

ALCOHOLISM: New Victims, New Treatments

From the day man first sipped the liquid collecting around honey or fruit left too long in a warm place, alcohol has played an important role in his life. Early in history, wine became--and still is--an integral part of religious ceremonies. The Bible acknowledged the "wine that maketh glad the heart of man" (Psalms 104:15), and Pasteur called it "the most healthful and hygienic of beverages." In the hectic modern world, hundreds of millions of people drink liquor, beer or wine for enjoyment, solace and tranquility. Yet today, as it has throughout history, alcohol is also troubling mankind. For in almost every society, there are those who cannot enjoy alcohol without becoming its slave.

In the U.S., the age-old problem of excessive drinking is taking a disturbing new turn and affecting new kinds of victims. On a New York subway train, a school-bound 15-year-old holds his books in one hand, a brown paper bag containing a beer bottle in the other. He takes a swig, then passes bag and bottle to a classmate. In a San Francisco suburb, several high school freshmen show up for class drunk every morning, while others sneak off for a nip or two of whisky during the lunch recess. On the campuses the beer bash is fashionable once again, and lowered drinking ages have made liquor the high without the hassle.

In one sense, it is good news: across the U.S., the young are turning away from hard drugs. In another sense, it could not have been worse news: "The switch is on," says Dr. Morris Chafetz, director of the Department of Health, Education and Welfare's National Institute of Alcohol Abuse and Alcoholism (NIAAA). "Youths are moving from a wide range of other drugs to the most devastating drug--the one most widely misused of all--alcohol."

The upsurge of problem drinking among the young is only part of a more disturbing nationwide and even world-wide problem. In the past few year alcoholism--among youths

and adults alike--has at last been recognized as a plague. From 1960 to 1970, per capita consumption of alcohol in the U.S. increased 26%--to the equivalent of 2.6 gal. of straight alcohol per adult per year. It is now at an alltime high, probably surpassing the levels during such notoriously wet eras as the pre-Civil War and pre-Prohibition years. Moreover, according to the NIAAA, about one in ten of the 95 million Americans who drink is now either a full-fledged alcoholic or at least a problem drinker (defined by NIAAA as one who drinks enough to cause trouble for himself and society). Uncounted thousands of the problem drinkers are under 21 and, in fact, the approximately 9 million excessive drinkers are representatives of--and affect--the whole spectrum of American society.

The facts gathered by NIAAA about alcohol abuse are as depressing as they are impressive:

After heart disease and cancer, alcoholism is the country's biggest health problem. Most deaths attributed to alcoholism are caused by cirrhosis of the liver (13,000 per year). An alcoholic's life span is shortened by ten to twelve years. Recently, medical researchers have found evidence suggesting that excessive use of alcohol may also quietly contribute to certain kinds of heart disease, and that it eventually damages the brain (see [sidebar: The Effect of Alcohol]).

In half of all murders in the U.S., either the killer or the victim--or both--have been drinking. A fourth of all suicides are found to have significant amounts of alcohol in their bloodstreams. People who abuse alcohol are seven times more likely to be separated or divorced than the general population.

The dollar cost of alcoholism may be as much as \$15 billion a year, much of it from lost work time in business, industry and the Government.

At least half of each year's 55,500 automobile deaths and half of the 1 million major injuries suffered in auto accidents can be

traced directly to a driver or pedestrian "under the influence." (In virtually all states, that influence is legally set at a blood concentration of .1% or more alcohol. A 150-lb. man can reach this level if he takes three one-jigger--1 1/2 oz. per jigger--drinks within an hour.)

Many of the deaths and injuries are caused by the under-21 age group, and arrests of young people for drunken driving have skyrocketed since states began lowering the drinking age from 21. In the year following its lowering of the drinking age, for example, Michigan reported a 41% increase in such arrests.

But parents seem relatively unconcerned about their children's drinking. In fact, children who drink are often simply following the example set by their fathers and mothers. Teen-agers know that their parents make scenes if they catch them smoking marijuana. But if the youngsters come home drunk, most of them are merely sent quietly to bed. "Often when we report to a parent that his kid isn't acting the way he should and smells of liquor," says Don Samuels, a Miami drug-education coordinator, "the reaction is: 'Thank God! I thought he was on drugs.'" Actually many teen-agers use both marijuana and alcohol.

