adamha news
ALCOHOL, DRUG ABUSE, AND MENTAL HEALTH ADMINISTRATION

National Institute on Alcohol Abuse and Alcoholism
National Institute on Drug Abuse
National Institute of Mental Health

"We cannot ignore the devastating effect that alcoholism and drug abuse have on American productivity."

Senator Daniel Quayle (Ind.) voiced this concern at a joint Senate hearing July 14 held to highlight the issue and the need for more employee assistance programs.

Approximately 5,000 of these programs cover 10.5 million workers across the country, but only 12 percent of the American workforce has such assistance available, according to one witness.

"One out of every 20 American workers is an alcoholic," said former HEW Secretary Joseph Califano, yet many employers are unaware of the extent of the disease and its impact on their companies.

Other witnesses included ADAMHA Administrator William Mayer, representatives of management and labor, the head of the American Medical Association, and the president of the Association of Labor-Management Administrators and Consultants on Alcoholism (ALMACA).

Senators Quayle, who chairs the Subcommittee on Employment and Productivity, and Gordon Humphrey (N.H.) Chairman, Subcommittee on Alcoholism and Drug Abuse, called the hearing. Both Subcommittees are arms of the Senate Committee on Labor and Human Resources.

"I believe alcoholism and drug abuse are America's number one health problem," said Quayle. "I am alarmed that they are not recognized as such. . . . The price we pay for health care, days away from work, and lost productivity . . . . is about the same as the amount requested by the President to run the 400 programs in the Department of Health and Human Services: $70 billion.

"Employees with a drinking or drug problem are absent 16 times more than the average employee, have an accident rate that is 4 times greater, use one-third more sickness benefits, and have 5 times more compensation claims," he added. "While on the job, these impaired employees function at slightly more than half their normal capacity."

Mayer told the Senators that the development of employee assistance programs in the last decade "exemplifies the interaction that can occur among Federal, State, and local governments, and the private sector: industry, labor, and volunteer organizations." He reported that NIDA and NIAAA have supported demonstration projects and fostered programs in the workplace through technical assistance. He also pointed out that the number of treatment facilities in the country has grown to 4,500, only 14 percent of which have been supported by Federal funds.

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NIMH RESEARCH HELPS TRACK SEROTONIN'S SUICIDE LINK

Individuals who commit or attempt suicide may be influenced to do so by an abnormality in the functioning of the neurotransmitter serotonin, scientific evidence from three research centers indicates.

The studies by scientists at NIMH, at Wayne State University, and in Sweden show that suicidal individuals generally have lower levels of a serotonin metabolite, or a decreased serotonin receptor functioning.

"Although suicide has been commonly associated with depression, the key factor in suicidal behavior may be low serotonin levels, not depression," said Dr. Gerald Brown, staff investigator of the NIMH Biological Psychiatry Branch. "This would mean that suicidal behavior is not necessarily related to a particular mental disorder, but may be associated with other factors such as low serotonergic functioning.

Lower levels of serotonin also have been found to exist in schizophrenics, alcoholics, and persons who exhibit aggressive behavior and poor control of their impulses.

Dr. Frederick Goodwin, Director of NIMH's Intramural Research Program, and several of

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Planning Retreat

NIDA Looks Ahead To Future Research

NIDA officials mapped out the Institute's most promising areas of research—including opiate action and the effects of drugs on performance—with help from scientists prominent in the field at a research planning retreat held June 9-11.

The scientists described studies in progress which they found potentially fruitful, and they suggested ways that NIDA might stimulate important new studies.

For example, Dr. Charles Gorodetsky, Addiction Research Center (ARC), Lexington, Ky., presented a conceptual framework for research management based on a planning model used by the National Eye Institute. The model relies heavily on the advice of outside experts, especially the Institute's Advisory Council, concerning its current programs and future priorities, he noted.

Gorodetsky also reported on the ARC's Intramural Research Program, which investigates individual drugs and classes of drugs.

Dr. Marvin Snyder
NIDA Director of Research

Intramural scientists currently are studying opioids, sedative-hypnotics, phencyclidine (PCP), stimulants, and marijuana. In future, he stated, the scientists will place less emphasis on purely descriptive studies of opioids, but research on the mechanisms of action of opioid receptors will continue.

Also looking to the future, Dr. Donald Jasinski, Clinical Research Program, Baltimore, pointed out several study areas of particular interest. These include nicotine, the PETT scanner, and the relationship of the endocrine system to drug use and addiction.

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WORKERS

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"We have a good product," Mayer asserted. "It works. We can treat alcoholism successfully. These programs pay off. Employee assistance programs report a 60 to 80 percent success rate. The workplace is second only to the family as a place where problems show up and are amenable to early intervention."

The workplace has been identified as a key focus in Secretary Schweiker's Health Promotion Initiative.

Asked to define the proper role of the Federal Government in alcoholism and drug abuse in industry, Mayer replied, "With respect to industry, our role has changed. We will no longer be supporting projects. Now we can be of greater value by lending technical assistance to companies of all sizes. We also are a repository of reports of successes, and a convenor of people in the field for policy development. A very important role is to conduct evaluation research on the effectiveness of these programs. Some of our research also is aimed at finding out more about high stress occupations which may relate to high levels of alcohol consumption and alcohol-related problems."

"A new insidious problem" predicted by Humphrey will be the entry into the workforce of today's teenagers who abuse drugs. "The illegality of drug use in the workplace makes the problem for the employers and employees especially complicated," he said.

> *"The workplace is second only to the family as a place where problems show up and are amenable to early intervention."*

"Science is providing government and industry with increasingly effective techniques and devices to detect drug abuse, such as urine screening for marijuana and other drugs. How labor and management will use these tools is an important question for this decade," he added. "The military, a large employer of young people between the ages of 18 and 25, already has felt the adverse effects of drug abuse on its workforce."

"The financial impact of alcoholism on American industry and the productivity of the workforce is enormous," testified Califano. "Alcohol-related absenteeism, employee turnover, industrial accidents, low quality work in the office and on the factory floor, and low productivity cost employers billions of dollars each year through higher prices, products that are poorly made, and jobs and markets lost because of the inefficiency of American industry. . .

"Many employers are unaware of the extent of their own companies' alcohol problems," he said. "One study revealed that 50 percent of the executives from leading insurance, banking, utility, transportation, and financial organizations believed alcohol abuse was 'not really a problem.' "

Kennecott Copper Corporation's employee assistance program reduced absenteeism for employees treated for alcoholism by 50 percent, according to Califano. In Baltimore, a group of employers joined together to sponsor an alcoholism treatment consortium, he added, and reduced absenteeism at a $586 saving for each treated employee during the first year. General Motors found that absenteeism, employee grievances, accidents on the job, and sickness and accident benefit payments dropped 40 to 60 percent among 42,000 workers who went through its employee assistance program 1972 to 1979, Califano said.

Other witnesses were: Michael Frost, Associate Director, Office of Personnel Management; Peter Bensinger, former Administrator, Drug Enforcement Administration; Ed Small, President, ALMACA; Jerry Knesek, General Motors; Lloyd Liscomb, United Auto Workers Assn.; Dr. Madeline Tramm, Amalgamated Clothing and Textile Workers Union; Dr. Burford Culpepper, Dupont Corp.; Dr. William Rial, President, AMA; Dr. Robert Inskeep, Stroh's Brewery; and Dr. Harry Reitan, Adolph Coors Co.

—M.K.L., ADAMHA

SUICIDE

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his colleagues recently reported in the *American Journal of Psychiatry* on the correlation of aggression, suicide, and low serotonin.

"Histories of aggressive behavior and of suicide attempts were significantly associated with each other, and each was significantly associated with lower 5HIAA (a metabolite of serotonin) levels" in a group of nondepressed persons, according to the authors of the article.

The NIMH work underscores earlier work by Dr. Marie Asburg of Sweden. The results of her study show that those who committed violent suicide (e.g., gunshots, knife wounds,) had lower levels of 5HIAA than those who committed nonviolent suicide (e.g., an overdose of sleeping pills).

Brown, a coauthor of the article, cautioned against assuming that all persons with low serotonin are either suicidal or impulsive/aggressive.

"Aggression in and of itself is not a negative trait; there are aggressive people who are criminals and have antisocial traits, but there also are those who are ambitious, competitive, and have highly successful careers," Brown said.

"One may wonder what sort of protective or compensatory mechanism may be at work in those individuals who have low serotonin, yet who are highly successful and social," he mused.

Dr. Gerald Brown

Researchers have not yet ascertained to what degree low serotonergic functioning is an acquired characteristic, an inherited genetic defect, or an interplay between the genes and the environment.

Brown revealed that measuring levels of serotonergic functioning in persons might be a useful screening tool in helping to predict who might be more vulnerable to suicide.

"But," he admitted, "it's not that simple to draw conclusions of suicidal tendencies based only on low serotonergic functioning in an individual."

As a possible preventive scenario, Brown suggested screening a pool of individuals and looking more closely at those who had low serotonergic functioning. If those individuals had either a personal history or family history of mental disorders, particularly involving depression or aggression, closer attention might be given them.

"One must look at many factors, not just low serotonergic functioning, before making a clinical judgment of suicidal tendencies," said Brown.

He also remarked that some individuals might very well have suicidal tendencies without decreased serotonergic functioning. Age, sex, and diet all affect brain serotonin.

"The fact that brain serotonin tends to increase with age may or may not lead to clinical changes over time within an individual," said Brown. "Clinicians have talked for a long time about psychopaths burning out as they get older; perhaps the same observation holds true for individuals who have suicidal tendencies related to low brain serotonin."

Some tricyclic antidepressants currently in use work to raise the level of brain serotonin. Scientists are not certain whether or not these drugs maintain the increased level of serotonin over a long period of time.

Some pilot work has led to promising results in maintaining an increased brain serotonin level from a combination of a specific drug and a diet which includes precursors of serotonin (i.e., 5-hydroxy tryptophan) and tryptophan, an amino acid found in proteins and particularly in dairy products.

—Judy Folkenberg, NIMH

ADAMHA NEWS

Alcohol, Drug Abuse, and Mental Health Administration
William Mayer, M.D. Administrator

National Institute on Alcohol Abuse and Alcoholism-Loran Archer, Acting Director
National Institute on Drug Abuse-William Pollin, M.D., Director
National Institute of Mental Health-Herbert Pardes, M.D., Director

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Ex-Patient Recounts Personal Battle Against Stigma

A former mental patient who decided 8 years ago to speak out about her illness because "I never saw any images, on television or any place else, of people who were recovered" addressed a recent NIMH Forum on Consumer Concerns, "Self-Help, Stigma, and Public Education."

Marcia Lovejoy, founder and director of Project Overcome, a mental health education program and self-help group in Minneapolis, Minn., described how she surmounted years of mental illness and repeated hospitalizations.

When Project Overcome was inaugurated in 1974, Lovejoy said, "Our main goal was to eliminate the stigma associated with mental illness." She discovered that meeting other recovered people helped bolster her own self-esteem, "and I knew that the only way things would change with respect to stigma was for people like myself to come out of the closet and speak very frankly about our experiences."

Marcia Lovejoy

Lovejoy expessed particular concern about the lack of positive role models for people who are in mental hospitals. After many years as a patient, she recalled, she became acquainted with a recovered patient who worked as a staff member at a halfway house treatment program. Encouraged by that patient's successful recovery, she became determined to stay well, to help others do the same, and to inform the public that people do recover from mental illness.

To help educate the public about the problems of stigma, Project Overcome operates a speakers bureau, she reported. To date, she said, 15 Project speakers have appeared at engagements in 23 States.

Lovejoy criticized the film and television media for their portrayals of "psychotic killers" and other negative stereotypes of mentally ill people. However, she pointed out, "We have found the media to be really interested, and we find it very exciting to have mental patients who are willing to identify themselves in newspapers and on radio and television programs. We feel this is an absolutely necessary counterbalance for all the negative newspaper reporting and television coverage we get."

Lovejoy herself appeared on a special showing of *ABC News Nightline* which aired the night that John Hinckley was acquitted of the attempted assassination of President Reagan by reason of insanity. During the broadcast, she described her successful recovery to assure the public that a mentally ill person should be viewed as a potential asset rather than a threat to society.

Following Lovejoy's presentation, a panel of NIMH staff reported on the Institute's efforts to combat stigma. They included:

- Dr. Lemuel Clark, Chief of the Underserved Populations Branch, Division of Mental Health Service Programs, who described the Division's work in promoting development of self-help groups for underserved mental health populations.
- Ed Long, Associate Director, Division of Scientific and Public Information, who discussed Institute activities aimed at alleviating stigma through stimulating work opportunities for mentally restored people.
- Dr. Julius Segal, Director, Division of Scientific and Public Information, who compared Lovejoy's experiences to the victimization suffered by prisoners of war and terrorist hostages.
- Dr. Sam Silverstein, Chief, Center for Mental Health Services Manpower Research and Development, Division of Mental Health Manpower and Training Programs, who described how stigma often causes resistance to community residences for the mentally ill.

The Patients Rights and Advocacy seminar was part of the Division of Mental Health Service Programs series organized by the Underserved Populations Branch.

PHS Holds First National EEO Conference

Senior executives, rank-and-file workers, labor union representatives, and leaders of advocacy groups were among the 300 people who met recently to create a "Partnership for Progress" at the First National PHS Equal Employment Opportunity Conference in Reston, Va.

ADAMHA participants in the PHS EEO conference included: (seated, left to right) Dr. William Mayer, Morris Hughes, Elsie Taylor; (standing) Dr. Carol Hoover, Natalie Campbell, Malachi Knowles, and JoAnn Jackson.

The June 27-30 conference signalled the agency's determination to give a high priority to its EEO programs despite current restrictions on staff.

"Some people might have questioned the idea for an EEO Conference, thinking it was the wrong time to raise such a sensitive, emotional issue," said Assistant Secretary for Health Edward Brandt in the opening keynote address. "But, to me, it seemed precisely the right time to face the tough questions of fairness, of merit, and of excellence in management."

He called on "every manager in PHS to maintain an abiding, vigorous commitment to Equal Employment Opportunity for all persons . . . I also expect that our managers will continue to apply the principle of merit when evaluating any person who wants to work with us or is already working with us."

In 3 days of open assemblies and intensive working sessions, participants reached consensus on a range of EEO goals and corresponding objectives for PHS. These included:

- An affirmative action program, based on a multi-year affirmative action and recruitment plan, which emphasizes training opportunities for employees, monitoring of managerial performance, and recognition of superior accomplishment in implementing equal employment opportunity.
- A management information system (MIS) to analyze and report all discrimination complaints within PHS, and a monitoring system to ensure prompt processing of complaints.
- Sufficient resources to administer the PHS EEO program effectively, including special initiatives in EEO training and community outreach.

Other speakers included Francis Cotter, Vice-President of Government Affairs for the Westinghouse Electric Corporation; Dr. Mary Frances Berry, Commissioner, U.S. Commission on Civil Rights; and Armando Rodriguez, Commissioner, Equal Employment Opportunity Commission.

A contingent of more than 50 ADAMHA employees, led by Administrator William Mayer, participated in the 3-day conference. Dr. Edwin Nichols, Chief, Special Populations Section, NIMH Pharmacologic and Somatic Treatments Branch, conducted a Conference Learning Session on "Managing Your Diverse Workforce: Understanding Differences."

The Conference was sponsored by the PHS Office of Equal Employment Opportunity under the direction of Mattie Wright, Deputy Director. A report of the proceedings will be forwarded to the Assistant Secretary for Health this month.

'China Connection' Fosters Global MH Data

What is "the China connection?"

According to William Liu, Director, Pacific/Asian American Mental Health Research Center, it is a collaborative research program designed to collect statistics on health and mental health problems and programs in China. The data from the project will be used for comparative epidemiological studies of the mental health of Asian Americans.

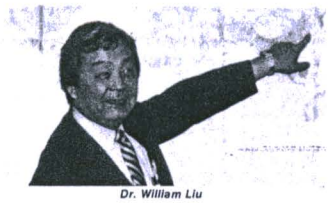
Liu described "the China connection" at a recent NIMH presentation sponsored jointly by the Center for Studies of Minority Group Mental Health and the Division of Biometry and Epidemiology. He reported that the Pacific/Asian American Mental Health Research Center will work with the Sino-American Center for International Scientific Studies, a new organization focusing on life science research, and the Chinese Academy of Sciences to establish a permanent research headquarters in Shanghai, China.

As Liu explained, China offers a unique opportunity for uninterrupted longitudinal data collection because of its residential stability, its variety of heterogeneous populations, its low vicinal mobility, and its well-organized neighborhoods and health care system.

Shanghai's population of 11 million people is served by 10 health districts, he said; these encompass 10 county psychiatric hospitals, factory clinics, which serve residential areas, neighborhood clinics, and commune clinics, which are linked to rural areas and occupational therapy groups.

Liu noted that a model health and mental health registration system will be instituted in one of the 10 districts and used for the duration of the Shanghai project. When the model is fully developed, it may be replicated in other areas of China.

A 50-unit research facility planned by the Sino-American Center for International Scientific Studies will provide 50,000 square feet of laboratory space, administrative offices, a computer science complex, an international conference center, a library, and



Dr. William Liu

recreation facilities for visiting American scientists.

Liu noted that the Chinese Academy of Sciences will donate the land and will spend $15 million to build the outer shell of the facility. The Pacific/Asian American Mental Health Research Center will attempt to match this amount through various fundraising activities. Although the center is supported by a grant from the NIMH Minority Center, he said, Federal funds will not be used to support the project.

According to Liu, some of the best psychiatric epidemiological researchers in China are ready to assist in the program. These scientists know that their data collection and analysis methods need to be improved, he said, and therefore, they welcome the opportunity to work closely with American researchers in this long-range enterprise.

Another reason for the China connection, Liu noted, is that there is an extremely high number of people with developmental disabilities in China; an epidemiological assessment of this problem and other related health issues would provide a rich source of data which might have replicative value for Asian-American epidemiological research in the United States and elsewhere.

Reporting on the methodology and screening techniques currently being used in China, Dr. Elena Yu, a Columbia University epidemiologist who has a fellowship from the NIMH Minority Center, explained that the Present State Examination (PSE) method used in parts of China for epidemiological data collection has certain limitations. An alternative to PSE, she noted, is the Diagnostic Interview Schedule, version 3 (DIS-3), which focuses on specific health disorders and uses current techniques in diagnostic assessment.

Although DIS-3 is easier to use, requires a shorter training period, and renders a much broader spectrum of diagnosis, Yu cautioned against completely discontinuing the PSE method. She suggested instead that it should be used simultaneously with the DIS-3 method on the same population for comparative results.

—William Herndon, NIMH

RETREAT

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Additional study opportunities surfaced in a discussion of research support led by Dr. Jack Durrell, then NIDA's Acting Deputy Director. Dr. Sidney Cohen, UCLA School of Medicine, urged that funds be set aside to investigate the long-term pulmonary effects of cannabis in the lungs. Dr. Marvin Snyder, NIDA's Director of Extramural Research, proposed research on "free-base" smoking and routes of administration, and on the psychomotor effects of drug use on performance.

Other research areas identified at the retreat were: sex difference in cannabinoid metabolism; interactions of drugs; carcinogenicity and neurotoxicity of drugs; and the hazards of drug-affected performance.

The scientists largely agreed that NIDA's present distribution of its research resources should be modified to allow for funding of new priorities.

Dr. William Pollin, NIDA Director, assured participants that the Institute would follow up on their recommendations without delay. "At a meeting 10 years ago, NIDA received recommendations that we conduct extensive research on the opiate receptors and endorphins," Pollin noted. "We've made great progress in those areas. I hope that this meeting will have similar results for future research activity."

—Iris Gelberg, NIDA

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FOLLOWING SECRETARY'S CONFERENCE

U.S. Teens Spark Sober Driving Programs

In Illinois, teenagers are working with the Secretary of State and the State Chief of Police to explore drunk-driving deterrence measures.

In New Jersey, young people plan to meet with the Governor and State legislators to discuss mandatory school alcohol abuse awareness programs.

Student leaders in Georgia will start the new school year with a September weekend retreat on the need for alcohol- and drug-free activities.

These and other ventures are underway in 29 States to date as a result of the Secretary's Conference for Youth on Drinking and driving held in March.

The Conference assembled 326 teenagers from all 50 States and 3 Territories to inform them of the dangers of drunk driving and enlist them in combating this public health problem.

The students learned that drunk driving is the leading cause of death in their generation, killing 10,000 young Americans age 16-24 each year. They also became aware that the most effective way to prevent such tragedy is "positive peer pressure": using young people to persuade other young people that drinking and driving can ruin their lives.

At the close of the conference, the

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NIDA Seeks Prevention Research Proposals

The National Institute on Drug Abuse plans to award an estimated $1-1.5 million in each of the next 3 fiscal years to support studies looking for "effective means of preventing the onset and habitual non-medical use of drugs."

