PSYCHIATRIC SUMMARY XXII
Fall 2017
By Frederick Langheim, MD, PhD

This issue marks the twenty-second installment consolidating recent clinical updates, mental health policy news, popular press news patients may be reading, and changes in the landscape of psychiatry in Wisconsin.

OF GENERAL INTEREST

Neuroprotective Factors of Sleep Hygiene:
Appearing in Neurology (Sprecher et al., LINK) researchers used:

> A cohort enriched for parental history of sporadic AD, the Wisconsin Registry for Alzheimer's Prevention. A total of 101 participants (mean age 62.9 ± 6.2 years, 65.3% female) completed sleep assessments and CSF collection and were cognitively normal. Sleep quality was measured with the Medical Outcomes Study Sleep Scale. CSF was assayed for biomarkers of amyloid metabolism and plaques (β-amyloid 42 [Aβ42]), tau pathology (phosphorylated tau [p-tau] 181), neuronal/axonal degeneration (total tau [t-tau], neurofilament light [NFL]), neuroinflammation/astroglial activation (monocyte chemoattractant protein–1 [MCP-1], chitinase-3-like protein 1 [YKL-40]), and synaptic dysfunction/degeneration (neurogranin).

They found that:

> Worse subjective sleep quality, more sleep problems, and daytime somnolence were associated with greater AD pathology, indicated by lower CSF Aβ42/Aβ40 and higher t-tau/Aβ42, p-tau/Aβ42, MCP-1/Aβ42, and YKL-40/Aβ42. There were no significant associations between sleep and NFL or neurogranin.

Challenges of Modern Medicine:
Addressing many of our shared frustrations between direct to consumer pharmaceutical marketing, patient satisfaction scores, and reduced patient care time allowance, the journalists at Freakenomics podcast have put together an excellent three party series called Bad Medicine. The final installment discusses how this has contributed to medical error being the third largest cause of death in the UnitedStates. Worth a listen, the podcast can be found at: LINK.

Measuring Quality:
Closely related to the above, a widely shared JAMA viewpoint (Schuster, Onorato and Meltzer, LINK) questions the efficacy, overlap and appropriateness of many so-called quality measures, concluding:

> Measuring quality of care is essential to improving it. However, the current, cost-uninformed approach has created a proliferation of measures, many of which are needlessly burdensome for health care organizations. Better understanding the cost of measures would not only inform decisions about which measures to use, but also guide future development of high-value measures that maximize benefit while optimizing use of finite quality measurement resources.

On-Line Ratings Flawed?
Possibly coming as no surprise, authors Daskivich et al. published research regarding physician on-line ratings (Journal of the American Medical Informatics Association, LINK). Their study found:

> Across ratings platforms, multivariable models showed no significant association between mean consumer ratings and specialty-specific performance scores (β-coefficient range, −0.04, 0.04), primary care physician scores (β-coefficient range, −0.01, 0.3), and administrator scores (β-coefficient range, −0.2, 0.1). There was no association between ratings and score subdomains addressing quality or value-based care. Among physicians in the lowest quartile of specialty-specific performance scores, only 5%–32% had consumer ratings in the lowest quartile across

platforms. Ratings were consistent across platforms; a physician's score on one platform significantly predicted his/her score on another in 5 of 10 comparisons.

Malpractice Compensation Caps in Wisconsin:
As appearing in the Washington Times (Richmond, via Associated Press, LINK) a Milwaukee County Judge sided with patient Ascaris Mayo who was not informed of a septic infection, subsequently became comatose and required the amputation of all four limbs due to gangrene.

Mayo and her husband sued the doctors and the state malpractice compensation fund, an account doctors pay into to cover malpractice awards. A jury awarded them $25.3 million in damages, including $15 million in noneconomic damages and $1.5 million for her husband's loss of companionship.

Lawyers for the compensation fund moved to reduce the noneconomic damages award to $750,000, the maximum compensation for such damages allowed under state statutes. The Mayos countered that the cap is unconstitutional.

