suitable access to opioids while considering abuse liability of that the abuse is prescription opioid abuse, payers should ensure prevalence of workloss. Our estimates may be conservative as rates of medical services and prescription drugs, and higher indirect workloss costs for opioid abusers were over eight times ($310) and 50% ($906), respectively, for controls. Mean annual indirect workloss costs for opioid abusers were over eight times higher than controls ($4167 vs. $502, p < 0.01). CONCLUSIONS: These high costs were driven partly by high utilization rates of medical services and prescription drugs, and higher prevalence of workloss. Our estimates may be conservative as only patients diagnosed with abuse were included. To the extent that the abuse is prescription opioid abuse, payers should ensure proper access to opioids while considering abuse liability of drugs on formulary.

(MH2)

EMERGENCY DEPARTMENT USE FOR ACUTE ALCOHOL INTOXICATION BY COLLEGE AGE PERSONS: TIME AND COST OF TREATMENT

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OBJECTIVES: To examine use, timing and cost of Emergency Department (ED) visits by those of college age (17–22 years) for acute alcohol intoxication. METHODS: Cases were identified from Massachusetts 2002 ED and hospital databases using ICD-9 principal diagnosis codes 305.00–305.09. Hospital cases were limited to those admitted via ED. Cost estimates include facility, accommodations and ancillary services, reported in 2002 USD. Charges were adjusted using a 0.55 cost-to-charge ratio. RESULTS: Of 1803 cases identified, 52% were male and 48% were less than 20-years old. Ambulances were used to transport 54%; law enforcement was involved in 1.5% of cases. The majority (69%) arrived between 10:00 PM and 4:00 AM, and 70% of all visits occurred Friday through Sunday. Significantly (p = 0.004) more visits occurred in September and October than any other month. The majority (94%) were treated and released from ED, 1% was hospitalized, 2% elapsed or left AMA, 2% were transferred and 1% was recorded as unknown. Mean duration of ED visit was 5.4 hours (median: 4). Mean cost per ED visit was $482 (median: $382) for those treated and released, and $537 (median: $460) for those hospitalized. On average, those admitted (n = 20) spent 2.5 days (median: 1) in the hospital at a cost of $4540 (median: $2154). The cumulative hours of ED time used in one year for treating alcohol intoxication in this age group was $254. Cumulative cost of ED and inpatient care for the year was roughly $938,000. Managed care organizations and commercial insurers were the responsible payers for most cases (60%). Self-pay was noted for 24%. CONCLUSIONS: Acute alcohol intoxication among those of college age results in a substantial direct medical cost, as well as an opportunity cost for ED resources during the year, particularly at the start of the school year.

Mental Health—Anxiety

(COST-EFFECTIVENESS OF ALPRAZOLAM IN ANXIETY DISORDERS

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OBJECTIVE: To estimate cost-effectiveness of Alprazolam versus Clonazepam, Fluoxetine and Imipramine in anxiety disorders in the Mexican Institute of Social Security (IMSS). METHODS: A cost-effectiveness study was carried out with a time horizon of one year, no discount rate was used. Utilization of resources and effectiveness data were taken from an expert panel of psychiatrists working at the IMSS and private sector. Inclusion criteria for experts were: psychiatrists with more than five years of clinical experience, that were certified by the Mexican Council of Psychiatry and that had experience in using the studied drugs in anxiety disorders. Use of resources included hospitalisation, emergency services, visits, laboratory and diagnostic tests, as well as pocket expenses. Unit costs were taken from Administrative and Financial departments of IMSS. Costs were expressed in 2004 USD. Effectiveness measure was days free of symptoms. Sensitivity analysis was univariate and probabilistic. RESULTS: Annual treatment cost of anxiety disorders with Alprazolam was $13,110, with Clonazepam $13,367, with Fluoxetine $13,423 and with Imipramine $14,803. Effectiveness results were 224 days without symptoms for Alprazolam, 232
for Clonazepam and 181 for Fluoxetine and Imipramine. The incremental cost-effectiveness analysis showed that the cost of an extra unit of effectiveness was $32.2 when changing from Alprazolam to Clonazepam, while the two other alternatives (Fluoxetine and Imipramine) were dominated. Sensitivity analysis confirmed the direction and strength of our results. Confidence interval at 95% of the ICER was calculated by the ellipse method and it showed that Alprazolam was dominant in 87% of the cases. Acceptability curve described Alprazolam as the best option with a willingness to pay threshold of $32.2. CONCLUSIONS: The best cost-effective alternative was Alprazolam followed by Clonazepam. This results are relevant for the IMSS because anxiety disorders cause work leaves and hospitalisations, and reduction in quality of life.