"Research is needed to refine prevention intervention techniques," especially those "targeted for specific groups at risk of drug abuse," the Institute said in a recent announcement to the field. "Research also is needed on factors which increase individuals' risk of drug abuse, and on factors which tend to make some individuals invulnerable to drug abuse."

According to the announcement, any intervention proposed for study must be based on scientific evidence about the etiology of drug abuse disorders. Research on risk factors must consider implications for the design of preventive interventions. In both intervention and risk-factor research, specific at-risk subpopulations under study should be identified, preferably in ways which go beyond such distinctions as age of user or drug of abuse.

Suggested areas of study include:

- *Family-oriented interventions.* Priority: research on parent/family skills training approaches which develop communication and limit-setting capabilities.
- *Peer-oriented interventions.* Priority: research on school-based programs which develop skills in resisting peer pressure; especially studies of how specific approaches suit different subpopulations, or studies of how a program's effects on students can be sustained.
- *Brief community interventions.* Examples: research on the effects of a mass media campaign focused on a specific drug abuse problem, or a small-scale field study of how a parents' group attempts to discourage drug use by altering the community environment.
- *Environmental risk factors.* Priority: research on structured and institutional factors which affect more immediate risk factors, such as school policies, or management procedures in the workplace.
- *Interpersonal risk factors.* "There is a

See PREVENTION (P. 3, Col. 2)

Altruism In Children

I'd been working hard, and I was overtired. I started to cry and argue with my husband, John. Anne (21 months old) came over, climbed onto my lap, and said "Hi" with a very eager look on her face . . . I couldn't help smiling and saying "Hi" back to her. She was really very consoling. Then she leaned over and kissed me on the forehead. That just cleared up my depression, and I reached over and hugged her. Then she began to smile, and she looked relieved.

Children as young as 18 months of age show feelings of guilt, sympathy, and altruism, often reaching out to comfort a sad parent or a crying playmate, according to Dr. Carolyn Zahn-Waxler, an NIMH intramural researcher.

Focusing on the caring characteristics of very young children, Zahn-Waxler and her colleagues, Dr. Marian Radke-Yarrow and Dr. Robert King, have concentrated on a side of children that most researchers have ignored. Their findings could significantly alter current concepts of child development which mainly see young children as self-centered little beings.

"Often, our theories bias us against seeing the caring characteristics in children," says Zahn-Waxler. "Caring behavior often is quietly and subtly conveyed. It does

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Special Insert... NIMH Science Reporter

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
• National Institute on Alcohol Abuse and Alcoholism • National Institute on Drug Abuse • National Institute of Mental Health

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not carry with it the 'drama' of a child's temper tantrum or acute state of woe.

"If we properly understand the beginnings of guilt, empathy, and altruism, we might reach a better understanding of some of the emotional disorders of childhood and adulthood," she notes.

"For instance, the antisocial personality is characterized by a lack of guilt or lack of feelings of responsibility. At the other extreme, the crippling effect of too much guilt has been linked with the development of anxiety disorders and depression.

"Likewise, balanced amounts of empathy and caregiving are an integral part of an individual's well-being. Too much empathy or hypersensitivity towards the distresses of others may hamper adaptive self-growth. And too little characterizes such psychological disorders as narcissism, egocentrism, and difficulties in establishing caring relationships with others."

Over a period of 9 months, the NIMH research team studied 24 male and female infants between the ages of 10 and 20 months. Five years later, they were studied for a 3-month period. The mothers, used as trained observers, recorded approximately 2,000 incidents for the researchers for later analysis. To guard against bias, a second study used videotapes of children's reactions to others' distress to verify the mothers' observations.

The researchers discovered that between 12 and 15 months of age, when altruism is just beginning, the children make simple, positive physical contacts with the "victim," either by touching, patting, or giving them objects. Between 18 months and 2 years, children were seen to protect, comfort, give simple advice, and mediate fights.

During the second year of life, children also showed signs of developing a conscience and subsequent guilt feelings. When children caused someone distress, they often were apologetic. A few children would apologize repeatedly—even for injuries they didn't inflict.

Rearing practices also influenced the degree of altruism and guilt in young children.

"Emphatic mothers—very responsive mothers who help children promptly in times of distress—were significantly more likely to have children who were highly altruistic," says Zahn-Waxler. However, the scientists discovered that emphatic mothers also were more likely to use strong discipline when their children caused distress.

Strong discipline included: high expectations of absolute adherence to rules about never hurting others (e.g. "you mustn't ever bite"), moralizing ("it's not nice to do that"), or strong verbal commands against hurting.

The researchers speculate that a combination of nurturance and strong discipline creates heightened sensitivity in the child. They also believe that parents can be taught specific techniques to encourage caring behavior in children, which can sensitize the parents "to the early emerging humanity of their children."

—Judy Folkenberg, NIMH

TEENS from page 1

student delegates pledged to put their new knowledge to work in launching "sober driving" projects in their schools and communities.

According to a recent NIAAA survey of the students, 29 of the 53 State delegations already are carrying out their pledge.

Even as they attended the Secretary's Conference, the students from New Hampshire were preparing for their own "Governor's Youth Conference on Alcohol and Traffic Safety" held in May. The delegation served as a youth advisory committee for its State Conference, which was planned and supported by the State's Department of Education, Traffic Safety Commission, and Association of School Principals, along with New Hampshire affiliates of the Highway Users Conference, Blue Cross-Blue Shield, American Autobmobile Association, and National Council on Alcoholism.

As a preliminary to their State conference in the fall, Louisiana delegates are conducting a survey throughout the State to identify existing programs for combating alcohol problems. These activities will be showcased at the conference as models for replication throughout the State.

Influenced by Minnesota's "Control Factor" presentation at the Secretary's Conference, which emphasized the value of positive peer pressure, the Nevada teenagers are developing their own alcohol awareness program, based on extensive use of audiovisual materials. State and local officials are providing the youngsters with statistics and illustrations to help show other teenagers the seriousness of alcohol abuse. The Nevada delegates will offer their program to high school student councils, health and driver education teachers, PTAs, and other organizations. They also are developing radio and television spots and billboards to educate the public.

Shortly after the Secretary's Conference, New York delegates organized a statewide assembly to inaugurate their own chapter of Students Against Drunk Driving (SADD). With the help of Robert Anastas, SADD founder, the students conducted workshops and classroom presentations to promote the idea of sober driving. The delegates also set up booths in school cafeterias throughout the State for distributing SADD bumper stickers, buttons, and membership cards.

SADD chapters also are being developed by delegates in Wyoming, New Jersey, Oklahoma, Kansas, Iowa, and Missouri.

According to informal reports, the teenage delegates from around the country hav been keeping in touch and sharing informa tion on their own since the Secretary's Conference. Many delegates already are talking about a National Conference next year, where they can report to each other on the progress of current ventures in their States and on new program ideas.

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CLARIFICATION

Information on the frequency and severity of premenstrual syndrome changes contained in a June 10 *ADAMHA News* article on "Premenstrual Syndrome: Experts Seek to Define Disorder" (Vol. IX, No. 10) was potentially misleading. In fact, the number of women who have severe premenstrual discomfort or whose functioning is in any way impaired prior to menstruation is unknown. Reliable data on this problem are not available.

ADAMHA NEWS

Alcohol, Drug Abuse and Mental Health Administration
William Mayer, M.D., Administrator

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ALCOHOL, DRUG ABUSE, AND MENTAL HEALTH ADMINISTRATION

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National Institute of Mental Health

Science Reporter

THE CAFFEINE CONNECTION

Jules Asher

In Buenos Aires, they sip maté through silver straws. In Rome, it's espresso in a demitasse. In Kalamazoo, cola from a can. Virtually every culture has its caffeine-containing beverage, suggesting that most of us like a little pick-me-up now and then. But the popularity of decaffeinated coffee reminds us that our favorite stimulant can also produce unpleasant effects: jitteriness, sleeplessness—even anxiety and convulsions at high doses.

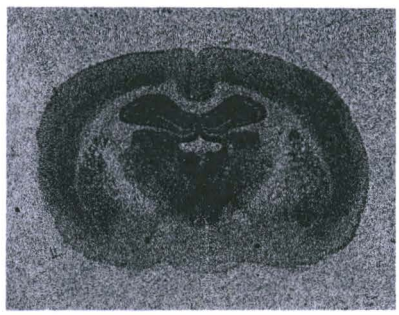
Caffeine's doubled-edged psychopharmacology may reflect a dual set of neurochemical effects in the brain, say NIMH researchers. Evidence is mounting that caffeine produces its sought-after stimulating effects by blocking the action of adenosine, one of the brain's own sedatives.

The insomnia and anxiety of "caffeinism" at higher doses may also involve similar inhibition or enhancement of naturally occurring anti-anxiety chemicals similar to benzodiazepines (e.g., Valium) or anxiety-producing chemicals—although this is more conjectural.

Caffeine affects the action of both natural and man-made substances through mechanisms now being revealed by new techniques for studying the brain's adenosine and benzodiazepine systems. Each system consists of its own network of neural receptors and chemicals that bind to them. It is this binding which triggers affected neurons (brain cells) to fire, touching off a chain of electrochemical events experienced as a characteristic drug effect—e.g., sedation with adenosine and reduced anxiety with benzodiazepines. Caffeine keeps both adenosine and benzodiazepines from binding to their appropriate receptors, but its effects on adenosine receptors are particularly powerful.

Brain's Brakes

Virtually every cell of the body—including brain cells—uses adenosine within the nucleus as a "precursor" chemical from which nucleic acids (RNA, DNA) are synthesized. However, brain neurons use adenosine outside the cell for a different purpose: as a "neuromodulator" which—upon secretion at a synapse (space between neurons)—inhibits firing of other neurons, slowing down central nervous system activity. By blocking adenosine binding, caffeine in effect takes the brakes off this neural transmission process.



Adenosine receptors in rat brain: sites of caffeine's action

Scientists have known for years that adenosine has such depressant effects on the central nervous system and sedative effects on behavior and that caffeine inhibits them. However, until recently, researchers' attempts to probe this mechanism of action were thwarted by adenosine's propensity to metabolize within seconds after being injected into an experimental animal: Enzymes would instantly break down adenosine before it could be examined.

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...As an adaptive response to compensate for the caffeine blockade, more adenosine receptors sprout up, leading to a vicious circle of oversedation as caffeine's effects wear off.

Frustrated by this vanishing act, John Daly of the National Institutes of Health and Robert Bruns and Solomon Snyder of Johns Hopkins University synthesized chemical analogues of adenosine that remain intact at brain receptor sites long enough to be studied. By tagging these analogues with radioactivity and tracing them to their sites of action, members of the Bruns team (supported in part by NIMH) have illuminated the workings of the adenosine system and its interaction with caffeine. Their work strongly suggest that caffeine and theophylline (a chemical cousin in the methylxanthine family found in tea) stimulate the central nervous system largely by blocking adenosine receptors, of which the investigators have identified two major types.

Locations of these receptors have now been mapped in rat brains by a team of investigators at the NIMH Intramural Research Program laboratories in Bethesda, Md. Paul Marangos and Jitendra Patel took ultrathin slices of frozen rat brain and incubated them with a radioactively tagged adenosine analogue, cyclohexyladenosine. These slices were then exposed to very sensitive photographic film in a procedure called "autoradiography." (Radioactivity affects film much as light does, creating dark spots on film wherever there is intense activity.)

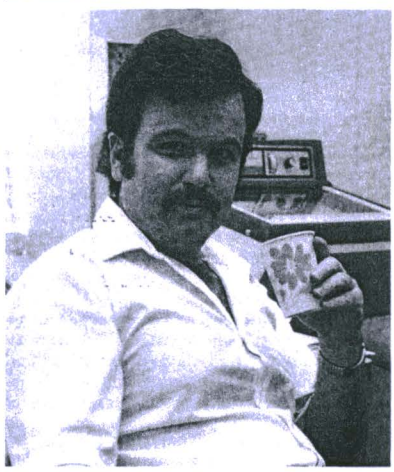
The resulting maps revealed that, far from being scattered throughout the brain as the researchers had expected, the adenosine binding sites are actually highly concentrated on neurons in certain areas of the cerebellum, hippocampus, thalamus, and brainstem.

Caffeine Cravings

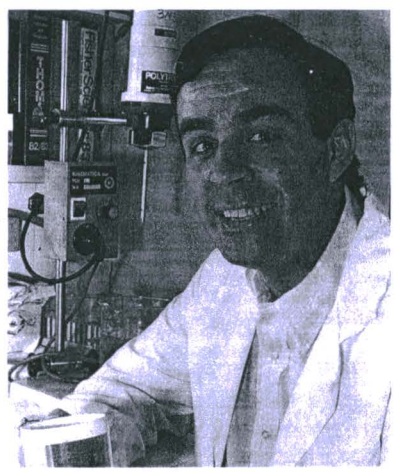
After feeding mice a diet laced with caffeine for over a month, Jean-Philippe Boulenger, Marangos, Patel, and colleagues Robert Post and Alexandra Parma found that the animals' brains—particularly the thalamus and brainstem areas—contained significantly more adenosine receptors than those of controls. This suggests a mechanism for developing both tolerance to and dependence on caffeine: As an adaptive response to compensate for the caffeine blockade, more adenosine receptors sprout up, leading to a vicious circle of oversedation as caffeine's effects wear off. The organism then craves more caffeine to offset a now hyperactive adenosine system.

Significantly, the high-caffeine diet (the equivalent of four cups of coffee daily in humans) produced no increase in numbers of benzodiazepine receptors in the mouse brains, pointing up adenosine's central role in mediating the drug's effects.

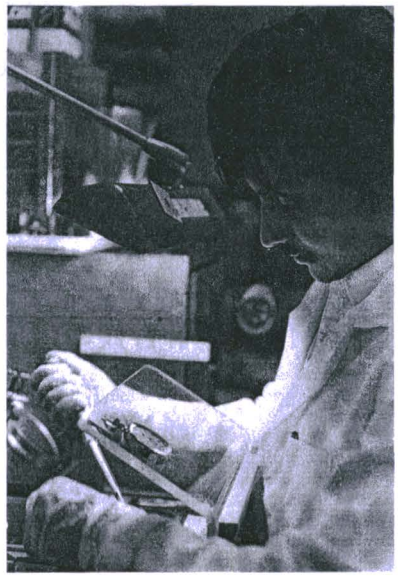
The adenosine analogues used to measure the numbers of adenosine receptors in this study are proving to be of interest in their own right. NIMH investigators have found that cyclohexyladenosine, for instance, is 10 to 100 times more potent a tranquilizer than the Valium-like drugs. Steven Paul, Chief of NIMH's Clinical Neuroscience



Paul Marangos



Jean-Philippe Boulenger



Evidence is mounting that caffeine produces its sought-after stimulating effects by blocking the action of adenosine, one of the brain's own sedatives.

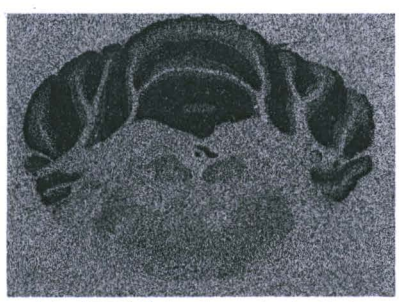
Branch, likens the analogues to LSD in their ability to produce dramatic effects at minute doses.

Adds Marangos, "One of the reasons we're so excited about further study of the adenosine system is that we may have a potential for developing a whole new class of drugs that act on the adenosine receptor." It may be possible to develop stimulants that don't have side effects of jitteriness common to caffeine and amphetamine, or tranquilizers that don't exact a price in drowsiness. For example, NIMH Intramural researchers Wallace Mendelson, Karen Berman, Steven Paul, and colleagues have discovered that at certain dose levels the adenosine analogues L-PIA and EHNA produce a paradoxical state in rats they dub "quiescent waking." The animals' motor activity is profoundly depressed, yet brainwave recordings indicate they are actually wide awake and for longer periods than usual.

A Sister System

Similarly, the NIMH investigators have shown that a beta carboline substance (3-HMC) that binds to the benzodiazepine receptor and antagonizes the effects of the Valium-like drugs also decreases sleep and stimulates wakefulness in rats without making them hyperactive. These and related experiments support a role for the benzodiazepine system in anxiety and sleep.

Though no less intriguing, caffeine's benzodiazepine connection remains more tenuous pharmacologically than its link to adenosine. Like the adenosine system, the benzodiazepine system appears to mediate tranquilization processes. Both chemicals also depress neuronal firing and central



Autoradiograph of adenosine receptors in rat brain

nervous system activity. Caffeine inhibits binding in both systems.

"There's some interrelationship here, but it's not very obvious what it is right now," confided Marangos. On the one hand, NIMH researchers and others have shown that caffeine counteracts and antagonizes the effects of benzodiazepines, that benzodiazepines inhibit seizures induced in animals with high doses of caffeine, and that a drug need not fully occupy the benzodiazepine receptors to achieve a pharmacological effect. On the other hand, investigators like Snyder of Johns Hopkins University point out that caffeine binds with 100 times more potency to adenosine receptors than to benzodiazepine receptors, and that caffeine is rarely consumed at the high dose levels probably required to act on benzodiazepine receptors.

While it is tempting to speculate that caffeine might increase anxiety by blocking a naturally occurring version of benzodiazepine, a natural anti-anxiety agent that binds to the benzodiazepine receptor site has not yet been found. Indeed, among chemical candidates for that role under study are substances that appear to increase rather than reduce anxiety. Still, clinical evidence continues to link caffeine to anxiety and to the benzodiazepine drugs.

Special Sensitivity

In recent NIMH Intramural studies, Boulenger and colleague Thomas Uhde have been finding that patients who suffer from panic-anxiety disorder have a "special sensitivity" to caffeine. "One cup of coffee produces more anxiety, more alertness, and more insomnia in these patients than in controls," explained Boulenger. Depressed patients in remission, who had similarly high baseline levels of anxiety on rating scales, do not show the sensitivity, nor do normal subjects.

Compared to controls, a significantly higher proportion of panic-anxiety patients have voluntarily given up coffee, suggesting increased vulnerability to problems with the drug. In other NIMH studies, Judith Rapoport and colleagues have been struck by the similarity in anxiety scale scores of clinically anxious children and of normal children given high doses of caffeine.

When given very high doses of caffeine (700 mg.), normal adult subjects become proportionately more anxious, with those who usually drink little caffeine showing the highest anxiety, according to Boulenger and Uhde. Since all subjects in this ongoing study have stopped drinking caffeine for at least a week, those who normally consume high doses of caffeine may have built up a tolerance to the drug, perhaps through a compensatory increase in adenosine receptors, as in the caffeinated mice.

Anxiety via Redundancy?

Boulenger speculates that it may be more than a coincidence that adenosine systems are present in virtually all body functions involved in the anxiety response—e.g., the kidneys and the respiratory, vascular, and muscular systems. Since redundancy of function is a recurring theme in today's neuroscience, the investigators believe that anxiety is probably not mediated exclusively by the benzodiazepine system, although a growing body of knowledge indicates that it plays a primary role. There is also some evidence for indirect effects through adenosine-benzodiazepine interactions: Benzodiazepines may inhibit reuptake of adenosine from the synapse. That is, benzodiazepines may essentially keep adenosine molecules working actively at synaptic receptor sites by preventing them from reentering (and becoming inactivated within) the neurons that initially released them.

In one clinical study, NIMH grantee John Greden and colleagues at the University of Michigan Medical Center reported that 65 percent of hospital patients who used high levels of caffeine also used minor tranquilizers (e.g., benzodiazepines) during the same month. Such findings suggest the two behaviors may be interrelated.

"We don't think it's a coincidence that the most commonly used drug is caffeine and the most commonly prescribed drugs are the benzodiazepines," observed Paul. "Maybe we naturally select our drugs and our drug antagonists. Maybe anxiety, which is rampant in our society, is exacerbated by caffeine, and many people self-medicate that effect with a dose of Valium or Librium."

Speculation aside, the NIMH investigators are currently concentrating on the adenosine system as they follow up promising research leads in pursuit of the caffeine connection.

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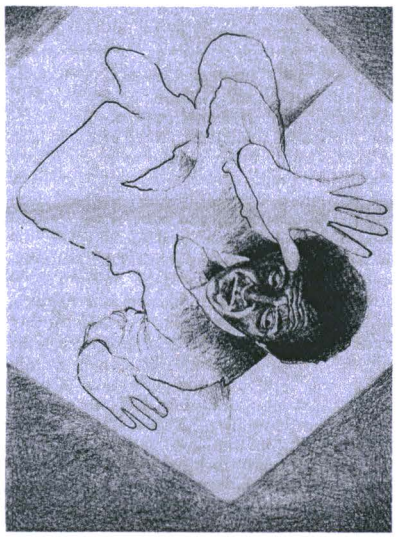
A PERSPECTIVE ON

panic!

THE RESEARCH OF DONALD KLEIN



Rachel Weisman

Almost everyone is afraid of something. Most of us would feel a bit apprehensive trapped in a stalled elevator or gazing from a huge window at the ground 30 stories below. But what distinguishes the fears of the estimated 2 million American phobics from other peoples' fears is their severity and irrationality.