The alcoholic tide has been pushed higher by the fast-selling, inexpensive pop wines, which disguise their alcoholic content with sweet fruit flavors. "Kids seem to look on the stuff as a zippy, sophisticated soft drink," says Houston's Bruner Lee, education director for the Texas Council on Alcoholism. "But this 'kiddie stuff,' this pop wine, contains 9% alcohol--about twice as much as beer." After the pop wine phase is over, the kids often go on to much stronger drink.

Vanilla Extract. Most school officials are too embarrassed by the alcohol problem to do much more than reluctantly admit that it exists. One system that has faced up to it and conducted reliable surveys is in the suburban county of San Mateo, south of San Francisco. There, in 1970, school officials found, 11% of the ninth grade boys (13-and 14-year-olds) said that they had drunk some kind of alcoholic

beverage 50 or more times in the past year; in 1973 the figure had jumped to 23%. Among senior class boys (17-and-18-year-olds) the percentage of such relatively frequent drinkers rose during the same time span from 27% to 40%. Senior class girls drank less, but they are catching up fast: 29% said that they drank 50 or more times in 1973, compared with only 14% in 1970. Notes Paul Richards, an adviser at a San Mateo high school: "This school represents a socioeconomic background from welfare to upper middle class, and the drinkers come from all categories."

The under-21s are not the only ones who are drinking more. Reversing past patterns, which showed middle-aged men the most prone to alcoholism, there has recently been a marked increase in alcoholism among people in their 20s and 30s and among women. In the '50s, by National Institute of Mental Health estimates, one of every five or six alcoholics was a woman; the ratio is now one woman for every four men. These figures may in fact be understating the problem for women, because a nonworking woman, who does not have to punch a time clock or stand scrutiny in the office, finds it easier than her husband might to hide her habit. One alcoholic housewife in Miami admitted stashing Clorets in every jacket pocket and downstairs drawer to disguise her liquor breath from unexpected callers. Others try to hide their alcoholic breath by sipping Listerine, Scope or vanilla extract.

In some places the ratio between men and women problem drinkers is already equal. For example, in Florida's Dade County (pop. 1,385,000), authorities estimate that there are 78,000 alcoholics--and almost half are women. At the Women's Alcohol Education Center in South West Miami, patients can relax in a pool or on a patio and their kids can play in a garage full of toys and live animals. The center is open from 9 a.m. to 11 p.m., and has a daily average of 18 women visitors.

Who is an alcoholic, and who is "merely" a problem drinker? The definition depends on the definer. Thus Mrs. Fred Tooze, head of the

National Woman's Christian Temperance Union, maintains that an alcoholic is "anyone who drinks alcohol. As soon as they start to drink they're on that road downward." By that definition many of the researchers in alcoholism would be practicing alcoholics themselves.

Quantity consumed is only one criterion--and not necessarily the decisive one. "We see little old ladies who drink less than a pint a day who are dying," says Harold Swift, of the Hazelden Foundation's model treatment facility in Minnesota. "Yet we see men who go through better than a fifth a day and still function well."

An alcoholic does not necessarily know that he is an alcoholic. The stereotype of the stumbling, mumbling Bowery bum applies to no more than about 5% of the alcoholics in the U.S. Most alcoholics hold jobs, raise families, and manage to hide their addiction from everyone, often even from themselves. An alcoholic may go on for years, imbibing three martinis at lunch, two more on the way home and three when he gets there. One day, however, he may wind up in a hospital with a broken leg and, deprived of his daily quota, may suddenly find himself in the middle of the DTs (delirium tremens), which are characterized by extreme agitation, confusion and frightening hallucinations.

Social Custom. The National Council on Alcoholism, a voluntary health organization, has drawn up a checklist of 26 questions for drinkers. In its view, a yes answer to any one of them warns of possible alcoholism. Some of the council's questions: Do you drink heavily after a disappointment or a quarrel? Did you ever wake up on the morning after and discover you could not remember part of the evening before, even though you did not pass out? Do you try to have a few extra drinks when others will not know it? Are you secretly irritated when your family or friends discuss your drinking? Have you often failed to keep the promises you have made to yourself about controlling or cutting down on your drinking?