A Milwaukee County judge sided with the Mayos, finding the cap was unconstitutional as applied in their case. The 1st District Court of Appeals went further Wednesday, ruling the cap is unconstitutional on its face. The court found the cap allows full awards for less severely injured patients but results in reduced awards for the catastrophically injured, amounting to an equal protection violation.

Patients May Covertly Record:
In an article appearing in JAMA Online First on 7/10/2017 (Elwin et al., LINK) authors reported that 39 states require only one party be aware of a recording (Wisconsin among them) while only 11 states require all-party consent (California, Florida, Illinois, Maryland, Massachusetts, Michigan, Montana, New Hampshire, Oregon, Pennsylvania, and Washington).

Cognitive Enhancers Revisited:
Appearing in JAMA's Medical News and Perspectives section, Lyon (8/16/2017, LINK) wrote on the resurgence of debate over the use of cognitive enhancers (such as stimulants for fatigued residents).

Amygdala Neurogenesis:
Appearing in Molecular Psychiatry, Jhaveri et al (LINK) published research which indicated that the amygdala, like the hippocampal dentate gyrus and the olfactory bulb, produces new interneurons throughout life.

Less Support for Suicide Bereaved:
Appearing in BMJ Open (Pitman et al., LINK), this study surveyed nearly 3500 respondents ages 18 to 40 regarding the sudden death of a close friend or relative. They found that:

21% (725/3432) of our sample of bereaved adults reported receiving no formal or informal bereavement support, with no evidence for group differences. People bereaved by suicide were less likely to have received informal support than those bereaved by sudden natural causes (adjusted OR (AOR)=0.79; 95% CI 0.64to 0.98) or unnatural causes (AOR=0.74; 95% CI 0.58to 0.96) but did not differ from either comparison group on receipt of formal support. People bereaved by suicide were less likely to have received immediate support (AOR=0.73; 95% CI 0.59to 0.90) and more likely to report delayed receipt of support (AOR=1.33; 95% CI 1.08to 1.64) than people bereaved by sudden natural causes. Associations were not modified by gender, or age bereaved, but became non-significant when adjusting for stigma.

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Antidepressant Efficacy among Children and Adolescents:
In a large systematic review and meta-analysis, Locher et al., (JAMA Psychiatry, 8/30/2017, LINK) included thirty-six eligible trials with 6778 participants. They found that:

> Compared with placebo, SSRIs and SNRIs are more beneficial than placebo in children and adolescents; however, the benefit is small and disorder specific, yielding a larger drug-placebo difference for AD [Anxiety Disorders] than for other conditions. Response to placebo is large, especially in DD [Depressive Disorders]. Severe adverse events are significantly more common with SSRIs and SNRIs than placebo.

Ketamine Paper Retraction:
A paper on the naturalistic use of ketamine for treatment of depression in emergency rooms has been retracted at the request of Yale University where the study was conducted (LINK to retraction notice). The original article (Larkin and Beautrais, International Journal of Neuropsychopharmacology, LINK) was retracted, according to the announcement:

> Because Yale University conducted an investigation that determined that the description of the research was not accurate. The article misrepresents both the protocol-specified doses and the actual delivered doses of ketamine.

Research Discrepancies:
Related to the above, Chan et al (JAMA, LINK) studied the correlation between published protocols and primary outcomes and registered goals and protocols within the Finish among protocols approved in 2007. They found that:

> A primary outcome was not defined in 23 protocols (20%). Discrepancies were found in at least 1 primary outcome defined in the registry for 16 of 69 prospectively registered trials (23%) when compared with the protocol, whereas 9 of 58 published trials (16%) with defined primary outcomes had discrepancies between the publication and the protocol (Table 2). Discrepancies between the protocol and publication were more common in unregistered trials (6 of 11 trials [55%]) than registered trials (3 of 47 [6%]) ($P < .001$). Only 1 published article acknowledged the changes to primary outcomes.
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> Prospective registration was significantly associated with subsequent publication (68% of registered trials vs 39% of unregistered trials; adjusted OR, 4.53 [95% CI, 1.12-18.34]) (Table 1). Registered trials were also significantly more likely than unregistered trials to be subsequently published with the same primary outcomes as defined in the protocol (64% of registered trials vs 25% of unregistered trials; adjusted OR, 5.79 [95% CI, 1.42-23.65]).

