MEDICINE ABSTRACTS

JAMA

M. Kuppermann et al., Effect of Enhanced Information, Values Clarification, and Removal of Financial Barriers on Use of Prenatal Genetic Testing: A Randomized Clinical Trial. JAMA 312.12 (September 24, 2014): 1210–1217 • Importance: Prenatal genetic testing guidelines recommend providing patients with detailed information to allow informed, preference-based screening and diagnostic testing decisions. The effect of implementing these guidelines is not well understood. Objective: To analyze the effect of a decision-support guide and elimination of financial barriers to testing on use of prenatal genetic testing and decision making among pregnant women of varying literacy and numeracy levels. Design, Setting, and Participants: Randomized trial conducted from 2010–2013 at prenatal clinics at 3 county hospitals, 1 community clinic, 1 academic center, and 3 medical centers of an integrated health care delivery system in the San Francisco Bay area. Participants were English- or Spanish-speaking women who had not yet undergone screening or diagnostic testing and remained pregnant at 11 weeks’ gestation (n=710). Interventions: A computerized, interactive decision-support guide and access to prenatal testing with no out-of-pocket expense (n=357) or usual care as per current guidelines (n=353). Main Outcomes and Measures: The primary outcome was invasive diagnostic test use, obtained via medical record review. Secondary outcomes included testing strategy undergone, and knowledge about testing, risk comprehension, and decisional conflict and regret at 24 to 36 weeks’ gestation. Results: Women randomized to the intervention group, compared with those randomized to the control group, were less likely to have invasive diagnostic testing (5.9% vs 12.3%; odds ratio [OR], 0.45 [95% CI, 0.25–0.80]) and more likely to forgo testing altogether (25.6% vs 20.4%; OR, 3.30 [95% CI, 1.43–7.64], reference group screening followed by invasive testing). Women randomized to the intervention group also had higher knowledge scores (9.4 vs 8.6 on a 15-point scale; mean group difference, 0.82 [95% CI, 0.34–1.31]) and were more likely to correctly estimate the amniocentesis-related miscarriage risk (73.8% vs 59.0%; OR, 1.95 [95% CI, 1.39–2.75]) and their estimated age-adjusted chance of carrying a fetus with trisomy 21 (58.7% vs 46.1%; OR, 1.66 [95% CI, 1.22–2.28]). Significant differences did not emerge in decisional conflict or regret. Conclusions and Relevance: Full implementation of prenatal testing guidelines using a computerized, interactive decision-support guide in the absence of financial barriers to testing resulted in less test use and more informed choices. If validated in additional populations, this approach may result in more informed and preference-based prenatal testing decision making and fewer women undergoing testing.

A. W. Kurian et al., Use of and Mortality after Bilateral Mastectomy Compared with Other Surgical Treatments for Breast Cancer in California, 1998–2011. JAMA 312.9 (September 3, 2014): 902–904 • Importance: Bilateral mastectomy is increasingly used to treat unilateral breast cancer. Because it may have medical and psychosocial complications, a better understanding of its use and outcomes is essential to optimizing cancer care. Objective: To compare use of and mortality after bilateral mastectomy, breast-conserving therapy with radiation, and unilateral mastectomy. Design, Setting, and Participants: Observational cohort study within the population-based California Cancer Registry; participants were women diagnosed with stages 0-III unilateral breast cancer in California from 1998 through 2011, with median follow-up of 89.1 months. Main
Outcomes and Measures: Factors associated with surgery use (from polytomous logistic regression); overall and breast cancer-specific mortality (from propensity score weighting and Cox proportional hazards analysis).

