Atlanta to Host ASAM’s 2012 Med-Sci Conference

Addiction medicine practitioners, educators and researchers will gather in Atlanta for ASAM’s 43rd Annual Medical-Scientific Conference, scheduled for April 19-22, 2012. The conference welcomes ASAM members as well as non-member physicians, nurses, psychologists, counselors, students and residents. It features three full days of clinical and scientific offerings, as well as ASAM’s annual Business Meeting on Friday morning, April 20th. Symposia and other special sessions will be sponsored by the National Institute on Alcohol Abuse and Alcoholism (NIAAA), the National Institute on Drug Abuse (NIDA) and the Center for Substance Abuse Treatment of the Substance Abuse and Mental Health Services Administration (SAMHSA).

The Med-Sci Conference is preceded by the Ruth Fox Course for Physicians and ASAM’s course on Pain and Addiction — Common Threads, both scheduled for Thursday, April 19th. The Exhibit Hall will host the Welcome Reception and will be open for two full days of the conference, with more than 70 exhibitors participating. All events take place at the Atlanta Hilton Hotel.

For additional information or to register, visit the ASAM website at WWW.ASAM.ORG or contact ASAM’s Department of Conferences & Meetings at 1-301-656-3920, ext. 113.

ASAM Releases New Definition of Addiction

The American Society of Addiction Medicine has released a new definition of addiction that characterizes addiction as a chronic brain disorder, rather than a behavioral problem involving too much alcohol, drugs, gambling or sex. The release was widely reported in scientific publications and the popular media.

Led by former President Michael M. Miller, M.D., DFAPA, FASAM, the ASAM group that drafted the definition spent four years examining the literature and consulted more than 80 experts in the field. Dr. Miller says the definition reflects research studies funded by the National Institute on Alcohol Abuse and Alcoholism and the National Institute on Drug Abuse, as well as related work by SAMHSA’s Center for Substance Abuse Prevention and Center for Substance Abuse Treatment.

According to the new definition, “Addiction is a primary, chronic disease of brain reward, motivation, memory and related circuitry. Dysfunction in these circuits leads to characteristic biological, psychological, social and spiritual manifestations. This is reflected in an individual pathologically pursuing reward and/or relief by substance use and other behaviors.

“Addiction is characterized by inability to consistently abstain, impairment in behavioral control, craving, diminished recognition of significant problems with one’s behaviors and interpersonal relationships, and a dysfunctional emotional response. Like other chronic diseases, addiction often involves cycles of relapse and remission. Without treatment or engagement in recovery activities, addiction is progressive and can result in disability or premature death.” (For a more detailed discussion and the full definition, see page 5 of this ASAM NEWS.)
More than 350 physicians and other health care professionals attended ASAM’s recent course on the State of the Art in Addiction Medicine, held October 27–29th in Washington, DC. Offered by ASAM in partnership with the Center for Substance Abuse Prevention (CSAP) and Center for Substance Abuse Treatment (CSAT) of the Substance Abuse and Mental Health Services Administration, and the National Institute on Alcohol Abuse and Alcoholism (NIAAA) and the National Institute on Drug Abuse (NIDA) of the National Institutes of Health.

This year’s course focused on breakthroughs in the prevention and treatment of substance use disorders, with a special focus on the potential of genetic and epigenetic research to increase our understanding of vulnerability to addiction, as well as the promise of neuroscience research to develop new treatments.

Each of the course’s seven sessions was organized around specific areas of scientific discovery. Within each session, an expert faculty presented concentrated reviews of recent scientific advances. In the discussion period that concluded each session, audience and faculty jointly considered how to synthesize the research findings to improve clinical practice and patient care. Keynote addresses that opened each session were delivered by leaders of the major Federal health agencies, including Howard K. Koh, M.D., M.P.H., Assistant Secretary for Health of the U.S. Department of Health and Human Services, and R. Gil Kerlikowske, Director of the White House Office of National Drug Control Policy.

The 2011 course was dedicated to the memory of Dr. John Chappel, Dr. Alan Marlatt, and Dr. Charles Schuster, in recognition of their many contributions to the science and practice of addiction medicine.

Innovations introduced with this year’s course included a new Exhibit area, with more than 17 carefully selected exhibitors. At the ASAM member booth, staff answered questions and sold “Treat Addiction. Save Lives” T-shirts, pins and bumper stickers to promote addiction treatment (to order yours, call 800-844-8948).

ASAM thanks the 2011 Course Chair, Dr. H. Westley Clark, Director of SAMHSA’s Center for Substance Abuse Treatment, and all the members of the Planning Committee for their extraordinary achievement in designing the 2011 course:

H. Westley Clark, M.D., J.D., M.P.H., CAS, FASAM (Course Chair)
Anthony C. Campbell, R.Ph., D.O. (CSAT)
Jag Khalsa, Ph.D. (NIDA)
Margaret M. Kotz, D.O. (ASAM)
Raye Z. Litten, Ph.D. (NIAAA)
Robert A. Lubran, M.S., M.P.A. (CSAT)
Shannon C. Miller, M.D., FASAM, FACP (ASAM)
Terry A. Rustin, M.D., FASAM (ASAM)
Edwin A. Salsitz, M.D., FASAM (ASAM)
Frank Vocci, Ph.D. (2009 Course Chair)
Bonnie B. Wilford, M.S. (Course Director)

You can hear the lectures and view the slide from course presentations by visiting ASAM’s new Live Learning Center at WWW.ASAM.ORG. Course registrants can download the contents free of charge, while others can access the content for a fee and earn CME credits. Watch ASAM Weekly for an announcement of availability. (Also see the email supplement to this ASAM News for an overview of the speakers’ presentations.)
International Groups Call on Physicians to Lead in Reducing Alcohol Misuse

Medical organizations from around the world have issued a statement calling on physicians to take the lead in reducing alcohol misuse. The statement is signed by 15 medical groups, including the American College of Physicians, as well as organizations from the United Kingdom, Ireland, Nigeria, Slovakia, Sri Lanka, Mexico, Australia, Hong Kong, South Africa and Thailand.

Published in The Lancet, the statement points out that 76.3 million persons worldwide have problems with alcohol misuse and that alcohol use is the third leading risk factor for preventable and premature disease. It argues that because physicians are valued and trusted by their patients and communities, they are in a unique position to lead and inform such an initiative.

"It is every clinician's responsibility to address alcohol harm, both on a daily basis with individual patients and in the wider context of health harms and inequalities at the population level," the statement concludes. "We ask governments to act urgently and to champion evidence-based initiatives for the implementation of effective alcohol strategies at all levels to improve the health of populations worldwide."

Tobacco Companies Hid Danger of Cigarette Ingredient for Decades

Tobacco companies were aware of the dangers of a radioactive substance in cigarettes as early as 1959, but hid this knowledge from the public and policymakers, according to a new study. The substance, polonium-210, causes cancerous growths in the lungs of smokers, say researchers from the University of California, Los Angeles, who reviewed 27 documents that had never before been analyzed. The team, led by UCLA's Hryan Karaguezian, Ph.D., were able to determine that levels of radiation in cigarettes were responsible for up to 138 deaths for every 1,000 smokers over 25 years.

Tobacco products continue to contain polonium, even though a process called "acid washing," discovered in 1980, removes up to 99% of polonium-210 from tobacco. Although the tobacco companies know about acid washing, they have declined to use it, citing costs and environmental concerns. However, the researchers concluded that the acid-washing process changes the amount of nicotine in tobacco, making it less able to deliver an instant "nicotine kick" sensation.

"The evidence of lung cancer risk caused by cigarette smoke radioactivity is compelling enough to warrant its removal," the researchers concluded. Their findings have been published online in Nicotine and Tobacco Research.

COST OF EXCESSIVE ALCOHOL CONSUMPTION CALCULATED

The cost of excessive alcohol consumption in the U.S. reached $223.5 billion in 2006, or about $746 per person in the U.S., according to a new study by the Centers for Disease Control and Prevention (CDC). Researchers also estimated that excessive alcohol consumption is responsible for an average of 79,000 deaths and 2.3 million years of potential life lost in the United States each year.

Using national data from multiple sources, the researchers attributed the majority of the costs to losses in workplace productivity (72% of the total cost), health care expenses for problems caused by excessive drinking (11 percent of the total cost), law enforcement and other criminal justice expenses (9% of the total cost), and motor vehicle crashes related to impaired driving (6% of the total cost). However, their study did not consider a number of other costs, such as those resulting from pain and suffering on the part of the excessive drinker and others, and thus may be an underestimate.

Commenting on the findings, Robert Brewer, M.D., M.P.H., Alcohol Program Leader at CDC and one of the authors of the report, said "It is striking that over three-quarters of the cost of excessive alcohol consumption is due to binge drinking, which is reported by about 15 percent of U.S. adults."

"This landmark study highlights the enormous costs that excessive alcohol consumption inflicts on the individuals involved and on society in general," commented Pamela S. Hyde, Administrator of the Substance Abuse and Mental Health Services Administration, who added that "It also reinforces the importance of addressing ...substance abuse through our health care system."
ADDICTION: A NEW DEFINITION

Stuart Gitlow, M.D., M.P.H., M.B.A.

The definition of a disease state changes with scientific progress and advancement of knowledge. Hypertension, for example, represents a disease state — not because it falls outside the normal and routine — but because it leads to increased morbidity and mortality. The definition of — hypertension has changed over the past century as our understanding of the related morbidity improved. As a result, we treat elevation of blood pressure at a lower point — an earlier stage in the disease — than we did only a few decades ago. It might appear at first glance that the prevalence of hypertension is far higher now than it was in the 1970s, but a significant portion of that increase is secondary to the change of definition applied to the two populations.

