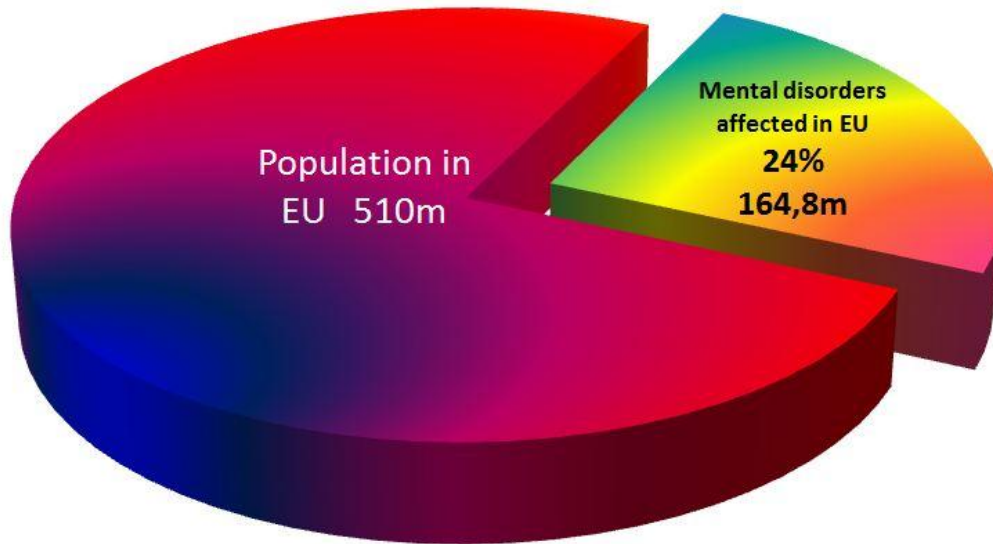


Some datas of neurological (brain) and neurological associated disorders in Europe



Mental disorders: OCD (2,9m), Eating Dis. (1,5m), cannabis depedence (1,4m), psychotic dis. (5m), personality dis (4,3m), PTSD (7,7m), conduct dis. (2,1m), alcohol depedence (14,6m), somatoform dis. (20,4m), ADHD/Hipercin dis. (3,3m), dementia (6,3m), unipolar depression (30,3m), insomnia (29,1m), anxiety dis. (29,1m)

Rates of total cost of disorders in Europe in year 2010 *WHO data Olesen J, Gustavsson A, Svensson M, Wittchen HU, Jönsson B; CDBE2010 study group; European Brain Council.

■ brain and neurological ■ cardiov., cancer, diabetes ■ other

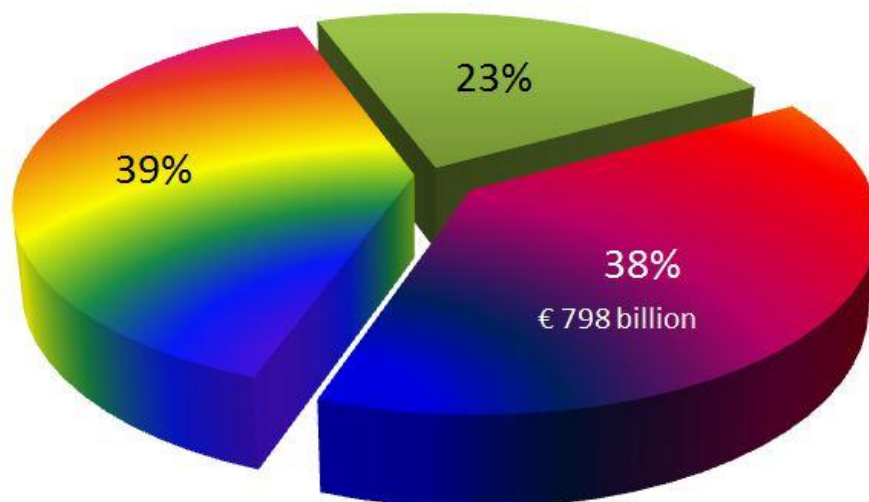


Table 1 Number of subjects affected and cost of brain disorders in Europe by diagnostic group and selected specific diagnoses