The Rutgers University Center of Alcohol Studies offers a more concise definition: "An alcoholic is one who is unable consistently to choose whether he shall drink or not, and who, if he drinks, is unable consistently to choose whether he shall stop or not." Yet the more researchers study alcoholism, the more complex they realize it is. There are, in fact, almost as many "alcoholisms" as there are alcoholics. Behavioral Scientist Don Cahalan of the University of California at Berkeley objects to even attempting a strict definition. Drinking, he says, is a continuum, and no one can draw an exact line between an alcoholic and a severely troubled drinker. "The issue," he states, "is why some people apparently waste their lives on alcohol while others don't. What's the 'glue' that binds some people to their alcohol problems?" Adds Marty Mann, the woman who founded the National Council on Alcoholism: "No one has ever found the way to turn a non-alcoholic into an alcoholic. There is a basic difference in people."

For those who are susceptible, U.S. society offers powerful temptations. Observes NIAAA's Morris Chafetz: "There are houses where they don't even say anything to you when you come in the door before they ask, 'What will you have to drink?'" He also notes that "in our crazy-quilt value system, masculinity means that if you can hold a lot of alcohol and seemingly not show its effect, that's somehow a sign of strength." Chafetz points out that in some other countries--Italy and Israel, for example--drinking is an accepted social custom, but there is little alcoholism. Why? The reason, he thinks, is that alcohol in those countries is a companion to a happy occasion, not the occasion itself.

Many other countries, however, have a much worse problem with alcohol than the U.S. France, for instance, has the highest rate of alcoholism in the world (an estimated 10% to 12% of the population, including some children), and the Soviet Union may not be far behind. Soviet newspapers now blame 60% of their country's murders, holdups and burglaries on that old demon vodka. Soviet Party Chief

Leonid Brezhnev gave tacit recognition to the problem when U.S. Secretary of State Henry Kissinger visited him recently. Discussing with Kissinger plans for a U.S.-built soft drink factory in the Soviet Union, Brezhnev mused: "Maybe we can teach our people to drink less vodka and more Pepsi-Cola."

Bad Reflection. Some experts believe that alcoholism may be encouraged by the destruction of traditional values. Buttrussing this notion is the experience of the American Indians and Eskimos, whose cultures have been disrupted more than those of any other ethnic groups on the continent. "The major problem is one of social disintegration," says Dr. Charles Hudson, chief of psychiatric services at the U.S. Public Health Service's Alaska Native Medical Center. "The original social structure in many places in rural Alaska has been blown apart, much as it has been in central cities, the ghettos and Appalachia. The things that were important to people have been taken away, and when there's nothing to do, they'll take their last buck to get a bottle and stay drunk all the time."

Blacks and Chicanos are also particularly prone to alcoholism, possibly for similar reasons. Among whites, the Irish Americans probably rank highest on the alcoholic scale. No one can explain precisely why, although Irish American social life has often centered around the pub or bar, and heavy drinking has been a culturally accepted means for temporarily getting away from problems. Jews, by contrast, have a relatively low incidence of alcoholism, though it is rising among them too. Jews have always frowned on public drunkenness as being a bad reflection on their entire culture, and drinking has not been the accepted way to relieve problems ("Jews *eat* when they have problems," quips one Jewish psychiatrist in Manhattan).

Although alcoholism, when it occurs, often follows ten years or so of problem drinking, there are also alcoholics who apparently skipped even the social-drinker phase. They passed from total abstinence directly into

chronic alcoholism. This may be due in some cases to a biochemical imbalance of some sort. "There have been people I call 'instant alcoholics' who are in trouble the minute they drink," says Marty Mann.

There may be some yet unknown hereditary factor that fosters alcoholism. Dr. Donald Goodwin, a psychiatrist at Washington University in St. Louis, studied the case histories of 133 Scandinavian men who had been separated from their natural parents and raised by foster parents. The sons of alcoholic fathers were four times as likely as the sons of non-alcoholics to be alcoholics themselves. Similar studies by Goodwin of twins raised by different families seem to offer even stronger support for some genetic explanation. Most researchers are reluctant to accept such biological determinism as the sole cause, but many agree with Goodwin that there may very well be some errant gene that makes at least some alcoholics more vulnerable than the rest of humankind to the bottle. "There is no one overall answer," concludes Don Cahalan. "We are trying to exorcise a devil, but there is no one devil. There is a host of demons."

There is also a host of treatment centers--7,500 by latest count--and treatments. Until recently, alcoholics were thought to be all incurable, afflicted with a kind of psychic leprosy. Doctors would scarcely touch them (many still refuse to treat them), and the law looked upon them as human vermin who had to be swept off the streets and thrown into drunk tanks. Old attitudes still persist, but within the past five years there has been a remarkable change in prognosis. No miracle cure, no equivalent of the Salk vaccine is in sight for the alcoholic, and none is ever likely to be found; but for every one of the many alcoholisms there is at least one treatment or combination of treatments that offers a good chance of cure.