About half of all phobias are known collectively as agoraphobia—Greek for "fear of the marketplace." Agoraphobia is a mix of crippling fears, anxieties, and avoidances (running or staying away) that can be triggered by any public place—whether open and crowded, such as a busy shopping mall, or enclosed and uncrowded, such as a bus during its off-hours run. The word "phobia" itself comes from Phobos, a god of the ancient Greeks who inspired terror in those who dared to behold him. Until recently, agoraphobia's bewildering array of fear, nervous system symptoms, and avoidance behaviors had been almost impossible to treat.

Today's clinical approach to agoraphobia typically includes some variety of psychodynamic therapy or supportive therapy in which clients "talk out" their phobias. A newer approach, behavior therapy, appears somewhat more successful than either of these, particularly at relieving phobic avoidance behaviors—i.e., running or staying away from the feared situation (see sidebar, p. S-8). Behavior therapy is designed to weaken the mental associations between the avoidance behavior and the various degrees of anticipatory anxiety that precede the behavior. Unfortunately, neither the behavior nor the "talk" therapies have succeeded at relieving the more terrifying panic attacks that precede anxiety.

Donald Klein

The Search for a Drug Therapy

Donald Klein, psychiatric research director at the New York State Psychiatric Institute in New York City, believes he can control agoraphobic panic by first giving phobic patients drug treatment. Pharmacological research in which he has figured prominently over the past 20 years has demonstrated that both tricyclic antidepressants such as imipramine and the MAO inhibitors can prevent panic attacks.[1] As Klein will readily admit, these drugs have their shortcomings: They leave undiminished the phobic's anticipatory anxiety and avoidance behaviors, states that are best relieved by nondrug therapies. But, as Klein points out, people suffering from incapacitating bouts of panic will not readily leave the sanctuary of their homes for a therapist's office.

Klein's pioneering work . . . called into question the . . . view that anxiety and panic were merely opposite ends of a severity continuum.

The NIMH grantee began exploring pharmacological solutions to treating panic disorders in the late 1950s while he was a research psychiatrist at Long Island Jewish-Hillside Hospital in Long

[1] MAO inhibitors are antidepressant drugs that block monoamine oxidase, an enzyme that breaks down chemical transmitters within the nervous system.

Island, N.Y. Klein's pioneering work with highly anxious patients paved the way for drug treatment of agoraphobia and called into question the then-prevalent view that anxiety and panic were merely opposite ends of a severity continuum. His research also led him to speculate about the function of these seemingly dysfunctional states.

Klein and most scientific observers of the disorder agree that agoraphobia is distinguished by a three-part sequence of physiological and psychological events. First, the victim is struck out of nowhere by an attack of acute panic which sounds an alarm within the autonomic nervous system. In response, breathing becomes labored, the hands and face feel clammy, the heart pounds, the pulse races, the body goes weak. Victims usually report a terrifying depersonalization—a sense that they are losing control of themselves, as if they are about to go crazy or die. Their overwhelming dread tends to keep agoraphobics housebound, close to whatever comfort and reassurance they can muster.

Typically, panic attacks occur a few times by themselves, says Klein, before their victims experience the second phase of the agoraphobic syndrome—a vague apprehension or anxiety. It is termed "anticipatory anxiety" because by now the victim unhappily anticipates more panic attacks. Soon, this anxiety becomes so deep and pervasive that it is practically indistinguishable from the panics. Finally, the phobia itself emerges as victims begin to attach their terrors to a particular situation and then try to escape or avoid that situation at any cost. What victims are in fact avoiding, says Klein, is the possibility of being overwhelmed by panic while far from the safety of home.

Klein's approach to understanding and treating panic involves studying drugs that elicit the state as well as drugs that calm it. Along with other theorists and practitioners of biological psychiatry, Klein believes that biological dysfunctions are prime operating mechanisms in the physiology of many mental disorders, and that this pharmacological "detective work" can decipher their workings.

Klein's approach to understanding and treating panic involves studying drugs that elicit the state as well as drugs that calm it.

Klein discovered a clue to panic's elusive physiology in 1959 when he began investigating the effects of chlorpromazine, one of the earliest antipsychotic drugs, on a group of highly anxious patients. Although they did not hallucinate or otherwise manifest psychotic symptoms, Klein's patients had been labeled schizophrenic because they panicked easily and often, isolated themselves, and were frequently hostile. At the time, American psychiatric theory held psychosis to be the result of an anxiety so severe that it crumbled the ego's defenses against it; neurosis was considered the result of a less severe anxiety, one that defense mechanisms could at least partially keep from consciousness. A psychotic, then, was thought to be a kind of "super neurotic," more anxious and much sicker, says Klein.

Klein believes imipramine's effects . . . point out . . . the physiological difference between the acute panic of agoraphobia and the more amorphous anxiety it presages.

Since neither long-term outpatient nor intensive inpatient psychotherapy had allayed their patients' panic, Klein and his co-workers decided to give the patients chlorpromazine, which had proven remarkable at blocking anxiety states in other groups of patients who had been labeled psychotic. Not only did chlorpromazine not work, the patients' symptoms actually worsened. This differential effect of chlorpromazine on patient groups that were supposed to be somewhat homogeneous suggested to Klein that all anxieties were not equal. How, he puzzled, could a drug such as chlorpromazine—so marvelously effective in one state—be useless in another if both states were qualitatively the same, merely quantitatively different?

Shortly after his unsuccessful attempt with chlorpromazine, Klein began to suspect that a then-new antidepressant, imipramine, might help his despairing patients. As he put it: "The logic behind this idea was not exactly coercive. It went something like this: We don't know what to do for these patients, but we have this strange, safe new agent that does have some peculiar tranquilizing powers. Maybe we should try it."

Klein's investigation of this hunch yielded another clue that was to unravel further the mystery of the subtle physiology of panic. At first, nothing happened; but after a couple of weeks, imipramine began to calm his agitated and fearful patients. As a group, they became less panicked, less hostile, more sociable—in short, more "normal" than anyone had remembered seeing them before. A series of controlled experiments by other researchers as well as his own later studies support Klein's observations that imipramine does indeed block panic but, unfortunately, not anticipatory anxiety or phobic avoidance behaviors. Klein believes imipramine's effects, like the effects of chlorpromazine, point out not only the difference between

neurotic and psychotic tension states but also the physiological difference between the acute panic of agoraphobia and the more amorphous anxiety it presages. Klein notes that early reports of his work with imipramine were greeted by suggestions that he was mistaking depression for anxiety. He believes agoraphobics' positive reactions to antidepressants indicate that the pathophysiologies of these two states are intricately related—but not identical.

However, Klein says it is the ability to turn a psychopathological phenomenon both on *and* off that will most increase the chance of deciphering how the phenomenon works. His early research and the studies of others have shown that intravenous infusions of sodium lactate will stimulate panic attacks in panic patients, but not in controls. Recently, Klein and his co-workers demonstrated that imipramine blocks lactate-induced as well as spontaneously occurring panics, although why it does so remains unclear.

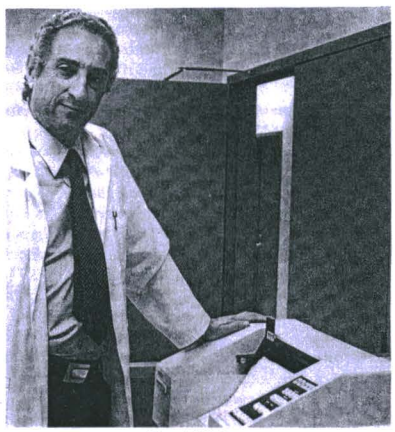
A major thurst of Klein's current work is to discover the specific physiological basis for sodium lactate's panic-inducing effects, since it presumably mimics a naturally occurring process underlying panic. Are its effects metabolic or physical—that is, does it change the body's acid/base balance or does it affect calcium functions in nerve cells to trigger panic? Klein and his colleagues are probing these alternative hypotheses, using a special form of sodium lactate which, unlike the normal form, affects calcium but not metabolic balance. Preliminary results show that the special form of sodium lactate does not produce panic. Thus, the most likely "panic button" appears to be disturbed metabolic balance. If this hypothesis gains additional confirmation, it may provide a significant clue to designing specific and effective approaches to preventing and treating panic disorders, phobias, and generalized anxiety.

The Roots of Panic

Klein's results have prompted him to fashion a novel explanation of why antidepressants block panic, and what instigates panic in the first place. He believes that neither Freudian nor learning theory has been able to distinguish between panic and anxiety, much less offer a basis for understanding differential drug effects upon these states. Both theories hold anxiety to be a "signal" of the anticipated traumatic state (in Freudian language) or of the conditioned response (in behaviorist language)—i.e., of panic. The actual panic state is viewed by both theories as an overflowing of anxiety. But as Klein points out, agoraphobia develops the other way around: Panic *precedes* anxiety.

He theorizes that the normal childhood phenomenon of separation anxiety gone awry may be the root of adult agoraphobia. If a child's fears of separation from mother persist much beyond age 4, Klein thinks it means the child may be physiologically predisposed to develop agoraphobia or other panic disorders as an adult. Indeed, about half of his patients have histories of such acute, prolonged childhood anxieties. He notes that the onset of their panics in adult life had often been preceded by a bad experience, a grownup's version of maternal deprivation.

But separation anxiety does have an important function. Klein remarks: "Early separation anxiety is unlike other anxiety in that it plays a prosurvival



Donald Klein

role for both the individual organism and its society." He cites the work of psychoanalyst John Bowlby, who maintains that a child doesn't have to "learn" to feel panicked by mother's absence. Such panic, Bowlby has held, is an evolved "protest mechanism" that becomes triggered by separation during a critical phase in the child's development. Klein concludes that the evolutionary "purpose" of such an early warning system, at least in the lower animals, is to make a lost infant cry out so that its mother will retrieve it.

While he acknowledges the role of environment in triggering agoraphobia, Klein strongly believes that physiological conditions must first be present. He and his co-workers are now beginning family studies of their patients to identify if any physiological characteristics predispose the patients to panic.

Future Treatments

Klein hopes his efforts and the work of researchers who are refining behavioral, supportive, and psychotherapeutic treatments will evolve into a combined drug/nondrug strategy, which he thinks is more effective than single strategies for controlling agoraphobia. A two-pronged technique of administering first drug, then nondrug therapy does

in fact show signs of becoming the treatment method of choice for this most treatment-resistant of mental disorders. Imipramine therapy is gaining widespread professional acceptance, spearheaded by research psychiatrists who, like Klein, are biologically oriented.

Agoraphobia and the other panic disorders continue to challenge researchers and clinicians. So much remains to be explained, particularly the interactions between the physiological and psychological factors that predispose people to panic. Despite their admittedly imperfect knowledge, however, scientists like Donald Klein and his colleagues have moved us closer to understanding why people panic—and how to help them stop.

Phobia: Types and Behavioral Treatments

What causes phobia? There are many different theoretical explanations. Freudians hold that phobic responses (as well as obsessive/compulsive behaviors and other classical neuroses) emerge as symbolic expressions of repressed conflicts or of taboo impulses. Behaviorists or learning theorists think that phobias are conditioned responses, "call-ups" of instinctive fear reactions which then become attached to neutral stimuli and possibly generalize later on to additional stimuli. Some theorists believe that phobias can be traced back to traumas that may or may not have been fully repressed, while others think early childhood fears may trigger phobias in adult life.

Although there may be no such thing as an agoraphobic personality, researchers have identified traits common to those who suffer from the disorder. About two-thirds are women. Typically, they are dependent, conforming, and "clingy" people with poor self-images, relentlessly driven to perfect themselves. They tend to submit without complaint to others' demands, yet they are unable to assert demands of their own. The onset of their agoraphobia (or of other phobias), usually between their early 20s and mid-30s, seems to be associated with some negative change or loss in their lives. Many agoraphobics were tense, sad children who suffered more excruciating fears of the dark and more nightmares than did their playmates. It isn't hard to understand why agoraphobics become demoralized, since their fears force them to lead restricted, impoverished lives. Quite literally, the agoraphobic is often a prisoner in her own home.

Most clinicians identify two other types of phobia: "social" and "simple." Individuals with social phobias are terrified of being observed in public committing a **faux pas** *or of doing anything that could be considered embarrassing. Common social phobias include speaking, eating, or writing in the presence of others. Like agoraphobics, people with social phobias are plagued by panic and anxiety.*

Simple phobias include morbid fears of objects ranging from sunglasses to cats to oak trees. Although the phobic objects (or situations dreaded in agoraphobia, for that matter) are not in themselves dangerous, they potentially afford an opportunity for danger: A cat might claw and scratch, for instance. People with simple phobias, however, typically do not develop the anxieties that attend the social phobias and agoraphobia.

Psychiatric researcher Donald Klein suggests another category—"mixed" phobias, characterized by spontaneous panics (like agoraphobia), but encompassing only a limited range of specific object or situational avoidances (like simple phobias).

A full-fledged phobia of any type may take months, even years, to develop. Once formed, a phobic response is likely to generalize to other, similar situations or objects. Of all the neurotic disorders, phobias are considered among the most difficult to treat.

Behavior therapy, a relative newcomer to the treatment of phobia, provides methodological underpinning for the many phobia clinics that have cropped up throughout the country over the past decade. Based roughly on theories of classical or of instrumental conditioning, behavior therapy is really an assortment of approaches and techniques. One such approach, known as **systematic desensitization**, *has become the choice of behavioral practitioners for treating simple phobias. First, patients are taught progressive relaxation, a technique that helps them achieve a deeply relaxed state. Next, they are asked to construct a hierarchy of anxieties—increasingly frightening situations involving the phobic object—and are encouraged to fantasize about them in order of least-to-most-threatening, until they can reach the top of the hierarchy without feeling anxious.*

Behavior therapists teach phobics to use **counter conditioning** *to block their anxieties and weaken their fears. After being instructed to conjure up the dreaded situation, patients are asked to fantasize about happy experiences and to repeat both images over and over again, one after another. In* **modeling**, *phobic patients watch other people, either on film or in real life, functioning normally in the phobic situation or with the phobic object close at hand. During* **flooding**, *patients are asked to imagine, view tapes of, or attempt to experience their most terrifying possibilities again and again, the idea here being to get the fears to collapse under their own weight. At present, some form of continuous exposure to the feared object or situation provides phobic patients with the best results in reducing their avoidance behavior.*

PREVENTION & TREATMENT SERVICES

NIMH Charts "Knowledge Transfer" to States

KNOWLEDGE TO SHARE: The National Institute of Mental Health has 37 years of expertise available for States and communities who need help in establishing services.

Now that the States and not the Federal Government are administering Federal grants for local services, NIMH has joined with other health agencies, universities, and national organizations for "knowledge transfer": conveying information about successful techniques in epidemiology, prevention, and treatment for use at State and local levels.

Knowledge transfer was the subject of a recent 2-day conference on "Knowledge Assessment and Review: Their Use in the Preventive Field," held in Bethesda, Md. It was cosponsored by NIMH's Office of Prevention and Office of State and Community Liaison.

The 40 mental health experts who attended the meeting unanimously agreed that any knowledge transfer begins with two important questions:

- Who is the user? Is it an individual, or a large organization, or something in between?
- What is the user's need? Has it been identified and assessed correctly?

When these questions are answered, the most suitable method of transferring the information must be determined.

Networking, according to most of the conferees, always has been a successful mechanism, and "personal networking" (where all members of the network already know one another) probably is most effective. Other means proposed were: how-to manuals and other printed materials, peer discussion groups, formal conferences, and telephone hotlines.

Whenever possible, the conferees said, technical assistance should be given at the grassroots level to the very people who would benefit from the knowledge transfer. Some users first need help in defining their needs. Others need to improve their organizations by going through a capacity-building stage. Some can benefit from developing a commitment to a particular policy.

Discussions also focused on the specific transfer of knowledge from experts on prevention to users requesting assistance in launching local prevention programs.

"A few years ago, no one would have dreamed that prevention would be put into law," remarked Dr. Stephen Goldston, Director, NIMH Office of Prevention. He was referring to the Mental Health Systems Act, enacted October 1980, which contained a section mandating the establishment of a Prevention Unit in NIMH. One mission of the unit is "to encourage and assist local entities and State agencies to achieve the goals and priorities" of preventing mental illness and promoting mental health. Goldston reported that the Institute is providing technical assistance to States and localities with respect to their prevention activities.

Such assistance is very much in demand, according to Dr. Morton Silverman, Chief of the NIMH Center for Prevention Research. He noted that at a conference he attended the previous day entitled "Ethnic Minorities in the '80s: Transition from Services to Prevention," community mental health centers staff appealed for prevention-focused State mental health directors.

Silverman's report prompted the conferees to recommend that legislators be given realistic presentations on the subject of primary prevention, which is defined as the elimination of a particular mental disorder by preventing it before it happens. As Beverly Long of the National Mental Health Association put it, "Wellness is a new force in our country. Let's allocate some resources to prevention."

Dr. Robert Perloff, University of Pittsburgh, suggested that prevention presentations to legislators might borrow a "selling" approach from private industry by describing the projected behaviors (such as "awareness of a product" or "intention to buy") of the potential audience.

Other recommended strategies for promoting prevention legislation included using parent groups, former patient groups, and self-help groups as advocates, and acquainting lawmakers with the success of such prevention programs as the anti-smoking and breast examination campaigns of the National Cancer Institute and the 10-year heart disease program at Stanford University which focuses on stress and heart attacks.

Silverman revealed that three new ADAMHA prevention research grant announcements are scheduled for issuance. The agency will solicit applications in the areas of: prevention of alcohol, drug abuse, and mental health disorders related to stress in the workplace; prevention of ADM disorders in children and adolescents; and the concomitants of ADM disorders and violent behaviors.

Drs. Howard Davis and Stephen Goldston

According to Dr. Robert Rich, an NIMH grantee from Carnegie-Mellon University who chaired the conference, "We must determine clearly, and in advance, the policy and information needs of professionals responsible for implementing prevention goals and priorities. We cannot simply attempt to transfer what we assume to be the most relevant prevention information for their needs."

In addition to Goldston and Silverman, ADAMHA participants were Thomas Vischi, OA, Peter Vaslow, NIAAA, and Dr. Howard Davis, NIMH.

Other visiting participants were: Dr. Jeffery Bedell, Florida Mental Health Institute; Dr. J.D. Bray, Oregon Department of Human Resources; Dr. Edward Glaser, Human Interaction Research Institute, Los Angeles; Joan Heffernan, American Psychological Association; Dr. Judith Larsen, Cognos Associates, Los Altos, Calif.; Alfonso Linhares, U.S. Department of Transportation; Dr. Everett Rogers, Stanford University; Dr. H.C. Schulberg, Western Psychiatric Institute and Clinic, University of Pittsburgh; Elliot Siegel, National Library of Medicine; Dr. Marshall Swift, Hahnemann Medical College, Philadelphia; Betty Tableman, Michigan Department of Mental Health, Lansing; Dr. Louis Tornatsky, National Science Foundation; Spencer Ward, National Institute of Education; and Dr. Carol Weiss, Harvard University.

—Myrle Kahn, NIMH

PREVENTION *from page 1*

need to know more about the circumstances under which peer and parental influences work," the announcement states. "Interpersonal risk factors associated with the beginning use of marijuana, cigarettes, or wine and beer by pre-teen and teenage children have received insufficient attention. Equally neglected is the transition from the experimental stage to the user stage."

Along with NIAAA, NIDA is interested in funding research on issues common to the problems of alcohol and drug abuse, such as studies of the similarities and differences in risk factors and common preventive intervention approaches. In addition, "while much of NIDA's drug abuse prevention effort is focused on adolescents, other groups, such as children of addicts, individuals in high-risk occupations, housewives, and the elderly, also are of interest." Studies focused on ethnic minority populations found to be at high risk of drug abuse is especially encouraged.

While much of the research to be supported under the announcement will involve collection of original data, the Institute also is interested in addressing prevention research questions through the secondary analysis of large data bases with current relevance, especially for large-sample studies which compare different populations or which explore the interrelationships among various risk factors.

In addition to the drug abuse prevention research grants, NIDA also makes awards under the ADAMHA-wide "New Investigator Research Award in Prevention " program. These grants are restricted to new investigators interested in pursuing a career in ADM prevention research, or investigators in closely related fields who are refocusing their careers on ADM prevention research.

Further information can be obtained from the Prevention Research Branch, NIDA Division of Clinical Research, 5600 Fishers Lane, Rm. 10A-16, Rockville, MD 20857, (301) 443-1514.

Preventing Depression: Workshop Explores Research on 'Coping;' 'Self Control,' 'Wellness'

Depression, one of the most treatable mental illnesses, responds not only to traditional pharmacotherapy and psychotherapy, but also to educational approaches which teach new ways of thinking and coping.

This finding was among others discussed at an NIMH-sponsored state-of-the-art workshop, "Depression Prevention Research: The Potential and the Limits of Psychological Interventions," recently held at San Francisco General Hospital.