| Disorders | Estimated number of subjects affected (millions) | Cost per patient (€PPP 2010) | | | Total costs (million €PPP 2010) | | | | |
|----------------------------|--|------------------------------|--------------------------|----------------|---------------------------------|--------------------------|--------------------------|----------------|---------|
| | | Direct health care costs | Direct non-medical costs | Indirect costs | Total | Direct health care costs | Direct non-medical costs | Indirect costs | Total |
| Addiction | 15.5 | 1782 | 873 | 1572 | 4227 | 27 685 | 13 569 | 24 430 | 65 684 |
| Alcohol dependence | 14.6 | 1689 | 922 | 1671 | 4281 | 24 596 | 13 430 | 24 336 | 62 361 |
| Opioid dependence | 1.0 | 3176 | 143 | 98 | 3416 | 3089 | 139 | 95 | 3323 |
| Anxiety disorders | 69.1 | 670 | 2 | 405 | 1077 | 46 267 | 144 | 27 969 | 74 380 |
| Agoraphobia | 8.8 | 337 | 0 | 760 | 1097 | 2959 | 0 | 6675 | 9634 |
| GAD | 8.9 | 988 | 0 | 226 | 1214 | 8786 | 0 | 2014 | 10 800 |
| OCD | 2.9 | 555 | 0 | 225 | 779 | 1617 | 0 | 656 | 2272 |
| Panic disorder | 7.9 | 844 | 0 | 661 | 1505 | 6670 | 0 | 5224 | 11 894 |
| PTSD | 7.7 | 1064 | 19 | 0 | 1082 | 8241 | 144 | 0 | 8385 |
| Social phobia | 10.1 | 721 | 0 | 476 | 1196 | 7277 | 0 | 4806 | 12 083 |
| Specific phobia | 22.7 | 472 | 0 | 378 | 850 | 10 717 | 0 | 8595 | 19 312 |
| Brain tumor | 0.2 | 13 387 | 0 | 8203 | 21 590 | 3208 | 0 | 1966 | 5174 |
| Child/Adolescent disorders | 5.9 | 439 | 3156 | 0 | 3595 | 2601 | 18 724 | 0 | 21 326 |
| ADHD | 3.3 | 477 | 304 | 0 | 781 | 1555 | 992 | 0 | 2546 |
| Autism | 0.6 | 1255 | 26 006 | 0 | 27 261 | 695 | 14 413 | 0 | 15 109 |
| Conduct disorder | 2.1 | 166 | 1569 | 0 | 1735 | 352 | 3319 | 0 | 3671 |
| Dementia | 6.3 | 2673 | 13 911 | 0 | 16 584 | 16 949 | 88 214 | 0 | 10 5163 |
| Eating disorders | 1.5 | 400 | 48 | 111 | 559 | 593 | 70 | 164 | 827 |
| Anorexia | 0.8 | 710 | 80 | 188 | 978 | 583 | 65 | 154 | 803 |
| Bulimia | 0.7 | 15 | 8 | 15 | 38 | 10 | 5 | 10 | 25 |
| Epilepsy | 2.6 | 2461 | 625 | 2136 | 5221 | 6503 | 1653 | 5644 | 13 800 |
| Headache | 152.8 | 59 | 0 | 226 | 285 | 9039 | 0 | 34 475 | 43 514 |
| Medicine overuse headache | 8.3 | 305 | 0 | 1986 | 2291 | 2533 | 0 | 16 503 | 19 037 |
| Migraine | 49.9 | 84 | 0 | 286 | 370 | 4181 | 0 | 14 282 | 18 463 |
