

Bad effects of chemicals: Mostly self-imposed

Have you ever wondered which chemicals in your life pose the greatest threat to your health? A panel of the President's Science Advisory Committee, set up in 1970 to review many issues concerning chemicals and human health, now has the answer, more or less. It reported its findings last week in Washington, at a National Science Foundation press conference. Its findings are also contained in a 200-page report, "Chemicals and Health," issued by the NSF.

Cigarette smoking, the panel has found, caused 17 percent of all chemically linked deaths among Americans in 1967; a poor diet, anywhere from zero up to 20 percent of such deaths; alcohol abuse, 3 percent; unknown factors that act as initiators or promoters of cancer, 3 to 8 percent; adverse reactions to medication, 4 percent; addictive drugs, 0.6 percent; occupational airborne particles, 0.5 percent; suicides involving chemicals, 0.25 percent; accidents with chemicals, 0.01 percent; birth control pills, 0.01 percent.

In other words, the overwhelming threat of chemicals to the health of Americans is self-imposed, largely resulting from smoking, poor eating habits and drinking: Doing something about these dangers is largely up to the individual.

On the other hand, the panel stresses, the Government is responsible for protecting Americans from those chemicals they do not wish to be exposed to. And it suggests accelerated research, more flexibility by Government agencies in carrying out laws designed to

protect Americans from chemical hazards and better communication between these agencies and the public. It particularly recommends a larger role for the National Institute of Environmental Health Sciences.

The panel claims that some of its recommendations regarding better communication with the public by government health agencies and including the public in decision-making have already been implemented. The NIEHS now holds public conferences. The Environmental Protection Agency and the Food and Drug Administration have created advisory committees composed of scientists and the public. And the FDA is taking "frank steps" to make available to the public much of its scientific information.

But these agencies have a way to go yet before the American public really feels it is participating in decisions about chemicals and health. Recently a SCIENCE NEWS reporter was kicked out of an FDA advisory committee meeting discussing a particular class of drugs on the market. (The committee was comprised entirely of scientists.) She talked with the general counsel to the FDA and also to a Health, Education, and Welfare official who has been charged solely with improving health agency-public communication. Both agreed that closing the meeting might well have been illegal under the Freedom of Information Act of 1967 and the Advisory Committee Act of 1972. The HEW official said he would look into the matter. He has never called her back. □

Era of the HMO: Health care by the year

Probably the biggest boon to American health care during the 1960's was Medicare, the Federally financed health insurance for older Americans. The biggest boon to emerge so far during the 1970's appears to be the Health Maintenance Organization Act of 1973, signed into law by President Nixon Dec. 29.

The act authorizes Federal expenditures of \$375 million over five years to expand or develop health maintenance organizations. HMO's are prepaid comprehensive health care programs for a specific geographic population. As an alternative to the traditional fee-for-service system in which the patient is charged for each separate item of care, an HMO member pays a fixed annual fee, usually on a monthly basis. In return he or she receives outpatient and inpatient care ranging from routine checkups to major surgery. HMO's stress preventive medicine. Coordinated, easily available medical care replaces expen-

sive emergency room and inpatient care whenever possible. So plan members tend to spend less time in the hospital, have fewer operations and pay less for more services than the rest of the population. One study showed that eight million Federal employees who had prepaid comprehensive coverage were hospitalized 52 percent less often and had 45 percent less surgery than those who did not belong to the plan.

Two years ago there were some 40 HMO's in the United States. Now there are 60 or so. The best known include the Kaiser Foundation Health Plan in California, the Health Insurance Plan of Greater New York and the Group Health Association of Washington, D.C. GHA predicts that some 40 new HMO's will be started or expanded in 1974 as a result of the new act.

The HMO legislation was strongly endorsed by Sen. Edward M. Kennedy (D-Mass.), Rep. Paul Rogers (D-Fla.) and by Reps. Tim Lee Carter (R-Ky.)

and William E. Roy (D-Kan.), both physicians. Back in September Alexander McMahon, president of the American Hospital Association, declared, "The AHA recognizes the HMO and other concepts as essential ingredients in an emerging new health care delivery system." The American Medical Association, however, fought the legislation. □

Sahara's far-flung dust dims Atlantic sunlight

You can see it in the skies. Aircraft come back covered with the stuff, and it even shows up in the photos taken by weather satellites. Dust—vast clouds of it—whirled into the skies from the parched lands of Africa and blown in vast sheets across the full expanse of the Atlantic to the balmy climes of the Caribbean.

For nine years, scientists in the Caribbean have monitored dust from the Sahara. At first, the concentrations of the dust changed little, rising in the summer, falling in the winter, but growing only a small amount from year to year. But in 1969 the far-flung motes began to show the influence of the bitter drought that has now been plaguing Africa's sub-Saharan grasslands for half a decade (SN: 9/29/73, p. 197). In a single year, from 1972 to 1973, the summer African dust count measured at Barbados jumped 60 percent, reaching three times its 1968 pre-drought level of eight micrograms per cubic meter of air.

A microgram is tiny—less than a twenty-eight-millionth of an ounce. Yet multiplied by the tremendous volume of the winds, the dust has now reached such concentrations that it is dimming the very sun, with possible implications not only for air quality, but for the weather itself.

Toby N. Carlson, of the National Oceanic and Atmospheric Administration's National Hurricane Research Laboratory in Miami, is one of those concerned about the rapid escalation of the annual dust-drop on the Caribbean side of the Atlantic. "The effect of these increases," he says, "has been to increase atmospheric turbidity (or decrease atmospheric transparency) to the point where the typical marine conditions one normally finds there have been transformed into the hazy conditions of urban industrialized regions of North America."

"The difference," he points out, "is that the 'pollution' consists of natural soil particles, and is concentrated much more at 10,000 feet than at the surface." Airborne though it be, says Carlson, the dust has grown so thick since the drought began on the other side of