Financial Impact of Burnout:
In an article appearing in JAMA Internal Medicine, Shanafelt, Goh and Sinsky make a compelling argument for why systems should invest financial resources in combating provider burnout. (LINK) Key points include:

1. Provider burnout has substantial economic costs with respect to lost productivity with departures, costs of recruitment and on-ramping (estimated at 3 x annual salary for the departing staff to $900,000 per prescriber) and infectious impact of departures.
2. Provider burnout has substantial secondary economic implications for health care organizations with respect to patient satisfaction, quality metrics, contracting costs to compensate and provide care for injured patients, and litigation-related expenses (gives an example of mortality tracking with provider burnout across over 50 Swiss MICUs).
3. Burnout is primarily a system-level problem driven by excess job demands and inadequate resources and support, not an individual problem triggered by personal limitations. Two

systematic reviews and meta-analysis have demonstrated that organizational interventions can reduce burnout, and evidence suggests that even modest investments can make a difference. (see article for multiple citations)

4. The article concludes with conservative estimates of return on investment in financially addressing provider burn out (would that the administration consider this along with the recommendation that individual disciplines require different approaches to reducing burn out).

CLINICAL PSYCHIATRY IN THE NEWS, IN BRIEF

MDMA "Break Through Therapy" for PTSD:
William Wan (The Washington Post, 8/26/2017, LINK) wrote about the use of Ecstasy (MDMA) in treatment of post-traumatic stress disorder and how this treatment is being fast-tracked for approval by the FDA given marked success when veterans suffering from PTSD are treated with it at the beginning of three eight-hour therapy sessions.

Synthetics Lacing Heroin Leading to Fatal Overdoses:
John Keilman (Chicago Tribune, 8/28/2017, LINK) reports on how carfentanil, fentanyl and other man-made opioids are being found in up to 40 percent of the heroin sold in Chicago and this increase appears related with an increased rate of fatal overdoses.

Switch to Bupropion vs Augment with Aripiprazole?
According to research by Mohamed et al (JAMA, 7/11/2017, LINK):
In a 12-week follow-up of a randomized clinical trial of 1522 patients with major depressive disorder (85% men) unresponsive to previous antidepressant treatment, 29% achieved remission after augmenting their antidepressant with the antipsychotic aripiprazole vs 22% who switched to the antidepressant bupropion. Other remission comparisons were not significant. They concluded:

> Among a predominantly male population with major depressive disorder unresponsive to antidepressant treatment, augmentation with aripiprazole resulted in a statistically significant but only modestly increased likelihood of remission during 12 weeks of treatment compared with switching to bupropion monotherapy. Given the small effect size and adverse effects associated with aripiprazole, further analysis including cost-effectiveness is needed to understand the net utility of this approach.

Lithium in Drinking Water Debunked?
Appearing in Bipolar Disorders, an International Journal of Psychiatry and Neurosciencs, (LINK) Kessing et al. looked at variations in levels of lithium in drinking water and incidence of bipolar illness across Denmark, finding that:

> Higher long-term lithium exposure from drinking water was not associated with a lower incidence of bipolar disorder. The association should be investigated in areas with higher lithium levels than in Denmark.

Drug Overdose Deaths Up 22%:
As reported in the AMA Morning Rounds of 9/5:

> The New York Times (9/2, Katz, Subscription Publication) reported that "drug overdoses killed roughly 64,000 people in the United States last year," a 22 percent increase "over the 52,504 drug deaths recorded the previous year," according to "provisional data compiled by the

> National Center for Health Statistics." The article said synthetic opioids such as fentanyl are responsible for much of the rise.