| Other headaches | 10.2 | 33 | 0 | 24 | 57 | 333 | 0 | 249 | 582 |
| Tension type headache | 84.4 | 24 | 0 | 41 | 64 | 1991 | 0 | 3441 | 5433 |
| Mental retardation | 4.2 | 6970 | 3364 | 0 | 10 334 | 29 204 | 14 097 | 0 | 43 301 |
| Mood disorders | 33.3 | 781 | 464 | 2161 | 3406 | 26 016 | 15 437 | 71 952 | 11 3405 |
| Bipolar disorder | 3.0 | 622 | 560 | 6002 | 7183 | 1860 | 1675 | 17 956 | 21 491 |
| Major depression | 30.3 | 797 | 454 | 1782 | 3034 | 24 156 | 13 762 | 53 996 | 91 914 |
| Multiple sclerosis | 0.5 | 9811 | 8438 | 8725 | 26 974 | 5295 | 4554 | 4709 | 14 559 |
| Neuromuscular disorders | 0.3 | 7133 | 5641 | 17 278 | 30 052 | 1834 | 1450 | 4442 | 7726 |
| ALS | 0.1 | 11 240 | 11 559 | 4665 | 27 463 | 596 | 613 | 247 | 1457 |
| CIDP | 0.0 | 15 507 | 2746 | 3759 | 22 012 | 223 | 40 | 54 | 317 |
| GBS | 0.0 | 51 682 | 0 | 2319 | 54 001 | 342 | 0 | 15 | 358 |
| MMN | 0.0 | 15 507 | 2747 | 3759 | 22 012 | 40 | 7 | 10 | 57 |
| Muscular dystrophies | 0.1 | 1320 | 5547 | 30 186 | 37 053 | 177 | 744 | 4050 | 4972 |
| Myasthenia gravis | 0.0 | 9124 | 779 | 1111 | 11 014 | 375 | 32 | 46 | 453 |
| PDN | 0.0 | 15 507 | 2746 | 3759 | 22 012 | 80 | 14 | 19 | 113 |
| Parkinson's disease | 1.2 | 5626 | 4417 | 1109 | 11 153 | 7029 | 5519 | 1386 | 13 933 |
| Personality disorders | 4.3 | 773 | 625 | 4929 | 6328 | 3342 | 2701 | 21 301 | 27 345 |
| Antisocial PD | 2.0 | 561 | 0 | 2737 | 3297 | 1118 | 0 | 5458 | 6576 |
| Borderline PD | 2.3 | 956 | 1161 | 6809 | 8925 | 2224 | 2701 | 15 843 | 20 769 |
| Psychotic disorders | 5.0 | 5805 | 0 | 12 991 | 18 796 | 29 007 | 0 | 64 920 | 93 927 |
| Sleep disorders | 44.9 | 441 | 0 | 348 | 790 | 19 796 | 0 | 15 630 | 35 425 |
| Hypersomnia | 3.1 | 820 | 0 | 458 | 1278 | 2562 | 0 | 1430 | 3992 |
| Insomnia | 29.1 | 153 | 0 | 0 | 153 | 4465 | 0 | 0 | 4465 |
| Narcolepsy | 0.1 | 1851 | 0 | 3784 | 5635 | 170 | 0 | 347 | 516 |
| Sleep apnea | 12.5 | 1008 | 0 | 1109 | 2117 | 12 599 | 0 | 13 853 | 26 452 |
| Somatoform disorder | 20.4 | 468 | 0 | 570 | 1037 | 9547 | 0 | 11 622 | 21 169 |
| Stroke | 8.2 | 5141 | 2035 | 599 | 7775 | 42 352 | 16 769 | 4932 | 64 053 |
| Stroke (incident) | 1.3 | 13 850 | 5534 | 1616 | 21 000 | 17 570 | 7021 | 2050 | 26 641 |
| Stroke (prevalent) | 7.0 | 3556 | 1399 | 413 | 5368 | 24 782 | 9748 | 2882 | 37 412 |

