** | **Persistent delusional disorders** |
| 297.0 | Paranoid state, simple | F22.0 | Delusional disorder |
| 297.1 | Paranoia | F22.8 | Other |
| 297.2 | Paraphrenia | F22.9 | Unspecified |
| 297.3 | Induced psychosis | **F23** | **Acute and transient psychotic disorders** |
| 297.8 | Other | F23.0 | Acute polymorphic psychotic disorder without symptoms of schizophrenia |
| 297.9 | Unspecified | F23.1 | Acute polymorphic psychotic disorder with symptoms of schizophrenia |
| **298** | **Other nonorganic psychoses** | F23.2 | Acute schizophrenia-like psychotic disorder |
| 298.0 | Depressive type | F23.3 | Other acute predominantly delusional psychotic disorders |
| 298.1 | Excitative type | F23.8 | Other |
| 298.2 | Reactive confusion | F23.9 | Unspecified |
| 298.3 | Acute paranoid reaction | **F24** | **Induced delusional disorder** |
| 298.4 | Psychogenic paranoid psychosis | **F25** | **Schizoaffective disorders** |
| 298.8 | Other and unspecified reactive psychosis | F25.0 | Manic type |
| 298.9 | Unspecified psychosis | F25.1 | Depressive type |
|  |  | F25.2 | Mixed type |
|  |  | F25.8 | Other |
|  |  | F25.9 | Unspecified |
|  |  | **F28** | **Other nonorganic psychotic disorders** |
|  |  | **F29** | **Unspecified nonorganic psychosis** |

# Supplementary Table 2. List and description of ICD-10 for mental disorders.

|  |  |
| --- | --- |
| **ICD-10** | **Description** |
| **F00-F99** | **Mental and behavioural disorders** |
| F00-F09 | Organic, including symptomatic, mental disorders |
| F10-F19 | Mental and behavioural disorders due to psychoactive substance use |
| F20-F29 | Schizophrenia, schizotypal and delusional disorders |
| F30-F39 | Mood [affective] disorders |
| F40-F49 | Neurotic, stress-related and somatoform disorders |
| F50-F59 | Behavioural syndromes associated with physiological disturbances and physical factors |
| F60-F69 | Disorders of adult personality and behaviour |
| F70-F79 | Mental retardation |
| F80-F89 | Disorders of psychological development |
| F90-F98 | Behavioural and emotional disorders with onset usually occurring in childhood and adolescence |
| F99 | Unspecified mental disorder |
| **R44-R46** | **Symptoms and signs involving cognition, perception, emotional state and behaviour** |
| R44 | Other symptoms and signs involving general sensations and perceptions - hallucinations |
| R45 | Symptoms and signs involving emotional state |
| R46 | Symptoms and signs involving appearance and behaviour |
| **X60-Y91** |  |
| X60-X84 | Intentional self-harm |
| X85-Y09 | Assault |
| Y10-Y34 | Event of undetermined intent |
| Y35-Y36 | Legal intervention and operations of war |
| Y90 | Evidence of alcohol involvement determined by blood alcohol level |
| Y91 | Evidence of alcohol involvement determined by level of intoxication |

# Supplementary Table 3. Comparison between the study cohort and the comparison group.

|  |  |  |  |
| --- | --- | --- | --- |
| Baseline characteristics | COHORT | COMPARISON GROUPa | p-value |
| Total, n | 2219 | 7802 | - |
| Sex, n (%)FemaleMale | 879 (39.6)1340 (60.4) | 3056 (39.2)4746 (60.8) | .7061 |
| Age, mean ± SD | 37.0 (15.0) | 38.3 (14.5) | .0003 |
| Low socioeconomic status, n (%) | 1629 (73.4) | 5998 (76.9) | .0007 |
| Duration of SZSPD diagnosis, mean ± SD | 5.6 (3.8) | 6.0 (3.9) | .0001 |
| Initial prescriber of ADHD medication, n (%)PsychiatristGeneral practitionerOther MD | 1460 (65.8)711 (32.0)48 (2.2) | - | - |
| Prescriber of AP, n (%)PsychiatristGeneral practitionerOther MD | 1597 (72.0)599 (27.0)23 (1.0) | 5378 (68.9)2338 (30.0)86 (1.1) | .0227 |
| Comorbidity index (≥ 1), n (%) | 524 (23.6) | 1364 (17.5) | <.0001 |
| Substance-related disorders, n (%) | 755 (34.0) | 1472 (18.9) | <.0001 |
| Personality disorder, n (%) | 633 (28.5) | 991 (12.7) | <.0001 |
| Lithium use, n (%) | 269 (12.1) | 730 (9.4) | .0001 |
| Antidepressant use, n (%) | 1388 (62.6) | 3316 (42.5) | <.0001 |
| Benzodiazepine use, n (%) | 1180 (53.2) | 3099 (39.7) | <.0001 |
| Divalproex use, n (%) | 337 (15.2) | 1047 (13.4) | .0332 |
| Lamotrigine use, n (%) | 157 (7.1) | 252 (3.2) | <.0001 |
| Number of ambulatory visits, mean ± SD | 16.0 (16.5) | 12.2 (14.5) | <.0001 |
| Prior hospitalization for psychosis, n (%) | 346 (15.6) | 1196 (15.3) | .7617 |
| Prior hospitalization for other mental dis., n (%) | 579 (26.1) | 873 (11.2) | <.0001 |
| Prior hospitalization for mental dis., n (%) | 822 (37.0) | 1912 (24.5) | <.0001 |
| Prior hospitalization for non-mental dis., n (%) | 305 (13.7) | 745 (9.6) | <.0001 |

*ADHD, attention-deficit/hyperactivity disorder; AP, antipsychotic; MD, medical doctor; SD, standard deviation; SZSPD, schizophrenia spectrum psychotic disorder.*

*aPatients in the comparison group were matched for sex, birth year (±3 years), date of first psychosis (±1 year), and use of AP 30 days before or after the index date.*

# Supplementary Table 4. Initial dosage of ADHD medication.

|  |  |  |  |
| --- | --- | --- | --- |
| Initial ADHD medication | n | Average (SD) | Median (IQR) |
| Methylphenidate | 1589 | 21 mg (14 mg) | 18 mg (10 – 27 mg) |
| Amphetamines |  |  |  |
| Dexamphetamine | 78 | 12 mg (8 mg) | 10 mg (10 – 15 mg) |
| Amphetamine | 64 | 18 mg (14 mg) | 80 mg (40 – 120 mg) |
| Lisdexamfetamine | 197 | 26 mg (9 mg) | 30 mg (20 – 30 mg) |
| Atomoxetine | 291 | 38 mg (21 mg) | 40 mg (25 – 40 mg) |

*ADHD, attention-deficit/hyperactivity disorder; IQR, interquartile range; mg, milligram; SD, standard deviation.*