The workshop was convened not only to exchange information about depression prevention research and future directions, but also to suggest what advice may be helpful for practitioners and the public about ways to reduce depression.

Presentations on educational approaches for alleviating or preventing depression were made by a number of participants. Dr. Peter Lewinsohn, Professor of Psychology, University of Oregon, reviewed the basis for his pioneering behavioral research that resulted in "The Coping-With-Depression Course," a combination of social learning, self-control training, and cognitive/behavioral therapy.

An adaptation of Lewisohn's course, "The Life Satisfaction Course: An Intervention with the Elderly," was described by Dr. Julia Steinmetz, Center for the Study of Psychotherapy and Aging, Palo Alto, Calif. The classes, she said, are specifically designed for elderly persons who are not in need of treatment, but who would like to learn methods by which to reduce the probability of serious depression in the future.

A number of participants spoke of teaching skills to enhance a sense of self-control as a way of preventing depression. Noting the relationship between depression and self-mastery, Dr. Lynn Rehm, University of Houston, and Dr. Craig Twentyman, University of Rochester, discussed the preventive implications of identifying young depressed children for self-control training.

> ***"Recommendation: Determine whose complaint is addressed in dealing with depression in children—the child's, the parent's, or the teacher's."***

"Autonomy and Self-Control: Key Concepts for Depression Prevention" was the subject of a talk by Dr. Marjorie Klein, University of Wisconsin Medical School. She described a "wellness project" for high school students involving the use of a computer by which the young people exchanged information with their peers.

One problem in prevention is reaching people at risk, said Dr. Robert Roberts. "The state-of-the-art of the epidemiology of depression has a long way to go in getting reliable estimates of depression in the community." However, he suggested that the NIMH Epidemiological Catchment Area Collaborative Project might contribute significant information to the field.

Dr. Hagop Akiskal, University of Tennessee, reviewed findings of relevant biological research, including the influence of medical illnesses and medications in causing depression in some people.

Among recommendations for practitioners emerging from the meeting were:

- Determine whose complaint is addressed in dealing with depression in children—the child's, the parent's, or the teacher's.
- When dealing with adults, determine what is being prevented—onset of depression in older adults, or life dissatisfaction?

Recommendations for NIMH included:

- Develop proper nosology and epidemiology for depression in adolescents and children.
- Develop an instructional package for teachers for intervention with young children.
- Study the five most common diseases presented in outpatient clinics and their relation to depression for possible high-risk groups.
- Prepare and disseminate to the field a list of depression prevention researchers.
- Encourage large, collaborative studies, as they produce more reliable data and methods.
- Study single, devastating crises (accidents, death, unemployment, retirement, etc.) to determine the associated depression rate.
- Provide assistance in scoring research instruments. Publish standards for using these instruments to reduce moderator variables. List all instruments that have been translated. Determine the understandability of the questions by all socioeconomic classes, ethnic groups, etc.
- Disseminate tested, packaged interventions.

The workshop was sponsored jointly by NIMH's Office of Prevention, Center for Prevention Research, and Center for the Study of Affective Disorders. It was organized by Dr. Ricardo Munoz, Department of Psychiatry, University of California at San Francisco.

Other participants included Dr. Paula Clayton, University of Minnesota; Betty Tableman, Michigan Department of Mental Health; Dr. Cynthia Telles, University of California at Los Angeles; Dr. Wesley Sime, University of Nebraska; and Dr. James Breckenridge, Center for the Study of Psychotherapy and Aging, Palo Alto, Calif.

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PRESS SEMINAR REPORTS RESEARCH

Dr. Arnold Washton

Cocaine "Helpline" Reveals Use Patterns, Extent of Dependence

Contrary to popular belief, the adverse consequences of snorting cocaine are no less severe than injecting or smoking the drug, reported Dr. Arnold Washton, Director, Division of Drug Abuse Research and Treatment at New York Medical College, at a recent ADAMHA Science Press Seminar.

"The popular belief that cocaine is a non-addictive, social drug with low abuse potential when snorted is challenged by our findings that such intranasal use is associated with compulsive use patterns no less severe than injecting (intravenous) or smoking (freebasing)," he said.

Washton established a "Cocaine Helpline" at New York Medical College last February in response to a dramatic increase in requests for information and treatment referrals. In its first 8 weeks of operation following local media advertising of the "Helpline," more than 2,000 calls were received.

"Calls come in at a rate of as many as 150 a day," Washton reported at the April 28 seminar.

"The volume of calls appears to reflect the increasing prevalence of cocaine dependence in the United States, especially among white, middle-class males who otherwise are not heavily involved with drugs," Washton said.

Based on interviews with a random sample

See COCAINE (P. 2, Col. 2)

Dr. Peter Stokes

"Dex" Depression Test Found Not Useful for Specific Diagnoses

Recent research findings have not borne out hopes that the dexamethasone suppression test (DST) can be used to differentiate among specific forms of depression and thus help clinicians prescribe individualized treatments for depressed patients, reported Dr. Peter Stokes, Payne Whitney Clinic, Cornell University Medical Center, at the April 28 ADAMHA Science Press Seminar.

"Despite the lack of demonstrated scien-

(See DEX P.2, Col. 1)

Dr. Irwin Kopin

Animal Model of Parkinson's Disease Produced at NIMH

NIMH scientists have succeeded in producing the equivalent of human Parkinson's disease in laboratory monkeys by injecting them with a byproduct of a street drug chemically similar to the painkiller meperidine (Demerol).

This will allow researchers to study biochemical mechanisms underlying Parkinson's disease more thoroughly, and may lead to improved treatment of the disorder. It also has implications for improving treatment of depression and schizophrenia, since these disorders, like Parkinsonism, involve deficiencies in the dopamine-producing system in the brain.

"We hope to use the new animal model to sort out just what aspects of Parkinson's disease are due to dopamine deficiency and to enable the development of more effective treatment approaches," said Dr. Irwin Kopin, Chief, Laboratory of Clinical Science, NIMH Intramural Research Program at the recent ADAMHA Science Press Seminar.

Kopin developed the animal model of Parkinson's disorder with a team of Intramural

See PARKINSON'S (P. 3, Col. 1)

Alcohol Tolerance Rooted in Brain Systems

"If we can understand exactly what is happening in the brain as tolerance to alcohol develops, it may be possible to manipulate or block the process to prevent drinking patterns which produce harmful consequences," said Dr. Paula Hoffman, University of Illinois at Chicago, at the ADAMHA Science Press Seminar.

"Tolerance allows some people to consume very large amounts of alcohol. Repeating this drinking behavior again and again can lead to damage to vital organs and to physical dependence," she stated. "Our work is directed at clarifying the complex mechanisms involved in the brain in order ultimately to develop a means for manipulating tolerance levels in a way that will affect drinking behavior."

Hoffman indicated that this is a difficult area to study, since alcohol does not interact with a single receptor in the brain, but rather seems to affect many systems.

One approach the Chicago scientists have taken is to examine the role of the peptide vasopressin in tolerance. "We know that

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U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES

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tific reliability, however, DST is being used today in many clinical settings to diagnose patients on the basis of early, non-replicated studies," Stokes said.

According to the endocrinologist, use of DST in relation to depression evolved from two pieces of scientific evidence: first, that many depressed patients have higher than normal levels of the hormone cortisol in their blood; and second, that dexamethasone, which suppresses cortisol secretion in most normal individuals, does *not* do so in a substantial number of depressed patients.

Based on these findings, DST—originally developed as a laboratory test for Cushing's disease, a disorder of the pituitary gland—was adapted as a test for depression as well, he said.

The test involves administering 1 milligram of dexamethasone, a synthetic glucocorticoid, to drug-free patients in the evening, then taking blood samples at various times during the next day to check cortisol levels. If the level stays high, the patient is considered a "non-suppressor."

"Over time, non-suppression of dexamethasone has been interpreted to mean various things by various researchers," Stokes asserted. "Originally, it was thought to be associated with anxiety. Then the notion was promulgated in the literature that non-suppression of dexamethasone was specific to certain forms of depression.

"To date," he continued, "the finding of diagnostic specificity has not been supported by studies that I and others have carried out. It also is found in patients with a variety of subtypes of depression," indicating it cannot be used to distinguish among them.

Most recently, DST was evaluated at six research centers under rigidly replicated conditions as part of the NIMH Collaborative Depression Research Program, Stokes related. Normal controls and patients diagnosed as having unipolar and bipolar depression, manic disorder, and schizophrenia were given the test. Dexamethasone non-suppression was found in 25 of 74 unipolar, 10 of 37 bipolar, 8 of 16 manic, and 2 of 12 schizophrenic patients, as well as 8 of 77 healthy controls.

"While it is clear that non-suppression occurred substantially more often in patients with affective illnesses than in the normal population, these findings do not support the use of DST to specify diagnosis or treatment," he emphasized.

Although DST does not predict which patients will respond well to a particular treatment before that treatment has begun, Stokes explained, it may be useful as a clinical adjunct once treatment has started. "Non-suppression switches to suppression long before symptoms abate in patients who are responding to treatment. Thus, depending on future studies, DST may give clinicians important information about whether to continue or change treatment.

"Conversely, in some cases, re-occurrence of non-suppression precedes return of symptoms, and DST could prove useful in predicting and possibly preventing relapse by indicating a need for further treatment."

TOLERANCE

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vasopressin is involved in learning and memory processes. We therefore envisioned tolerance as a kind of memory process and theorized that vasopressin might be involved in its development as well," she commented.

To test the hypothesis, the research team fed mice an alcohol-only diet for 7 days to induce tolerance, then took the alcohol away.

"When the alcohol was removed," Hoffman explained, "the mice lost their tolerance. But if we injected them with vasopressin, tolerance continued even without further alcohol. The peptide seemed to allow them to 'remember' the effects of the drug. We believe this indicates vasopressin may be an important element in development of tolerance," she said.

Dr. Paula Hoffman

"There also are other systems in the brain which are affected by alcohol and which may be involved in tolerance," Hoffman said. "For instance, the neurotransmitter dopamine plays a role in some behaviors and physiological functions affected by alcohol. Synthesis of this neurotransmitter in a particular area of the brain is regulated by opiate peptides called enkephalins."

"Chronic alcohol exposure which results in tolerance also decreases the ability of these opiates to regulate the dopamine synthesis process," she continued. "This happens because alcohol exposure changes the characteristics of receptors for the opiates."

"Therefore, alcohol—while it does not interact with a specific receptor of its own—can change the function of receptors for other brain chemicals. These changes may be involved in the behavioral changes seen in alcohol-tolerant individuals," Hoffman said.

This suggests that at least three systems of the brain are involved in tolerance, she said. "Sorting them out further is a goal of our future research. We hope this work will lead to a means for intervening in these systems to decrease development of tolerance in humans, and thereby avoid the adverse consequences resulting from a continued pattern of heavy consumption of alcohol beverages."

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of the first 55 callers, Washton reported that 56 percent were white, 35 percent were black, and 9 percent Hispanic. Fifty-three percent had occupations classified as "white collar, professional, or business owner." Forty-nine percent had annual incomes of more than $25,000.

Seventy-eight percent of the callers were male and 22 percent female. Fifty-one percent snorted cocaine, 22 percent smoked it, and 27 percent injected the drug. Fifty-six percent used cocaine at least 5 days per week, with total weekly use ranging from 1 to 32 grams, and 48 percent said they used six or more grams per week.

"At these use levels," Washton estimated, "subjects spent an average of $800 per week on cocaine based on an estimated $100-$125 per gram. Some users spent as much as $3,000 per week. Many had exhausted their credit lines, were not meeting mortgage and car payments, and otherwise were in financial trouble."

Callers also reported a high incidence and wide range of adverse health consequences. These included physical symptoms such as sleep problems, significant weight loss, nose bleeds, and headaches. Psychological symptoms included paranoia, panic attacks, hallucinations, depression, loss of sex drive, violent and suicidal thoughts, and difficulty in concentration and memory.

In 11 percent of the sample (or six cases), callers said they had suffered seizures from cocaine use involving loss of consciousness, Washton reported.

"Almost without exception," he said, "callers reported that the desirable effects they had sought from cocaine diminished or disappeared with chronic use, and eventually were replaced by an increasing number of adverse effects.

"In a futile attempt to recapture desirable effects and ward off the unpleasant 'crash' when cocaine use was discontinued, their behavior was propelled toward intensified patterns of use," he continued. "They found themselves progressively driven into a powerful, vicious cycle of obtaining, using, and recuperating from cocaine, then starting over again."

ADAMHA NEWS

Alcohol, Drug Abuse and Mental Health Administration
William Mayer, M.D., Administrator

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"PHARMACOKINETICS"

The Science of Tracking Drugs Through the Body

When scientists know the precise route a psychoactive drug takes through the body, they often can predict its effects—based on how much of the drug was taken, in what form, and when. Armed with this knowledge of the "pharmacokinetics" of drugs, clinicians may be able to prescribe safer and more effective pharmacological treatments for various disorders, including those related to drug abuse.

In one promising new treatment technique based on greater understanding of pharmacokinetic principles, "monoclonal antibodies" are used to treat drug overdose by binding toxins or poisons which have been introduced into the body and reversing their toxicity. "Monoclonal antibodies" are laboratory-produced relatives of natural antibody chemicals which identify and attack foreign substances in the body.

NIDA's Division of Preclinical Research recently sponsored a 3-day conference on "Pharmacokinetics of Psychoactive Drugs" to review the research findings. At the conference—unprecedented in scope on the topic—participants discussed 10 years of research on the precise effects of various psychoactive drugs. Many of the studies, conducted the world over, were NIDA-supported.

"Pharmacokinetics—the quantitative description of the time, course, and fate of a drug as it passes through and is eliminated from the body—has been made possible by sensitive analytic techniques developed over the past 10 years which permit the accurate measurement of drugs in body fluids," said Dr. Gene Barnett, a NIDA chemist in the Research Technology Branch, who chaired the conference along with Dr. Nora Chiang, his colleague.

Participants discussed the pharmacokinetics of drugs such as marijuana, PCP, cocaine, the opiates, and the benzodiazepines, reviewing knowledge gained in both clinical and animal studies.

For example, Dr. Edward Garrett, a 10-year NIDA grantee, tracked the time course of THC (tetrahydrocannabinol), the psychoactive component of marijuana, in the body under various conditions. "Such information is needed to establish models that permit quantification and prediction of effects of both the drug and its metabolites under all dosing conditions and regimens," said Garrett.

Another scientist, Dr. Vojtech Licko, University of California, San Francisco, explained how mathematical concepts are developed to describe drug phenomena such as tolerance. Dr. Jacques van Rossum, Catholic University of Nijmegan, The Netherlands, explained the development of equations to describe how various drugs are transported over time through various body tissues and organs.

Dr. Michael Mayersohn, Univ. of Arizona, and Dr. Gene Barnett, NIDA

Others who focused on the pharmacokinetics of marijuana included Dr. Sumner Burstein, University of Massachusetts, who described his laboratory research on metabolism of the various cannabinoid components of marijuana. A Swedish research group directed by Dr. Stig Agurell reported studies on clinical effects and metabolism of THC. These studies showed how route of administration changes the effects of THC. For example, when marijuana is smoked, the effect is far more intense and quickly felt than when it is swallowed.

While scientific studies often require complex mathematical models to depict the time course of a drug through the body, application of knowledge gained can be concrete and direct. For example, Dr. Hazel Szeto, Cornell University, has determined the extent to which a fetus (in a pregnant sheep) is exposed to opiate drugs through the mother, and how the fetus is affected, including its behavior. She found that methadone is three times as strong as morphine in disturbing quiet sleep in the fetus.

Pharmacokinetics also can be used to help predict human performance in such tasks as driving a car, based on knowledge of drug concentrations in biological fluids. Dr. Travis Thompson, University of Minnesota, discussed this newly defined area of study, called "behavioral pharmacokinetics."

Thompson's presentation centered on the relationship of plasma drug concentrations to driving performance over time. In laboratory tests or simulations, he and his colleagues found that driving skills were impaired up to 7-8 hours after subjects had smoked a single marijuana cigarette.

Finally, Dr. Michael Mayersohn, University of Arizona, described his work with "toxicokinetics," techniques which use pharmacokinetic principles to develop the most efficient and effective means of eliminating toxic drugs from the body. "In the case of drug overdose," said Mayersohn, "you can take advantage of new information on how the body handles drugs to choose the most effective way to treat the drug overdose."

For example, charcoal is being widely used as a nonspecific treatment for drug overdose because it decreases the absorption of almost any drug into the bloodstream. Using pharmacokinetic data produced by laboratory tests, a clinician can

See PHARMACOKINETICS (P. 4, Col. 1)

PARKINSON'S

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co-investigators, Drs. Richard Burns, Sanford Markey, Chuang Chiueh, Michael Ebert, and David Jacobowitz.

Like human Parkinson's patients, the monkeys given the drug exhibit "shaking palsy," body rigidity, and bent-over posture. Also like humans, they respond dramatically to L-dopa treatment—the immobile animals perk up and move normally until the L-dopa wears off.

L-dopa is the chemical the brain uses to make the neurotransmitter dopamine. In laboratory examinations, the Parkinsonian monkey's brains show extensive destruction of cells in the substantia nigra, the area that produces dopamine.

The trail of evidence that led to the development of the monkey model of Parkinsonism began in 1977 when a 23-year-old chemistry student and drug abuser was referred to NIMH for evaluation. He had been admitted to the psychiatric ward of a general hospital with an initial diagnosis of catatonic schizophrenia after several days of injecting a "sloppy batch" of a home-brewed chemical analogue of meperidine called "NMPPP."

The youth was severely rigid and mute, had a tremor, and showed neurochemical changes typical of Parkinsonism. These symptoms subsided temporarily after treatment with L-dopa and similar drugs.

The young man persisted in abusing many drugs and died of an overdose in 1978. An autopsy confirmed severe loss of cells in the dopamine-producing substantia nigra region of his brain. The NIMH scientists determined that the damage was caused by "NMPTP," a sideproduct accidentally produced in shortcuts he took in his chemical processing.

Three years later, similar cases of severe Parkinsonism, again initially confused with catatonic schizophrenia, surfaced among young drug abusers in California. Two of the victims who had gone on a "run"—injecting what they thought was synthetic heroin over a period of several days—came to NIMH for study. Their spinal fluid showed neurochemical abnormalities resembling those found in Parkinson's patients and the other drug abuser. Again, response to L-dopa treatment proved dramatic.

Based on the accumulated evidence, the scientists initially tried to use the suspect chemical byproducts to duplicate Parkinsonism in lower animals—guinea pigs, rats, and cats. "It turned out that it could only be achieved in monkeys, whose brain metabolism and function closely resemble humans," said Kopin.

The NIMH scientists warned that a potential adverse consequence of "basement chemists" supplying the toxic chemical agent to unsuspecting street clientele could be a future epidemic of Parkinson's disease.

"Since dopamine levels in the brain decline naturally with age, we don't know if people who have taken such drugs will develop the disorder 20 years from now because they have superimposed drug damage on aging damage in the brain," Kopin said.

NIMH Epidemiologist Uncovers "Dramatic" Increase in Rate of Suicide by Firearms

The use of firearms to commit suicide has increased dramatically over the past 25 years—eclipsing other common methods of suicide such as hanging, gas, or poisoning, according to Dr. Jeffrey Boyd, NIMH Division of Biometry and Epidemiology, in the April 14 issue of the *New England Journal of Medicine*.

In fact, "the rate of suicide by firearms has been increasing more than twice as rapidly as the rate of suicide by gas or poisoning," says Boyd.

Analyzing data on the numbers and types of suicides from *Vital Statistics* for the years 1953 through 1978, Boyd discovered that for individuals under the age of 40, the suicide rate rose much more rapidly—from 4.5 percent in 1953 to 9.3 percent in 1978—than for people over 40. This dramatic increase was accompanied by a gunshot suicide rate which rose from 4.9 percent in 1953 to 7.1 percent in 1978.

During the same 25 years, the non-firearm suicide rate did not change.

Interestingly enough, the number of guns in U.S. households also increased, Boyd said. Data from the Bureau of Alcohol, Tobacco, and Firearms "showed that there were 51 guns per 100 persons in 1968 as compared to 73 per 100 in 1978."

Boyd notes that other studies have shown that handguns (as opposed to rifles) account for 83 percent of all suicides by firearms. Perhaps, Boyd suggests, the increase in suicide might be controlled by restricting the sale of handguns—for instance, instituting a waiting period between the attempt to purchase a handgun and the actual purchase.

"I think," said Boyd, "that people who are depressed and/or alcoholic also are inclined to be impulsive. If it became more difficult for them to kill themselves, the impulse might pass."

Dr. Jeffrey Boyd

In fact, he notes that another study shows that States with very strict gun control laws have lower suicide rates.

In Britain, where gas rather than firearms is the most common means of suicide, a decrease in the carbon monoxide content of domestic gas resulted in a decline in the suicide rate.

An accompaning editorial in the *Journal* states, "It is unlikely that the suicidal use of guns will be an important factor in any eventual decision to limit their availability, for suicide is not high on the list of America's political concerns"—despite the fact that more people shoot themselves to death than kill others with a gun.