Table 2. (Continued)

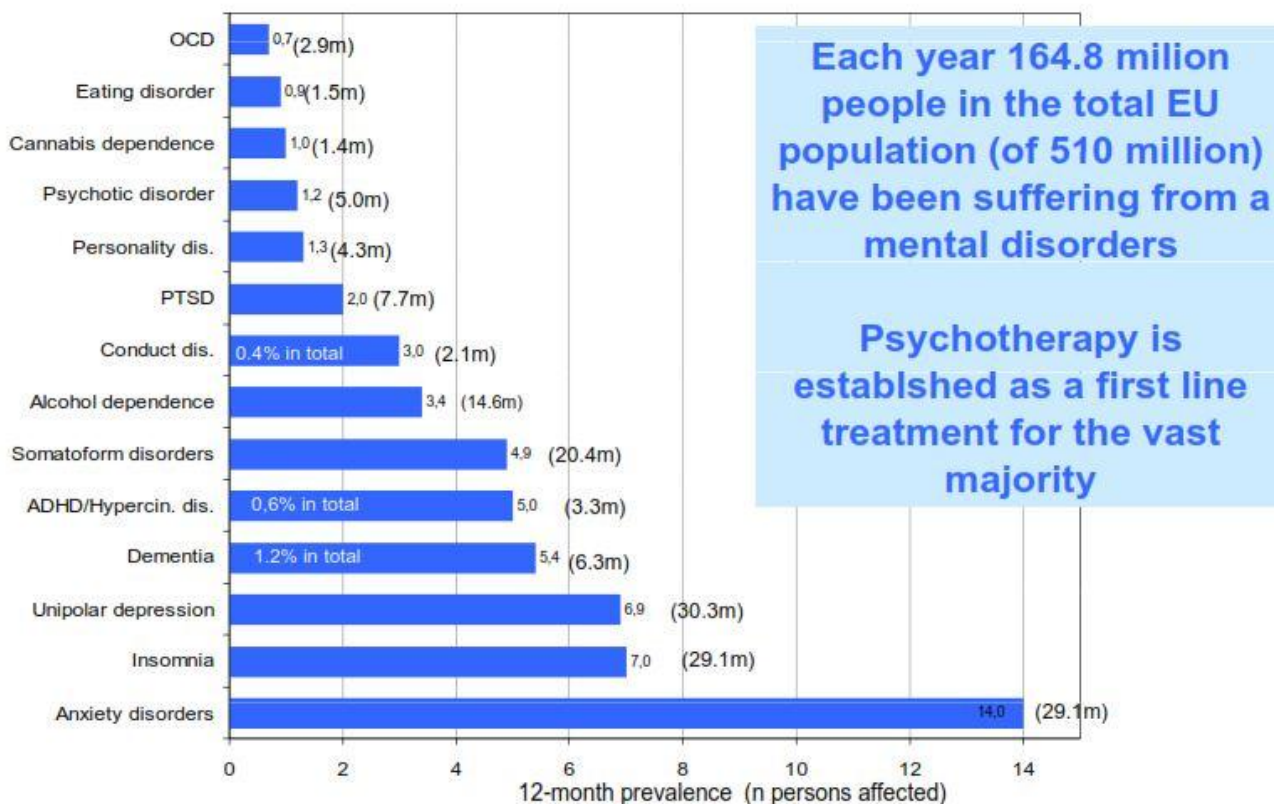
| Disorders | Estimated number of subjects affected (millions) | Cost per patient (€PPP 2010) | | | Total costs (million €PPP 2010) | | | | |
|----------------------------|--|------------------------------|--------------------------|----------------|---------------------------------|--------------------------|--------------------------|----------------|---------|
| | | Direct health care costs | Direct non-medical costs | Indirect costs | Total | Direct health care costs | Direct non-medical costs | Indirect costs | Total |
| Traumatic brain injury | 3.7 | 2697 | 893 | 5219 | 8809 | 10 106 | 3348 | 19 560 | 33 013 |
| Trauma (incident) | 1.2 | 4158 | 52 | 4156 | 8366 | 5023 | 62 | 5021 | 10 106 |
| Trauma (prevalent mod/sev) | 2.5 | 2002 | 1294 | 5725 | 9020 | 5083 | 3285 | 14 539 | 22 907 |
| Total | Number of diagnoses 380.1 | | | | | 296 374 | 18 6250 | 315 101 | 797 725 |