Definition Versus Diagnosis

Definition of disease is not the same as diagnosis of disease. Cancer represents a large class of diseases where cell growth is uncontrolled and potentially invasive. While I’ve defined the disease class, I’ve said nothing about how to make a diagnosis, how or whether to treat, or how many variants of the disease might be possible.

Addiction as a disease classification has suffered almost as much as our patients with the disease have over the years. One major aspect of the difficulty has been that of terminology. Misuse, overuse, abuse and dependence are all terms that focus on a substrate, typically a drug, underlying the presence of addiction. This only served to confuse. How, for example, could someone have alcohol dependence if they were clean and sober? So we add the words in remission, but what, then, is in remission? Is it the disease itself? Or is it simply the marker for the disease, with the disease still raging beneath the surface? And therein lies the impossibility of the current terminologic nightmare. Id note for the sake of argument that the term addiction also implies to many an ongoing state of physiologic dependence. This is where the longtime favored term of alcoholism is so much better as it implies no such ongoing dependence. But we unfortunately have never developed similar words for the other addictive substrates.

Misconceptions

Another major aspect of the difficulty with the disease classification has been the disconnect between popular belief and scientific findings. The general public believes that an individual with alcohol dependence drinks too much. What is not well understood is that diagnosis of addictive disease has very little to do with quantity of use or frequency of use. It is very poorly understood that a patient can be clean, sober and in full recovery while still having an addictive disease. Some try to get around this by using phrases such as active addictive disease to refer to those who are currently engaged in the addictive behavior.

Finally, a third area of difficulty has been the need to identify addiction in its earliest stages to promote what has often been mislabeled as “prevention.” Once an individual with addictive disease begins using addictive substances, it is far more difficult to treat the disease than if that individual is reached prior to the initiation of substance use. Under several old definitions of addiction, however, the disease state didn’t exist until active use was present. But active use represents only the behavioral consequence of the underlying disease state. The key to the disease is the identification of its presence in the absence of the marker (where the marker is the behavior itself).

ASAM’s Definition

It therefore became critically important to formulate a new definition that takes these difficulties into account. The new definition would have to not cause terminologic difficulties, would have to clearly separate out actual use from the disease state and would have to avoid defining the illness through the presence of the behavioral manifestations of the illness. The American Society of Addiction Medicine (ASAM), after several years of work, released their new Public Policy Statement defining addiction in August. The new definition is based upon extensive scientific evidence from National Institute on Alcohol Abuse and Alcoholism, National Institute on Drug Abuse and other sources, as well as upon heuristic factors that would allow the avoidance of the traps and difficulties I’ve discussed here.

The key to understanding the definition of addiction is to recognize that the symptoms we all see and treat in the field are the result of a complicated neurobiologic process that is the culmination of a genetic predisposition combined with psychological underpinnings. Addiction does not result from drug use or other similar behavior, though it can clearly be worsened by such use or behavior.

The other key to understanding the new definition is to recognize that it opens the door to addiction secondary to behaviors rather than drugs with known pharmacologic action and sequela.

The definition does not say that there is such a thing as, say, baseball addiction. What it says is that we must look to see if repeated engagement in play and study of baseball causes or is the result of neurobiologic manifestations that lead to impaired control over further involvement in baseball. It says we must perform research to see if such individuals then demonstrate other manifestations of addiction such as significant impairment in executive function, persistent risk and/or recurrence of relapse and so forth.

The definition therefore avoids the current controversy regarding such activities as Internet use, videogame play and other activities that are so much part of our contemporary culture. It also avoids defining addiction in such a way as to imply that time spent involved in an activity has any relationship to the presence of addiction. Surely there have been individuals over the years who have spent “excessive” time reading, yet there has never been a serious inquiry as to whether reading addiction exists as an entity. The new definition cleanly avoids discussion of the substrate of addiction, or of the marker, if you prefer, and rather addresses the underlying nature of the disorder.

Disease definitions are living entities; they always represent a work in progress and as such are destined to change as science advances. ASAM invites your feedback regarding the new definition. Feel free to write me directly at drgitlow@aol.com with your comments and concerns.

[Reprinted by permission of Counselor: The Magazine for Addiction Professionals, from the October 2011 issue]

To read the full definition of addiction, visit the ASAM website at WWW.ASAM.ORG.
Using Marijuana as Medicine —
A FRESH LOOK

Robert L. DuPont, M.D.

More is at stake in the drive
drive to legalize mari­
juana for medical pur­
poses than the use of a botanical
alternative. Making marijuana
widely available as a medicine
poses more serious threats to the Nation’s public health.

Historical Perspective

For perspective, consider the late 19th century,
when drugs of abuse were ordinary commodi­
ties of commerce. Heroin was sold to anyone
as an effective cough remedy and Coca-Cola
contained cocaine. At that time, opium was a
scourge in Asia, where it was sold without
restriction by British traders after being
harvested on huge plantations in India. The public
health disaster produced by widespread
availability of dependence-producing chemicals
led in the first two decades of the 20th Century
to a U.S. commitment to limit the use of these
drugs to approved medical uses. This meant
drugs were approved based on scientific eval­
ation, and it meant that approved drugs could
be prescribed only by physicians and distributed
only through a closed distribution system of
licensed and regulated pharmacies and other
health care institutions. These changes were
adopted to protect the Nation’s public health,
to assure the medicines would be available for
legitimate medical use, and to prevent their
use for other than approved medical purposes.

Until the late 1960s, the world’s drug
problems were limited to one or two drugs, which
usually were administered orally and were available
to a relatively small part of the popula­tion.
Since then, the U.S. has experienced the
modern drug abuse epidemic, which is charac­
terized by entire populations (especially the
young) being exposed to many drugs of abuse
that are ingested by highly potent routes of

administration, mostly by smoking and intravenous injection.

At the leading edge of this epidemic, marijuana became the
most widely used drug in the U.S. other than alcohol and
tobacco. Today, 60% of Americans who meet diagnostic criteria
for drug abuse or dependence do so as a result of their mari­
jua use.

The range of responses to the
modern drug epidemic are
clearly expressed by two leading thinkers.
American sociologist Alfred Lindesmith advocated removal of the criminal law from drug
drugs. Instead, he proposed treating drug
addiction as a medical disease. Swedish psy­
chiatrist Nils Bejerot, working in the Stockholm
prisons, observed first-hand the application of
the Lindesmith approach — now called “harm
reduction” — when Swedish physicians responded
to the sudden dramatic emergence of an epi­
demic of intravenous use of amphetamines and
opiates by medicalizing it. Swedish physicians
prescribed these drugs to addicts in the exp­
cetation that they could wean them off the drugs
to become drug-free and thus separate the
addicts from the illegal drug sellers. Bejerot
observed that Lindesmith’s seemingly reason­
able and compassionate approach did not wean
addicts off drugs. Instead, the addicts contin­
ued using drugs at ever higher doses. Worse,
these “patients” sold their medically prescribed
drugs to others, thereby spreading the epidemic.

Bejerot’s ideas about drug policy have domi­
nated in both the U.S. and the U.N. until recently,
when a new wave of support for Lindesmith’s
vision has begun to grow. Medical marijuana
dominates this agenda in the United States.

Characteristics of Use

In thinking about medical marijuana, it is
useful to consider how marijuana is used in the
States that have legalized it through ballot ini­
tiatives or legislative actions. Medical marijuana
is not produced as a standardized and pure
product, as are all other medicines. Rather, the
marijuana sold for medical uses is nothing other
than illegal marijuana renamed. There is no
quality control, no assessment of purity, and
no dose control.

continued on page 6
Using Marijuana as Medicine — A FRESH LOOK continued from page 5

The role of the recommending physician is at best marginal, with most recommendations being given by a few practitioners who sell their recommendations in the same way rogue doctors in pill mills sell prescriptions for opiates and other drugs. Patients consume large quantities of marijuana, and can purchase it at dispensaries that do not control how much is purchased or what is done with the drug once it has been purchased. This is completely unlike the way in which any other medicine — especially a medicine with abuse potential — is prescribed and dispensed.

The contrast becomes clear when we apply a four-part test to separate medical from nonmedical drug use by considering intent, pattern, consequences, and legality. Medical drug use has the intent to treat a recognized illness under the care of an informed and actively involved physician. In medical drug use, the pattern of use resembles the way patients take an antidepressant or a vitamin. Such medicines are not used in combination with other drugs of abuse, they are not taken to party or in social settings. In addition, no one smokes any medicine. Medical use of a drug typically has positive consequences: the patient’s health is improved. Medical use is legal and can be honestly discussed not only with the prescribing physician but also with others who care about the patient, including family members.

Nonmedical drug use, in contrast, does not have these characteristics. It harms the user’s life. It commonly includes other drugs of abuse, often alcohol, in social settings for recreational purposes. Nonmedical drug use is illegal and often concealed not only from physicians but also from family members and other concerned parties. Honesty is as common in medical use as dishonesty is in nonmedical drug use.

Four Questions

Given all of this, there are four questions that ought to be answered before marijuana is legalized and sold as a medicine:
1. Is it sound policy to approve any drug through a ballot initiative or legislative action?
2. Should a drug that is subject to widespread abuse be dispensed outside the current closed distribution system and without a specific physician prescription, rather than a mere physician “recommendation”?
3. Is smoking a medically justifiable drug delivery system?
4. Should “medicines” be used as whole plants in uncontrolled doses of hundreds of separate chemicals, many of which are biologically active and known to be toxic?

It is difficult to see how anyone could answer even one of these questions “Yes,” let alone answering all of four affirmatively. But if even one is answered “No,” the current arguments for medical marijuana are rejected.