In Utero Antidepressant Exposure and Risk:
In a Danish cohort study of over 900,000 singleton births from 1998-2002, researchers Liu et al. (BMJ, LINK) looked at first psychiatric diagnosis by 7/2014 in children divided into groups of unexposed, antidepressant discontinued before pregnancy, continued during pregnancy, and new user during pregnancy. They found:

> Overall, psychiatric disorders were diagnosed in 32 400 children. The adjusted 15 year cumulative incidence of psychiatric disorders was 8.0% (95% confidence interval 7.9% to 8.2%) in the unexposed group, 11.5% (10.3% to 12.9%) in the antidepressant discontinuation group, 13.6% (11.3% to 16.3%) in the continuation group, and 14.5% (10.5% to 19.8%) in the new user group. The antidepressant continuation group had an increased risk of psychiatric disorders (hazard ratio 1.27, 1.17 to 1.38), compared with the discontinuation group.

MENTAL HEALTH IN THE POPULAR PRESS

Speech Changes Predict Dementia:
Changes in speech patterns may predict onset of dementia, according to researchers who also led a 2015 study of patterns of former President Ronald Reagan's speech. According to an AP article by Marilynn Marchione (7/17/17, LINK):

> Researchers had people describe a picture they were shown in taped sessions two years apart. Those with early-stage mild cognitive impairment slid much faster on certain verbal skills than those who didn't develop thinking problems.

Mediterranean Diet Lowers Dementia Risk:
According to an article by LaMotte (CNN, 7/17/2017, LINK):

> New research being presented at the Alzheimer's Association International conference in London this week found healthy older adults who followed the Mediterranean or the similar MIND diet lowered their risk of dementia by a third.
> Mediterranean diet linked to lower risk of heart attack, stroke:
> "Eating a healthy plant-based diet is associated with better cognitive function and around 30% to 35% lower risk of cognitive impairment during aging," said lead author Claire McEvoy, of the University of California, San Francisco's School of Medicine.

Increasing Suicide Rates:
Reported at NBC News (Maggie Foxx 8/2/2017, LINK):

> Suicide rates doubled among girls and rose by more than 30 percent among teen boys and young men between 2007 and 2015, the updated breakdown from Centers for Disease Control and Prevention finds.

Antidepressant Use Rising:
Picked up by multiple new sources, the CDC reported on a study (Pratt et al., LINK) with summary findings that:

> During 2011–2014, 12.7% of persons aged 12 and over, 8.6% of males, and 16.5% of females took antidepressant medication in the past month.
> For both males and females, non-Hispanic white persons were more likely to take antidepressant medication compared with those of other race and Hispanic-origin groups.

One-fourth of persons who took antidepressant medication had done so for 10 years or more. Antidepressant use increased from 1999 to 2014.

FDA Approves CBT AODA App:
As reported in the AMA Morning Report of 9/16/2017:

CNBC (9/14, McCann) reports the FDA on Thursday approved for the first time a "mobile to help treat substance abuse disorders." Start-up company Pear Therapeutics developed the app, which "digitizes...cognitive behavioral therapy" and "is designed to be prescribed by clinician and used alongside counseling."
Fortune (9/14, Mukherjee) reports the "Reset" app is "cleared to assist in outpatient therapy for alcohol, cocaine, marijuana, and stimulant addiction," but "is notably not permitted for treating opioid dependence." According to the article, clinical studies showed "more than 40% of patients who used the Reset system in addition to standard therapy abstained from alcohol, cocaine, marijuana, and stimulant substance abuse over a three month period," versus only 17.6% of those receiving "standard therapy alone."

MDMA for PTSD:
The old as new again, The Wall Street Journal (Josh Dean, 10/18/2017, LINK) published an article on research looking into the use of this club drug in treatment of post traumatic stress disorder.