GAD, generalized anxiety disorder; OCD, obsessive-compulsive disorder; PTSD, post-traumatic stress disorder; ADHD, attention deficit hyperactivity disorder; ALS, amyotrophic lateral sclerosis; CIDP, chronic inflammatory demyelinating polyradiculoneuropathy; GBS, Guillain-Barré syndrome; MMN, multifocal motor neuropathy; PDN, paraproteinemic polyneuropathies; PD, personality disorder.

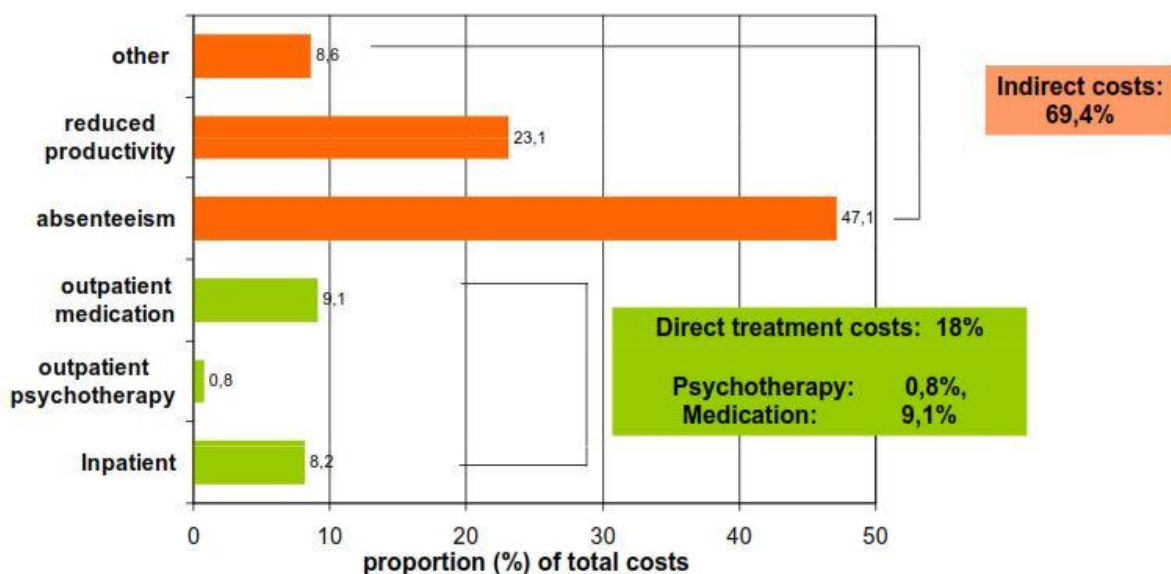
Table 1. Source: [Olesen J, Gustavsson A, Svensson M, Wittchen HU, Jönsson B; CDBE2010 study group; European Brain Council. Collaborators \(70\) The economic cost of brain disorders in Europe. Eur J Neurol. 2012 19\(1\):155-62](#)



Mental Disorders in the EU by prevalence (estimated number affected)