Results: Among 189,734 patients, the rate of bilateral mastectomy increased from 2.0% (95% CI, 1.7%-2.2%) in 1998 to 12.3% (95% CI, 11.8%-12.9%) in 2011, an annual increase of 14.3% (95% CI, 13.1%-15.5%); among women younger than 40 years, the rate increased from 3.6% (95% CI, 2.3%-5.0%) in 1998 to 33% (95% CI, 29.8%-36.5%) in 2011. Bilateral mastectomy was more often used by non-Hispanic white women, those with private insurance, and those who received care at a National Cancer Institute (NCI)-designated cancer center (8.6% [95% CI, 8.1%-9.2%] among NCI cancer center patients vs 6.0% [95% CI, 5.9%-6.1%] among non-NCI cancer center patients; odds ratio [OR], 1.13 [95% CI, 1.04–1.22]); in contrast, unilateral mastectomy was more often used by racial/ethnic minorities (Filipina, 52.8% [95% CI, 51.6%-54.0%]; OR, 2.00 [95% CI, 1.90–2.11] and Hispanic, 45.6% [95% CI, 45.0%-46.2%]; OR, 1.16 [95% CI, 1.13–1.20] vs non-Hispanic white, 35.2% [95% CI, 34.9%-35.5%]) and those with public/Medicaid insurance (48.4% [95% CI, 47.8%-48.9%]; OR, 1.08 [95% CI, 1.05–1.11] vs private insurance, 36.6% [95% CI, 36.3%-36.8%]). Compared with breast-conserving surgery with radiation (10-year mortality, 16.8% [95% CI, 16.6%-17.1%]), unilateral mastectomy was associated with higher all-cause mortality (hazard ratio [HR], 1.35 [95% CI, 1.32–1.39]; 10-year mortality, 20.1% [95% CI, 19.9%-20.4%]). There was no significant mortality difference compared with bilateral mastectomy (HR, 1.02 [95% CI, 0.94–1.11]; 10-year mortality, 18.8% [95% CI, 18.6%-19.0%]).

Conclusions and Relevance: Use of bilateral mastectomy increased significantly throughout California from 1998 through 2011 and was not associated with lower mortality than that achieved with breast-conserving surgery plus radiation. Unilateral mastectomy was associated with higher mortality than were the other 2 surgical options.

Z. Obermeyer et al., Association between the Medicare Hospice Benefit and Health Care Utilization and Costs for Patients with Poor-Prognosis Cancer. JAMA 312.18 (November 12, 2014): 1888–1896 • Importance: More patients with cancer use hospice currently than ever before, but there are indications that care intensity outside of hospice is increasing, and length of hospice stay decreasing. Uncertainties regarding how hospice affects health care utilization and costs have hampered efforts to promote it. Objective: To compare utilization and costs of health care for patients with poor-prognosis cancers enrolled in hospice vs similar patients without hospice care. Design, Setting, and Participants: Matched cohort study of patients in hospice and nonhospice care using a nationally representative 20% sample of Medicare fee-for-service beneficiaries who died in 2011. Patients with poor-prognosis cancers (eg, brain, pancreatic, metastatic malignancies) enrolled in hospice before death were matched to similar patients who died without hospice care.

Exposures: Period between hospice enrollment and death for hospice beneficiaries, and the equivalent period of nonhospice care before death for matched nonhospice patients.

Main Outcomes and Measures: Health care utilization including hospitalizations and procedures, place of death, cost trajectories before and after hospice start, and cumulative costs, all during the last year of life.