But since one out of every six persons who is depressed commits suicide, continues the editorial, sound medical practice includes "getting guns out of the houses of despondent people."

—Judy Folkenberg, NIMH

PHARMACOKINETICS

from page 3

decide how much and how fast the charcoal should be administered (if at all) based on the time course and the way a drug is eliminated from the body.

With the new technology to produce "monoclonal antibodies," "we now can create a line of cells that produce specific antibodies to individual drugs, then grow them by the gram in mass cultures," explained Mayersohn. Previously, the production of antibodies in the laboratory was time-consuming, expensive, and imprecise, since antibodies could be produced only through administering antigens to animals and then harvesting the antibodies.

The "beauty" of the new monoclonal antibodies for treating drug overdose or drug abuse, according to Mayersohn, is that they can be designed to be specific for any particular drug, such as PCP, LSD, or THC. Charcoal, although often effective, is not drug-specific. "Potentially, you could innoculate a person against any kind of drug use by using antibody treatment," says Mayersohn.

—Lenore Gelb, NIDA

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Advisory Council Urges Greater NIMH Focus on Mentally Ill Offenders

The National Advisory Mental Health Council has adopted recommendations of its Committee on Law and Mental Health urging NIMH to increase the range of its activities regarding mentally ill offenders and related concerns.

The Committee's chairman, Dr. Paul Fink, Department of Psychiatry, Thomas Jefferson Medical College, presented the Committee's report at the Council's March meeting. He called on the Council to propose to NIMH that "new money and staff" for the law and mental health area enter into the Institute's budget planning for FY 1985.

Fink proposed that the Council press for more research on criminal offenders who are mentally ill, and that NIMH serve as the lead ADAMHA Institute for acquiring and disseminating information about mentally ill offenders, many of whom also abuse alcohol and drugs. It also was suggested that the Institute "play a convenor role" to bring together other agencies to clarify issues and roles regarding mentally ill offenders.

NIMH also has an appropriate role, the Committee felt, in providing leadership and

See LAW (P. 3, Col. 1)

Clinton Appointed International Head

J. Jarrett Clinton, M.D., M.P.H., has been appointed ADAMHA's Associate Administrator for International Affairs.

Clinton joins the agency after 2 years as Agency Director for Health and Population at the Agency for International Development (AID). That assignment followed 15 years of international health experience either at headquarters or in the field for AID and the Peace Corps and with private sector organizations such as Family Health Care, Inc., in Washington, D.C. and the Population Council in Bangkok, Thailand.

"Dr. Clinton brings a wealth of experience to the agency, both from abroad and with

See CLINTON (P. 2, Col. 1)

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES

SECRETARY'S CONFERENCE

COMBATING TEENAGE DRINKING AND DRIVING

More than 300 students and 54 school superintendents representing every State in the Nation will attend the Secretary's Conference for Youth on Teenage Drinking and Driving to be held this weekend at the National 4-H Center in Chevy Chase, Md.

The Conference is part of the Department's drive to combat teenage alcohol abuse.

Students who have run successful "don't-drink-and-drive" programs at their schools will present their model programs to show how positive peer pressure can be used effectively.

Secretary Margaret Heckler is scheduled to open the Conference Saturday, March 26, with a statement of support and commitment to carry out the Initiative which was begun by former Secretary Richard Schweiker. He had called upon Federal agencies, State and local governments, and the private sector to help reduce the "needless devastation of alcohol abuse among America's youth."

Alcohol-related traffic fatalities involving young people aged 16-24 total nearly 10,000 a year and are the leading cause of death among Americans in this age group.

The Conference is the second major event held as part of the Secretarial Initiative. The first was a series of 10 regional meetings for school administrators, teachers, and parents on prevention of alcohol abuse among youth. The third phase will be launched this fall with 15 Treatment Conferences in October and November to exchange infor-

See DRINKING (P. 8, Col. 1)

NIDA/JUSTICE JOINT PROJECT

New Look at Violent Alcohol/Drug Abusing Youth

Violent youth who abuse alcohol and drugs are the target of an unprecedented joint project between the National Institute on Drug Abuse and the Department of Justice's National Institute for Juvenile Justice and Delinquency Prevention (NIJJDP).

The 3-phase project will examine how the criminal justice system meets the needs of these juvenile offenders and how to improve linkages with community treatment services.

To help this underserved population, the Institutes met in late January for an orientation and planning meeting which culminated many years of exploring interagency collaborative approaches.

Carl Hampton, NIDA's Special Assistant for Criminal Justice, is project coordinator.

"The problem of dealing with substance-abusing juvenile offenders is not simple," said Dr. James Howell, Director, NIJJDP. "There is a gap in treatment alternatives in the juvenile justice system. We need to identify the problems of juvenile offenders, and we view this joint effort as a model for interagency collaboration."

The project consists of three phases. The first involves site visits to juvenile probation departments by expert consultants who will review court procedures, diagnostic processes, and community services that relate to violent substance-abusing youth. The consultants will then provide a blueprint to the probation agencies for improving operations.

In the second phase, the consultants will conduct drug abuse training of probation officers with a special focus on youth. In the third phase, they will provide technical assistance to improve intake and diagnostic pro-

See YOUTH (P. 2, Col. 3)

CLINTON *from page 1*

international programs of the U.S. Government. He will use every opportunity to work with other nations to help us solve our own alcohol, drug abuse, and mental health problems, and to help other countries deal with theirs," ADAMHA Administrator William Mayer said.

The 44-year-old Clinton holds a Master of Public Health degree in international health from The Johns Hopkins School of Hygiene and Public Health, and an M.D. from Kansas University. He is a Diplomate of the American Board of Preventive Medicine (Public Health).

In taking up his new responsibilities, Clinton sees two special challenges. The first is to be sensitive to and explore new opportunities as they emerge for international research and other work of benefit both to the United States and foreign countries.

"Each of the agency's Institutes has an excellent international activities officer and a program staff with exceptional scientific and technical expertise," he says. "I see my role as that of a 'forerunner' in identifying and laying the groundwork for additional international ADM projects, which then can be implemented and carried out by the Institutes working with scientists and officials from abroad.

Dr. J. Jarrett Clinton

"My other challenge from the Administrator is to bring the agency's international program to the highest level of quality possible within our resources," he says.

The foremost and longstanding objective of ADAMHA's international program is to help the agency achieve its domestic goals of expanding research knowledge on alcohol, drug abuse, and mental health problems, and of preventing these disorders. A parallel aim is to assist other countries in solving their indigenous problems in these health areas.

Clinton points out that much recent activity abroad has focused on alcohol abuse. "Nations which have long said they did not have alcohol problems, including advanced countries such as Israel and Japan and developing countries such as Mexico and India, now are recognizing such problems within their societies, and want to enter into collaborative endeavors with us to understand and try to control them. We already have entered into such arrangements, for example, with Israel, Japan, and Mexico, and are exploring mutual projects with India."

Such activities can have significant value to the United States from what we can learn about how alcohol problems emerge in a society, Clinton explains. "By gaining more understanding of factors involved in incipient alcohol abuse in these nations, we possibly will be able to strengthen our own prevention approaches."

Clinton also cites the advantage to the United States of learning about public policy instruments currently used in various European countries, such as excise taxes, point-of-sale restrictions, and minimum drinking ages, to limit access to alcoholic beverages and thereby reduce some alcohol-related problems.

"By understanding their experiences, we can improve our own similar use of these policy levers," he believes.

Another of Clinton's aims is to explore scientific exchange activities with Latin America.

"Except for our work with Mexico," he observes, "the agency presently has almost no cooperative activities with Latin American nations, in spite of our proximity and the enormous impact being felt on U.S. society both through increased immigration of Latin Americans and the influx of illegal drugs from those countries. We have a great need and opportunity to develop collaborative studies and projects with those countries."

Still other countries where Clinton currently is exploring possibilities for mutually beneficial research and collaboration are Spain and Pakistan.

Clinton received the Carl S. Schultz Award of the Population and Family Planning Section, American Public Health Association, in 1982.

He also received the William Jump Memorial Award for Public Administration in 1975 for managing AID's assistance effort to the Indonesian National Family Planning Program.

Clinton points out that this AID assignment helped him understand the need for sensitivity in working with other nations and cultures, and the complexity of transferring successful problem-solving approaches from one country to another. For instance, a family planning program implemented with AID assistance in Java and Bali, densely populated islands of Indonesia, "would not work in outer islands of that same nation because they have different community structures," he says.

"In parallel fashion, we may not be able to apply what we learn in activities with foreign countries directly in this country. But if we find methods that can be adapted to our own situation, it is worth the effort." he concludes.

—James Helsing, ADAMHA

Mayer Honored by American Psychiatrists

Dr. William Mayer, ADAMHA Administrator, has been awarded a Certificate of Achievement by the American College of Psychiatrists.

He was honored at ACP's 20th annual meeting February 19 in New Orleans, La., "in recognition of his outstanding leadership as Administrator of the Alcohol, Drug Abuse, and Mental Health Administration, and in appreciation of his many contributions to national mental health and substance abuse programs."

YOUTH *from page 1*

cedures. As a result, youth services would be enhanced through better linkages between juvenile probation departments and community-based youth services networks.

Carl Hampton

Hampton emphasized that representatives of ADAMHA plan to collaborate on this project since understanding the problems of violent youth who abuse alcohol and drugs encompasses priorities of all three Institutes.

Other juvenile justice prevention and drug treatment agencies which participated in the meeting and have agreed to offer assistance include the American Correctional Association, the National Institute on Corrections, the American Probation and Parole Association, the National Association of State Alcohol and Drug Abuse Directors, the Multi-Cultural Prevention Work Group, the National Association of Counties, and the National Council of Juvenile and Family Court Judges.

—Lenore Gelb, NIDA

ADAMHA NEWS

Alcohol, Drug Abuse, and Mental Health Administration
William Mayer, M.D. Administrator

National Institute on Alcohol Abuse and Alcoholism-William Mayer, M.D., Acting Director
National Institute on Drug Abuse-William Pollin, M.D., Director
National Institute on Mental Health-Herbert Pardes, M.D., Director

Mildred Lehman, Associate Administrator for Communications and Public Affairs — ADAMHA Office of Communications and Public Affairs

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ALCOHOL, DRUG ABUSE, AND MENTAL HEALTH ADMINISTRATION

ADAMHA News invites comments. Phone (301) 443-3783 or write to: OCPA, Room 12C-15, 5600 Fishers Lane, Rockville, Md. 20857.

LAW *from page 1*

technical assistance to the States in assembling, analyzing, and sharing forensic information with each other, their legislatures, and the courts.

"The problem of the mentally ill offender is of great public concern," said Fink. "There is confusion between the criminal justice system and the mental health system as to who is responsible for the mentally ill offender. For example, who should go to jail, and who belongs in the hospital?"

The Committee also discussed other pertinent questions, according to Fink, such as: What is the proper role of mental health professionals in the adversary legal process? How should mentally ill offenders be handled, following adjudication, with respect to their confinement, suitable treatment, and aftercare needs? What is the relationship between alcoholism and drug abuse and criminality?

"There is a need for leadership in addressing longstanding issues, on which public attention has recently refocused, regarding mentally ill offenders and those mentally ill persons who have engaged in or are considered very likely to engage in violent [dangerous] behavior," the Committee's report states.

"This population of mentally ill persons is greatly underserved. It is shifted between the legal and mental health systems whenever the threshold for entry to one system becomes markedly high.

". . . Public attention has focused on protection of society from the perceived threat of violent persons and mentally ill offenders . . . There is a need to balance attention between issues of social control (viz., protection of the public) and individual rights and liberties, and related concerns regarding the need for proper followup, care, and treatment of mentally ill persons following release from mental hospitals," the report states.

While noting that the Hinckley case and recent reports and recommendations from the American Psychiatric Association and the American Bar Association on the insanity defense have served to focus attention on issues already of major concern, Fink emphasized that the insanity defense was not the focus of the Committee's deliberations. However, according to the Committee's report, those developments highlighted the need to assess the role of the mental health field and of NIMH and ADAMHA in regard to law and mental health issues.

"Despite the high public attention, there is both an inadequate data base for sound decisionmaking and a lack of appropriately trained investigators to increase the data base as rapidly as the Committee believes should take place," the report held.

In the Committee's view, the needed research should include studies of: aggressive and violent behavior and the relation of such behavior to psychopathology; the exact nature and extent of violence by the mentally ill; how such persons come to the attention of the legal and mental health systems; the decisionmaking process in both systems regarding mentally ill offenders; various commitment procedures, especially criminal commitments; diversions from the criminal justice system to the mental health system (both pre- and post-trial); and disposition, treatment, followup, and later outcomes for mentally ill offenders.

The Committee acknowledged the longstanding work of the NIMH Center for Studies of Crime and Delinquency, and recommended that the Institute's expertise become a base for expanded effort.

Other Committee members were: Virginia Dayton of Phoenix, Ariz.; Dr. Layton McCurdy, Psychiatrist-in-Chief, Institute of Pennsylvania Hospital, Philadelphia; and Dr. W. Douglas Skelton, Department of Psychiatry, Emory University School of Medicine.

NIMH staff who met with the Committee were Lorraine Torres, Associate Director for Extramural Programs; Lindsley Williams, Director, NIMH Office of Policy Development, Planning and Evaluation; and Dr. Saleem Shah, Chief, Center for Studies of Crime and Delinquency.

—M.K.L., ADAMHA

EPIDEMIOLOGICAL TREND

Mothers-To-Be Give Up Alcohol Before Cigarettes

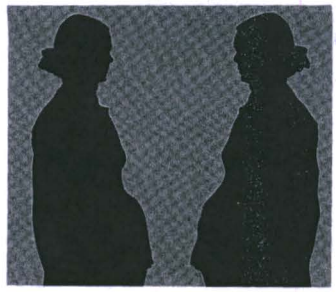
A team of epidemiologists has found that pregnant women are more likely to stop drinking alcoholic beverages than to give up cigarette smoking.

The finding comes from a survey sponsored by the National Institute on Alcohol Abuse and Alcoholism and the National Center for Health Statistics. The survey will help researchers determine whether expectant mothers are heeding the Surgeon General and other medical authorities who have warned of tobacco's and alcohol's threat to the newborn.

"One might have expected a greater reduction in smoking than drinking," the epidemiologists noted, "given the duration and magnitude of media messages mounted in the past two decades about the deleterious effects of smoking while pregnant, compared with the more recent and modest messages against drinking while pregnant."

According to Henry Malin of NIAAA's Division of Biometry and Epidemiology, "This has shown that, for some people, it is very likely far more difficult to give up nicotine than it is to give up drinking."

Another study has suggested that moderate to heavy drinkers may decrease their drinking because, during pregnancy, alcohol becomes disagreeable and unappealing in taste and smell, or because of adverse physiological effects.



The pre- and postnatal smoking and drinking of more than 7,000 mothers were surveyed. The women and their physicians answered a range of questions about pregnancy history and outcome, and medical records were made available to the survey team.

Two groups of mothers were surveyed—those who had had successful deliveries and those whose infants had been stillborn. The survey found little difference in cigarette or alcohol use between the groups. About one-fifth of the mothers of both groups smoked and drank before pregnancy, and one-third of both groups abstained from cigarettes and alcohol.

When smoking and drinking were analyzed separately, the researchers found that 55 percent of all the women drank and 30.9 percent smoked before pregnancy.

During pregnancy, the survey also revealed, the mothers of both groups reduced their consumption in a similar way, with two significant exceptions: more stillbirth mothers continued to smoke during pregnancy, and more live-birth mothers continued to drink.

After pregnancy, almost one-half of all the mothers abstained from smoking and drinking (up from one-third before pregnancy). The number of women who drank and smoked was cut nearly in half (from 20.8 to 12 percent). The number of drinking/non-smoking women also dropped (from 34.2 to 27.2 percent).

Only the percentage of smoking/non-drinking women increased after pregnancy, from 10.1 to 13.5 percent. The survey team

See PREGNANCY (P. 4, Col. 1)

POSTPONED

The U.S.-Israel Binational Symposium on "Interrelations of Epidemiology and Health Policy," scheduled for March 21-23 at the National Institutes of Health, has been postponed.

AMONG STEELWORKERS . . .

Managers Cope Better; Minorities Suffer More

When the shutdown of an Ohio steel mill laid off large numbers of steelworkers, two NIMH-funded researchers conducted an on-site investigation of stress among the fired employees.

Interviewing 273 steelworkers and 55 managers after both the first and the second years of the shutdown, Drs. Terry Buss and F. Stevens Redburn found that the managers coped better than the steelworkers, that minorities suffered more than their white coworkers, and that each employee's reaction differed according to personal employment history, current personal resources, coping abilities, and available support systems.

Dr. Terry Buss

Buss and Redburn, Center for Urban Studies, Youngstown State University, began their study in September 1977 when the Lykes Corporation suddenly announced that it was closing down the Youngstown steel-mill. Nearly 4,100 workers were laid off initially, and hundreds followed, according to the researchers.

Findings of the research project included:

- Steelworkers felt more helpless, victimized, and distrustful than managers. The workers also experienced more health and somatic problems. Managers coped with their depression by self-medication, particularly with over-the-counter drugs (aspirin and sleeping pills), while steelworkers increased their alcohol consumption.

> *"Families who were supportive during the initial crisis often succumbed to the strain over the long haul."*

- As the period of their unemployment lengthened, blacks and other minorities suffered most from feelings of victimization and of dwindling family support. Buss and Redburn found that minorities' family relationships remained strong during the first 2 years of the layoff, but by the third year, familial ties began to deteriorate. Families who were supportive during the initial crisis often succumbed to the strain over the long haul, they reported.
- Wives of the unemployed, regardless of their husbands' occupational status, appeared to cope better than the workers themselves. Two important exceptions were increases in somatic problems and alcohol use among steelworkers' wives.
- Children of steelworkers and managers responded as their fathers did. Steelworkers' children felt more immobile, more helpless, and more victimized than managers' children. Also, children of unemployed fathers were more likely to avoid social interaction and were more distrustful than children of those who still had jobs.

Eventually, nearly 95 percent of the laid-off workers were able to find new jobs or became eligible for retirement (in many cases, "early" retirement). As a result, the researchers surmise, severe psychopathological behavior was "no more prevalent among individuals in our samples than one might expect among the general public."

Other factors which Buss and Redburn believe may have mitigated the extreme emotional stress usually associated with unemployment included the steelworkers' high wages (they are among the highest paid workers in the United States) and various unemployment benefits they received from their union and the government. This financial cushion insulated them from more severe psychological impacts over a short-term layoff.

The researchers observe that, according to workers' reports, moderate and short-term use of alcohol and over-the-counter drugs "may have served as an antidote against more severe mental and emotional problems." They also conclude that close family ties provided a mechanism for self-help during the time of crisis.

—Judy Folkenberg, NIMH

PREGNANCY from page 3

believes that this rise occurred "partly because women who both smoked and drank were more likely to give up their drinking than their smoking."

The survey also gathered data on age, race, education, and family income. For example: The proportion of mothers who both smoked and drank declined with age, from 26.7 percent for teens (who showed the largest decline in prenatal smoking/drinking) down to 15.8 percent for mothers 35 and older.

Mothers age 25-29 had the lowest rate of complete abstinence before pregnancy—and the largest increase in prenatal abstinence.

Whites had lower rates of abstinence and higher rates of drinking/nonsmoking and drinking/smoking during pregnancy than did nonwhites.

Only one-third of the white mothers abstained before pregnancy, compared to one-half or more of the nonwhite mothers.

Hispanic mothers were less likely to be smokers/drinkers before and during pregnancy than non-Hispanic mothers.

The least educated mothers were most likely to abstain from smoking and drinking both before and during pregnancy. Except for the most highly educated mothers, those with the least education had the lowest percentage of smokers/drinkers.

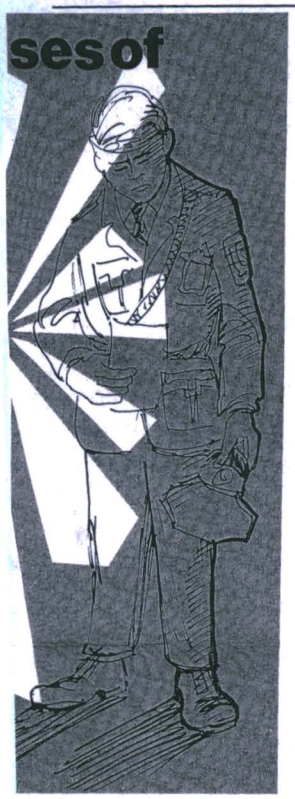
The most highly educated mothers registered the largest reduction in smoking/drinking and the largest increase in abstinence.

There was a direct association between education and drinking and an inverse correlation between education and smoking.

The patterns of smoking and drinking by family income level were parallel to those observed for education. In general, the higher the income, the lower the rate of abstinence, the lower the rate of smoking/nondrinking, and the greater the rate of drinking/nonsmoking.