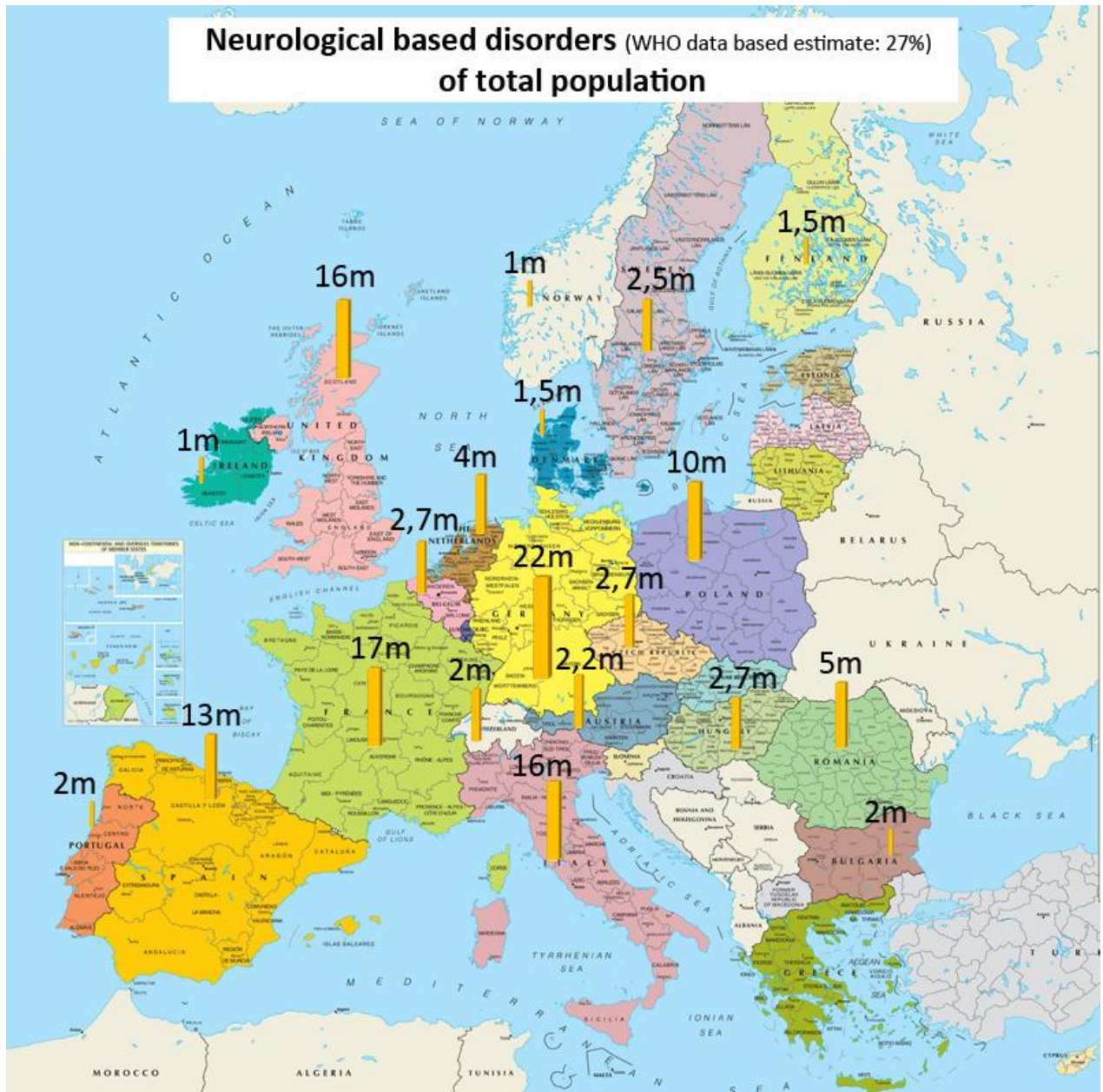


What are the major cost components of mental disorders?



Wittchen & Jacobi 2011

**Neurological based disorders (WHO data based estimate: 27%)
of total population**



**Neurological based disorders (WHO data based estimate: 27%)
of total population**