Results: Among 86,851 patients with poor-prognosis cancers, median time from first poor-prognosis diagnosis to death was 13 months (interquartile range [IQR], 3–34), and 51,924 patients (60%) entered hospice before death. Matching yielded a cohort balanced on age, sex, region, time from poor-prognosis diagnosis to death, and baseline care utilization, with 18,165 patients in the hospice group and 18,165 in the nonhospice group. After matching, 11% of nonhospice and 1% of hospice beneficiaries who had cancer-directed therapy after exposure were excluded. Median hospice duration was 11 days. After exposure, nonhospice beneficiaries had significantly more hospitalizations (65% [95% CI, 64%-66%], vs hospice with...
42% [95% CI, 42%-43%]; risk ratio, 1.5 [95% CI, 1.5–1.6]), intensive care (36% [95% CI, 35%-37%], vs hospice with 15% [95% CI, 14%-15%]; risk ratio, 2.4 [95% CI, 2.3–2.5]), and invasive procedures (51% [95% CI, 50%-52%], vs hospice with 27% [95% CI, 26%-27%]; risk ratio, 1.9 [95% CI, 1.9–2.0]), largely for acute conditions not directly related to cancer; and 74% (95% CI, 74%-75%) of nonhospice beneficiaries died in hospitals and nursing facilities compared with 14% (95% CI, 14%-15%) of hospice beneficiaries. Costs for hospice and non­hospice beneficiaries were not significantly different at baseline, but diverged after hospice start. Total costs over the last year of life were $71,517 (95% CI, $70,543–72,490) for nonhospice and $62,819 (95% CI, $62,082–63,557) for hospice, a statistically significant difference of $8697 (95% CI, $7560–$9835).

Conclusions and Relevance: In this sample of Medicare fee-for-service beneficiaries with poor-prognosis cancer, those receiving hospice care vs not (control), had significantly lower rates of hospitalization, intensive care unit admission, and invasive procedures at the end of life, along with significantly lower total costs during the last year of life.

JAMA Internal Medicine
M.A. Bachhuber et al., Medical Cannabis Laws and Opioid Analgesic Overdose Mortality in the United States, 1999–2010. JAMA Intern Med 174.10 (October 2014): 1668–1673 • Importance: Opioid analgesic overdose mortality continues to rise in the United States, driven by increases in prescribing for chronic pain. Because chronic pain is a major indication for medical cannabis, laws that establish access to medical cannabis may change overdose mortality related to opioid analgesics in states that have enacted them. Objective: To determine the association between the presence of state medical cannabis laws and opioid analgesic overdose mortality. Design, Setting, and Participants: A time-series analysis was conducted of medical cannabis laws and state-level death certificate data in the United States from 1999 to 2010; all 50 states were included. Exposures: Presence of a law establishing a medical cannabis program in the state. Main Outcomes and Measures: Age-adjusted opioid analgesic overdose death rate per 100,000 population in each state. Regression models were developed including state and year fixed effects, the presence of 3 different policies regarding opioid analgesics, and the state-specific unemployment rate. Results: Three states (California, Oregon, and Washington) had medical cannabis laws effective prior to 1999. Ten states (Alaska, Colorado, Hawaii, Maine, Michigan, Montana, Nevada, New Mexico, Rhode Island, and Vermont) enacted medical cannabis laws between 1999 and 2010. States with medical cannabis laws had a 24.8% lower mean annual opioid overdose mortality rate (95% CI, -37.5% to -9.5%; P=.003) compared with states without medical cannabis laws. Examination of the association between medical cannabis laws and opioid analgesic overdose mortality in each year after implementation of the law showed that such laws were associated with a lower rate of overdose mortality that generally strengthened over time: year 1 (-19.9%, 95% CI, -30.6% to -7.7%; P=.002), year 2 (-25.2%, 95% CI, -40.6% to -5.9%; P=.01), year 3 (-23.6%, 95% CI, -41.1% to -1.0%; P=.04), year 4 (-20.2%, 95% CI, -33.6% to -4.0%; P=.02), year 5 (-33.7%, 95% CI, -50.9% to -10.4%; P=.008), and year 6 (-33.3%, 95% CI, -44.7% to -19.6%; P < .001). In secondary analyses, the findings remained similar. Conclusions and Relevance: Medical cannabis laws are associated with significantly lower state-level opioid overdose mortality rates. Further investigation is required to determine how medical cannabis laws may interact with policies aimed at preventing opioid analgesic overdose.

