

use seed money to start local programs to demonstrate to the population what can be done with cancer research. As in the case of cigarette smoking, motivating individuals to accept information and modify their patterns of living is extremely important, and we have not been doing a good enough job," Rauscher says.

A researcher with the National Institute of Arthritis, Metabolism and Digestive Diseases, Elizabeth Neufeld, reported general progress in the study of genetic metabolic disorders. A simple test has been developed for diagnosing cystic fibrosis in newborns before they leave the hospital, thus improving their chances of surviving childhood. Work on Hurler's syndrome, or "gargoylism," has yielded enough information to allow prenatal detection of the disease, but not, unfortunately, correction of the problem.

Progress in the search for a vaccine to prevent tooth decay (dental caries) was discussed by William Bowen from the National Institute of Dental Research. Dental caries have reached pandemic proportions in the world, he said, affecting 95 percent of the people. Only 25 to 30 percent of Americans attend a dentist regularly, and many do not have the "will power and discipline" necessary to follow proper oral hygiene. Dental researchers, therefore, see caries as a public health problem, best solved through mass immunization. By injecting monkeys with live, caries-causing *Streptococcus mutans*, researchers were able to increase the monkeys' resistance to caries. The findings are encouraging, Bowen says, but a vaccine is "unlikely in the near future." □

## Alcohol, youth, money and cancer

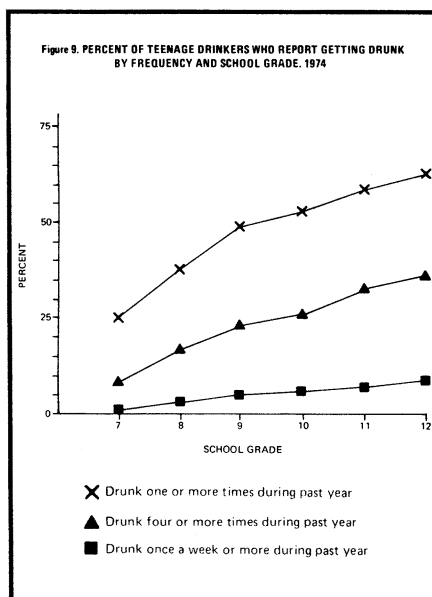
In the psychedelic sixties, marijuana, LSD, heroin and a handful of hallucinogenic drugs received so much publicity that people began to forget that alcohol has long been and continues to be the most popular and widely used (and abused) of the mind-bending drugs. But with the current de-emphasis on marijuana and an apparent leveling off of heroin use, alcohol is once again taking its rightful place as the most talked about and possibly the most investigated of recreational drugs. The National Commission on Marijuana and Drug Abuse and the President's Science Advisory Committee, for instance, have both found that the problems caused by alcohol far overshadow those of any other drug. Now, a task force of the Department of Health, Education and Welfare has issued a report that finds, among other things,

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TABLE 2  
RELATIVE RISK OF ORAL CANCER ACCORDING TO LEVEL OF  
EXPOSURE TO ALCOHOL AND SMOKING (a)

Ounces of Alcohol Per Day	Cigarette Equivalents Per Day			
	0	Less than 20	20-39	40 or More
No alcohol	1.00	1.52	1.43	2.43
Less than 0.4 oz.	1.40	1.67	3.18	3.25
0.4 - 1.5 oz.	1.60	4.36	4.46	8.21
More than 1.5 oz.	2.33	4.13	9.59	15.50

Source: Rothman and Keller (47).  
Risk is expressed relative to a risk of 1.00 for persons who neither smoked nor drank.



that alcohol is becoming increasingly popular among young people and that high consumption of alcohol may be related to various types of cancer.

Teenage drinking, the report says, is almost universal—93 percent of twelfth-grade boys and 87 percent of the twelfth-grade girls have used alcohol. Marijuana use among senior high-school students runs a poor second—only 40 percent of the males and 36 percent of the females report having used marijuana. Approximately 23 percent of the students surveyed report getting drunk four or more times a year. These drinkers, the report says, are exhibiting potential problem-drinking signs.

In addition to the obvious problems that individual drinkers might have to face, there is also the \$25 billion that drinking costs the United States every year. This figure, up \$10 billion from the 1971 estimate, includes primarily lost production of goods and services due to the reduced productivity

of alcohol-troubled male workers. Medical expenses and automobile accidents are the second and third largest costs.

Cancer, a word as ubiquitous as Watergate, also has a place in the HEW task force's findings. It seems that cancers of the mouth, pharynx, larynx, esophagus and liver are in some way related to the heavy use of alcohol. Such cancers could be due to the fact that heavy drinking is sometimes associated with dietary deficiency, malnutrition, anemia and poor hygiene. Another suggestion is that alcohol itself has a carcinogenic effect on the tissues it comes in contact with. Attempts to produce a cancer in animals by prolonged administration of alcohol have failed, however.

Alcohol may not be a carcinogen by itself but, the task force says, alcohol may act as a cocarcinogen with tobacco. It seems that people who both drink heavily and smoke heavily have a much greater chance of getting cancer than those people who smoke heavily but do not drink or those people who drink heavily but do not smoke.

Other findings: The people in the District of Columbia and the state of Nevada consume two to three times more alcohol per person than the people in most other states. In the District of Columbia, for instance, this amounts to 6.5 gallons of absolute alcohol per person per year or 9.9 gallons of distilled spirits, 6.3 gallons of wine and 30.5 gallons of beer. On the bright side, the task force notes that "moderate consumption of alcohol is not harmful." Tolerance to alcohol varies greatly from person to person but moderate means about three shots of whisky, half a bottle of wine or four glasses of beer per day. In fact, says the report, the nonexcessive use of alcohol may have beneficial physical, social and psychological effects. □

39