In summary, the current model of medical marijuana threatens the foundation of the U.S. drug approval and drug control systems. The current model of medical marijuana fails to distinguish between medical and nonmedical use. It also promises to vastly increase the use of marijuana — already the Nation’s most widely abused drug, especially among our most vulnerable citizens: American youth, the disadvantaged, and the mentally ill.

The future of medical use of any chemical found in marijuana clearly involves the isolation of specific chemicals, which can be studied for safety and efficacy and — if shown to be safe and effective — can be produced in a pure form and consumed by nontoxic routes of administration. This conclusion was reached in the 1999 Institute of Medicine Report on the medical use of marijuana and has been affirmed in all other careful and balanced studies of this issue over the past 40 years.

The increase in use of medical marijuana following the California ballot initiative in 1996 has not only shown the dangers of bypassing the science-based approval system and the closed distribution system used for all other medicines: it also given new urgency to efforts to put this agent back on the track of all other medicines to prevent further damage to the Nation’s public health.

Dr. DuPont is the founding Director of the National Institute on Drug Abuse and President of the Institute for Behavior and Health in Rockville, Maryland.
ED Visits Involving Carisoprodol Doubled in Five Years, Study Shows

Emergency department visits involving misuse of the muscle relaxant carisoprodol doubled in a five-year period, from 15,830 visits in 2004 to 31,763 visits in 2009 (the latest year for which data are available), according to a new report from the Substance Abuse and Mental Health Services Administration (SAMHSA). SAMHSA data show that ED visits involving carisoprodol misuse increased for all age groups, with visits involving patients aged 50 and older tripling between 2004 and 2009. Carisoprodol is sold under various brand names, including Soma, Soprodal, and Vanadom.

Although carisoprodol is a useful medication for short-term treatment of acute muscle pain, it can be dangerous when misused, especially when combined with alcohol or other CNS depressants. The majority of the visits involved misuse of carisoprodol in combination with other pharmaceuticals (77%), most often opioid analgesics (55%) or benzodiazepines (47%). Alcohol was involved in 12% of carisoprodol-related visits. Overall, more than a third of emergency department visits related to carisoprodol misuse required that the patient be hospitalized.

Commenting on the study, SAMHSA Administrator Pamela S. Hyde noted that “Muscle relaxants are the latest in the list of prescription medications that are being diverted from intended therapeutic use. These costly emergency department visits can be reduced with increased attention to substance abuse prevention in the first place. Following directions for use, proper disposal and safe storage of prescription medication are three simple things all Americans can do to help reduce the epidemic of prescription drug misuse.”

The report, ED Visits Involving the Muscle Relaxant Carisoprodol, is based on data from the 2004 – 2009 Drug Abuse Warning Network (DAWN). The full report is available on the web at HTTP://OAS.SAMHSA.GOV/2K11/DAWN071/WEB_DAWN_071.CFM.

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Uncertainty Surrounds Use of Synthetic Cannabinoids

Synthetic drugs with marijuana-like actions such as “K2,” “Spice” and “Vanilla Sky” are part of an emerging class of abused drugs causing concern among health professionals, researchers and legislators, according to a physician who has completed studies of the drugs. Products containing the unregulated substances are sold as “incense” or “bath salts.”

“There is no way for users to know what they are receiving,” according to Ryan Vandrey, Ph.D., a faculty researcher with the Behavioral Pharmacology Research Unit in the Department of Psychiatry and Behavioral Sciences of the Johns Hopkins University School of Medicine. “This is one reason we are seeing an influx of emergency room visits and calls to poison control centers associated with use of these drugs.”

At a recent annual meeting of the American Psychological Association, Dr. Vandrey presented the results of a survey of 168 users of products containing synthetic cannabinoids. The packages of dried plant material usually are contaminated with one or more drugs that are similar to — but more potent than — THC, the active ingredient in marijuana. In fact, the products often are marketed as legal alternatives to marijuana and are becoming increasingly popular with adolescents and young adults.

Public health concerns have followed numerous reports that use of these products can induce hallucinations, severe paranoid or panic reactions, and vomiting, sometimes resulting in hospital admissions. “These reports are indeed concerning, but similar reactions are known to occur with high doses of marijuana,” Dr. Vandrey said. “No one has done a controlled study of the drugs found in these products, so right now all we have is anecdotal information. We also don’t know which drugs, or combination of drugs, found in these products are likely to result in health problems.”

Dr. Vandrey added that “It’s probably the case that the majority of uses of these drugs don’t result in a hospital visit, but since we don’t know how many people are using the drugs, we don’t really know what the typical experience is.” He added that “Because drugs on the street are changing so rapidly, we’re constantly playing catch-up.”

In Dr. Vandrey’s study, about one in five persons surveyed said Spice or K2 had become their drug of choice. Another 25% reported that they experienced an adverse reaction and did not plan to use the drugs again. Most of the respondents reported that they bought the products legally, either at a gas station, a head shop, or online. “These products are so readily available — there’s no age restriction for buying them,” Dr. Vandrey pointed out. “That kind of accessibility for a drug is unique.”

Dr. Vandrey’s study is published in Drug and Alcohol Dependence.
CDC Declares Prescription Drug Abuse an "Epidemic"

"O"verdoses involving prescription painkillers are at epidemic levels and now kill more Americans than heroin and cocaine combined," declared CDC Director Thomas Frieden, M.D., M.P.H., in releasing a new report on prescription drug abuse (1). Dr. Frieden added that "States, health insurers, health care providers and individuals have critical roles to play in the national effort to stop this epidemic of overdoses while we protect patients who need prescriptions to control pain."

For the analysis, CDC reviewed State data on fatal drug overdoses, nonmedical use of prescription painkillers, and sales of prescription painkillers to pharmacies and health care providers. The analysis found that growing sales of prescription opioids has been accompanied by increased use of these medications for nonmedical reasons, often with lethal results (Figure 1). Per person sales of prescription opioids were more than three times higher in the State with the highest rate (Florida) than in the State with the lowest rate of sales (Illinois). About half of these deaths involved at least one drug in addition to the prescription opioid, such as benzodiazepines, cocaine, heroin, or alcohol.

Figure 1. Rates of Prescription Opioid Sales, Overdose Deaths, and Admissions to Addiction Treatment (1999-2010)

The rate of opioid overdose deaths among non-Hispanic whites and American Indians/Alaska Natives was three times the number seen in Blacks and Hispanic whites. Death rates were highest among persons aged 35-54 years. The data also showed that State death rates from overdoses (based on 2008 data) ranged from a high of 27.0 deaths per 100,000 population in New Mexico to a low of 5.5 deaths per 100,000 population in Nebraska. Nonmedical use of prescription opioids was similarly varied, ranging from a high of 1 in 12 persons age 12 and older in Oklahoma to a low of 1 in 30 in Nebraska.

Figure 2. Consequences of Prescription Drug Abuse

The CDC analysts concluded that prescription opioid abuse is on the rise because the drugs are relatively easy to obtain. They cited the growth of "pill mills" (clinics that prescribe opioids without first conducting medical examinations) and patients who engage in "doctor shopping" to obtain multiple prescriptions from different physicians. A large portion of abuse opioids are obtained from nonmedical sources, such as friends or family (Figure 3).

Figure 3. People Who Abuse Prescription Opioids Get Drugs From a Variety of Sources

Source: CDC, Vital Signs, 2011.
ASAM Chapters Sponsor CME Courses on Prescribing Opioids for Chronic Pain

The Connecticut Chapter of ASAM is the latest to co-sponsor "Prescribing Opioids for Chronic Pain: Balancing Safety & Efficacy," a full-day CME course designed for primary care physicians, as well as dentists and oral surgeons, advanced practice nurses, and physician assistants.

Under the leadership of Mark L. Kraus, M.D., FASAM, the course was hosted by CISAM in partnership with the Connecticut State Medical Society and several State agencies. The course qualifies for 6.5 Category 1 credits under the Physicians Recognition Award™ program of the American Medical Association, as well the accreditation programs of the American Academy of Family Physicians and the American Osteopathic Association.

Topics addressed include (1) understanding the nature of chronic pain, (2) evidence-based strategies for patient selection, risk assessment, and patient education, (2) factors to consider in selecting an opioid, (3) techniques for effective patient monitoring, and (4) knowing why and how to stop prescribing opioids and manage the patient with a different approach.

Course participants receive a packet of information containing a handbook on Prescribing Opioids for Chronic Pain, authored by Scott Fishman, M.D. and endorsed by the Federation of State Medical Boards, as well as a print syllabus and CD-ROM containing copies of the speakers' slides and useful clinical tools and guidelines. The course faculty includes many ASAM members, including Drs. Dan Alford, Tony Dekker, James Finch, John Hopper, Karen Miotto, and Steve Wyatt, and is chaired by Ted Parran, M.D.

Through October 2011, the course has been delivered at 40 sites in 29 States, reaching more than 6,000 physicians and other health care professionals. Participants have been enthusiastic; for example, comments from those who attended the September 27th course in Waterbury, Connecticut, include: "Probably the most well-run, informative, professional conference I've attended in 20+ years!" "Great team of presenters and great resource materials." "I'll use the materials in a hundred different ways."

Technical and financial support for the course is provided by the Center for Health Services & Outcomes Research at JBS International, Inc., under a contract with the Substance Abuse and Mental Health Services Administration. If your chapter is interested in sponsoring a course, contact Center director Bonnie Wilford at 410-770-4866, or email bwilford@jbsinternational.com.

Online Prescribing Courses Available

Boston University School of Medicine, in cooperation with the Massachusetts Board of Registration in Medicine, the Massachusetts Department of Public Health, the New England Division of the U.S. Drug Enforcement Administration, the Massachusetts Medical Society, and the Massachusetts Hospital Association, has developed a series of online courses on prescribing opioids for chronic pain. Topics include "Opioid Efficacy and Safety," "Assessment and Monitoring Tools for Primary Care Settings," "Communicating with Patients About Chronic Opioid Use," and "Managing Patients with Pain, Psychiatric Comorbidity and Addiction."