The survey will be published in the 1983 edition of *U.S. Health* scheduled for release in December.

—Wilbur Pinder, NIAAA



AMONG POLICE . . .

Retained Cops Seek More 'Layoff' Counseling

Recent layoffs among the Boston police force proved to be particularly traumatic among those officers who remained on the job, according to NIMH-supported research by Dr. Donald Seckler.

In fact, far more of the retained officers made visits to a police counseling unit than did the fired officers, Seckler reports.

His findings reveal that the fired officers believed that money would be found to rehire them, a hope buoyed by massive public reaction, rumors, and press reports. Meanwhile, the retained officers struggled to cope with guilt feelings, increased assignment loads, and greater personal risk.

In November 1980, citizens of the State of Massachusetts passed Proposition 2½, a law that limited the amount of revenue cities and towns can raise from real estate taxes.

To stay afloat in the face of reduced revenues, Boston's mayor announced drastic budget cuts which resulted in police department layoffs beginning July 1981.

In anticipation of the layoffs, staff of the Boston Police Department's stress unit, a longstanding peer counseling service, prepared for increased numbers of fired officers with mental health problems.

They started by publicizing the unit, establishing a network of referral agents, and training some 30 departmental health coordinators to watch for stress-related symptoms among the police force. Once the layoffs began, letters were sent to each fired officer informing him or her of the unit's services.

Surprisingly, few of the fired officers visited the stress unit—but the unit did become very popular with certain groups of officers who had not been fired.

"Many older police, both officers and superior officers, came to the unit during this crisis period because of depression, anxiety about their ability to cope, and exacerbated alcohol problems," says Seckler.

In general, police who remained on the job seem to have suffered more than those who did not, a finding for which Seckler offers several explainations. The unemployed officers believed rumors and press reports that they would soon be rehired and that money would be found somehow. In the interim, many police held second jobs and had wives who worked; by and large, they did not fear losing their homes or cars due to foreclosure.

> *"A government service which attempts to cut 10 percent of its payroll through a 10-percent layoff may wind up with only 65 to 75 percent productivity."*

The officers who stayed on the job, however, had to conduct "business as usual" with a smaller force. Backlogs and bottlenecks were commonplace, because "the overloaded system tends to back up and finally to break down," says Seckler.

This stressful situation was aggravated by officers' feelings of guilt for having survived the layoff. Police also lost faith in the security, structure, and "rightness of their work," Seckler reports. They came to feel that the city management didn't really value their service to the public.

Seckler also found that older officers who had held desk jobs for several years came to the stress unit anxious or depressed about their abilities to cope with street jobs and a hostile and ugly world. "They wondered if they would be able to make the 'right moves' quickly enough," he comments.

In the wake of the layoffs, officers carried out dangerous job assignments knowing that there might not be enough police to answer a call for help. Many struggled with conflicts between duty and self-preservation: on the one hand, they said, "Why respond quickly to a call that may cost you your life?"; on the other hand, they retained pride in "doing the job" and often took risks despite their better judgment.

Seckler concludes, "A corporation or government service which attempts to cut 10 percent of its payroll costs through a 10-percent layoff may wind up with only 65 or 75 percent productivity, instead of the 90 percent which a simple analysis might suggest."

(Postscript: By the end of June 1982, all fired officers had been rehired.)

—Judy Folkenberg, NIMH

National Workshop in Mid-April to Foster Services Aimed at Workers' Mental Health

A week-long national workshop on service programs designed for workers will take place in California in mid-April under a grant from the National Institute of Mental Health.

"Organizing and Delivering Social Services to Workers and Work Organizations" will be held April 11-15 at the University of Southern California (USC). It is a joint East-West venture of the Industrial Social Welfare Center of Columbia University's School of Social Work and USC's School of Social Work.

The workshop is expected to draw personnel managers, trade union representatives, community mental health center staff, and other service providers involved in meeting the mental health needs of the workplace through employee assistance programs, health maintenance organizations, and other arrangements with industry and labor.

Sessions will include site visits to workplace programs as well as research presentations and group discussions. Participants will learn how to: develop an employee assistance program; price and market the program; provide clinical services specially designed for workers who are having problems functioning on the job; and analyze and report results of workplace programs.

The workshop is one of a continuing series offered by the Industrial Social Welfare Center under NIMH funding. Dr. Sheila Akabas, Center Director, will head the faculty. Speakers will include Michael Lerner, Director of the Institute of Labor and Mental Health in Oakland, Susan Smith of New Ways to Work, Edward Watson of United Airlines, Miriam Ludwig of the Amalgamated Clothing and Textile Workers Union, and Jacqueline McCorskey of the National Employer Supported Day Care Study.

Registration fee for the week, including all materials and several meals, is $40. Registration is limited. For further information, contact the Industrial Social Welfare Center, (212) 280-5173.

RANGE OF PROPOSALS

NIMH and Volunteers Discuss Approaches to Promotion/Prevention

How do you select priorities among approaches to prevent mental illness and promote mental health?

This difficult question was tackled at a February meeting cosponsored by the NIMH Office of Prevention and the National Mental Health Association (NMHA).

During the 1½-day meeting, consultants from NIMH, the media, and community, State, and national mental health organizations were called upon by Dr. Herbert Pardes, NIMH Director, to address still another question: "How can NIMH—a scientific, research-oriented agency—and NMHA—a nationwide volunteer network—merge their organizational skills to best fulfill mutual commitments to prevention and promotion?"

The questions were discussed at length during a workshop chaired by Beverly Long, NMHA Prevention Committee head. "To clarify issues," Long asked consultants to distinguish between prevention and promotion, both of which are "long-term NMHA goals whose time has come," she said.

Workshop participants agreed that the differences lay in the terms themselves: *prevention prevents* serious illness by assisting populations at risk and *promotion promotes* wellness by enhancing the functioning of those who are healthy. Fern Field, a television producer, explained it this way: "Prevention is keeping someone who has a cold from getting pneumonia. Promotion is keeping someone from getting a cold in the first place."

> *"The only way to change health funding practices is to mobilize citizen support and make people aware that many conditions can be prevented."*

In discussing the definitional differences, Dr. Jacquelyn Hall, Chief, NIMH Mental Health Education Branch, warned against "making promotion for the 'haves' and prevention for the 'have-nots.' " She pointed out that wellness programs, such as stress management training, often are directed toward the middle and upper classes, while prevention activities tend to focus on poorer populations thought to be more at risk.

When Long asked consultants to suggest "realistic prevention and promotion goals for NMHA," their comments reflected their areas of expertise and professional experience.

For instance, NIMH staff and mental health researchers emphasized the need for specific, targeted, and scientifically-based efforts. Dr. Morton Silverman, Chief, NIMH Prevention Research Branch, suggested that promotion activities be targeted to specific developmental issues of various age groups. He also ventured that it might be fruitful if NMHA worked "lockstep" with NIMH's prevention program to build on research findings.

Beverly Long

Dr. Stephen Goldston, Director, NIMH Office of Prevention, also urged specificity, noting that "there is much needless suffering because people do not have appropriate cognitive skills and information." He suggested, for example, teaching people strategies for coping with separations and losses "that everyone faces during a lifetime."

As a way of bringing science into promotion, Dr. Marshall Swift, Professor of Psychology, Hahnemann Medical College, recommended doctoral-level support for mental health workers to specialize in prevention and promotion. Further, he suggested the creation of a doctoral-level curriculum designed to promote effective interpersonal relationships for all age groups with an eye toward specific developmental tasks.

It also would be useful, he said, to "scientificize" individuals already doing effective promotion by giving them research skills to study what it is they are doing and explore replication and dissemination.

Different perspectives were provided by other consultants. Some expressed concern that the "illness" orientation of most mental and physical health professionals weakens their ability to promote health. "They are trained to diagnose and treat problems, not to promote health," said one participant. Several spoke of the need to train health professionals in wellness concepts and skills, and to sensitize physicians to the emotional needs of patients.

Dr. Emily Mumford, Medical Sociologist and Professor of Psychiatry in Preventive Medicine, University of Colorado Medical School, pointed out that "medical students are not tested on sensitive listening, nor are doctors reimbursed by third-party payers to listen to their patients." She suggested educating health insurers about the potential economy of promotion and prevention strategies and enlisting their involvement.

Rick Carlson, Human Resource Group, San Francisco, argued against a Federal or medical role in promotion. Citing NMHA's nationwide representation, he suggested that the organization stimulate health promotion through effective community organizations and self-help groups.

Charles Roppel, Director, Office of Mental Health Promotion, San Francisco, described how he bypassed the "mental health industry" and went right to the consumer with a State mental health promotion campaign. He avoided the mental health constituency because "they viewed any State funds granted for promotion as money out of their pockets," said Roppel. Nevertheless, because of a positive community response to his "Friends Can Be Good Medicine" campaign, his promotion efforts continue to receive State funding.

The only way to bring about change in health funding practices is to mobilize citizen support and to make people aware that many conditions in DSM-III can be prevented, said Dr. George Albee, Professor of Psychology, University of Vermont.

"I no longer believe that most changes are made on the basis of logic or reason," he said. He pointed out that despite the trend toward deinstitutionalization, 70 percent of mental health funds have continued to go to hospitals and only 4 percent to community mental health centers. Deinstitutionalization, he contended, did not occur because of the "drug revolution" or changes in treatment philosophy, but because State Governors realized they could shift the economic burden from the State to the Federal Government.

> *"An effective media campaign must focus simple messages at specific audiences over a prolonged period of time."*

Dr. David Groves, Michigan Mental Health Administration, pointed out that State agencies typically do not have prevention advocacy programs. He suggested that a variety of constituencies, such as those in education and mental and physical health, be encouraged to organize around wellness issues and to refrain from competing over turf.

Agreeing with Groves, Dr. Margaret Hastings, Executive Director, Commission of Mental Health and Developmental Disabilities, Chicago, noted that unless prevention were to have its own constituency, "it would not survive politically." She advocated focusing on a few pluralistic priorities with sensitivity to ethnic and cultural variances. Unemployment could be such a priority; it is the country's number one issue, she pointed out, involving alcohol and drug abuse as well as mental health problems.

The role of the media in promoting health was addressed by TV producer Field and Boston radio station manager Carlayne Murrell. Field said that the mass media can be used effectively to create a climate of receptivity for specific promotion goals targeted at

See PREVENTION (P. 7, Col. 1)

Alcohol/Drug Abusers Who Are Hearing Impaired Are Target of Statewide Georgia Campaign

Georgia has taken the lead in launching alcohol/drug abuse services for hearing-impaired and other disabled people with help from the National Institute on Drug Abuse.

The Georgia School of Alcohol and Drug Studies, an annual 3-day conference on preventing and treating alcohol/drug abuse, was interpreted for the hearing-impaired for the first time at last year's meeting. As part of the State's Handicapped Persons Training Initiative, 15 rehabilitative services providers participated, two of whom had hearing impairments.

The service providers were trained at the conference to serve as a pioneer group of rehabilitators who can identify alcohol/drug problems in disabled clients and refer them to treatment.

Findings from studies of alcohol and drug abuse among the disabled were presented at the meeting. One research premise was that, since an estimated one out of ten non-disabled persons abuses alcohol and/or drugs, the incidence must be at least that high among the physically disabled, who face greater-than-average stress. Yet, surveys reveal that counselors identify only one out of twenty disabled clients on the average as having an alcohol or drug abuse problem.

In one study, rehabilitation workers were asked to gauge what percentage of their clients abuse alcohol and/or drugs. Their assessments ranged from as few as 2 percent to as many as 75 percent.

To address this problem, training in new skills and new technology for both alcohol/drug abuse service providers and rehabilitation workers is underway throughout the State of Georgia under the direction of Steve Davidson, Training Coordinator for the Georgia Department of Human Resources.

The training project is funded by NIDA's Technology Transfer Branch, Division of Prevention and Communication, which supports a range of training projects in 53 States and Territories. According to Lillian Marks, project officer for the State grants, the Branch is closely monitoring Georgia's efforts on behalf of the hearing-impaired because it intends to provide technical assistance to other States interested in replicating the project.

Besides the rehabilitation workers' attendance at the 1982 School of Alcohol and Drug Studies, other collaborative efforts have included:

- A special workshop for alcohol and drug abuse counselors on "Working With Physically Disabled Substance Abusers." Two similar conferences are planned. The Third Annual Kiwanis Institute on Deafness, scheduled for May 22-24 at the University of Georgia, will focus on "Alcohol and Drug Problems Among the Deaf: Prevention, Intervention, and Treatment Solutions." The State Division of Rehabilitative Services also is planning a conference on the problems of the hearing-impaired for alcohol/drug and rehabilitative workers.
- A self-help group for the deaf, modeled after Alcoholics Anonymous and formed in a treatment center for substance abusers.
- Development of a videotape to aid in training abuse counselors in the special dynamics of addiction among the deaf. Because the videotape will be "signed" (will use sign language) as well as spoken, it is designed for work with deaf clients as well.
- A radio interview show scheduled to air throughout the State to acquaint non-disabled people with problems of alcohol/drug abuse among those who are physically disabled.
- A prevention workshop for people recently disabled to help them adjust to new disabilities without turning to alcohol or drugs.

The challenges and opportunities for such projects surfaced at the 1982 Georgia School when the conference's planners began the job of making the meeting accessible to hearing-impaired participants.

Sign-language interpreters were recruited with help from the Georgia Division of Rehabilitative Services and the Georgia Interagency Council on Mental Health and Deafness (a volunteer advocacy group). The interpreters were needed not only for the main presentations, but also for the small group discussions.

All speakers were briefed in advance on the need to pause throughout their remarks to allow sufficient time for "signing." Even coffee breaks and meals, where much informal discussion takes place, became occasions for sign-interpretation.

The last night of the conference featured entertainment by the Northside High School Players, stars of a recent television commercial for Coca-Cola. The performance was presented to demonstrate that young people can find satisfying alternatives to alcohol and drugs. The sign-translation of the entire show exemplified how new worlds can be opened to the hearing-impaired.

The School's closing sessions provided another portent of things to come: the session chairperson learned enough sign language to translate the first part of his presentation.

—K.C., ADAMHA

PREVENTION from page 6

the public, health care providers, industry, and insurers.

Murrell agreed and reported that, from her experience, an effective media campaign must focus on a single concept and involve a coordinated effort to direct simple messages at specific audiences over a prolonged period of time.

Other suggestions included the development of a clearinghouse for mental health promotion, stimulation of wellness programs in the workplace, training in stress management, and consultation with NIDA and NIAAA about their prevention programs.

It was generally agreed that NMHA is organizationally well-suited to reach a wide variety of professional and community spheres with a promotion campaign.

Other consultants included Dr. Ellis Gesten, Psychologist, University of Southern Florida; Anne Kiefhaber, Washington Business Group on Health; Dr. William Harvey, Vice President for Program Development, NMHA; Ruth Relos, Director, Office of Prevention, Raleigh, N.C.; Dr. Ray Lorion, NIMH Prevention Research Branch; and Dr. Barbara Silver, NIMH Office of the Director.

—Marilyn Sargent, NIMH

DRINKING *from page 1*

mation about local treatment services for young people with drinking problems.

In connection with the Secretarial Initiative on Teenage Alcohol Abuse, a student art exhibit will be held in the Great Hall of the Hubert H. Humphrey Building, 200 Independence Avenue, S.W., Washington, D. C.

The March 21-25 exhibit will feature art and multimedia presentations on teenage alcohol abuse and drinking and driving submitted by schools and private organizations from around the country. Heckler is scheduled to view the exhibit and make special recognition awards on March 23 at 11 a.m. The public is invited to attend.

The exhibit is intended to complement the Conference by giving several groups a chance to participate in the Initiative who otherwise would be unable to do so.

School superintendents participating in the conference have been given discussion packets and urged to hold local meetings to generate community action on teen drinking and driving issues. Such meetings throughout the States, with youth, parent groups, and business, social service and civic leaders, are designed to start local dialogues before the national conference for followup when the young people return home with ideas for anti-drinking-driving programs.

Since researchers have noted that peer group pressure often leads young people to drink alcoholic beverages, the Secretarial Conference will encourage positive peer group pressure to warn against drinking and driving. It will focus national attention on the problems of teenage drinking and driving and on student-run school programs directed at drinking and driving.

"In October and November," said Edward Kelly, Coordinator, Secretarial Initiative on Teenage Alcohol Abuse, "the 15 Treatment Conferences around the country will focus on treatment modalities specifically designed for treating teenagers.

"These Conferences will include presentations on how to assess need as well as develop treatment programs, get reimbursement and fiscal support, and coordinate efforts with other agencies working with teenagers," Kelly said.

Each Conference will be designed to meet the needs of a specific geographic region. Local planning and advisory boards are being established to help plan and coordinate the Conferences.

—M.K.L., ADAMHA

REGIONAL CONFERENCE

New England Takes Aim at Teenage Alcohol Abuse

A 1-day meeting on teenage alcohol abuse prevention was held in Region I February 23 to foster collaboration among involved Federal agencies and stimulate State and private sector action.

The meeting was held in support of the HHS Initiative on Teenage Alcohol Abuse launched last October.

Edward Kelly, NIAAA Coordinator of the Initiative, was on hand at the meeting in Sturbridge, Mass., to answer questions about the Initiative and to brief participants on upcoming activities, including the Secretary's Conference for Youth on Teenage Drinking and Driving in Chevy Chase, Md., March 26-28.

Edward Kelly

Also addressing the gathering were Claira Monier, DHHS Regional Director, Edward Montiminy, PHS Regional Health Administrator, and John Connors, Regional Administrator, National Highway Traffic Safety Administration.

Attendees included State Alcohol Authorities from the New England Region, Highway Traffic Safety Officers from New England Governors' Offices, and representatives of State Commissioners of Education.

Also taking part were officials from independent and parochial school systems.

Several participants made presentations on their activities related to alcohol abuse prevention, and attendees exchanged information on prevention models that have worked and those that have been less successful.

According to Dr. Leon Nicks, Region I ADAMH Division Director, the meeting came about as a result of active collaboration among staff from several agencies engaged in activities related to alcohol abuse prevention. Promoting this kind of collaboration among involved Federal departments is one of the priority objectives of the HHS Initiative on Teenage Alcohol Abuse.

A Region I Interdepartmental Committee, formed shortly after the Initiative was announced, now meets monthly to identify model alcohol abuse prevention activities, serve as a clearinghouse for information related to the Initiative, and sponsor special events such as the Sturbridge meeting. The Committee includes representatives of the Regional Director, the Regional Health Administrator, and the Departments of Transportation, Education, and Health and Human Services.

For further information, contact Amy Barkin, Regional Consultant for Substance Abuse, (617) 223-5494.

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PRESIDENT ANNOUNCES ANTI-DRUG ABUSE INITIATIVE

President Reagan took a personal stand against drug abuse June 24 when he urged the Nation to "get away from the fatalistic attitudes of the late '70s and assert a positive approach that involves as many elements of this society as possible."

He backed up his declaration with an Executive Order which creates a Drug Abuse Policy Office in the White House Office of Policy Development.

Dr. Carlton Turner, Senior Policy Advisor for Drug Policy since 1981, was named Director of the new office.

The President also met with 19 Federal agency heads—among them, ADAMHA Administrator William Mayer, NIAAA Acting Director Loran Archer, NIDA Director William Pollin, and NIMH Director Herbert Pardes—and directed them to work with the Drug Abuse Policy Office on a 1982 Federal Strategy for Prevention of Drug Abuse and Drug Trafficking, due to be released in late summer.

At a special ceremony in the White House Rose Garden, President Reagan charged the Federal chiefs to report to Turner "within 2 weeks with your suggestions" on ways to achieve the proposed strategy's two major goals: reduction of drug supply by intercepting drugs smuggled from abroad, and reduction of drug demand by educating young people and their parents about the dangers of drug abuse.

Recounting the Administration's successes to date in achieving these goals, the President praised the efforts of First Lady Nancy Reagan and Vice President George Bush, both of whom joined him at the signing of the Executive Order.

He credited Bush with directing a highly effective task force on a drug smuggling in South Florida which has dramatically reduced marijuana and cocaine trafficking in that area.

He also expressed great pride in Mrs. Reagan's work with parents' groups across the country. In recent months, the First Lady has traveled extensively to raise national awareness of drug abuse among youth and stimulate private sector involvement.

See REAGAN (P. 2, Col. 1)

INSIDE . . .

What Makes Treatment Succeed? 5

U.S. Department of Health and Human Services

July 16, 1982
Vol. VIII
No. 13

Schizophrenia Tends To "Burn Out" In Later Life, Say Researchers

There may be light at the end of the tunnel. Schizophrenia is not necessarily the hopeless mental illness so often depicted in the literature, said researchers reporting the latest findings at a recent NIMH meeting on schizophrenic disorders in later life.