The common element in most of the cures is group support. Explains Jim Bryan, director of therapy at Chit Chat Farms, a highly successful alcoholic treatment center west of Reading, Pa.: "We tell the patients it can be

done, and you don't have to do it alone. The patients help each other get well." Half the staff--including Bryan himself--are recovered alcoholics, providing even more credence to the support they give to patients during Chit Chat's 28-day, \$840 treatment. "We do not look into the whys of their drinking," says Bryan, "but how they can stop."

No In-Depth Therapy. At Lutheran General Hospital northwest of Chicago, where the treatment runs 21 days and costs \$1,827, there is also an emphasis on interaction between patients and staff and among the patients themselves. For most patients, there is no in-depth therapy. "We're off this kick of using psychotherapy," says Medical Director Dr. Nelson Bradley, a psychiatrist, echoing the general opinion of experts that classical psychoanalysis is of limited help for most alcoholics.

The patient at Lutheran General is treated for withdrawal symptoms--which can range from the shakes and hallucinations to convulsions and full blown DTs--and given a medical assessment during his first five days. On the sixth day he is assigned to one of three 25-patient teams. They meet three times a week--in many cases with wives, husbands, children and even employers--in sessions designed to bring the alcoholic back into society through lectures, educational films and discussions about drinking problems. Lutheran General follows up its patients for about two or three months, some of them with psychotherapy, and it estimates its success at about 50% after three years. "Beyond 50%," says Bradley, "you've got to have the involvement of the family and the employers. Then the success rate can go as high as 80%."

A variant of the Lutheran General and Chit Chat models is the treatment center that combines group therapy and hypnotic suggestion with a behavioristic kind of aversion treatment: electric shocks or drugs to make the very odor of liquor abhorrent. At Seattle's Schick's Shadel Hospital, which offers an eleven-day, \$1,500 program, each patient is

taken to "Duffy's Tavern," a small room decorated with enough bottles of whisky to lubricate a regiment. The patient is given a nausea-inducing shot and then handed a glass of his favorite brand. He sniffs the aroma, takes a sip and swirls it around in his mouth. Then, sickened, he spits it out into a handy container.

Fatal Illness. The patient goes through a similar process four more times during his stay at Schick's Shadel, at the end of which he will presumably associate nausea with liquor--and have a long-term aversion to the stuff. "Aversion conditioning is not fun at all," Schick's Shadel's Director Dr. James W. Smith tells incoming patients, "but you are dealing with a fatal illness. In other fatal illnesses, such as cancer, surgery is often called for if it gives the patient the best fighting chance for survival. At the moment this is the best we know of--the method that will do the best job in the shortest time."

Aversion therapy has been widely criticized. Says one social scientist: "I think doctors who emphasize aversion conditioning are misguided. They claim that they are curing alcoholics by giving them a shot in the behind, which makes them sick. But how long does that really last?" A program that draws even more fire is one in which doctors study alcoholism by offering drinks to alcoholics. Indeed, Dr. Edward Gottheil, who oversees such a research project at the Coatesville Veterans Administration Hospital in Pennsylvania, admits that his work is "extremely controversial." Still, he argues, traditional centers either study alcoholics without their alcohol or alcohol without the alcoholics--but not drinking itself. "The idea that complete abstinence is the only treatment interferes with research," he says.

At Coatesville, patients are not only given individual psychotherapy, group therapy, music therapy and antidrinking seminars but are also allowed one or two ounces of pure alcohol (ethanol) once an hour on the hour, from 9 a.m. to 9 p.m., simply by asking for it. If

he drinks the allowable maximum every hour, a patient can achieve a considerable buzz by 9 p.m. More important, 13 times every day he must make a conscious decision: to drink or not to drink. In a follow-up study of their first group, Gottheil and his associates claim that, after six months, approximately half of the group members were either dry or drinking less than twice a week.

Almost everyone else who works with alcoholics regards this study as heresy against the almost universally accepted belief that a recovered alcoholic can never drink again. "Out of 3,000 alcoholics treated at this hospital and another 12,000 consulted, I have never seen one return safely to social drinking," says Richard Weedman, head of an alcoholic treatment center at Chicago's Grant Hospital. "One drink won't push him off the wagon, but if he takes another three weeks later, bang! He's gone."