The courses are taught by Daniel P. Alford, M.D., M.P.H. (who serves as course director), as well as Jeffrey Baxter, M.D. Jane Liebschutz, M.D., M.P.H., and John A. Renner, Jr., M.D. Each one-hour module is approved for 1 Category 1 CME credit.

Development of the courses was supported by funding from the Massachusetts Board of Registration in Medicine and the Substance Abuse and Mental Health Services Administration. The online courses can be accessed free at WWW.OPIOIDPRESCRIBING.COM.

Related Reading


No Clear Evidence on How to Manage Insomnia in Patients with Alcohol Dependence

Insomnia is common among persons being treated for alcohol dependence and may be linked to relapse. To investigate this phenomenon, researchers conducted a systematic review of open-label and placebo-controlled trials to synthesize available evidence on efficacy of various pharmacologic treatments for insomnia among patients with alcohol dependence. Case reports and case series were excluded. Twenty studies met the inclusion criteria.

The evidence of efficacy was strongest for trazodone, which proved superior to placebo in two randomized trials (RCTs) that examined subjective and objective sleep measures. On the other hand, evidence for the efficacy of gabapentin was equivocal in one open-label study and four RCTs.

Topiramate improved subjective sleep measures and reduced the number of heavy drinking days in one RCT. In two RCTs, carbamazepine improved subjective sleep measures. One RCT showed the superiority of lormetazepam over zopiclone on a single sleep measure (time to fall asleep).

The remaining evidence came from small, mostly open-label studies, which showed some evidence of efficacy for quetiapine, triazolam, ritanserin, bright light, and magnesium, and no evidence or worsening of symptoms in patients treated with clomethiazole, scopolamine, and melperone.


CT Scans May Detect Early COPD in Smokers

CT scans used to detect lung cancer also may help identify early signs of chronic obstructive pulmonary disease (COPD) in men with a history of heavy smoking.

The findings come from a study of more than 1,000 men who were part of a lung cancer screening trial. The men also had lung function tests that can help detect COPD, which is a major cause of death in heavy smokers. The lung function tests found COPD in 38% of the trial participants. Researchers then used CT scans to look for emphysema, a common form of COPD. They found that the scans were able to correctly identify COPD in 76% of cases.

"Among men who were current or former heavy smokers, undergoing lung cancer screening with CT scanning identified a substantial proportion who had COPD, suggesting that this method may be helpful as an additional tool in detecting COPD," said lead author Dr. Pim A. de Jong of University Medical Center Utrecht in the Netherlands.


Alcohol Use Disorder Associated with Increased Risk of Hospital-Acquired Infection

Patients with alcohol use disorders are at increased risk of developing hospital acquired infections, which affect 1.7 million persons annually in the U.S. Dr. Marjolein de Wit and colleagues at Virginia Commonwealth University evaluated patients with hospital-acquired infections and assessed their outcomes in terms of mortality, hospital length of stay, and hospital costs. They found that patients who had alcohol use disorders and who developed hospital-acquired infections had a 71% higher risk of dying, a hospital stay that averaged two days longer, and approximately $7,500 more in hospital costs than did patients with hospital-acquired infections who did not have an alcohol use disorder.

Dr. de Wit said the data underscore the need for patients to discuss their alcohol consumption patterns with their physicians, despite the stigma they may feel. "This is important both when a hospital admission is scheduled as well as at the time of an emergency hospital admission," she added. "In the case of scheduled surgeries, such as an elective surgery, one month pre-operative abstinence may decrease the risk of a hospital-acquired infection."


Chantix Does Not Cause More Psychiatric Hospitalizations Than Nicotine Patches

The Food and Drug Administration (FDA) has determined that the smoking cessation drug Chantix (varenicline) is no more likely than nicotine patches to cause psychiatric events that require hospitalization.

The FDA drew its conclusions after reviewing two studies comparing Chantix to nicotine replacement therapy, including nicotine patches. One study, conducted by the Department of Veterans Affairs, compared 14,131 veterans who used Chantix with an equal number of veterans who used nicotine patches. A second study, conducted by the Department of Defense, compared almost 20,000 people using Chantix with about 16,000 who used nicotine patches for a month after they began treatment to quit smoking.

Acknowledging that both studies had limitations, the agency said it will retain the "black box" warning labels on Chantix to advise about possible psychiatric side effects, including changes in behavior, hostility, agitation, depressed mood and suicidal thoughts or actions. In its announcement, the FDA said that "Overall, FDA has determined that the current warnings in the Chantix drug label, based on postmarketing surveillance reports, remain appropriate."

In June, the FDA said Chantix may be associated with a small, increased risk of certain heart problems in patients with heart disease.

Pfizer, which manufactures Chantix, is conducting a large clinical trial of the drug's safety to assess psychiatric side effects. Results are expected in 2017.

Off-Label Use of Newer Antipsychotic Drugs Not Helpful in Substance Use Disorders

A review of studies looking at newer antipsychotic drugs prescribed "off label" for conditions including substance use and eating disorders finds they are not effective in treating these conditions. The drugs are sold under brand names such as Risperdal, Abilify, Zyprexa and Seroquel.

Researchers from RAND Health in Santa Monica, California, reviewed data from 162 studies of atypical antipsychotics prescribed for off-label indications. They concluded that the drugs did not have an effect in patients being treated for alcohol or drug problems or eating disorders.

The drugs did have side effects, however, including tremors, stroke, weight gain and fatigue, according to their report in the Journal of the American Medical Association.
Emphasizing Downside of Drinking Doesn't Deter College Students' Alcohol Use

Trying to convince college students not to drink by emphasizing the downside of excessive alcohol use is ineffective, according to research findings presented at the 2011 annual meeting of the American Psychological Association.

According to E. Scott Geller, Ph.D., Director of the Center for Applied Behavior Systems at Virginia Tech University, when researchers used Breathalyzers to show college students their blood alcohol content, it had the opposite of the intended effect, encouraging them to drink more. Dr. Geller added, “We thought if we could demonstrate to students that their performance deteriorated under alcohol, they would be convinced that their alcohol consumption had put them at risk.” However, “knowing that one is impaired, physically and even emotionally, did not seem to reduce alcohol consumption.”

According to Laina Bay-Cheng, Ph.D., of the University at Buffalo-State University of New York, who also presented research results at the meeting, students told her that alcohol is appealing because they see it as “liquid courage.” Drinking gives students an excuse to do things they normally wouldn’t, she said.

Federal data show that nearly 40% of U.S. college students engage in binge drinking — a figure that has remained virtually unchanged for decades. An estimated 600,000 students are injured while under the influence and almost 2,000 die each year from alcohol-related injuries, according to the National Institute on Alcohol Abuse and Alcoholism.

ALCOHOL CAN WORSEN ALLERGIES

Alcohol can trigger an allergic reaction or worsen existing allergies, according to the past president of the American College of Allergy, Asthma and Immunology in a recent address to the group's annual meeting.

Sami Bahna, M.D., told colleagues that symptoms of alcohol-induced allergies can include red, itchy eyes, upset stomach, nasal congestion and difficulty breathing. He added that some individuals may be allergic to the alcohol itself, while others are allergic to various ingredients such as barley, grapes, hops, wheat, yeast and malt. Still others are allergic to egg whites (which sometimes are added during processing) or sulfites (which occur naturally in wine and also may be added as a preservative).

Dr. Bahna also noted that exposure to tobacco smoke can worsen asthma and allergies by increasing sensitivity to airborne substances such as mold spores and pollen.

Pediatricians Call for Routine Screening of Adolescents, NIAAA Provides a New Youth Screening Guide

In a new policy statement, the American Academy of Pediatrics (AAP) calls on physicians to screen adolescent patients for alcohol and drug use at every visit. To do so, the Academy has published a guide containing strategies for how to conduct such screening. “Clinicians who care for young people are well aware of the many harms caused by underage drinking,” notes Sharon Levy, M.D., M.P.H., chair of the American Academy of Pediatrics' Committee on Substance Abuse and assistant professor of pediatrics at Harvard Medical School. “The guide takes much of the mystery out of intervening with young patients who are drinking, allowing clinicians to proceed within a clinical framework of low, moderate, or high risk. It will enable pediatricians and other clinicians who care for young people to easily incorporate alcohol screening across the care spectrum, from annual visits to urgent care.”

AAP worked with the National Institute on Alcohol Abuse and Alcoholism (NIAAA) to develop “Alcohol Screening and Brief Intervention for Youth: A Practitioner's Guide,” which outlines the questions to ask teens about whether and how much they are drinking and how much their friends drink. For example, the guide contains two questions that can help physicians identify at-risk youth.

The guide recommends that, at every visit, physicians should ask adolescent patients whether they are using alcohol or drugs and, if so, under what circumstances. They should give advice or encouragement based on the patient's response and provide referrals to specialized care as needed.

Brief interventions are recommended for adolescents who report less risky alcohol or drug use, with a focus on why and how to stop. Higher risk activities should be addressed by asking the patient to sign an agreement stating that he or she will avoid such behaviors in the future. If the adolescent won’t sign such an agreement, the AAP guide suggests the physician consider discussing the matter with the teen’s parents.

“We know that alcohol is by far the drug of choice among youth,” noted NIAAA Acting Director Kenneth R. Warren, Ph.D. “Underage drinking is also a marker for other unhealthy behaviors and it often goes undetected. This new tool was designed to allow busy practitioners who manage the health and well-being of children and adolescents to conduct fast, effective alcohol screens and brief interventions.”