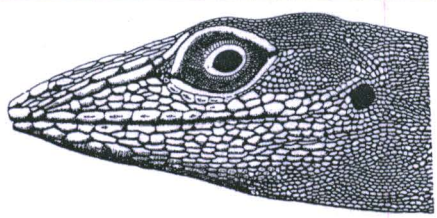
Cosponsored by the Center for Studies of the Mental Health of the Aging and the Center for Studies of Schizophrenia, the meeting brought 31 speakers to the NIH campus to share information about the precursors, course, and treatment of schizophrenia among the elderly.

Between 20 and 30 percent of schizophrenic patients recover completely, and some 40 percent improve markedly, according to Dr. Luc Ciompi, Socio-Psychiatric University Clinic, Berne, Switzerland. He told attendants that three long-term Swiss studies, which followed some patients for as long as 36 years, found that only 20 percent retain severe residual effects of the illness.

See ELDERLY (P. 3, Col. 1)

THE REAL 'SECRET'

Chameleon Skin Holds Key To How Neuron Works



In the book that inspired the cartoon feature film, "The Secret of NIMH" (currently being shown at local theatres), a fictitious "Dr. Schultz" injects rats with a drug that makes them smart—so smart, in fact, that they figure out how to open their cages and escape to establish their own advanced civilization.

In real life, an NIMH intramural researcher, Dr. Thomas O'Donohue, has been studying a naturally-occurring brain substance, alpha MSH (melanocyte stimulating hormone), which, when injected in rats, enhances their learning and memory—and does the same for humans as well.

O'Donohue's rats, given shots of alpha MSH, have hardly waxed brilliant enough to read the instructions on their cages as their fanciful counterparts do. But in the fantastic event that they ever did escape, their first adventure would likely be with lizards in O'Donohue's lab.

For the real "secret of NIMH" is this: the cell on the skin of the chameleon lizard that mysteriously turns from green to brown holds the key to understanding the cell in the rat and human brain that secretes not only alpha MSH but also the opiate peptide beta endorphin.

The same chemical mechanism that adapts chameleons to their environments via camouflage adapts mammals to theirs via a transformation of the limbic cell called the opiomelanotropinergic neuron. The neuron changes from one which induces heightened

See SECRET (P. 7, Col. 1)

Kosterlitz Speaks on Enkephalins

Dr. Hans Kosterlitz, an award-winning scientist who is a long-time NIDA grantee, visited the Institute May 21 to speak on his landmark 1975 discovery of enkephalins in the central nervous system.

"Enkephalins," a term Kosterlitz coined from the Greek word for "brain," are endogenous or internal short-chain peptides. Along with endorphins, which are long-chain peptides, enkephalins produce effects much like those of morphine and other opioid drugs.

The discovery of these peptides served as a breakthrough in the field of neurobiology, Kosterlitz explained, because it was a critical step in understanding the complex brain mechanisms underlying the perception of pain and pleasure.

Following the discovery of specific opiate receptors in the brain, Kosterlitz reported, he applied sensitive assays of animal tissues to identify endogenous opiate-like substances that bind to these same receptors.

Using these assays, Kosterlitz found enkephalins in strategic neuronal pathways in the spinal cord and in many brain structures including the hypothalamus and associated pituitary gland. This led him to speculate that they might play an important role in biological processes as varied as respiration

Dr. Hans Kosterlitz with Dr. William Pollin, NIDA Director

and mood, and even in mental illnesses such as schizophrenia.

Kosterlitz emphasized that many basic research questions related to enkephalins, endorphins, and their receptors have yet to be answered. While many studies have pinpointed the chemical and pharmacological properties of these endogenous opioids, he reported, much less is known about their biosynthesis, the mechanisms which regulate their release from nerve endings, and their interactions with the exogenous opioids such as morphine.

Research in these areas might stimulate the production of a more effective drug treatment to counteract and block the negative effects of the opiate class of drugs, he suggested. In particular, he said, there is a need for industry to produce a better antagonist which would last longer and have fewer side-effects than those currently available, such as naloxone.

The fact that the brain produces its own peptides has opened the search for other peptides and for insight into the roles they play in central nervous system function and behavior.

Understanding the roles of the enkephalins and other endogenous peptides will go a long way toward improved understanding of the human brain and behavior, he concluded.

Kosterlitz received his M.D. from the University of Berlin and a Ph.D. and D.Sc. from the University of Aberdeen, Scotland, where he currently is the Director of the Unit for Research on Addictive Drugs. He received the NIDA Pacesetter Award in 1977 and the prestigious Albert Lasker Award in 1978.

—Lenore Gelb, NIDA

REAGAN from page 1

"I also heartily applaud the education and prevention efforts of the parents movement," Reagan said. He encouraged the drug abuse field to draw on volunteer resources, especially parents and educators, for help in what he believes is a most urgent task: namely, alerting young people to the danger of drugs.

When Mayer reported to the President on the agency's efforts to reduce the demand for drugs, especially among the Nation's youth, President Reagan responded that the solution to the problem has to lie in a person's decision not to use drugs and not only in law enforcement.

The President voiced particular concern over the "false glamor" that marijuana holds for teenagers, an issue reiterated by Turner in a press conference following the ceremony. To help demonstrate marijuana's potential for destruction, Turner compared it to alcohol, a licit drug also favored by youth which has a "responsibility for 26,000 people killed on the highway each year."

Marijuana and alcohol use among students will be a chief target of the Administration's crusade against drug abuse, Turner announced.

In response to a reporter's query on how the Administration will gauge the success of its efforts, Turner cited three "measures" of the impact of prevention activities: the annual NIDA high school survey; the extent of parents' organized involvement throughout the Nation; and the number and amount of drug traffic intercepts along U.S. borders.

• • •

ADAMHA Administrator William Mayer joined top officials from the Departments of Defense and State in a special briefing for President Reagan at the White House June 24 on the health, military, and international aspects of drug abuse in the United States.

Mayer told the President:

"While 70 percent of our youth have used marijuana, and cocaine use has risen dramatically, our latest data confirm a 3-year reduction in the use of marijuana, PCP, and cigarettes.

"We have supported the parents' movement across the country,and disseminated 5 million drug abuse publications in the past year, and initiated major public education and deglamorization programs on drugs and alcohol.

"Our national drug abuse warning network, DAWN, detects and anticipates sudden changes in drug abuse trends. Our researchers have recently developed reliable detection equipment, making it possible to detect drug usage in persons with critical and dangerous jobs in defense and the nuclear industry.

"Researchers also have discovered morphine-like natural chemicals in the brain that appear to play a role in drug dependency and may be a key to treatment. We are developing two new treatment drugs, LAAM and Naltraxone, to improve the treatment of addiction, and we assess new drugs for their abuse potential.

Dr. Carlton Turner

"A most important research accomplishment has documented the serious health consequences of marijuana use, and I have recommended a Surgeon General's Advisory to alert the public to that drug's effects on thinking, motor skills, reaction time, and on the heart and lungs.

"Our commitment in all of these activities is to reduce the demand and use of drugs, especially in our young people. Mrs. Reagan's activities have given a tremendous boost to all our efforts."

Dr. Steven Sharfstein Leaves NIMH for APA Post

Dr. Steven Sharfstein, NIMH Associate Director for Behavioral Medicine, will be leaving the Institute to join the staff of the American Psychiatric Association (APA).

He will assume his duties as Deputy Medical Director of APA next January under the directorship of Dr. Melvin Sabshin.

Sharfstein describes the move as "a return to the political arena in Washington." His new post will involve him in a broad range of policy and management issues of concern to the Association. Among these are a greater emphasis on reintegrating psychiatry with mainstream medicine, achieving economic justice for the mentally ill, and focusing on the problems of the socially disabled.

During his 5 years as Director of the NIMH Division of Mental Health Service Programs (1976-1980), nearly 300 community mental health centers were established. He worked with the President's Commission on Mental Health and had a role in planning the Mental Health Systems Act (P.L. 96-398). Called as a principal witness at the House hearing which preceded enactment of the Act in 1980, he created some amusement when he told Congressman Waxman (Calif.), "I appreciate the opportunity today to get out of the Parklawn Building."

While Division Director, Sharfstein launched the Community Support Program (CSP), designed specifically for the chronic patient. CSP is carried out through the States to help combine health and social resources in communities to rehabilitate chronically mentally ill patients. According to Sharfstein, these are "the number one mental health clients."

Another project he initiated was the linkage of health services and community mental health services, accomplished by hiring professionals to work in health centers as part of an overall contract between the two services.

Sharfstein credits Dr. Samuel Buker, former Deputy Director of the NIMH Services Division, with much of the Division's achievements. "If I had any success in the service programs," he says, "it was due to my working closely with Sam Buker."

Since assuming his present post at the NIH Clinical Center, Sharfstein has developed a program on consultation/liaison psychiatry and has been conducting research in behavioral medicine.

He is the author of 44 publications, mostly on care for the mentally ill and community mental health issues. He is co-author with

Dr. Henry Foley of a forthcoming book, *Madness and Government*, to be published by the American Psychiatric Press.

Sharfstein received the Harry C. Solomon Prize for best research paper in psychiatry in 1974. In 1980, he received the ADAMHA Administrator's Award for Meritorious Achievement and in 1981, he was awarded a Senior Executive Service Bonus Award.

He reflects, "My experience in my dozen years of government service leads me to particularly appreciate the people of NIMH and the critical national leadership role they continue to play in improving treatment and service opportunities for the mentally ill. I predict that this national leadership role will continue undiminished into the 21st century."

—Myrle Kahn, NIMH

ELDERLY *from page 1*

Noting that 40- to 50-year followups of schizophrenics carried out in Russia reported similar findings, Ciompi said that some patients get better as late as age 70 after years of serious illness. The aging process appears to have an ameliorating effect on many patients, with the most severe symptoms seeming to burn out, he reported.

Similar results have been found in this country by Courtenay Harding, University of Vermont, who has been following 270 patients released from the Vermont State mental institution since 1955. "Most were released to halfway houses and received a good deal of rehabilitative support," Harding said.

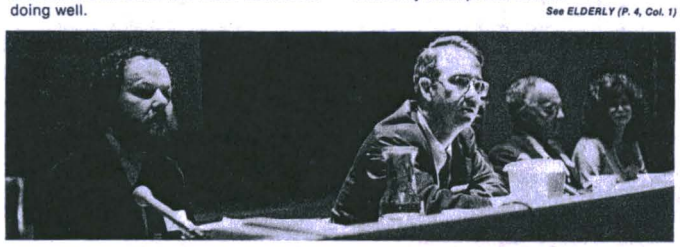
Because of the stability of Vermont's population, Harding has been able to locate and retest 97 percent of those former patients who still are alive and has found them to be doing well.

Although most have been chronically ill, poorly educated, and of low socioeconomic status, they are leading moderately to very full lives, she noted. There is no evidence of symptoms in 73 percent of the cohort, 82 percent of whom are over 60 years old.

"These findings contradict notions of unitary outcome in schizophrenia. Some patients have improved across all measures; some are poor on all measures. But a larger cluster have a mixed outcome, improved on some and not on others. I believe that the American attitude toward schizophrenia is too negative," Harding concluded.

Outcome for schizophrenia may be more related to environmental factors than to genetic predisposition, according to Dr. John Wing, Institute of Psychiatry and London School of Hygiene. His finding is confirmed by Ciompi and others.

See ELDERLY (P. 4, Col. 1)



Left to right: Dr. Gene Cohen, NIMH; Dr. John Davis, Illinois State Psychiatric Institute; Dr. Dilip Jeste, NIMH (hidden); Dr. John Kafka, George Washington University School of Medicine; and Dr. Nancy Miller, NIMH.

ADPA Meeting

NIDA and NIAAA will collaborate in the 33rd national meeting of the Alcohol and Drug Problems Association (ADPA), August 29-September 1, at the Hyatt Regency in Washington, D.C.

The ADPA meeting, which will focus on the theme "Growing Together for Changing Times," is the largest single conference for professionals in the alcohol and drug abuse field being held this year.

NIDA will sponsor a series of six workshops at the meeting. The topics are: "NIDA Research Priorities, Future Plans, and Funding Procedures"; "Drug Abuse Epidemiology"; "Networking"; "Technology Transfer: Critical Issues"; and "Media: Who, What, Why and How."

NIAAA also will be presenting workshops on such topics as quality assurance and counselor credentialing.

The Institute's participation in the meeting is part of an ongoing effort by the Institutes to collaborate with the private sector and to make technology accessible to a broader constituency in the substance abuse field.

For information on registration, write or telephone ADPA at:

ADPA Conference Office
1101 15th St., N.W., #204
Washington, D.C. 20005
(202) 452-0990

—Lenore Gelb, NIDA

ELDERLY from page 3

Wing reported that changes in the environment of three English treatment facilities demonstrated that negative symptoms could be controlled by social climate. Improved environment led to reduced symptoms.

In addition, he reported, studies of family interactions with patients indicate that some family styles exacerbate the patient's condition and lead to more frequent relapses. Some patients wisely learn to distance themselves from destructive family environments, but, he stated, intervention with family members designed to help them be more supportive of patients who are their relatives may be the most useful endeavor for prevention as well as rehabilitation.

A major issue discussed at the meeting revolved around the differences and similarities of schizophrenia and paraphrenia, a schizophreniform disorder that occurs in later life.

Sir Martin Roth, Cambridge University, noted differences between paraphrenia and schizophrenia, but postulated that the illnesses represent a continuum rather than a spectrum of symptoms, ranging from early childhood schizophrenia to paraphrenia.

Paraphrenics retain striking, somewhat eccentric personality characteristics throughout their lives, in contrast to earlier-onset schizophrenics, whose personalities become dulled and flattened with time, said Roth. In a group of paraphrenics he studied, the average age of onset was 66, and most had had very successful and distinguished careers until then.

Paraphrenics also tend to have a history of sensory loss, particularly of hearing and in some cases of sight. According to Roth, the first stage of paraphrenia is denoted by extreme suspiciousness and a tendency toward self-seclusion, symptoms which may be an outgrowth of increased deafness or blindness experienced by the older patient.

"The second phase of the illness is the appearance of frank psychosis which begins suddenly with particularly florid auditory hallucinations," said Roth. Patients often become aggressive; some become paranoic. The second-phase symptoms satisfy the DSM-III criteria for schizophrenia with the exception of onset age, he noted. Further, he continued, psychotic symptoms are alleviated by neuroleptics and reoccur when drugs are withdrawn, as is the case for most schizophrenics.

Late-onset paranoia was found by several researchers to occur more often in females than males. They called for further studies to explain the phenomenon. Another sex difference requiring study, according to Dr. John Strauss, Yale University, is the typical 5-year lag in early-onset schizophrenia among females as compared to males. On the average, the illness emerges in males when they are in their early twenties as compared to its appearance in females when they are in their mid-twenties.

Some participants suggested that the apparent 5-year symptom delay in young women may be a result of their of being protected in the home for a longer time than are young men.

Dr. Caleb Finch, University of Southern California, who spoke on biological aging in relation to schizophrenia, suggested that investigators look into possible hormonal contributors to younger onset of schizophrenia among males and the larger representation of females among late-onset paranoics.

Physiological and biochemical concomitants of schizophrenia were addressed by a number of participants from differing viewpoints. Dr. Joyce Kovelman, speaking for Dr. Arnold Scheibel, UCLA, described studies of 32 brains of deceased paranoid-schizophrenics which focused on the hippocampus, an area of the brain thought to be involved in delusions.

In contrast to the orderly position of brain cells typically found in normal individuals, most of the brains examined showed rotated and irregularly positioned cells, reported Kovelman. The malposition of brain cells may cause changes in neuronal connectivity manifested in behavioral changes, she suggested. Although not all schizophrenic brains show this phenomenon and some normals do, Kovelman postulated that a genetic variant may influence hippocampal development and create vulnerability to schizophrenia in some people.

Dr. Daniel Weinburger, NIMH, reported that Institute researchers could not replicate Kovelman's findings, but believe somewhat different protocols might account for the different outcomes. Weinburger also reported that CAT scan studies showed enlarged brain ventricles among some schizophrenics, an indication of brain cell atrophy not associated with aging or long-term institutionalization (see *ADAMHA News*, Vol. VIII, No. 8, May 7, 1982).

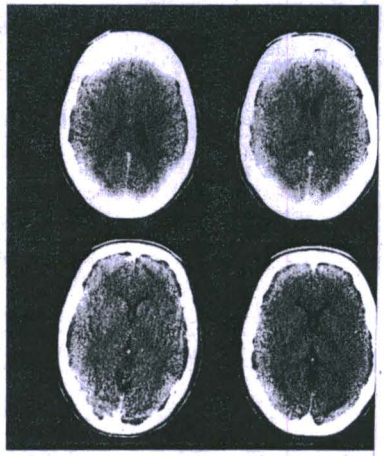
Other reports dealt with cognitive functioning, various types of treatment, and drug-induced side effects. On the third meeting day, participants broke into four small groups to make specific recommendations for future activity.

Most recommendations dealt with research needs, but a number referred to changes in DSM-III. Among these were recommendations to include the diagnosis "paraphrenia" in DSM-III and to remove age criteria from schizophrenia and other pathological classifications.

Dr. Robert Spitzer, New York State Psychiatric Institute, who chaired the task force that developed DSM-III, noted that, "It will be very useful to have a category 'paraphrenia' for individuals who meet the symptomatic criteria for schizophrenia. However, I do not agree that age limitations be removed as a criteria for schizophrenia."

A full report of the meeting, to be available at the end of this year, is being prepared by Dr. Nancy Miller, NIMH Center for the Studies of the Mental Health of the Aging, who organized and chaired the conference.

—Marilyn Sargent, NIMH



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Schizophrenic Quads N

A set of identical quadruplets, all schizophrenic and the subjects of long-term NIMH research, do not appear to have identical forms of the disorder, reported Dr. Allan Mirsky, Chief, NIMH Laboratory of Psychology and Psychopathology, at the recent meeting on schizophrenic disorders in later life (see p. 1).

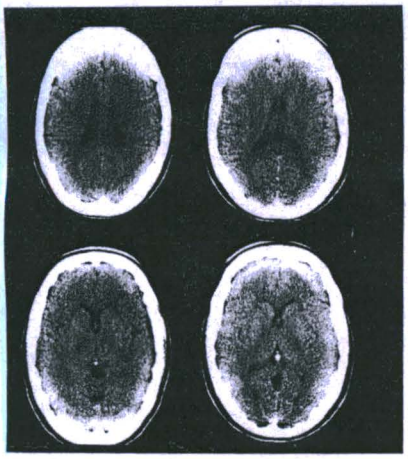
Now 52 years old, the Genain quadruplets were first seen in 1958 by Dr. David Rosenthal, formerly of the Institute, who published a book on the quads and has remained in contact with them. At Rosenthal's suggestion, Mirsky invited the quads back to NIMH this year for new studies, made possible by recent technological advances, to see if further light could be shed on their disorders.

CAT scans and biochemical measures did not differentiate the four women, said Mirsky, but PETT scans and EEG measures support observations that two of the quads have a more severe form of the illness.

PETT mappings show that Nora and Hester utilize less glucose than do Iris and Myra in the frontal lobes of their brains, an indication of more dysfunction in organizing incoming information. (The names have been fictionalized by NIMH intramural scientists, many of whom contributed to the study).

Further, EEG measures indicate that Nora and Hester also have more impairment in their thinking processes and in responses to stimuli. Nevertheless, Nora has been able to function better than either Hester or Iris for

The Genain quadruplets at their 52nd birthday party



ain of a Genain quadruplet. Mirsky notes that the brains are virtually ıntricle.

Identically Ill, Studies Show

most of her life, possibly because her mother tended to pair her with Myra, the most functional of the quads, suggested Mirsky. Myra and Nora were the larger of the quads, favored by their mother, and treated as more gifted, he explained. Iris seems to have been inappropriately paired with her sister, Hester, the most dysfunctional quad, he noted.

In relating their histories, Mirsky said that the quads were somewhat famous in their early childhood, often performing on stage for fund-raising events. Ironically, their mother turned down an offer of a Hollywood contract because she wanted her children to lead normal lives, said Mirsky.

Hester was the first to become ill. Severely symptomatic by 18, she was unable to finish high school and was hospitalized. Within 5 years, Iris and Nora also were hospitalized. Myra, the last to become ill, has been the least ill. She is married and has two children.

At present, all are on medication and functioning normally. Three of the girls are living at home with their mother; Myra resides with her husband and family, Mirsky reported.

In his attempts to explain the different outcomes in the quads, Mirsky postulated that unequal stresses and expectations placed on them by the family may account for some of the variation in the course of their illness. Differences in birth order also may have played a role. Nora, the firstborn, may have been subjected to extra pressure on her head as she made her way through the birth canal, which may have caused brain damage. Hester, born after the presentation of the placenta, may have suffered from oxygen deprivation, also leading to brain damage, Mirsky guessed.

Genetic factors are obviously involved in their illness, but vulnerability to brain damage combined with environmental stressors probably influenced the manifestation of the illness in each quad, Mirsky concluded.

—Marilyn Sargent, NIMH

Research on Psychotherapy— Just What Makes Treatment Succeed?

