**Supplementary Table 1 Diagnostic categories**

|  |  |
| --- | --- |
| **Diagnostic categories** | **ICD10 diagnosis** |
| 1.Alcohol abuse | Alcohol abuse or dependence |
| 2.Drug abuse (not alcohol) | Abuse and dependence of illicit drugs |
| 3.Mixed abuse (alcohol and narcotic drugs) | Alcohol abuse and dependence |
| 4.Anxiety | All types of anxiety syndromes in chapter F4,ICD-10 |
| 5. Affective depression | Mild, moderate and severe depression with or without psychosis and dysthymia |
| 6. Bipolar affective | All types of bipolar affective episodes; hypomania, mania with or without psychosis, mixed affective episode, mild/moderate/severe depression with or without psychosis, and cyclothymia |
| 7. Confusion/dementia (included delirium) | Dementia with or without psychosis, Alzheimers dementia, Lewy-Body dementia, frontal lobe dementia, Korsakoffs psychosis, delirium |
| 8. Psychosis | Schizophrenia-spectrum disorders and paranoid psychosis corresponding to diagnosis in the F2 chapter in ICD-10, and cases labeled «serious psychiatric disorders» |
| 9. ADD, ADHD, Tourette |  |
| 10. Autism | Autism spectrum disorder, Asperger disorder |
| 11. Cerebral palsy |  |
| 12. Head trauma | Recent head trauma |
| 13. Anorexia, eating disorder | Bulimia, anorexia |
| 14. Other | Learning disabilities, mental retardation, personality disorders, conduct disorders, tics, cases where diagnostic information was lacking; e.g. «evaluation for psychiatric disorder». Recent suicide attempt |
| 15. Other somatic/organic disease | Headache, Parkinson’s disease, multiple sclerosis, cancer, transient ischemic attack, epilepsia |

The 15 diagnostic categories used for estimation of clinical psychiatric diagnosis (left column) and a closer description of their content (right column).

**Supplementary Figure 1 Flow-chart describing the data.**

Individual referrals

3614

The patients marked in green are the ones followed in this study. Not brain scans mean that they were coded wrong, and were scanning of something else e.g. scans of the pituitary or eyes. Routine scans and to exclude brain tumor (TC) were combined because the number referred to exclude TC was small (N=127).

Not brain scans

51

Routine scans+ to exclude brain tumor

2690

Scans taken for a specific reason

232

**Did not complete scanning**

641

Completed brain scans

2922

Completed scans

2973

**Supplementary Table 2 Prevalence of pathologic findings.**

|  |  |  |  |
| --- | --- | --- | --- |
|  | All referrals | Routine scans+ to exclude brain tumor | Specific clinical question |
| Finding | N=2922 (%) | N=2690(%) | N=232(%) |
| Hemorrhage | 26 (0,9) | 15(0.6) | 11(4,7) |
| Tumor | 35 (1,2) | 29(1,1) | 6(2.6) |
| Ventriculomegaly | 60 (2.1) | 45(1.7) | 15(6,5) |
| Atrophy | 191 (6.,5) | 167(6.2) | 24(10,3) |
| Infarcts | 187 (6.4) | 154(5.7) | 33(14,2) |
| Cysts | 43 (1.5) | 36(1.3) | 7(3,0) |
| WML | 373 (12.8) | 336(12.5) | 37(15,9) |
| Suspect pathology | 27 (0.,9) | 22(0.8) | 5(2,2) |
| Other pathology | 60 (2.1) | 48(1.8) | 12(5,2) |
| Number of pathologic scans | 1003 (34.3) | 853(31.7) | 65(64,7) |

This table shows the prevalence of pathologic findings in all the completed brain scans (N=2922) and in the groups referred as routine or to exclude brain tumor (N=2690) or referrals of patients with a specific clinical question (N=232).