J. Tjia et al., Use of Medications of Questionable Benefit in Advanced Dementia, JAMA Intern Med 174.11 (November 1, 2014): 1763–1771 • Importance: Advanced dementia is characterized by severe cognitive impairment and complete functional dependence. Patients’ goals of care should guide the prescribing of medication during such terminal illness. Medications that do
not promote the primary goal of care should be minimized. Objectives: To estimate the prevalence of medications with questionable benefit used by nursing home residents with advanced dementia, identify resident- and facility-level characteristics associated with such use, and estimate associated medication expenditures. Design, Setting, and Participants: Cross-sectional study of medication use by nursing home residents with advanced dementia using a nationwide long-term care pharmacy database linked to the Minimum Data Set (460 facilities) between October 1, 2009, and September 30, 2010. Main Outcomes and Measures: Use of medication deemed of questionable benefit in advanced dementia based on previously published criteria and mean 90-day expenditures attributable to these medications per resident. Generalized estimating equations using the logit link function were used to identify resident- and facility-related factors independently associated with the likelihood of receiving medications of questionable benefit after accounting for clustering within nursing homes. Results: Of 5406 nursing home residents with advanced dementia, 2911 (53.9%) received at least 1 medication with questionable benefit (range, 44.7% in the Mid-Atlantic census region to 65.0% in the West South Central census region). Cholinesterase inhibitors (36.4%), memantine hydrochloride (25.2%), and lipid-lowering agents (22.4%) were the most commonly prescribed. In adjusted analyses, having eating problems (adjusted odds ratio [AOR], 0.68; 95% CI, 0.59–0.78), a feeding tube (AOR, 0.58; 95% CI, 0.48–0.70), or a do-not-resuscitate order (AOR, 0.65; 95% CI, 0.57–0.75), and enrolling in hospice (AOR, 0.69; 95% CI, 0.58–0.82) lowered the likelihood of receiving these medications. High facility-level use of feeding tubes increased the likelihood of receiving these medications (AOR, 1.45; 95% CI, 1.12–1.87). The mean (SD) 90-day expenditure for medications with questionable benefit was $816 ($553), accounting for 35.2% of the total average 90-day medication expenditures for residents with advanced dementia who were prescribed these medications. Conclusions and Relevance: Most nursing home residents with advanced dementia receive medications with questionable benefit that incur substantial associated costs. New England Journal of Medicine W.C. Black et al., Cost-Effectiveness of CT Screening in the National Lung Screening Trial, N Engl J Med 371.19 (November 6, 2014): 1793–1802 • Background: The National Lung Screening Trial (NLST) showed that screening with low-dose computed tomography (CT) as compared with chest radiography reduced lung-cancer mortality. We examined the cost-effectiveness of screening with low-dose CT in the NLST. Methods: We estimated mean life-years, quality-adjusted life-years (QALYs), costs per person, and incremental cost-effectiveness ratios (ICERs) for three alternative strategies: screening with low-dose CT, screening with radiography, and no screening. Estimations of life-years were based on the number of observed deaths that occurred during the trial and the projected survival of persons who were alive at the end of the trial. Quality adjustments were derived from a subgroup of participants who were selected to complete quality-of-life surveys. Costs were based on utilization rates and Medicare reimbursements. We also performed analyses of subgroups defined according to age, sex, smoking history, and risk of lung cancer and performed sensitivity analyses based on several assumptions. Results: As compared with no screening, screening with low-dose CT cost an additional $1,631 per person (95% confidence interval [CI], 1,557 to 1,709) and provided an additional 0.0316 life-years per person (95% CI, 0.0154 to 0.0478) and 0.0201 QALYs per person (95% CI, 0.0088 to 0.0314). The corresponding ICERs were $52,000 per life-year gained (95% CI, 34,000 to 106,000) and $81,000 per QALY gained (95% CI, 52,000 to 186,000). However, the ICERs varied widely in subgroup and sensitivity analyses. Conclusions: We estimated that screening for lung cancer with low-dose CT would cost $81,000 per QALY gained, but we also determined that modest changes in our assumptions would
Notes & Abstracts

Burke
greatly alter this figure. The determination of whether screening outside the trial will be cost-effective will depend on how screening is implemented.