Most of the methods owe a large debt to Alcoholics Anonymous, the oldest, the biggest (650,000 to 750,000 members) and still the most successful organization by far for helping alcoholics. "Until the researcher is able to demonstrate some better practical techniques, the A.A. approach continues to merit our admiration and endorsement," says Gottheil. And, write Sociologists Harrison Trice and Paul Roman: "Despite lay leadership, A.A. has apparently achieved a success rate that surpasses those of professional therapies."

An A.A. member is anyone who considers himself a member. There are no required dues, and lest riches corrupt the fellowship, no one is allowed to contribute more than \$300 per year. Instead of using professional therapists, the members help each other; one alcoholic is always on call to come to the aid of another. The treatment is nothing more sophisticated than the gathering together of a dozen or more other alcoholics who share their drinking histories and admit to themselves and each other that they are powerless to control their drinking. Members attend meetings as often as they feel the need. "My name is John," a member will intone at each meeting, "and I am

an alcoholic." Says an Atlanta executive who has been a member for 25 years: "I am deeply convinced that A.A. is the only way. Doctors cannot cure alcoholism because it is not simply a sickness of the body. Psychiatrists cannot do it because it is not simply a sickness of the mind, and ministers cannot do it because it is not a sickness of the spirit alone. You must treat all three areas, and that is what A.A. does." (If a member's physical problems are acute, A.A. gets him admitted to a hospital.)

Easy Cop-Out. Even A.A. requires the alcoholic's commitment to change. Many workers in the field are now trying to downplay the idea--espoused by Marty Mann 30 years ago--that alcoholism is a disease. The label may make problem drinking worse by absolving the drinker of responsibility. An over-emphasis on the psychological causes of alcoholism can have a similar effect. "A search for the roots of the personal problems that cause a person to become addicted can become an easy cop-out," says Psychiatrist Robert Moore. "The classic therapy game becomes a technique of protecting his alcoholism."

What about the alcoholic who does not want to change--or does not even recognize his problem? For many there is still no answer, no lifeline that can be thrown to them. For many others, however, there is new hope in an old and hitherto unacceptable technique--arm twisting by the boss. Recognizing that alcoholic employees are costing them countless billions a year, many companies are investing money and effort in affirmative action. Since the late '40s, when the first industrial programs started, some 200 firms, including General Motors, Hughes Aircraft and even Hiram Walker, the distiller, have jumped on the bandwagon, the majority of them in the past five years. Many of the firms have written the plans into their union contracts. Although the programs are costly, they actually save money in the long run because they can salvage valuable careers.

An alcoholic employee is absent 2 1/2 times as often as a non-alcoholic. Indeed, he is partially absent even when he is working, often

without drinking. The industry could no doubt change its pitch--use older models and show people drinking only at parties--without cutting sales or profits.

Public Awareness. What else can be done? For a starter, the Nixon Administration should give Chafetz's agency the entire \$137,947,000 it has requested for the coming fiscal year, instead of attempting to cut it to \$99,800,000. The money would be well spent on research, training, community health services and public education. Second, the 30-odd states that have not yet removed drunkenness from the criminal statutes should do so, adding treatment centers and halfway houses on the Minnesota model. Third, more companies should start alcoholic rehabilitation programs,

looking upon money spent combating alcoholism as almost an efficiency measure, which it certainly is.

How is the battle against alcoholism going? Again, there is good news and bad news--with an emphasis on the latter. Senator Hughes, who, more than anyone else, was responsible for the turnabout in the Government's attitude, is as good a judge as any. He is happy that tax dollars are joining the fight against alcoholism, and that the public is finally becoming aware that alcoholism is a treatable condition from which, with dedicated help, two-thirds or more of its victims can recover. But he sees even that as only limited comfort. "I'm not optimistic that we're gaining on the problem," he reckons, "Instead, it's gaining on us."

SIDEBAR: The Effects of Alcohol

Almost immediately after it hits the stomach, alcohol is coursing through the bloodstream to the central nervous system, where it starts to slow down, or anaesthetize, brain activity. Though it is a depressant, the initial subjective feeling that it creates is just the opposite, as the barriers of self-control and restraint are lifted and the drinker does or says things that his well-trained, sober self usually forbids. Only later, after a number of drinks, are the motor centers of the brain overtly affected, causing uncertain steps and hand movements.

