

# The Massive Hunt for a Cancer Cure

**A** FANTASTIC detective story is being enacted all over America.

A small army of investigators is testing tens of thousands of chemicals and other materials in a search to find drugs that can stop or cure cancer.

This gigantic hunt is being conducted with little public fanfare. But in many ways, it is one of the most remarkable searches ever undertaken.

This program can—and we hope will—find a solution to the disease that takes nearly 260,000 American lives each year. It also could produce a wealth of new information of extraordinary value to medical science.

Nerve center of this project is an unimposing building in Silver Spring, Md. From here, a scientist-physician team is directing the screening of about 50,000 different chemical compounds a year to find those that may be effective against cancer.

This is the Cancer Chemotherapy National Service Center. It is sponsored jointly by the National Cancer Institute, Food and Drug Administration, Veterans Administration, Atomic Energy Commission, and two nonfederal agencies: the American Cancer Society and the Damon Runyon Fund. It is spending about \$25 million provided annually by Congress.

The Service Center was established in April, 1955, and given the job of organizing, directing, and co-ordinating a stepped-up search for cancer drugs. No one is sure that such a program will lead to the development of drugs to cure the dread disease. It is a calculated risk—but one we have to take.

**W**HAT is the progress to date in this vast hunt? Right now, we have 109 different chemicals that show some important signs of being effective against cancer in animals. These are now being tested on human patients, some with promising early results.

Within the past few months, for example, scientists working in the chemotherapy program have reported that a new hormone-like drug, 2M-DHPT, used to treat certain breast-cancer patients, seems to be better than a related drug used for years. In a limited study, four times as many patients responded favorably to the new drug than to the old. Furthermore, the drug's anticancer effect seems to be accompanied only slightly by undesirable masculinization, a frequent side effect of hormone treatment for cancer.

Another promising anticancer drug, called cyclophosphamide, recently was made available to physicians all over the country. It was originally developed in West Germany and tested in our program. Although cyclophosphamide has been in use only a comparatively brief time, it looks now

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as told to Lester David



*Scientist-detectives are trying to track down a chemical which will halt this killer—it's a needle-in-the-haystack search that could save 260,000 Americans a year*

as though it might prove to be one of the best anticancer drugs.

These are by no means all. We now have other medications, some developed before the program began and others after, that not only afford tremendous relief to pain-racked patients but also add months, sometimes comfortable and useful years, to the life span. A decade ago, for example, the average patient with acute leukemia could expect to live only a few weeks or months

at most after his disease was diagnosed.

Today, by use of drugs, the average survival is more than a year.

Recent research also has shown that viruses are a frequent cause of cancer in animals, and scientists are now intensively studying their possible role in human cancer. Research on the virus theory is now emerging as one of the most promising lines of investigation on cancer causation. There certainly is reason to hope that these studies might point the way to radically new methods of controlling cancer by immunization, drug treatment, or a combination of both.

But let me describe further details of the mammoth search in the field of drugs.

First, why was it started? Two reasons: 1. Many patients with advanced cancer or with leukemia could not be treated effectively by the available methods. 2. A number of powerful anticancer drugs had already been developed that temporarily curbed leukemia and other forms of malignant disease in some patients.

The plan was to capitalize on the knowledge at hand, gather new information, and come up with better anticancer drugs.

As it now stands, the search is a massive cooperative venture that cuts across many scientific and industrial lines. Enlisted are dozens of private drug, chemical, and allied firms; scores of hospitals and research centers; and many hundreds of individual investigators. All are pooling their efforts in the drive.

**A**T HEADQUARTERS, drugs are received—many supplied free by their manufacturers—tabulated, and then distributed to the testing centers. A center may be a Government institution, private research organization, a college or university laboratory. Each chemical is screened in an elaborate, carefully worked-out program that has these three main stages:

Stage One, called primary screening, takes five months to complete and is performed on cancer-bearing laboratory animals. If a drug exhibits a degree of promise, it moves along to Stage Two, further animal studies which involve up to four dozen separate tests and take six months more. Finally comes Stage Three, or the clinical trial stage, tests on human patients.

So far, no drug by itself has cured a human cancer. But we believe there is light upon the horizon. The day could come when a doctor will be able to reach for his prescription pad and order a drug to cure this dread disease.

The big search now going on may speed the coming of this day.

## COVER:

Handsome, dynamic William Holden is one of Hollywood's most complex stars, as you'll learn in the fascinating profile, "The Many Worlds of Bill Holden," p. 8.

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