S. E. Harvey et al., Trial of the Route of Early Nutritional Support in Critically Ill Adults, N Engl J Med 371.18 (October 30, 2014): 1673–1684 • Background: Uncertainty exists about the most effective route for delivery of early nutritional support in critically ill adults. We hypothesized that delivery through the parenteral route is superior to that through the enteral route. Methods: We conducted a pragmatic, randomized trial involving adults with an unplanned admission to one of 33 English intensive care units. We randomly assigned patients who could be fed through either the parenteral or the enteral route to a delivery route, with nutritional support initiated within 36 hours after admission and continued for up to 5 days. The primary outcome was all-cause mortality at 30 days. Results: We enrolled 2400 patients; 2388 (99.5%) were included in the analysis (1191 in the parenteral group and 1197 in the enteral group). By 30 days, 393 of 1188 patients (33.1%) in the parenteral group and 409 of 1195 patients (34.2%) in the enteral group had died (relative risk in parenteral group, 0.97; 95% confidence interval, 0.86 to 1.08; P=0.57). There were significant reductions in the parenteral group, as compared with the enteral group, in rates of hypoglycemia (44 patients [3.7%] vs. 74 patients [6.2%]; P=0.006) and vomiting (100 patients [8.4%] vs. 194 patients [16.2%]; P<0.001). There were no significant differences between the parenteral group and the enteral group in the mean number of treated infectious complications (0.22 vs. 0.21; P=0.72), 90-day mortality (442 of 1184 patients [37.3%] vs. 464 of 1188 patients [39.1%], P=0.40), in rates of 14 other secondary outcomes, or in rates of adverse events. Caloric intake was similar in the two groups, with the target intake not achieved in most patients. Conclusions: We found no significant difference in 30-day mortality associated with the route of delivery of early nutritional support in critically ill adults.

K. F. Huybrechts et al., Antidepressant Use in Pregnancy and the Risk of Cardiac Defects, N Engl J Med 370.25 (June 19, 2014): 2397–2407 • Background: Whether the use of selective serotonin-reuptake inhibitors (SSRIs) and other antidepressants during pregnancy is associated with an increased risk of congenital cardiac defects is uncertain. In particular, there are concerns about a possible association between paroxetine use and right ventricular outflow tract obstruction and between sertraline use and ventricular septal defects. Methods: We performed a cohort study nested in the nationwide Medicaid Analytic eXtract for the period 2000 through 2007. The study included 949,504 pregnant women who were enrolled in Medicaid during the period from 3 months before the last menstrual period through 1 month after delivery and their liveborn infants. We compared the risk of major cardiac defects among infants born to women who took antidepressants during the first trimester with the risk among infants born to women who did not use antidepressants, with an unadjusted analysis and analyses that restricted the cohort to women with depression and that used propensity-score adjustment to control for depression severity and other potential confounders. Results: A total of 64,389 women (6.8%) used antidepressants during the first trimester. Overall, 6403 infants who were not exposed to antidepressants were born with a cardiac defect (72.3 infants with a cardiac defect per 10,000 infants), as compared with 580 infants with exposure (90.1 per 10,000 infants). Associations between antidepressant use and cardiac defects were attenuated with increasing levels of adjustment for confounding. The relative risks of any cardiac defect with the use of SSRIs were 1.25 (95% confidence interval [CI], 1.13 to 1.38) in the unadjusted analysis, 1.12 (95% CI, 1.00 to 1.26) in the analysis restricted to women with depression, and 1.06 (95% CI, 0.93 to 1.22) in the fully adjusted analysis restricted to women with depression. We found no significant association between the use of paroxetine and right ventricular outflow tract obstruction (relative risk, 1.07; 95% CI, 0.59 to 1.93) or between the use of sertraline and
ventricular septal defects (relative risk, 1.04; 95% CI, 0.76 to 1.41). Conclusions: The results of this large, population-based cohort study suggested no substantial increase in the risk of cardiac malformations attributable to antidepressant use during the first trimester.