The new guide and an accompanying pocket-sized version can be downloaded or ordered from the NIAAA website at WWW.NIAAA.NIH.GOV or by phoning NIAAA at 301-443-3860.
New Advisories, TIPS Available from SAMHSA

The Substance Abuse and Mental Health Services Administration (SAMHSA) has announced the publication of two new treatment advisories: "Tobacco Use Cessation During Substance Abuse Treatment Counseling" (Volume 10, Issue 2) and "Tobacco Use Cessation Policies in Substance Abuse Treatment: Administrative Issues" (Volume 10, Issue 3).

Each advisory is a bulletin that provides information on topics that have immediate consequences for those in the addiction treatment field.

"Tobacco Use Cessation Policies in Substance Abuse Treatment: Administrative Issues" provides program administrators with a brief introduction to implementing tobacco-free policies and practices in treatment settings. It also discusses challenges and strategies for developing clinical guidelines for treating tobacco dependence.

"Tobacco Use Cessation During Substance Abuse Treatment Counseling" offers a brief introduction to tobacco use cessation techniques that can be used during addiction treatment. The advisory also identifies resources for additional information on the topic.

Both advisories can be downloaded at no cost from HTTP://WWW.KAP.SAMHSA.GOV or ordered by contacting SAMHSA at HTTP://STORE.SAMHSA.GOV or phoning 1-877-SAMHSA-7 (1-877-726-4727) (English and Spanish). Request publication number (SMA-11-4636-Clin) for "Tobacco Use Cessation During Substance Abuse Treatment Counseling" and (SMA-11-4636-Admin) for "Tobacco Use Cessation Policies in Substance Abuse Treatment: Administrative Issues."

Other newly published resources from SAMHSA include three Treatment Improvement Protocols (TIPS), which can be obtained by phoning 1-877-726-4727:

- **TIP 50:** Addressing Suicidal Thoughts and Behaviors in Substance Abuse Treatment (SMA-09-4381)
- **TIP 51:** Substance Abuse Treatment: Addressing the Specific Needs of Women (SMA-09-4426)
- **TIP 52:** Clinical Supervision and Professional Development of the Substance Abuse Counselor (SMA-09-4435)

Harvard Medical School Offers Special Health Report on Alcohol Use

Because alcohol affects brain-reward pathways involved in developing addiction, drinking alcohol on a regular basis can potentially create problematic drinking patterns in anyone. Moreover, any use of alcohol may be risky in certain individuals under certain circumstances. A given individual's risk for developing a problem with alcohol depends on a range of factors, including their genetic and ethnic background, as well as influences such as family, culture, and society. Age, gender, and medical history also affect how people react to alcohol.

A new health report from Harvard Medical School features a series of questions that allow individuals to make informed decisions about how much — if any — alcohol is safe for them to drink, and whether they are at risk for problem drinking. The report also includes screening tests to identify problem drinking, a discussion of alcohol use throughout the lifespan, a description of evidence-based therapies for alcohol use disorders, and advice on how to obtain help for a family member who may have a drinking problem.

The "Special Health Report on Alcohol Use and Abuse" is available from Harvard Health Publications, the publishing division of Harvard Medical School, for $18. It can be purchased online at WWW.HEALTH.HARVARD.EDU/ALCOHOL2011 or by phoning 877-649-9457 (toll-free).

NIDA Funds ASAM and CTI Online SBIRT Course

ASAM and Clinical Tools, Inc. (CTI) are proud to announce SBIRTTraining.com, a web-based training program to help primary care providers build skills in screening, brief intervention, and referral to treatment (SBIRT). The target audience for the training is primary care providers, including physicians, nurses and allied health professionals. The program teaches participants how to appropriately screen for and identify substance abuse, plan and implement a tailored brief intervention, and improve care management for brief treatment and referral skills for patients who require specialized addiction treatment. It also addresses upcoming measures from the Joint Commission on Tobacco Treatment Measures (TTM) and Substance Abuse Measures (SUM). Approved for 4 AMA PRA Category 1 Credits, SBIRTTraining.com addresses provider competence in:

- Screening for and identifying substance abuse and triaging patients with substance use disorders to the appropriate level of care.
- Planning and implementing a tailored brief intervention and education for patients with substance use problems.
- Improving care management in brief treatment and skills in referring patients to specialized care.
- Improving skills in following up and reassessing patients previously identified with and/or treated for substance use disorders.
- Screening for tobacco use and assessing patients' interest in quitting.
- Choosing and implementing appropriate tobacco cessation interventions and following up with patients who are in treatment.

A unique feature of the program is an opportunity for trainees to practice newly acquired skills through an interactive simulated clinical experience, complete with a simulated electronic medical record. All of these features can be accessed at SBIRTTraining.com.

NIDA's Journal Moves to Biomed Central

Addiction Science & Clinical Practice (AS&CP), the award-winning journal from the National Institute on Drug Abuse, has moved to private sector management at Biomed Central (BMC). Richard Saitz, M.D., M.P.H., and Jeffrey Samet, M.D., M.A., M.P.H., of the Clinical Addiction Research and Education (CARE) Unit at Boston Medical Center and Boston University School of Medicine and Public Health will share the role of Editor-in-Chief. The journal remains available on the web at no charge, but no longer will appear in a print edition. Readers and potential authors will find detailed information about the journal, a list of article types being sought, a list of editorial board members, and subscription information at information at www.ASCPJOURNAL.ORG.
The National Institute on Alcoholism and Alcohol Abuse (NIAAA) has awarded the University of Buffalo a $900,000 grant to develop graduate medical education programs in addiction medicine. The grant will fund a council of leaders in the field of addiction who will develop programs that can be used in medical schools around the country.

"There is a shortage of academically oriented addiction medicine physicians qualified to conduct clinical research on addictions, to translate this research into practice, and to teach medical students and a wide range of residents about addiction in academic medical centers," said Dr. Richard Blondell, Director of Addictions Research at the university. He added: "This grant will allow established leaders in addiction medicine to help bridge the gap between research and medical education on one hand and clinical practice on the other, and train a new cohort of leaders who will continue to advance the field."

The grant is designed to address the spectrum of addictions, from alcohol to illicit substances and prescription drugs, Dr. Blondell said. "The purpose is to educate primary care doctors as well as emergency medicine physicians and, frankly, physicians in all the specialties on how to treat their patients who are already addicted, while also preventing non-addicted patients from developing addictions. Part of that education involves connecting the dots. If a person with an addiction is going into the hospital for orthopedic surgery, the surgeon needs to know about the addiction. Right now, there is no established infrastructure for disseminating that information."

There is a shortage of academically oriented addiction medicine physicians qualified to conduct clinical research on addictions.

The National Institute on Alcoholism and Alcohol Abuse (NIAAA) will continue to advance medical school curricula.

COPE — the Coalition on Physician Education in Substance Use Disorders, LLC — is a voluntary organization devoted to improving patient care and the public health by assuring that all physicians receive the training and resources they need to prevent, identify, and provide specialty-appropriate interventions for patients who use tobacco or illicit drugs, or who engage in unhealthy use of alcohol or non-medical use of prescription medications. COPE is incorporated as a not-for-profit (501(c)(3)) corporation under the laws of the State of Connecticut. All officers, members and administrators of COPE serve as volunteers, without compensation.

COPE's activities involve identifying resources to support physician training and education, providing support and mentorship to teaching faculty, and seeking synergy among its members' efforts. For example, COPE is collaborating with the Association of American Medical Colleges (AAMC), and the American Association of Colleges of Osteopathic Medicine (AACOM) to build a network of faculty in U.S. allopathic and osteopathic medical schools who are responsible for teaching about substance use disorders, for the purposes of networking, mentoring and information-sharing.

Specifically, COPE provides no-cost access to the following resources:

- Networking and professional support: Share your insights and experience with colleagues through the COPE website and Listserv.
- Medical education news: Stay up-to-date on the latest news about people, policies, and events.
- Funding opportunities: Learn about funding announcements by Federal agencies and private foundations.
- Policy developments: Follow relevant developments, including those arising from health care reform.
- Model curricula: Be knowledgeable about model curricula developed by leading educators on a variety of addiction-related topics.
- Core documents: Access the core documents in addiction education from AAMC, AMA, the White House, and private-sector foundations and organizations.
- Recent publications: Search the COPE library of journal articles and other current publications.
- Related organizations: Learn what other medical and educational organizations are doing to advance medical school curricula.
- Useful websites: Access a directory of websites that feature information relevant to your needs.
- Conference calendar: Identify meetings of interest to you, including closing dates to submit abstracts for presentations.

Visit the COPE website (WWW.COPE-ASSN.ORG) to access informational resources and/or to register as a COPE member. As a member, you will automatically receive Addiction Education News, COPE's e-news bulletin. There is no fee for membership. Or contact any member of the COPE Executive Committee at MedEdGroup@aol.com: David C. Lewis, M.D. (Chair), Anthony Dekker, D.O., FAOAAM, FASAM, J. Harry Isaacson, M.D., Mark L. Kraus, F.D.S., FASAM, John Renner, M.D., FAPA, Bonnie B. Wilford, M.S., or Stephen A. Wyatt, D.O.
Dear Colleague:

At ASAM's 42nd Annual Med-Sci Conferences, we will honor a group of physicians-in-training who have been chosen to receive Ruth Fox Scholarships. These scholarships are an important component of ASAM's educational mission, because they allow an outstanding group of physicians-in-training to attend the Medical-Scientific Conference and the Ruth Fox Course for Physicians. The scholarships cover travel, hotel and registration expenses, as well as one year's membership in ASAM. This year, the Scholarship Fund has benefitted from the generous support of the National Institute on Drug Abuse (NIDA) and the Christopher D. Smithers Foundation.