How quickly the alcohol takes effect depends on many factors. One person may be bombed after a glass, while another stays relatively sober after several. Because alcohol is diluted in the blood, a 200-lb. man can usually tolerate more liquor than a 110-lb. woman. Food also retards absorption of alcohol from the gastrointestinal tract, and a few ounces taken with a meal are less powerful than an equal amount downed an hour before. By the same token, some drinks with food in them--eggnogs made with eggs, milk and

cream, for example--have slightly less wallop than straight drinks. The tomato juice in a Bloody Mary or the orange juice in a screwdriver is not enough to make any appreciable difference.

The total quantity of alcohol in a drink and the rate of consumption determines the alcohol level in the bloodstream. Thus a Scotch and water would pack the same punch as Scotch on the rocks or a Scotch and soda if all three were drunk at the same speed; drinking more slowly gives the system a chance to eliminate some of the alcohol. The mixing of different types--beer, wine, whisky and brandy, for instance--might make a drinker sick, but it would not make him any more drunk than the same alcoholic measure of just one of these drinks.

So far medicine has found no cure for the hangover, although aspirin can alleviate the headache. Despite a plethora of folk cures (none of them really effective), the best policy is to avoid drinking in excess the night before. Actually, no one knows exactly what causes the hangover's unpleasant symptoms of headache,

demonstrating much less efficiently than his non-alcoholic colleagues. If he is fired, the investment that the company has put into his training is lost altogether. "The company of any size that says it does not have an alcohol problem is kidding itself," says Ray Kelly, an Illinois state mental health official. In any typical group of workers, 3% to 4% are likely to be disruptive drinkers.

In the typical industrial program, a supervisor, noticing an employee's work slipping, alerts a counselor. If the counselor's investigation finds that alcohol is the culprit, he calls the man in and recommends a treatment-and-rehabilitation plan that falls under the company's medical insurance coverage. There will be no stigma attached if he enters the plan, the counselor tells him, and if he successfully completes it, his career will not be hurt. "If they do not want to go for treatment," says Jack Shevlin, an alcohol counselor in Illinois Bell Telephone's pioneering program, the answer is in effect: "Of course you do--if you want your job."

The results have been more than encouraging, and in most programs about 90% of the alcoholic employees do elect treatment. When a company puts its weight behind an employee's rehabilitation, the chances of success are better than 2 in 3, say doctors at Lutheran General, which works with 52 companies in the Chicago area.

Halfway Houses. Government at all levels has become sensitive to the alcoholic's plight--and the enormous damage that he wreaks. Since 1970, when Congress demonstrated Washington's changed attitude by passing an alcohol abuse and alcoholism act, a score of states have enacted laws that remove drunkenness (though not drunk driving) from the criminal statutes. Thus drunks are no longer put in jail. Other places, however, must be provided to receive them. These are called Local Alcoholism Reception Centers (or LARC), where the alcoholics are detoxified. They then graduate to "halfway" houses for outpatient treatment. Because LARC makes

a strenuous effort to reach alcohol abusers early, the centers can usually help improve the physical condition, earning ability and family situation of their patients.

Sparked by Iowa's Senator Harold Hughes, who is himself a rehabilitated alcoholic, the Government has begun an expensive program to combat alcoholism through research, education and funding of local programs. Starting with \$70 million in 1971, federal spending has now reached \$194 million. Eighty-five percent of this amount is allotted to treatment, rehabilitation centers and halfway houses, many of which would no doubt still be only token efforts without substantial federal funding to the states.

The liquor industry has awakened to the problems that excessive use of its products causes. Some of the companies have been promoting moderation through advertising and posters. Seagrams, for example, last year spent \$250,000 for hard-hitting magazine ads against excessive drinking. Licensed Beverage Industries, Inc., the public representative of the distillers, spends \$150,000 a year on research projects and allots \$250,000 each year for a national advertising campaign, promoting "responsible" drinking. ("Know when to say when" is the theme of one ad. "If you can't stop drinking, don't start driving" is the message of another.) Last week liquor industry leaders and state beverage-control officials met in Miami with experts from the Rutgers Center of Alcohol Studies to consider other measures that could or should be taken. Jack Hood, board chairman of the National Alcoholic Beverage Control Association, told conferees of plans to use "the unmatched power of education to convince every American, young and old, that responsible drinking is the only kind that anyone should tolerate."

Still, for an industry that has revenues of \$18.3 billion a year (after federal, state and local taxes), such expenditures are probably only a fraction of what they should be. Contrasted with this are all the ads pitched toward the young, implying that not even a weekend in the country can be truly enjoyable

nausea, depression and fatigue, which many drinkers experience at one time or another.