M. Lind et al., Glycemic Control and Excess Mortality in Type 1 Diabetes, N Engl J Med 371.21 (November 20, 2014): 1972–1982 • Background: The excess risk of death from any cause and of death from cardiovascular causes is unknown among patients with type 1 diabetes and various levels of glycemic control. We conducted a registry-based observational study to determine the excess risk of death according to the level of glycemic control in a Swedish population of patients with diabetes. Methods: We included in our study patients with type 1 diabetes registered in the Swedish National Diabetes Register after January 1, 1998. For each patient, five controls were randomly selected from the general population and matched according to age, sex, and county. Patients and controls were followed until December 31, 2011, through the Swedish Register for Cause-Specific Mortality. Results: The mean age of the patients with diabetes and the controls at baseline was 35.8 and 35.7 years, respectively, and 45.1% of the participants in each group were women. The mean follow-up in the diabetes and control groups was 8.0 and 8.3 years, respectively. Overall, 2701 of 33,915 patients with diabetes (8.0%) died, as compared with 4835 of 169,249 controls (2.9%) (adjusted hazard ratio, 3.52; 95% confidence interval [CI], 3.06 to 4.04); the corresponding rates of death from cardiovascular causes were 2.7% and 0.9% (adjusted hazard ratio, 4.60; 95% CI, 3.47 to 6.10). The multivariable-adjusted hazard ratios for death from any cause according to the glycated hemoglobin level for patients with diabetes as compared with controls were 2.36 (95% CI, 1.97 to 2.83) for a glycated hemoglobin level of 6.9% or lower (<52 mmol per mole), 2.38 (95% CI, 2.02 to 2.80) for a level of 7.0 to 7.8% (53 to 62 mmol per mole), 3.11 (95% CI, 2.66 to 3.62) for a level of 7.9 to 8.7% (63 to 72 mmol per mole), 3.65 (95% CI, 3.11 to 4.30) for a level of 8.8 to 9.6% (73 to 82 mmol per mole), and 8.51 (95% CI, 7.24 to 10.01) for a level of 9.7% or higher (>83 mmol per mole). Corresponding hazard ratios for death from cardiovascular causes were 2.92 (95% CI, 2.07 to 4.13), 3.39 (95% CI, 2.49 to 4.61), 4.44 (95% CI, 3.32 to 5.96), 5.35 (95% CI, 3.94 to 7.26), and 10.46 (95% CI, 7.62 to 14.37). Conclusions: In our registry-based observational study, patients with type 1 diabetes and a glycated hemoglobin level of 6.9% or lower had a risk of death from any cause or from cardiovascular causes that was twice as high as the risk for matched controls.

G. M. Secura et al., Provision of No-Cost, Long-Acting Contraception and Teenage Pregnancy, N Engl J Med 371.14 (October 2, 2014): 1316–1323 • Background: The rate of teenage pregnancy in the United States is higher than in other developed nations. Teenage births result in substantial costs, including public assistance, health care costs, and income losses due to lower educational attainment and reduced earning potential. Methods: The Contraceptive CHOICE Project was a large prospective cohort study designed to promote the use of long-acting, reversible contraceptive (LARC) methods to reduce unintended pregnancy in the St. Louis region. Participants were educated about reversible contraception, with an emphasis on the benefits of LARC methods, were provided with their choice of reversible contraception at no cost, and were followed for 2 to 3 years. We analyzed pregnancy, birth, and induced-abortion rates among teenage girls and women 15 to 19 years of age in this cohort and compared them with those observed nationally among U.S. teens in the same age group. Results: Of the 1404 teenage girls and women enrolled in CHOICE, 72% chose an intrauterine device or implant (LARC methods); the remaining 28% chose another method. During the 2008–2013 period, the mean annual rates of pregnancy, birth, and abortion among CHOICE participants were 34.0, 19.4, and 9.7 per 1000 teens, respectively. In comparison, rates of pregnancy, birth, and abortion among sexually experienced U.S. teens in 2008 were 158.5, 94.0, and 41.5 per 1000, respectively.
Conclusions: Teenage girls and women who were provided contraception at no cost and educated about reversible contraception and the benefits of LARC methods had rates of pregnancy, birth, and abortion that were much lower than the national rates for sexually experienced teens.