MENTAL HEALTH POLICY

Marijuana Use Rates:
While not unexpected that marijuana use rates have been rising given legalization in an increasing number of states, what was surprising in the recent SAMHSA 2016 National Survey on Drug Use (LINK) was the drop in marijuana use in 2016 among adolescents aged 12 to 17 compared to most years from 2009 to 2014:

The percentage of people aged 12 or older who were current marijuana users in 2016 was higher than the percentages from 2002 to 2015. In contrast, the percentages among people aged 12 or older have shown little change since 2007 for current use of cocaine, since 2008 for current use of crack cocaine, and since 2014 for current use of heroin. The increase in marijuana use reflects increases in marijuana use among adults aged 26 or older and, to a lesser extent, among young adults aged 18 to 25. Marijuana use among adolescents aged 12 to 17 was lower in 2016 than in most years from 2009 to 2014.

Firearms and Suicide:
Publicized through Reuters (Larkin, 7/3/2017, LINK), an article by Boggs et al. (Annals of Internal Medicine, LINK) looked at how many suicides would be prevented if firearms were restricted for those with past suicide attempt, or existing mental health or substance use disorder. The study "identified 2674 adults and adolescents in 8 integrated health systems who died by suicide between 2000 and 2013 and were continuously enrolled for at least 10 of the 12 months before death". The authors concluded that "among persons who died by suicide with a firearm, only 4.1% had previously attempted suicide and 23.5% had a mental health or substance use condition." Indeed, Reuters headlined their article as: "Firearm restrictions not enough to prevent suicides".

Higher Cost Sharing = Short Term Gains and Long Term Losses:
In an effort to bring down the total cost of mental health spending in the Netherlands, the government instituted a cost sharing policy which raise out-of-pocket expenses by €200 or $226 per patient per year

for outpatient care and €150 or US$169 for inpatient care. The results (published in JAMA Psychiatry, LINK, Ravesteijn et al.):

> Included 1,448,541 treatment records opened from 2010 to 2012 (mean [SD] age, 41.4 [16.7] years; 712,999 men and 735,542 women). The number of regular mental health care records opened for adults decreased abruptly and persistently by 13.4% (95% CI, −16.0% to −10.8%; P < .001) per day when cost sharing was increased in 2012. The decrease was substantial and significant for severe and mild disorders and larger in low-income than in high-income neighborhoods. Simultaneously, in 2012, daily record openings increased for involuntary commitment by 96.8% (95% CI, 87.7%-105.9%; P < .001) and for acute mental health care by 25.1% (95% CI, 20.8%-29.4%; P < .001). In contrast to our findings for adults, the use of regular care among youths increased slightly and the use of involuntary commitment and acute care decreased slightly after the reform. Overall, the cost-sharing reform was associated with estimated savings of €13.4 million (US$15.1 million). However, for adults with psychotic disorder or bipolar disorder, the additional costs of involuntary commitment and acute mental health care exceeded savings by €25.5 million (US$28.8 million).

Risks and Benefits of Integrated Care:

Appearing at Politco, (8/9/2017, LINK) author Joanne Silberner explores the marked improvements in health and the impact on healthcare costs in systems with integrated care. Citing research that annual medical costs are $515 higher per patient in a system without integration, she balances this against the reality that physicians in integrated systems lose money due to lower billing during integrated visits, in addition to having healthier patients (fewer office visits needed).

Wisconsin to Raise Mental Health Medicaid Reimbursement:

Appearing in “APA Communications”:

> The Milwaukee Journal Sentinel (10/24, Linnane, Kyle) reports Gov. Scott Walker announced on Tuesday the state will be boosting payments in 2018 “for mental health professionals and substance abuse counselors who work with low-income Wisconsinites.” The article says mental health professionals serving Medicaid patients are “often reimbursed by the government for only about half their costs, according to Linda Hall, executive director of the Wisconsin Association of Family and Children’s Agencies.” The result is that professionals “limit how much time they spend with these clients.” The article says, “The Wisconsin Council on Mental Health has been pushing the state to bump Medicaid payment rates up to match rates provided by Medicare, the federal insurance program for elderly people.” The article cites a 2016 report saying Medicaid paid 27 percent less than Medicare for behavioral health services