

PUBLIC HEALTH

Drug Dangers Attacked

➤ A COOPERATIVE ATTACK on the dangers of drugs and other chemicals to human life is being launched by the National Institutes of Health, Bethesda, Md. A two-part program of basic research and computer-based information is under way so people will no longer be guinea pigs in experiments neither they nor the scientists understand.

Already a two-million-dollar contract has been signed with the Chemical Abstract Service of the American Chemical Society for documentation of a computer-based drug information system. This part of the program, which will cover approximately five years and cost \$40 million, is being financed by NIH, the National Science Foundation and the Department of Defense under the direction of the White House Office of Science and Technology.

Through regional centers, the information will go to physicians, the U.S. Food and Drug Administration and others who need to know drug reactions.

Dr. George J. Cosmides of the National Institute of General Medical Sciences is program director for research and training, which will include basic research to be done in university-based centers as well as at NIH.

"We don't know enough about cancer-causing chemicals," Dr. Cosmides told SCIENCE SERVICE. "We need to know more about chemical hazards that cause changes in man. Most of the research will be done in universities all over the country, but NIH will provide training for as many as 30 fellows during three-year periods. NIH intramural fellowships will provide training in broad aspects of pharmacology and toxicology."

The Food and Drug Administration, which already has information on commercially available drugs, may be authorized to establish boards of experts to provide unbiased information. Pharmaceutical companies also will investigate drug dangers and ways to combat them, as they now are doing.

Reporting in Science 148:1547, 1965, Dr. Cosmides, with Drs. Bernard B. Brodie of the National Heart Institute, and David P. Rall of the National Cancer Institute, detailed the new programs recommended for increasing research and information.

"At present," they said, "the main sources of information are the detail men, drug brochures and the Physicians' Desk Reference—an incomplete but widely used digest of information prepared by various pharmaceutical companies. The cost of these services, paid by the public in one way or another, is staggering. The salaries of the detail men alone exceed \$100 million annually and the information is not likely to be completely objective or authentic."

The researchers say there is an urgent need for an official source of drug information that the physician will learn to respect as a medical student and will use as a

practitioner. Before World War II, when the list of useful drugs was relatively small, the United States Pharmacopeia, New and Nonofficial Remedies, and Useful Drugs provided authoritative and unbiased information.

Regarding computer information, the scientists warn that "the creative scientist will continue to filter data through his own unique and selective mind to fit the framework of his own original thinking."

• Science News Letter, 88:6 July 3, 1965

MEDICINE

Four Combined Drugs Slow Acute Leukemia

➤ CHILDREN with the incurable blood cancer disease, acute leukemia, are living longer when treated with a combination of four drugs known as VAMP.

Two of 11 patients who received the periwinkle drug vincristine in combination with amethopterin, 6-mercaptopurine and prednisone have remained in complete remission "with no clinical evidence of their disease" for nearly two years. The average survival of children with acute leukemia had reached 13 months by 1963, Dr. Emil Frei III, formerly on the staff of the National Cancer Institute, Bethesda, Md., reported at the American Cancer Society's annual Scientific Session in Philadelphia.

Dr. Frei, who is now at the M. D. Anderson Hospital and Tumor Institute, Houston, Texas, said, however, that the problems of treating chronic myelocytic leukemia (CML) are very different from those of acute leukemia. There has been no substantial increase in survival of patients with CML in spite of the fact the remission, or reduction of symptom intensity, can be achieved in 80% to 90% of cases.

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PHYSIOLOGY

New Enzyme Discovered By Vermont Scientist

➤ DISCOVERY and crystallization of a new enzyme by a University of Vermont professor is expected to lead to important research.

A step toward the eventual conquest of diseases such as phenylketonuria (PKU) and others caused by inborn errors of metabolism is seen in the enzyme studies going on in many laboratories, Dr. Erland C. Gjessing, associate professor of biochemistry at the University, told SCIENCE SERVICE.

"We can make a very general application to disease in our enzyme work, Dr. Gjessing explained. "Of course all processes in the cells of the body are controlled by enzymes. Lack of an enzyme or insufficient amounts of enzymes can sometimes lead to very serious diseases."

In spite of the fact that researchers have succeeded in crystallizing some 60 enzymes, very little is understood about the mechanics of these substances that produce chemical transformations by catalytic action. There are hundreds of enzymes, but Dr. Gjessing and his co-workers for the first time have crystallized both the inactive precursor and the active enzyme.

The new enzyme, which was accidentally discovered during Dr. Gjessing's research on the lipid, or fat, metabolism of blood, is called the "esteroproteolytic" enzyme because it degrades, or reduces fat-like substances and a variety of proteins.

He said the new enzyme came from the pancreas of hogs, and that similar enzymes could be found in the pancreas of cows.

"An intensely interesting area of research is that of differences in genetic species," he explained. "If there are two species, this gives rise to two different enzymes. Eventually this is related to the genetic code, and how the relationship occurs is one of the things we want to find out."

First, the Vermont scientist hopes to relate the structure of the enzyme to its catalytic properties. "If you can do this with a number of enzymes, you can find out the correlation, if there is one. A number of laboratories are working on the same problem," he said.

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PUBLIC HEALTH

First U.S. Cholera Case In 54 Years Reported

➤ THE FIRST CASE of cholera in the United States in 54 years has been reported, but only after a 32-year-old laboratory technician in Washington, D.C., who had the disease had recovered.

The D.C. Health Department kept the case quiet for fear of panic. The report is in the weekly Morbidity and Mortality Report, June 17, 1965, from the Communicable Disease Center, Atlanta, Ga.

The laboratory worker was injecting 45 guinea pigs with the assistance of two other technicians, using *Vibrio cholerae* in an experiment.

The other two showed no sign of the disease after cultures were taken. The patient's family was hospitalized five days but all had negative cultures.

Symptoms were not apparent in the victim for a week, and on the weekend of June 5-6 he went to New York and New Jersey for a visit. All persons having contact with him were given stool cultures and proved to be negative. The patient himself was hospitalized June 8 and given antibiotic treatment, after which he was discharged. Whether he expects to return to the laboratory with infected guinea pigs is not known.

In 1911 when the last cholera was reported in this country, it happened on eight ships among steerage passengers from Italian ports where there were cholera outbreaks.

Sixteen of the 22 victims died in that period because of lack of antibiotics.

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