The scholarships are but one example of the work supported by the Ruth Fox Memorial Endowment Fund, which was established to assure ASAM's continued ability to provide ongoing leadership in newly emerging areas of addiction medicine, to continue its commitment to educating physicians, to increasing access to care and to improving the quality of care.

With your participation and continued support, the Fund will continue to fulfill its mission. If you have not already pledged or donated to the Endowment Fund, please do so now. For information about making a pledge, contribution, bequest, memorial tribute, or to discuss other types of gifts in confidence, please contact Claire Osman by phone at 1-800/257-6776 or 1-718/275-7766, or email Claire at asamclaire@aol.com. She welcomes your calls. All contributions to the Endowment Fund are tax-deductible to the full extent allowed by law.

Max A. Schneider, M.D., FASAM
Chair, Ruth Fox Memorial Endowment Fund

Claire Osman
Endowment Subcommittee
Study Explores How AA Helps Members Stay Sober

A new study examining how Alcoholics Anonymous (AA) helps its members stay sober has identified two crucial factors: spending more time with people who support abstinence, and having greater confidence in one's ability to maintain sobriety in social situations. The study also showed that reduced depression and increased spirituality or religious practices had a significant role in the recovery of those who had received treatment.

For the study, researchers from Massachusetts General Hospital evaluated data from more than 1,700 study participants enrolled in Project MATCH, which compared three alcohol treatment approaches. Participants completed assessments at three, nine and 15 months after completing inpatient treatment, in which they reported their alcohol consumption and attendance at AA meetings. Participants also reported on other factors, including their confidence in their ability to maintain abstinence in social situations and whether their close social network supported or discouraged their efforts to stay sober.

"Our findings are shedding light on how AA helps people recover from addiction over time," said lead researcher John F. Kelly, Ph.D. He added, "The results suggest that social context factors are key: the people who associate with individuals attempting to begin recovery can be crucial to their likelihood of success. AA appears adept at facilitating and supporting those social changes."

Buprenorphine Effective in Treating Addiction to Prescription Opioids

Individuals who are addicted to prescription opioids reduce their use when given sustained treatment with the buprenorphine plus naloxone (Suboxone), according to research funded by the National Institute on Drug Abuse (NIDA). The study is the first randomized large-scale clinical trial using a medication for the treatment of prescription opioid addiction.

Most studies of treatments for opioid addiction have been conducted with heroin-addicted patients at methadone clinics, so there are few data on treatment of patients addicted to prescription medication. To address this issue, NIDA's Clinical Trials Network launched the Prescription Opioid Addiction Treatment Study (POATS) in 2007, which involved trials at 10 treatment sites around the U.S.

"Despite the tremendous increase in the prevalence of addiction to prescription painkillers, little research has focused on this patient population," said Roger Weiss, M.D., of Harvard Medical School, Boston, and lead author of the study. "This is the first large-scale study to examine treatments exclusively for people who were abusing prescription painkiller medications and were treated with buprenorphine-naloxone, which can be prescribed in a physician's office."

In the study, more than 600 treatment-seeking outpatients who were addicted to prescription opioids received Suboxone in combination with brief standard medical management, in which physicians evaluated treatment effectiveness and recommended abstinence and self-help participation.

Half the participants also received varying intensities of addiction counseling by trained substance abuse or mental health professionals.

Results showed that approximately 49% of participants reduced their use of prescription opioids during extended (at least 12-week) Suboxone treatment. This rate dropped to 8.6% once the Suboxone was discontinued. Reductions in opioid use were seen regardless of whether or not the patient reported suffering chronic pain. Participants who received intensive addiction counseling did not have better outcomes than those who did not receive additional counseling.

In announcing the results, NIDA Director Nora D. Volkow, M.D., said: "The study suggests that patients addicted to prescription opioids can be effectively treated in primary care settings using Suboxone. However, once the medication was discontinued, patients had a high rate of relapse, so more research is needed to determine how to sustain recovery among patients addicted to opioid medications."

The study can be found online at HTTP://ARCHPSYCAMASSN.ORG/CGI/CONTENT/FULL/ARCHGENPSYCHIATRY.2011.121

Residential Treatment Programs Operating Near Capacity

The majority of residential treatment programs in the U.S. are operating near capacity, according to a new report from the Substance Abuse and Mental Health Services Administration (SAMHSA). The report also indicates that there is continuing widespread demand for residential treatment services.

Based on data collected as part of the 2009 National Survey of Substance Abuse Treatment Services (N-SSATS), which surveys all known treatment facilities in the U.S., the report projects that, overall, residential treatment programs in the U.S. are operating at 89% of capacity. However, utilization rates vary according to the type of organization operating the programs, ranging from a high of 96% occupancy in facilities operated by the Federal government to a low of 82% occupancy in facilities operated by Tribal governments.

The survey includes only programs that operate outside of hospital settings. Nationwide, such programs offer a total of 110,795 residential beds, with more than three fourths (76%) located in private not-for-profit facilities.

The N-SSATS survey was developed by SAMHSA as part of its strategic initiative on data, outcomes, and quality — an effort to create integrated data systems that help inform policy makers and providers on behavioral health issues. Survey results are available on the web at HTTP://OAS.SAMHSA.GOV/SPOTLIGHT/WEB Spot_033.PDF.
### ASAM EVENTS

**APRIL 19, 2012**
Ruth Fox Course for Physicians
Hilton Atlanta Hotel
255 Courtland St, NE
Atlanta, GA 30303
Phone: 1-404-659-2000

**APRIL 19, 2012**
Pain and Addiction: Common Threads XIII
Hilton Atlanta Hotel
Atlanta, Georgia

**FEBRUARY 3-4, 2012**
New York Society of Addiction Medicine
8th Annual Conference:
"Addiction Medicine 2012: Best Practices"
The New York Hotel, New York, NY
[For more information or to register, go to www.NYSAM-ASAM.ORG]

**FEBRUARY 9-11, 2012**
4th Annual Mississippi Addiction Conference:
"Trends, Treatment and Transformations:
Addiction in 2012"
Hilton Hotel East, Jackson, MS
[For more information or to register, contact Donna Young at Professionals Health Network at 601-261-9899 or email dcyoud2128@aol.com]

**MARCH 30-31, 2012**
Addiction Medicine 2012
Sponsored by the North Carolina Chapter of ASAM in cooperation with the Governor’s Institute on Substance Abuse
Ashville, North Carolina
[For more information or to register, visit HTTP://WWW.GOVERNORSINSTITUTE.ORG/]

**NOVEMBER 23-26, 2012**
Cape Cod Symposium on Addictive Disorders
(Co-Sponsored by the New England Chapters of ASAM)
The Resort and Conference Center at Hyannis
Hyannis, Massachusetts
[For more information or to register, phone Dee McGraw at 1-616-475-4210 or email DEEMCGRAW@AMERITECH.NET]

### ASAM CHAPTER EVENTS

**APRIL 20-22, 2012**
43rd Annual Medical-Scientific Conference
Hilton Atlanta Hotel
Atlanta, Georgia

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Except where otherwise indicated, additional information is available on the ASAM website (WWW.ASAM.ORG) or from the ASAM Department of Meetings and Conferences at 4601 No. Park Ave., Suite 101 Upper Arcade, Chevy Chase, MD 20815-4520; phone 301/656-3920; fax 301/656-3815; email email@asam.org.

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**Missed the Meeting?**

Download content from the 42nd Annual Medical-Scientific Conference. Some courses are available at no cost, while ASAM members receive a discount on others. For more information, go to www.asam.org/LiveLearningCenter.html.

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**See the email supplement to this ASAM News**
for coverage of ASAM’s 2011 Course on the State of the Art in Addiction Medicine!
Genetics: Shaping Our Understanding of Addiction and Its Treatment

Pharmacogenetic Approaches to Alcohol Dependence.

Bankole A. Johnson, M.D., Ph.D., D.Sc., Chair, Department of Psychiatric Medicine, UVA Health Sciences Center, University of Virginia, Charlottesville, Virginia

Pharmacogenetic treatments can optimize therapeutic response and limit inter-individual variability. Hence, it is important to find efficacious pharmacogenetic approaches in advancing the treatment of alcohol dependence.

Approximately 60% of neuronal serotonin (5-HT) function is gated by the serotonin transporter (5-HTT). Specific genetic variants of the 5-HTT gene have been associated with major differences in 5-HT expression and with the prediction of alcohol craving; as such, they might constitute an important target for clinical treatment. Our aim was to show that ondansetron is an efficacious pharmacogenetic treatment of alcohol dependence.

We randomized 283 alcoholics by genotype in the 5′-regulatory region of the 5-HTT gene (LL/LS/SS) in a controlled, double-blind trial. Further genotyping was completed for another functional single nucleotide polymorphism (SNP), rs1042173 (T/G) in the 3′-untranslated region of the 5-HTT gene, and for rs1150226 (A/G) and rs17614942 (A/C) in the HTR3A and HTR3B genes, respectively. The HTR3A and HTR3B genetic variants were added to the analyses as ondansetron targets primarily 5-HT$_3$ receptor complexes on post-synaptic neurons. Subjects received ondansetron, a specific 5-HT$_3$ antagonist (4 μg/kg twice daily), or placebo for 11 weeks, along with weekly standardized cognitive behavioral therapy. Differences in genetic variation predicted the reductions in drinking severity and the increased abstinence that were seen after ondansetron treatment.

In sum, we provide new knowledge on the epistatic effects of the 5-HTT, HTR3A, and HTR3B genes on ondansetron treatment response among alcohol-dependent individuals. These new data could provide a path forward for the pharmacogenetic treatment of alcohol-dependent individuals using ondansetron. Pharmacogenetic treatments can optimize therapeutic response and limit inter-individual variability. Hence, it is important to find efficacious pharmacogenetic approaches in advancing the treatment of alcohol dependence. Pharmacogenetic Approaches to Alcohol Dependence.