ECONOMIC BURDEN OF GENERALIZED ANXIETY DISORDER (GAD) AND OTHER ANXIETY DISORDERS
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OBJECTIVES: To assess the health and cost burdens of patients with generalized anxiety disorder (GAD) and other anxiety disorders, including their comorbidities, direct and indirect costs. METHODS: The 1999–2003 MarketScan® claims databases of over three million individuals (annually) were used to identify patients with a diagnosis of GAD, other anxiety disorders (panic disorder, phobias, post traumatic stress disorder, unspecified anxiety state), and demographically-matched controls. Presence of comorbidities, utilization, expenditures, absence and short-term disability (STD) were summarized over a 12-month study period. RESULTS: The prevalence of the following conditions were significantly (p < 0.001) higher among the 13,836 GAD subjects and 31,882 other anxiety patients compared to the 89,971 controls: gastrointestinal disorders (19% GAD, 22% other anxiety, 12% controls), genitourinary disorders (40% GAD and other anxiety, 32% controls), cardiovascular disease (10% GAD, 11% other anxiety, 7% controls), and chronic pain (40% GAD, 44% other anxiety, 20% controls). Mean costs for anxiety patients were twice as high as for controls ($6295 GAD, $6800 other anxiety, $3156 controls, p < 0.001). These differences were driven by significantly higher rates of office visits and prescription drug use among anxiety patients. Mental health costs for GAD patients ($2031) or other anxiety patients ($2005) did not account for all of the discrepancy. Among the subset of patients with productivity data, anxiety patients had significantly higher costs for GAD patients ($2031) or other anxiety patients ($2005) did not account for all of the discrepancy. Among the subset of patients with productivity data, anxiety patients had significantly higher indirect costs due to STD days ($2253 GAD, $3255 other anxiety, $934 controls, p < 0.001). CONCLUSION: Patients with GAD and other anxiety disorders have significantly higher costs compared to patients without these conditions. The direct and indirect costs of anxiety result from mental health treatment and treatments for physical comorbidities.

DETERMINANTS OF PERMANENT NURSING HOME ADMISSIONS AMONG ELDERLY IN THE UNITED STATES
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OBJECTIVES: To examine the determinants of time-to-permanent nursing home admission among people aged 65 years and over in the United States. METHODS: This study used data from four waves of the Health Retirement Study (HRS) and Assets and Health Dynamics among the Oldest Old surveys (AHEAD) collected from 1995 to 2002. The dependent variable was time-to-permanent nursing home admission, defined as the months from baseline survey in 1995 to the first nursing home stay of three or more months. Independent variables were measured at the baseline and included age, gender, race, education, marital status, living arrangements, income, homeownership, Medicaid, physical function (ADL/IADL), cognitive level, perceived health status and certain chronic illnesses such as stroke, psychiatric problems, fall and incontinence. RESULTS: In the final multivariable Cox model, older age (Hazard Ratio [HR], 1.11; 95% CI, 1.09–1.24), persons with psychiatric problems (HR, 1.49; 95% CI, 1.19–1.87) and worse health were found to increase the risk of permanent nursing home admission whereas being African American compared to white (HR, 0.85; 95% CI, 0.56–0.95) and persons with less cognitive impairment (HR, 0.95; 95% CI, 0.91–0.99) had decreased risk. The interaction terms between time and living alone and IADL were significant and less than one, which means the negative impacts of living alone and worse IADL were decreasing over time. Gender, education, marital status, income, homeownership, Medicaid, ADL, stroke, fall and incontinence were not significant. CONCLUSION: Older age, psychiatric problems and worse perceived health are the risk factors for permanent nursing home admission. Living alone and worse IADL also increase the risk of nursing home admission, however, the negative impacts appear to ameliorate over time. The differential effects of ADL and IADL on nursing home admission warrant more future research.

THE EFFECT OF VENLAFAXINE, PAROXETINE, AND PLACEBO ON HEALTH-RELATED WORK PRODUCTIVITY IN PANIC DISORDER PATIENTS
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OBJECTIVES: This study assessed the effect of treatment with venlafaxine extended release (XR), paroxetine and placebo on health related work productivity among panic disorder patients. METHODS: In a multicenter, double-blind trial, patients with DSM-IV panic disorder were randomly assigned to fixed-dose (75mg/day or 225mg/day) venlafaxine XR, paroxetine (40mg/day), or placebo for a maximum of 12-weeks. Secondary analyses focused on health-related work productivity impairments as measured by the Work Limitations Questionnaire (WLQ). WLQ has 25 items in four limitation dimensions (time, physical, mental-interpersonal, and output demands). Treatment-related improvements at final-on-therapy (FOT) and week 12 were compared using analysis of covariance adjusting for baseline impairment score and certain chronic illnesses such as stroke, fall and incontinence were not significant. The differential effects of ADL and IADL on nursing home admission warrant more future research.

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MENTAL HEALTH—Attention Deficit Disorder
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OBJECTIVES: This study assessed the effect of treatment with venlafaxine extended release (XR), paroxetine and placebo on health related work productivity among panic disorder patients. METHODS: In a multicenter, double-blind trial, patients with DSM-IV panic disorder were randomly assigned to fixed-dose (75mg/day or 225mg/day) venlafaxine XR, paroxetine (40mg/day), or placebo for a maximum of 12-weeks. Secondary analyses focused on health-related work productivity impairments as measured by the Work Limitations Questionnaire (WLQ). WLQ has 25 items in four limitation dimensions (time, physical, mental-interpersonal, and output demands). Treatment-related improvements at final-on-therapy (FOT) and week 12 were compared using analysis of covariance adjusting for baseline impairment score and certain chronic illnesses such as stroke, fall and incontinence were not significant. The differential effects of ADL and IADL on nursing home admission warrant more future research.