Pediatrics

E. Bendavid, Changes in Child Mortality over Time across the Wealth Gradient in Less-Developed Countries. Pediatrics, e-pub November 10, 2014 • Background: It is unknown whether inequalities in under-5 mortality by wealth in low- and middle-income countries (LMICs) are growing or declining. Methods: All Demographic and Health Surveys conducted between 2002 and 2012 were used to measure under-5 mortality trends in 3 wealth tertiles. Two approaches were used to estimate changes in under-5 mortality: within-survey changes from all 54 countries, and between-survey changes for 29 countries with repeated survey waves. The principal outcome measures include annual decline in mortality, and the ratio of mortality between the poorest and least-poor wealth tertiles. Results: Mortality information in 85 surveys from 929,224 households and 1,267,167 women living in 54 countries was used. In the subset of 29 countries with repeat surveys, mortality declined annually by 4.36, 3.36, and 2.06 deaths per 1000 live births among the poorest, middle, and least-poor tertiles, respectively (P=.031 for difference). The mortality ratio declined from 1.68 to 1.48 during the study period (P=.006 for trend). In the complete set of 85 surveys, the mortality ratio declined in 64 surveys (from 2.11 to 1.55), and increased in 21 surveys (from 1.58 to 1.88). Multivariate analyses suggest that convergence was associated with good governance (P ≤ .03 for 4 governance indicators: government effectiveness, rule of law, regulatory quality, and control of corruption). Conclusions: Parents become desensitized to both violence and sex in movies, which may contribute to the increasing acceptance of both types of content by both parents and the raters employed by the film industry.

D. Wolke and S. T. Lereya, Bullying and Parasomnias: A Longitudinal Cohort Study, Pediatrics 134.4 (October 1, 2014): e1040-e1048 • Background and Objectives: Environmental factors such as serious trauma or abuse and related stress can lead to nightmares or night terrors. Being bullied can be very distressing for children, and victims display long-term social, psychological, and health consequences. Unknown is whether being bullied by peers may increase the risk for experiencing parasomnias such
as nightmares, night terrors, or sleepwalking. Methods: A total of 6796 children of the Avon Longitudinal Study of Parents and Children (ALSPAC) birth cohort were interviewed at elementary school age (8 and 10 years) about bullying experiences with a previously validated bullying interview and at secondary school age (12.9 years) about parasomnias such as nightmares, night terrors and sleepwalking by trained postgraduate psychologists. Results: Even after adjusting for pre-existing factors related to bullying and parasomnias, being bullied predicted having nightmares (8 years odds ratio [OR], 1.23; 95% confidence interval [CI], 1.05–1.44; 10 years OR, 1.62; 95% CI, 1.35–1.94) or night terrors (8 years OR, 1.39; 95% CI, 1.10–1.75; 10 years OR, 1.53; 95% CI, 1.18–1.98) at age 12 to 13 years. Especially being a chronic victim was associated with both nightmares (OR, 1.82; 95% CI, 1.46–2.27) and night terrors (OR, 2.01; 95% CI, 1.48–2.74). Being a bully/victim also increased the risk for any parasomnia at ages 8 or 10 years (8 years OR, 1.42; 95% CI, 1.08–1.88; 10 years OR, 1.75; 95% CI, 1.30–2.36). In contrast, bullies had no increased risk for any parasomnias. Conclusions: Being bullied increases the risk for having parasomnias. Hence, parents, teachers, school counselors, and clinicians may consider asking about bullying experiences if a child is having parasomnias.