Just what makes a medical treatment succeed often remains unknown. It works, and the patient reports feeling better—but until the "vital ingredients" have been isolated, medical progress is not made, said Dr. Martin Orne in his talk on "What Kind of Research Approach Captures the Essence of Psychotherapy?" at the second seminar of the *Frontiers of Mental Health Research* series sponsored by the NIMH Division of Extramural Research Programs.

Citing an historical example, Orne related how practitioners in the 17th century discovered that a mixture of foxgloves, cow dung, and herbs constituted a very effective tonic for people with heart trouble. But until pharmacologists isolated the healing or vital ingredient of the concoction—foxglove, a form of digitalis—physicians didn't know how the tonic worked, and medical knowledge remained stymied.

Noting that psychotherapy has recently come under fire from third-party payers and some legislators to prove its efficacy, Orne remarked that although therapy has a remarkable degree of success, the essential components remain largely unknown.

"Success, while important, is not the only way to judge a treatment," Orne observed. "We can't afford to ignore process; we must be deeply committed to try to understand, in a rational way, how the process works.

"Is the length of therapy an important factor in its success?" he posed. "How important is the relationship between the therapist and the patient? What role do expectations play in the success of the therapy?"

Most people would prefer today's second-rate surgeon to yesterday's first-rate surgeon, Orne speculated, because scientific methods of surgery have vastly improved over the past 100 years. But the same cannot be said for psychotherapy, he countered: most people would choose Jung, yesterday's first-rate therapist, over today's second-rate therapist.

Scientific methods have not yet made great inroads into psychotherapy, said Orne.

He cautioned against studies seeking to compare one form of psychotherapy to another. "Comparing approximately 250 types of therapy would prove to be an impossible task; the financial costs would come close to matching the sum total of the national debt." There are trivial differences among the many therapies, he said, and concern about therapeutic outcome has overshadowed concern about therapeutic process.

For instance, Orne noted, the treatment of phobias includes such varied behavior modification methods as flooding (surrounding an individual who is terrified of snakes with 10 cages of snakes), exposure (placing the individual in a room with just one caged snake), and desensitization (placing the individual next door to a caged snake and gradually working the person up to sitting in the room with the caged reptile, etc.). All have nearly the same success rate, he said, and all achieve similar results.

He urged that a series of studies be conducted which focuses on pulling apart the whole and finding the essential components.

Orne described one study in which a group of patients was taught self-hypnosis techniques to control pain and scheduled for weekly appointments with a therapist. Approximately 2 days before their first weekly appointments, all reported that the pain had returned, even though the previous 5 days had been pain-free.

The researchers found that a phone call from the therapist approximately 3 days before the appointment made a great difference: patients reported a week free from pain. In this case, telephone contact with the therapist proved to be a key element in the success of therapy.

In another experiment, patients about to enter therapy were given a 1½-hour instruction period on how to behave in therapy and were told that therapy would last 16 weeks. These patients had much better results than patients in a control group who did not receive the instruction period or the deadline. The essential ingredient for the success of the treatment proved to be equal expectations on the part of both the therapist and the patient.

Orne concluded that the task of science is to "reduce the nonspecific effects" of therapy and to discover and understand the specific effects.

Dr. Martin Orne

Orme received his undergraduate degree from Harvard University, his M.D. from Tufts University, and his Ph.D. from Harvard.

A professor in the Department of Psychology at the University of Pennsylvania, Orne currently holds several editorial positions and belongs to a number of professional societies. He also is a foremost researcher in hypnosis.

—Judy Folkenberg, NIMH

INDOCHINESE REFUGEE COMMUNITY TURNS TO REGIONAL OFFICE FOR HELP

Leaders of a large Indochinese refugee community in Kansas City, Kans., turned recently to HHS Region VII officials when they became concerned about increasing instances of severe depression and several suicide attempts among their people.

Dr. Stephanie Stolz, Director, Region VII ADAMH Division, said, "While looking into the problems of this community, we discovered wide cultural and social differences that impacted in a very significant way on identifying and treating the various Indochinese refugee groups."

As a result, Stolz said, the Regional Office staff decided to hold a regional conference to help area refugee and social service workers become sensitive to the mental health needs of each Indochinese refugee group in the area. These include Vietnamese, Hmong, Laotian, Cambodian, and ethnic Chinese.

"Although the social service and refugee resettlement agencies provide job retraining, vocational guidance, and English-as-a-second-language training, little guidance is available for social adjustment, and virtually nothing is done on mental health promotion or prevention of mental illness," said Stolz.

"Yet," added Y. B. Rhee, Regional Health Administrator, who came to this country 25 years ago from Korea, "the Indochinese, most of whom left their country suddenly and under extremely adverse circumstances, brought with them the mental health problems and trauma associated with war, expatriation, cultural and social transplantation, and sudden and radical life changes."

Many of the "new Americans" are inadequately prepared for successful coping in the United States, Rhee said. He dislikes the term "refugee," he said, because it labels people and creates instant attitudes of inferiority.

The recent 2-day conference, which was attended by nearly 175 professionals who work with refugees, was cosponsored by the Region VII ADAMH Division and Office of Refugee Resettlement and the University of Kansas School of Nursing. The theme of the conference was *Refugee Mental Health: Paths to Understanding and Helping.*

Ninety percent of the participants indicated that they had occasion to deal personally with refugees who had problems associated with social adjustment or mental health, and that they did not know how to handle the problems.

One keynote speaker, Dr. Tran Minh Tung, a Vietnamese psychiatrist practicing in Falls Church, Va., stressed the importance of multi-service agencies to meet the needs of these populations.

Dr. Stephanie Stolz, Y.B. Rhee, and Dr. Tran Minh Tung

"Refugees who are severely depressed or have other mental health problems won't benefit from job counseling or any other type of training unless emotional and stress-related issues are addressed," he stated. Those services must be provided, but the social adjustment and mental health needs are equally important, he added.

Bruce Thowpaou Bliatout, Executive Director of Refugee Orientation Center, Portland, Ore., who also was a keynote speaker, described numerous prevention activities that mental health and social service agencies could undertake to assist refugees in social adjustment and to promote mental health.

"By this I mean we must support the existing family structure, involve traditional healers in mental health and health care, and acknowledge the refugees' former status in their home countries."

The Portland Refugee Orientation Center is under the auspices of the Southeast Asian Refugee Federation. Bliatout, a Hmong who was born in Laos, has been living in the United States for nearly 15 years.

Addressing the audience of social service and refugee resettlement agency workers, mental health professionals, school counselors, and State mental health agency staff, Bliatout stressed, "Don't fuss over the refugees so much. We've been through a lot, and we've survived."

Both speakers noted that overconcern by agency personnel "infantalizes" the refugees and works against social adjustment and mental health.

Additional financial support for the conference came from the U.S. Catholic Conference and the Lutheran Immigration and Refugee Service. The program was offered for continuing education credit for social workers and nurses through the auspices of the University of Kansas and the Kansas Behavioral Sciences Regulatory Board.

Postscript: When the conference was over, Bliatout spent a day in the Hmong community that originally had asked for help. He met with 24 community leaders to discuss preventive programming, and with nearly 60 youth to discuss their social adjustment and mental health needs. The sessions were conducted almost entirely in the Hmong language.

—Will Pinder, ADAMHA

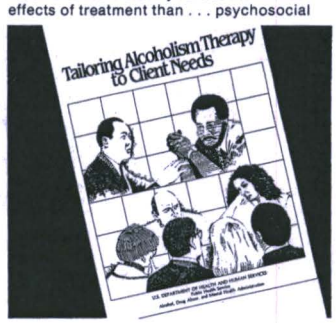
Alcohol Publication: Tailoring Treatment To Client Needs

As an aid to practitioners who must treat alcoholics with a wide variety of needs, NIAAA has published a survey of available research on "Tailoring Alcoholism Therapy to Client Needs."

As the introduction to the monograph states: "An opinion widespread throughout the alcoholism field is that treatment effectiveness will be maximized by tailoring therapeutic approach to fit the type of client served . . . However, there has been little systematic review of which treatment approaches are best for which kinds of clients, and if clients vary in their response to diverse therapeutic techniques.

To fill the information gap, the monograph examines three main client-treatment factors:

- *Measures of treatment outcome*—These are categorized by drinking behavior (consumption, physical symptoms) and psychosocial functioning. While drinking behavior "seems to more closely reflect the immediate effects of treatment than . . . psychosocial



functioning," the monograph concludes that "the use of multiple-outcome criteria appears advisable."

- *Client characteristics predictive of outcome*—The monograph finds that "measures of social stability" including older age, Caucasian race, steady employment, and stable marriage "have been the most powerful of the sociodemographic predictors of treatment success."
- *Therapeutic factors affecting outcome*—"Successful outcome appears to be more closely related to treatment amount then treatment length," the monograph says. It also reports that neither group nor individual therapy has been demonstrated as effective for treating alcoholics.

"Tailoring Alcoholism Therapy to Client Needs" was written by Dr. Susan Solomon, Services Analysis Branch, NIAAA Division of Alcoholism Services Development. It is the first in a series of publications which the Branch will issue on alcoholism treatment issues.

SECRET from page 1

attention by secreting alpha MSH to one which numbs pain by secreting beta endorphin.

"The chameleon skin cell (melanocyte) serves as a model for the neuron because it is embryonically derived from the same source and contains alpha MSH and beta endorphin receptors," explained O'Donohue, who carried out his experiments in the NIMH Laboratory of Clinical Science with his wife, Dr. Gail Handelmann, and Dr. David Jacobowitz.

"In the brain, you have billions of neurons. It's very hard to look at a specific one," said O'Donohue. "An isolated cell like the chameleon's melanocyte allows you to study the molecular-mechanisms without all the interfering interactions of other neuronal systems."

Dr. Thomas O'Donohue

Research on the melanocytes has demonstrated the first clear-cut example of a transmitter being fine-tuned by a modulator. In this and related studies, the researchers also have identified enzymes that unlock the secret of the neuron's ability to transform itself. The work is pointing the way to possible development of a new kind of addiction-free painkilling drug.

Just within the past decade, neuroscientists have had to drastically revise their theories of how neurons work. They used to think each brain cell secreted just one chemical messenger—or neurotransmitter—which carried the nerve impulse across the synapse to an adjoining neuron.

The work on the opiomelanotropinergic neuron adds to what has now become overwhelming evidence that neurons actually release more than one such neurojuice.

One substance, the neurotransmitter, serves as the primary carrier of the message, while the others may serve as neuromodulators, potentiating or inhibiting the postsynaptic action of the neurotransmitter by binding to related receptor sites on the receiving neuron. *See SECRET (P. 8, Col. 1)*

Why Are Women More Susceptible To Agoraphobia?

The differences between men and women —biologically quite obvious—also are significant in statistics for certain mental illnesses.

For example, an estimated 64 to 95 percent more women fall prey to agoraphobia (an abnormal fear of leaving one's home or other safe environment), according to Dr. Barry Wolfe, Assistant Chief, Psychosocial Treatment Branch, NIMH Division of Extramural Programs, who has written extensively on the subject. Part of the explanation for women being more susceptible to phobia, he believes, may have to do with the way society views women.

Phobias may be defined as an extreme and persistent fear of an object, event, or situation which objectively presents no real danger, says Wolfe. The person may fear the situation so intensely that he or she will avoid it at all costs, even to the point of altering one's routine or lifestyle.

An individual who fears heights, for example, might turn down a lucrative job offer on the upper floor of an office building.

Agoraphobic attacks can be crippling, Wolfe notes; many individuals report shortness of breath, palpitations, feelings of depersonalization, dizziness, and weakness in the limbs, or possible bladder and bowel incontinence.

As to the preponderance of agoraphobia among women, one must look at how our culture raises and views them, Wolfe explains. Society expects men and women to act differently, ranging from the way they walk, talk, think, and dress, to norms for personality traits, erotic behavior, recreational activities, and the assignment of adult responsibilities.

"Typically," says Wolfe, "women are raised to be dependent, submissive, and passive; to rely on the male for sustenance and status; to concentrate on marriage, home, and children as their primary concern; and to refrain from asserting themselves or hungering after any kind of power."

The successful inculteration of these traits can be a fertile breeding ground for agoraphobia, he points out.

"Women are encouraged to be more fearful, are discouraged from displaying independent behaviors, and are, in fact, rewarded for being dependent, passive, and submissive rather than assertive or challenging."

Wolfe went on to say that these characteristics can lead to a diminished sense of autonomy, a crippled potential for mastering events, and a perceived need for constant protection.

All this adds up to a poor self-concept, which may make it difficult for a woman to face unfamiliar settings or situations away from the comfort and protection of her home; this sometimes leads to agoraphobia.

Wolfe reports that agoraphobic attacks often start during periods of transition in a

Dr. Barry Wolfe

woman's life, such as pregnancy, marriage, or a move. On the one hand, the woman is delighted with a new opportunity; on the other hand, she is frightened by the new responsibilities.

For instance, he says, a woman who wishes to leave an unhappy marriage feels herself pulled in two directions: between the safety and financial stability of the marital home and the greater freedom and happiness but also the isolation of living alone. The intensity of such a conflict can send her into a panic which could be the beginning of an agoraphobic attack.

Wolfe admits that, as with any theory, there are bound to be some flaws. Other researchers hold that phobias are a response to some traumatic event in one's life, or result from observing another person's fear.

Conceding that these theories have some validity, Wolfe nevertheless argues that such explanations still can't fully account for more women than men becoming agoraphobic.

Wolfe remarks that the rise of feminism might decrease phobias among those women who are raised in a less dependent way. But there still remains a sizable number of women who were raised according to the strict "feminine ideal," he points out, and they may be susceptible to agoraphobia.

Approximately 65 percent of both women and men lose their phobic symptoms or improve substantially with behavior modification.

"Interestingly enough," says Wolfe, "some studies have shown that the mates of individuals who recover from agoraphobia—and in most cases, this means husbands—feel very threatened." They may fall into a depression over their spouses' recovery, believing that their wives no longer need them.

Some even experience an intense bout of jealousy when their wives improve, Wolfe reports. As long as his wife was housebound, the jealous husband need not wonder about her fidelity. But, with her recovery, the husband fears she may seek the company of other men.

"One wonders," Wolfe says wryly, "if some married men's emotional security depends upon their wives' emotional insecurity."

—Judy Folkenberg, NIMH

SECRET *from page 1*

O'Donohue and colleagues showed that in the melanocyte (and perhaps neurons), beta endorphin—the brain's own opiate—serves as the neuromodulator, while alpha MSH acts as the neurotransmitter.

Alpha MSH stimulates the darkening of the chameleon's skin, subject to some fine-tuning by beta endorphin.

In mammals, alpha MSH has been shown to produce additional effects that would surely interest "Dr. Schultz."

When injected in rats, it stimulates states of heightened arousal and improves performance on a number of learning and memory tasks. It has been shown to similarly improve performance on tests of visual attention in humans. At high doses, it causes hyperarousal or anxiety.

Beta endorphin plays a major role in the control of pain; at higher dosages, it can cause catatonia, a depressed state which is quite the opposite observed with alpha MSH.

In his studies with rats, O'Donohue uncovered the mechanism by which the opiomelanotropinergic cell can serve at one moment as an alpha MSH-secreting neuron that stimulates arousal and learning, and at another moment as a beta endorphin neuron capable of inhibiting pain.

The pivotal actor in the elusive transformation of the neuron turns out to be an enzyme (opiomelanotrospin acetyltransferase) which at once activates alpha MSH and inactivates beta endorphin through a chemical process called "acetylation."

"When the enzyme is turned off, the neuron will secrete active beta endorphin and inactive alpha MSH, so its role will be to produce analgesia," explained O'Donohue. "If the acetylating enzyme is on, the neuron's role is to induce arousal and perhaps anxiety."

He now is trying to develop a drug that will block the enzyme, thereby both enhancing analgesia and calming anxiety via presynaptic intervention.

"The problem with existing painkillers like morphine is that they act postsynaptically, chronically stimulating receptors to the point where they demand constant stimulation, which results in physical dependence and tolerance.

"If a drug can prevent presynaptic inactivation of endorphin by acetylation, the neuron will release all biologically active analgesic beta endorphin and inactive arousal-causing alpha MSH only in times of need. This may avoid chronic receptor stimulation and the ensuing development of tolerance and addiction," O'Donohue concluded.

—Jules Asher, NIMH

Greenspan Receives Strecker Award

Dr. Stanley Greenspan, Director of the NIMH Clinical Infant Development Program, has received the 1982 Edward A. Strecker Award of the Institute of the Pennsylvania Hospital, University of Pennsylvania Medical School.

Greenspan's selection, which was announced May 17 at the annual meeting of the American Psychiatric Association (APA), was based on his "outstanding research contributions to psychiatric treatment and patient care."

The selection committee specifically noted his clinical work on behalf of infants (and their families) who are at risk for emotional problems. He was cited for creating special classifications to help diagnose early infant developmental disorders. He also was praised for devising prevention intervention strategies that teach parents of at-risk infants to be more effective parents.

"The work being done by Dr. Greenspan is making a major impact on the ability of physicians to distinguish between normal and disturbed infant development as early as 2 to 4 months of age," said Dr. Newell Fischer, Director of Psychiatry, The Institute of Pennsylvania Hospital.

In 1981, studies of childhood depression garnered Greenspan and three colleagues the APA Blanche F. Ittelson Award for research in child psychiatry. He also has been honored with the Lucie Jessner Prize in Child Psychoanalysis and a PHS Special Recognition Award.

The current Chief of the Mental Health Study Center in Adelphi, Md., Greenspan is on the faculties of George Washington University Medical School and the Children's Hospital National Medical Center.

—K.C., ADAMHA

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Alcohol, Drug Abuse & Mental Health Administration

NEWSLETTER April 9, 1982

First Lady Hosts White House Meeting On Drug Abuse Among Nation's Youth

Left to right: First Lady Nancy Reagan; Thomas Pauken; Dr. William Mayer; H. Ross Perot; Dr. Carlton Turner.

Dr. William Mayer, ADAMHA Administrator, told a recent White House meeting on drug use and the family that problems of substance abuse are far more grave and far-reaching, and farther from solution, than "we had any reason to believe only a few years ago."

The meeting was hosted by First Lady Nancy Reagan, who pledged White House commitment to the drive against drug abuse.

"I intend to keep a spotlight on this as long as I am here," she said as an audience of more than 100 corporate, civic, service, religious, and sports leaders gathered at the White House to discuss ways the private sector can help eradicate drug abuse and its effects on society.

Mrs. Reagan, who opened the briefing, told the group: "I wanted to reach you personally and, in my own way, convey the peril of drug abuse among the young. Over the past year . . . I've become increasingly disturbed by America's drug epidemic and its effect on young people. I've talked with experts, as well as parents, and of course the young people themselves. And you know what I learned above everything else, I learned that I'm scared to death for our children.

"I don't think in my life have I felt as compelled to do something about an issue as I feel about drug abuse," she went on. "Drugs ruin lives before they even have a chance to develop. They compound the damage by destroying family ties that offer the best hope."

Mayer cited statistics from two major NIDA surveys on the extent and nature of the use of illicit drugs and alcohol. The latest annual survey of high school seniors showed marijuana use dropping, but still at the highest level—7 percent—of any Western nation for that age group. "In an average size high school classroom, there are two or three youngsters who are smoking marijuana every single day," he said.

"We've also seen, in just these last 3 years, a distinct increase in the intake of stimulants, particularly amphetamines. Nearly one-third of all high school seniors abuse amphetamines," he declared. "Cocaine has been used by about 17 percent of our high school students."

Drug use by young people interferes with their ability to cope, lessens chances of achieving their potential, and increases their passivity and isolation, Mayer said.

The event launched a new Volunteer Drug Prevention Program sponsored by ACTION, the Federal volunteer agency.

Dr. Carlton Turner, President Reagan's Drug Adviser, has said that ACTION intends to develop a cadre of regional and State drug abuse volunteer coordinators who would encourage volunteer efforts in drug and alcohol abuse prevention across the country, offer technical assistance to parent groups, and test models for training adult and youth groups to work with less informed peers to achieve a drug-free environment.

The White House briefing was held to introduce the parent movement leadership to leaders in the corporate world and heads of voluntary organizations, and to involve business and other groups in drug abuse prevention activities.

H. Ross Perot, Texas industrialist and Director, Texans' War on Drugs, stated that the illicit drug business in the U.S. is bigger than any American corporation other than Exxon, and has a greater impact on inflation than imported oil.

Turner said that the goals of the Presidential program to combat drug abuse include reducing high school seniors' daily drug use by 30 percent and establishing parent groups in every high school by 1984. More than 3,000 parent groups already have formed across the country.

Other speakers at the March 22 event included: William Barton, National Federation of Parents for Drug Free Youth; Dr. Keith Schuchard, author and spokesperson for PRIDE, an Atlanta-based center for parent resources and information on drug education; Sue Rusche, DeKalb Families in Action, Atlanta; Carla Lowe, Community Action Against Drug Abuse, Sacramento; and Thomas Pauken, ACTION Director.

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