Preliminary Evidence for Genetic Determinants of Response to Alcohol Pharmacotherapies

Kent E. Hutchison, Ph.D., Chief Science Officer, Mind Research Network, and Professor, Department of Psychology and Neuroscience, and Director of Population and Clinical Neuroscience — Intermountain Neuroimaging Consortium, University of Colorado — Boulder

Despite our best efforts over the last few decades, currently available treatments for addiction are, at best, modestly effective. Our lab has taken a two-pronged approach to address the limited effectiveness of current treatments. To develop more effective pharmacotherapies,
we have focused our attention on medications that target the basic neurobiological and behavioral mechanisms that are involved in the development and maintenance of addiction. To determine which individuals are most vulnerable to addiction and to determine which individuals might benefit most from a given treatment, we have focused our attention on genetic factors that might explain individual variation in the same basic neurobiological and behavioral mechanisms that influence the etiology of addiction.

One very important aspect to our research is the notion that having well defined phenotypes that are proximal to the underlying biological mechanisms is critical to the success of efforts designed to uncover genetic variation that contributes to these phenotypes. In other words, a rudimentary phenotype like whether a person smokes cigarettes (or not) is unlikely to be useful in a genetic study because of the sheer number of factors that may influence that phenotype. Much of our research to date has focused on refining the phenotype such that a given phenotype will be useful in a genetic study.

To date, we have focused on acute responses to alcohol, tobacco, and marijuana, publishing papers on pharmacological and genetic factors that influence these phenotypes. While acute responses to cues or the drugs themselves are useful phenotypes, we are currently working to develop phenotypes that are even more proximal to the neurobiology of addiction. Working with the MIND Institute, we have taken our laboratory-based phenotypes to a neuroimaging environment and are integrating this approach with our recent efforts at identifying genetic variation that influences gene expression in post-mortem tissue samples taken from brain regions that are critical to the neurobiology of addiction.

Thus, the genetic approach should yield valuable information about genetic variation that alters gene expression in critical brain areas. The neuroimaging approach will allow us to examine whether this genetic variation also has an impact in vivo on brain activation in response to a drug or drug-related cues.

Use and Abuse of Prescription Opioids: Current Evidence

Abuse-Deterrent and Tamper-Resistant Opioid Formulations: What Is Their Role in Preventing Prescription Drug Abuse?

Lynn R. Webster, M.D., FACPM, FASAM, Medical Director, Lifetree Pain Clinic, Salt Lake City, Utah

Under treated pain and prescription opioid abuse remain important public health problems. In the absence of strong empirical evidence, common sense dictates that a universal-precautions approach—a systematic and easily adopted process that clinicians can quickly put into practice—is advised to promote safe opioid prescribing. Two strategies should greatly improve pain management while minimizing opioid abuse.

The first strategy involves the systematic implementation in every clinical practice of “universal precautions,” a set of procedures that help physicians implement opioid therapy in a safe and controlled manner. These procedures include: (1) carefully assessing the patient's risk for opioid abuse; (2) selecting the most appropriate opioid therapy; (3) regularly monitoring the patient to evaluate the efficacy and tolerability of the treatment and to detect possible aberrant behaviors; and (4) mapping out solutions if abuse and/or addiction is detected, or in case of treatment failure.

The second strategy involves the use of opioid formulations designed to deter or prevent product tampering and abuse. Results of clinical trials of new formulations of existing opioids (including oxycodone, morphine, and hydromorphone) suggest the potential for reduced abuse liability and, if approved, will be evaluated after launch for reduced real-world abuse. Integration of these formulations in clinical practices based on universal precautions should help further minimize the risk of opioid abuse while fostering appropriate prescribing to patients with indications for opioid therapy.

Abuse- and tamper-resistant opioid formulations are emerging tools that may enhance safe opioid prescribing; further research and postmarketing analysis will clarify their utility and role in clinical practice.

Probuphine and Other Agents to Treat Prescription Drug Abuse.

Walter Ling, M.D., Professor of Psychiatry and Director of Integrated Substance Abuse Programs, UCLA, and Department of Psychiatry & Biobehavioral Sciences, David Geffen School of Medicine, UCLA, Los Angeles, California

Development of the buprenorphine implant is a logical progression ensuing from the clinical success of sublingual buprenorphine. Had sublingual buprenorphine been a failure, there would have been no need for an implant. Most clinicians are satisfied with the clinical use of buprenorphine but as the number of patients increases, clinicians are also becoming increasingly concerned over the issues of medication compliance and street diversion of sublingual buprenorphine. The magnitude of the problem is directly proportional to the success of the sublingual formulation. Clearly, a solution must be sought to overcome medication non-adherence and street diversion. The buprenorphine implant was created to do that.

The implant is an alternative method of delivering buprenorphine, with the same clinical advantages and with some of the same disadvantages of sublingual buprenorphine. The most distinctive benefits of the implant are obvious: assured medication adherence and elimination of diversion. Furthermore, patients may benefit from a steady blood level compared to the fluctuating levels associated with sublingual formulations, and a patient who has the implant has less total buprenorphine exposure than a patient maintained on sublingual buprenorphine. Perhaps less appreciated but significant once pointed out is the relief felt by patients who are freed from the preoccupation about their need for daily medication and all the logistics and hassles involved in obtaining and using their medication.
Clinical Challenges in Addiction Medicine: Marijuana and the Cannabinoids

The Role of Endocannabinoids: Results of Animal Studies.
Eliot L. Gardner, Ph.D., Chief, Neuropsychopharmacology Section, Intramural Research Program, National Institute on Drug Abuse, Baltimore, Maryland

Cannabis has long been known to produce cognitive and emotional effects. Research has shown that cannabinoid drugs produce these effects by driving the brain’s endogenous cannabinoid system and that this system plays a modulatory role in many cognitive and emotional processes. This presentation focuses on the effects of endocannabinoid system modulation in animal models of cognition (learning and memory) and emotion (anxiety and depression).

Endocannabinoids affect the function of many neurotransmitter systems, some of which play opposing roles. The diversity of cannabinoid roles and the complexity of task-dependent activation of neuronal circuits may lead to the effects of endocannabinoid system modulation being strongly dependent on environmental conditions.

Recent findings raise the possibility that endocannabinoid signaling may change the effects of environmental influences on emotional and cognitive behavior rather than selectively affecting any specific behavior.

Does Use of Cannabis Increase the Risk or Speed the Onset of Psychosis?
Alan I. Green, M.D., Chair, Department of Psychiatry, Dartmouth Medical School, Hanover, New Hampshire

Cannabis use disorder (CUD) occurs commonly in patients with schizophrenia and worsens their outcome — leading to increased relapses, treatment non-compliance, more hospitalizations and increased medical costs.

Recent studies suggest that cannabis use, especially during adolescence, may trigger the onset of schizophrenia; moreover, those patients with schizophrenia who have a history of cannabis use have an earlier age of onset of schizophrenia. While the basis of cannabis use disorder in patients with schizophrenia is uncertain, recent research suggests that patients with schizophrenia have a dysfunctional brain reward circuit, which may predispose to such cannabis use disorder.

While most antipsychotic medications used in patients with schizophrenia do not appear to limit cannabis use, preliminary investigations suggest that the atypical antipsychotic clozapine may do so. On-going research is seeking to assess the basis of this effect of clozapine, with an eye toward developing other pharmacologic treatment approaches for these difficult to treat patients.

ASAM’s latest publication, Principles of Addiction Medicine: The Essentials is now available.

Principles of Addiction Medicine: The Essentials is a compact and portable distillation of the American Society of Addiction Medicine’s flagship text, Principles of Addiction Medicine. This handbook presents the clinically essential points from the larger text in an easy-to-follow outlined and bulleted format. Each chapter follows a template with structured headings such as “pharmacokinetics,” “pharmacodynamics,” “therapeutic uses,” “effects,” “liability,” and “withdrawal.”

Principles of Addiction Medicine: The Essentials is an excellent reference for a wide variety of addiction medicine professionals, including psychiatrists, psychologists, psychiatric nurses, social workers, internal medicine/primary care physicians, and substance abuse counselors.

To order, visit WWW.LWW.COM and enter ASAM in the search field or phone 1-800-638-3030.
New Therapeutic Strategies for Co-Occurring Disorders
Epidemiologic Links Between Drug Use and HIV Epidemics: An International Perspective.

Chris Beyrer, M.D., M.P.H., Professor and Director, Fogarty AIDS International Training and Research Program, Johns Hopkins University, Baltimore, Maryland

Injected heroin has been the highest-risk substance use behavior for HIV since the beginning of the pandemic. These risks extend beyond individual levels to networks of drugs users and to wider social contexts that have been referred to collectively as the risk environment. Investigations of individual, network, and risk environment level associations with heroin availability, use, and subsequent spread among injecting drug users (IDUs) have been conducted in multiple settings, but much less is known about the world’s center of illicit opium production and heroin exports — Afghanistan. Recent outbreaks of injection drug use and of HIV infection attributed to IDUs in several African countries suggest that heroin use is expanding into new regions.

This presentation explores the epidemiology of HIV among drug users in several risk environments, the epidemiology of heroin and its associations with HIV outbreaks among IDUs in Central Asia and the Commonwealth of Independent States, and the drug use and IDUs outbreaks now emerging in Africa.

The dearth of targeted, evidence- and human rights-based responses to these epidemics is explored as a structural driver of HIV spread in these settings.

Integrating Treatment for Opioid Addiction and HIV.