Some recent research indicates that even social drinking can have both immediate and possibly long-range deleterious effects on the body. According to Dr. Peter Strokes, a psychobiologist at Cornell University Medical College, the liver becomes fatty and therefore less efficient after only a few weeks of downing three or four drinks a night. But in the early stages, at least, the condition can be reversed by abstinence. More moderate imbibing--two drinks a night with meals, say--almost certainly does no harm to most people. New studies link drinking to heart-muscle damage and deterioration of the brain. Research by Dr. Ernest Noble of the University of California at Irvine shows that alcohol inhibits the ability of the brain cells to manufacture proteins and ribonucleic acid (RNA), which some researchers believe play a role in learning and memory storage. After 20 or 30 years, says Dr. Noble, two or three drinks a night on an empty stomach may impair a person's learning ability. Both Stokes and Noble cite studies showing premature and irreversible destruction of brain cells after years of heavy drinking.

Some frightening studies of the results of drinking have not yet been accepted throughout the medical profession, but the physical effects on an alcoholic of very heavy drinking are beyond dispute. A pint of whisky a day, enough to make eight or ten ordinary highballs, provides about 1,200 calories--roughly half the ordinary energy requirement--without any food value. As a result, an alcoholic usually has a weak appetite and often suffers from malnutrition and vitamin deficiency. The slack cannot be taken up by popping vitamin pills; heavy alcohol consumption impairs the body's utilization of vitamins. At the same time, excessive intake of alcohol also affects the production and activity of certain disease-fighting white blood cells, giving the alcoholic a particularly low resistance to bacteria.

Inevitably, the alcoholic develops a fatty liver, and his chances of developing cirrhosis, a

condition of the liver in which liver cells have been replaced by fibrous scar tissue, are at least one in ten. A severely damaged liver cannot adequately manufacture bile, which is necessary for the digestion of fats; as a consequence, the alcoholic often feels weak and suffers from chronic indigestion. This may be made worse by gastritis, which is caused by alcohol irritation of the sensitive linings of the stomach and small intestine. The troubles of a heavy drinker do not end there, and through damage to the central nervous system and hormonal imbalance, alcohol may even cause impotence.

The Price of Alcoholism:

Five Case Histories

No one is a typical alcoholic, and the only thing all alcoholics have in common is their addiction. That fact was reemphasized by the reports of *Time* correspondents who interviewed many of them across the U.S. and Canada, including the following:

JOE, 52, an Atlanta stockbroker, began his career as an alcoholic at 15 when he went camping with his brothers. One of the boys opened a bottle of wine, and Joe instantly discovered his weakness. "That night was it for me," he says. "I went looking for a drink in the morning, and I drank all the way through high school. I was in the grip of an insidious, progressive disease." Joe continued to drink through Harvard and the service, but when he went home again his parents sent him to a hospital for "aversion therapy." "I stayed sober two or three months," he remembers. But for him, the aversion was only temporary.

Drinking, borrowing money, being arrested repeatedly, at 27 he was so far gone that he was not able to write his name. In December 1948 he went to Alcoholics Anonymous but fell off the wagon after only two months. In March he was back in A.A., and has been going to meetings ever since.

"People there welcomed me," he says. "My goal was to live. Survival, that's all. They told

me that if I helped other people, I would receive and be helped myself. A funny thing happened. I got better. In two or three months I was in better shape than I had been in for five years. I needed a miracle and got it. But it's not over yet. It won't be over until I die."

ELIZABETH, 44, a Manhattan advertising woman, was a fierce teetotaler because both her parents were problem drinkers. At 35, facing the prospect of a mastectomy, Elizabeth went to her psychoanalyst. The doctor proposed that she try a drink to calm her fears. "I'll never forget the feeling," Elizabeth says. "It hit me instantly. This was something I'd been waiting for without knowing it, and I never wanted to be without it again. I felt so warm and calm and safe."

It turned out that she did not have cancer, but she went on drinking anyway, "right around the clock." Although she sipped almost a fifth of Scotch a day, it did not seem to affect her work. "I never got really drunk, never had a hangover." One night while waiting for a date she took an extra slug of Scotch "to be bright and special." Instead she stumbled and cut her forehead on the mantel. Her date found her bloodied and bleary and walked out. This shocked her so much that she went to A.A.