Glenn J. Treisman, M.D., Ph.D., Professor of Psychiatry and Behavioral Sciences, Johns Hopkins University School of Medicine, The Johns Hopkins Hospital, Baltimore, Maryland

Human immunodeficiency virus (HIV) is associated with specific behavioral risks. Addiction drives several of the most important risk behaviors for HIV-infection (needle use and high risk sexual activity) and also interferes with patients’ ability to adhere to therapeutic regimens for HIV.

As would be expected, any incentive for addiction treatment and any opportunity to induct patients into treatment results in improved addictions outcomes. Psychiatric disorders—including major depression, personality disorder, cognitive impairment, and major mental illness—have been implicated or directly shown to be a risk factor for HIV infection and addiction. These psychiatric barriers to effective prevention also operate to make HIV treatment less effective or ineffective. Effective treatments for psychiatric conditions improves both HIV treatment outcomes and addiction treatment outcomes.

Integrated treatment of HIV, addictions, and psychiatric comorbidities increases opportunities to engage patients in addiction treatment and HIV treatment and has been shown to improve outcomes. Integrated treatment has been shown to improve adherence to both HIV and addiction treatment.

Coherent treatment of psychiatric disorders with addictions and HIV improves outcomes for patients and reduces the risk behaviors associated with getting and spreading HIV infection.

Emerging Drugs of Abuse:
A Global Perspective

Cannabis Analogs and “Spice.”

Erik Gunderson, M.D., Assistant Professor, Department of Psychiatry & Neurobehavioral Sciences and Department of Medicine, and Director, Clinical Pharmacological Research Unit, University of Virginia, Charlottesville, Virginia

There is global and national concern in the United States about emerging trends in designer drug use, which have increased in the past several years.

This presentation will review two categories of designer drugs: (1) the synthetic cannabinoids (SC), marketed commonly under brand names such as “Spice” and “K2” herbal mixtures, and (2) the synthetic cathinone derivative stimulants, marked commonly as “Bath Salts” and “Plant Food.” These designer drug preparations have been available for purchase in convenience stores and over the Internet, where they were sold as legal alternatives to cannabis and illicit stimulants, respectively.

Empirical data on epidemiology, clinical effects, and toxicity in humans are limited. The SCs (e.g., JWH-018, CP-47,497) are potent agonists of the cannabinoid receptor type 1 (CB1) where delta-9 tetrahydrocannabinol (Δ9-THC) exerts its primary psychoactive effect. Anecdotal reports suggest overlapping subjective effects with cannabis, potential cross-tolerance, and toxicity such as acute anxiety and psychosis. The cathinone derivaties in Bath Salts (methyleneoxypyrovalerone (MDPV), mephedrone, and methylone) exert a sympathomimetic effect that has been associated with extreme agitation and delirium.

In addition to providing a review of designer drug product composition and marketing, the talk will examine the synthetic compound pharmacology, clinical effects, and toxicology. Biopsychosocial aspects of consumption will be reviewed along with legal restriction of these substances.
Alcohol-Caffeine Combinations, Other New Patterns of Alcohol Use, and the Prevention of Under-Age Drinking.

Ralph W. Hingson, Sc.D., M.P.H., Director, Division of Epidemiology and Prevention Research, National Institute on Alcohol Abuse and Alcoholism, Bethesda, Maryland

Caffeinated Alcoholic Beverages (CABs) are premixed beverages that combine alcohol, caffeine, and other stimulants. They may be malt- or distilled-spirits-based and usually have higher alcohol content than beer (i.e., 5%–12% on average for CABs and 4%–5% for beer). The caffeine content in these beverages is usually not reported. Malt versions of premixed alcoholic beverages come in containers holding between 12 and 32 liquid ounces. Some may also contain stimulant ingredients in addition to caffeine.

CABs have experienced rapid growth in popularity since being introduced into the marketplace. For example, two leading brands of CABs together experienced a 67-fold increase in sales, from 337,500 gallons in 2002 (the first year of significant CAB production) to 22,905,000 gallons in 2008. CABs have been heavily marketed in youth-friendly media (e.g., on websites with downloadable images) and with youth-oriented graphics and messaging (such as those connected with extreme sports or other risk-taking behaviors).

Studies suggest that drinking caffeine and alcohol together may lead to hazardous and life-threatening behaviors. For example, serious concerns are raised about whether the combination of alcohol and caffeine is associated with an increased risk of alcohol-related consequences, including alcohol poisoning, sexual assault, and riding with a driver who is under the influence of alcohol.

According to data and expert opinion, caffeine can mask sensory cues that people may rely on to determine how intoxicated they are. This means that individuals drinking these beverages may consume more alcohol — and become more intoxicated — than they realize. At the same time, caffeine does not change blood alcohol content levels, and thus does not reduce the risk of harms associated with drinking alcohol.

Integrating Addiction-Related Competencies Into Physician Training and Practice

Emerging Tools and Techniques for Continuing Medical Education: Assessing Their Impact on Learning and Practice Change.

Bradley Tanner, M.D., Clinical Associate Professor of Psychiatry, University of North Carolina School of Medicine, and President, Clinical Tools, Inc., Chapel Hill, North Carolina

Typical continuing medical education (CME), as delivered via AMA PRA Category 1 Credit™, is still obtained almost exclusively via passive experience (whether that means listening to lectures, clicking through pages of an online course, watching an online video, or reading a journal/PDF). And more than half of all funding for CME (and thus the topic priorities) is still related to support from pharmaceutical and device manufacturers.

The slow changes in health professional development over the past decade have thus far yielded little in terms of changing the actual experience. Yet the perception that the CME field is stagnant is unwarranted. The foundation for change has been laid by:

- A powerful and consistent literature that has been identifying problems and recommending changes for 15 years.
- Changes in ACCME policy that are moving CME from a knowledge/education focus to a skills/practice focus as well as requiring outcome assessments and more complete disclosure of possible conflicts of interest.
- Increased transparency regarding payments via a Sunshine Law that makes the cash value of payments to speakers and compensation to learners explicit.
- Continued growth and domination of “Internet solutions” based on user participation and input via Web 2.0 functionality.
- New mobile technology (including smart phones, and tablet computers) that is providing a mobile, convenient and novel training tool based on touch-based experience that is potentially more interactive.

Change to continuing health professional development (CHPD) is upon us and will proceed rapidly. The new CHPD/CME experience will:

- Be based on user demand and available via multiple devices when the user wants it.
- Focus more on topics based on medical needs (practice gaps) rather than topics related to pharmaceutical and device manufacturer interests (good for addiction professionals).
- Move topic control away from learner choice and more toward public policy requirements set by states, the federal government, and institutions.
- Require effort and attention on the part of the learner.
- Collect outcomes data, especially patient outcomes, to determine effectiveness and thus accelerate change toward highlighting more effective solutions and downgrading less effective solutions.

Experiments with the potential of technology through the use of simulations (deliberate practice) to deliver a more clinically relevant and challenging experience.
Addiction Treatment: New Approaches to Old Problems

Development of a Human Monoclonal Antibody to Treat Cocaine Addiction.

Andrew B. Norman, Ph.D., Professor of Psychiatry and Director of the Division of Neuroscience, University of Cincinnati Academic Health Center, and Genome Research Institute, Cincinnati, Ohio

A multidisciplinary translational research project has generated a predominantly human sequence monoclonal antibody (mAb) with high affinity (Kd = 4 nM) for cocaine and specificity over cocaine's inactive metabolites. This unique new molecular entity (preclinical designation, 2E2, a human gamma 1 (γ1) heavy chain and mouse lambda (λ) light chain) is at an advanced stage of preclinical development for use in the prevention of relapse in treatment-seeking cocaine abusers.

Development of 2E2 has met several key safety and efficacy milestones. Anti-cocaine mAbs bind to and sequester cocaine in the peripheral circulation and we have shown that 2E2 dramatically lowers brain cocaine concentrations in mice. Furthermore, 2E2 decreases the effect of cocaine in a rat model of relapse. Although the mostly human structure of this mAb should be safe for repeated treatments in patients and should confer long-term efficacy, our industry collaborator, Catalent Pharma Solutions, Inc., has reengineered a novel version of our mAb with a human λ light chain constant region replacing the mouse constant region. This reengineered mAb protein (h2E2) retains the identical affinity and specificity for cocaine as 2E2. This represents a proof-of-concept milestone and the further humanized structure should optimize long-term safety and efficacy of the mAb.

The h2E2 mAb represents a new lead candidate for commercialization and work continues towards the development of a stably transfected mammalian cell line capable of the high level production of h2E2. This production platform will support the in vivo toxicology studies that are required for an IND application to the FDA.

Depot Naltrexone to Treat Opiate Addiction.

Charles P. O'Brien, M.D., Ph.D., Kenneth Appel Professor and Vice Chair of Psychiatry, The Charles O'Brien Center for Addiction Treatment, University of Pennsylvania School of Medicine, Philadelphia

Naltrexone is an opioid receptor antagonist that blocks the reinforcing effects of opioids. It has no abuse potential and mild and transient side effects, and thus appears an ideal pharmacotherapy for opioid dependence. However, limited compliance with oral naltrexone treatment is a known drawback. Several naltrexone implant and injectable depot formulations now being investigated provide naltrexone release for at least one month. Studies among opioid-dependent patients indicate significant reductions in heroin use, but sample sizes are usually small.

The pharmacokinetic profile of the injectable formulation indicates reliable naltrexone release over one month at therapeutic levels. Implant formulations releasing naltrexone up to seven months are reported. Findings on safety and tolerability confirm the generally mild adverse effects described for naltrexone tablets. However, further research on therapeutic levels (i.e., opioid blocking) is warranted.

The majority of naltrexone implants lack approval for regular clinical use, and larger longitudinal studies are needed.

The available naltrexone depot formulations have the potential to significantly improve medication compliance in opioid and alcohol dependence. In certain circumstances, they may constitute a promising new treatment option.

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