Elizabeth dried out for a while and then had a relapse, drinking more heavily than before. Finally she returned to the A.A. program, which she has followed successfully for five years. "Mine was one hell of a binge," she says, "and I consider my sobriety precious. I wouldn't do anything to jeopardize it."

JAY, 45, a Montreal journalist, says that he began drinking heavily "out of a sense of fatalism"; his father, mother and brother are all alcoholics.

"I turned into a chronic liar and charlatan, trying to cover up my affliction. I made raucous scenes and picked fights for no reason. I often wet my pants and vomited all over myself in public. I went to doctors and got tranquilizers, which I proceeded to combine with liquor, which made me even worse. I went to private

clinics, public hospitals and even ended up in a mental home. I went to a priest and then to Alcoholics Anonymous. They were well-meaning people, but their piety seemed too facile to me, and I usually had to rush to the nearest bar every time I came out of a meeting. I was thrown into jail, mugged, and slept in the gutter. I stank, my gums bled, and my hands were too shaky to shave without a couple of drinks."

The turning point for Jay came when he awoke in a seedy hotel with the DTs. "My eyes were bulging from their sockets. My arms and legs flailed about like windmills. Then those black dots started spreading across the walls and ceilings, and I had to choke back a scream. This was the point at which I finally decided I wanted to live, not die, and forced myself to go get cured."

The cure came at Toronto's Donwood Institute, where he went into group therapy and was put on a daily dose of Antabuse, a drug that causes nausea, palpitations and anxiety at the first whiff of liquor. To ensure his long-term sobriety, a six-month supply was implanted under the skin of his abdomen. "I finally walked out--cured, tingling with life and vigor and almost hypersensitively aware. But as I saw a bar, the craving hit me so hard that I bent double. Was this the way it was going to be all my life? The answer apparently is yes. The desire would fade, but somewhere--in the clink of glasses or the sight of good red wine--is the trigger. It is a trigger that I dare not pull."

BARBARA, 26, a Miami divorcee with two young children, started drinking when she was 13. "My mother was a heavy drinker," she says, "and we always had lots of liquor around the house." Married soon after high school, she became pregnant and--at doctor's orders--began downing a shot of brandy to help her sleep. "I didn't like the taste, but before my baby was born I was drinking half a bottle a night."

She and her husband eventually separated, and Barbara started to vary her drinking habits. "The kids were one and three, and I sipped wine

while I prepared their lunch. Within six months, I went from a small bottle a day to a gallon, then on to martinis and Scotch. It could be blowing a blizzard, and I'd trek through anything to get my bottles."

"People are so drink-oriented," she adds. "It's the acceptable thing to do. You never go to a party or dinner without drinks." Guidelines that she set for herself--never drink in the morning or before driving--were discarded, and arrests for drunkenness began to pile up. Sent to a detoxification center after one eight-day binge, she sneaked out to a bar, then, at 5 a.m., accepted a ride back from one of the male patrons. He invited her to stop at his apartment for a drink. She had to fend off a rape attempt, suffering a broken jaw and scarring cuts on her face. "I thought I'd hit bottom before," she says through the wires that still hold her teeth together, "but now I realized that this was it."

After attending a Dade County alcohol rehabilitation center for the past three months, Barbara is sober and plans to remain that way. She fears, however, that her drinking may have permanently hurt her children. "They remember my wine-drinking days when I'd throw up in their wastebasket. Now if they see me drinking a Coke, my older girl will come over and taste it and then reassure the younger

one: 'It's O.K.'"

BOB, 18, a New York City carpenter, started off on a bottle of Canadian whisky from the family liquor cabinet when he was twelve, and from that moment would drink whatever and whenever he could. "If it was beer, I laughed a lot. If it was wine, I would get very mellow. If it was whisky, I was sure to go wild and get into a fight."

Kicked out of school for fighting a guidance counselor in what he calls a "temper blackout," Bob was sent to Bellevue Hospital for a psychiatric examination. "At the nut house they told me I wasn't an alcoholic because of my age. I was told that if I handled my emotional problems, I would be able to drink normally." Bob nonetheless tried A.A., not once but three times between binges. "I just hadn't decided that I wouldn't drink any more."

Finally the A.A. "cure" took when Bob was at the ripe age of 15. Sobriety has not been easy. A well-meaning social worker pressured Bob to take tranquilizers to relieve his tension. He refused. "If I did that," he asks, "then why not drink? I was tired of being told that 1) I'm alcoholic, and 2) I need to take tranquilizers to survive. If I had taken drugs, I would have been in the nut house again in a matter of months."