

MEDICINE

Chemical May Cure Cancer

► **THERE WILL** be a chemical cure for cancer, three out of four directors of cancer research laboratories polled have indicated in a *SCIENCE SERVICE* Grand Jury inquiry.

But it will take some years to achieve a chemical cure for cancer, somewhat similar to successful treatments like antibiotics that have virtually conquered some diseases.

The cancer experts who agree there would be a chemical cure for cancer constituted 78% (18) of those answering, with 9% (2) voting "No" and 13% (3) not voting.

Before 1975 was set by most of the experts foreseeing a chemical cancer cure as the time that it will be achieved. This was the opinion of 61% (11), while 5% (1) was optimistic enough to vote for before 1960. Before 2000 was the guess of 17% (3) while another 17% (3) would not specify a date.

Because a widespread anti-cancer drug research effort, supported by Government and foundation funds is in progress, *SCIENCE SERVICE* queried by its "grand jury" technique the scientists directing cancer research efforts in this country. Assured of anonymity, of the 30 asked to reply, 77% (23) did so.

One expert pointed out it is inaccurate to speak of a single chemical cure for cancer and that it is extremely unlikely a single chemical substance will be discovered that will cure the many different kinds of cancer.

This scientist believes it is possible that chemical means will be discovered before 2000 which will cure a high proportion of advanced cancers which otherwise will be fatal.

A negative vote was accompanied by the prediction, which was fulfilled, that the results of the poll would be "yes, before 1975" by a landslide majority because "it

is now almost heresy in orthodox science to say anything else."

Chemicals are now curing some cancers in animals and inhibiting and giving palliation to some cancers in humans, another expert pointed out.

Leukemia and malignant lymphoma will probably be the first to yield to chemical treatment, another expert observed.

The possibility of development of preventive measures to protect against cancer was also suggested.

"The achievement of great ends by small means is every man's wish," one non-voting expert said. "Such, however, is not ordinarily the way of the world. Whether we shall ever know enough about cancer to prevent it, or to destroy it permanently when it has appeared by chemotherapeutic, immunologic, hormonal or other means, remains to be shown. Such successes today, however effective, are in most areas very temporary, however dramatic the recession may be occasionally. Only in prostatic cancer does the indirect attack (castration or estrogen) commonly permit its victim to live out his life expectancy."

The same expert observed that "for a large number of visceral cancer, the elaboration of a test by which the presence of an occult cancer can be reliably detected in its silent, asymptomatic place could very well during the next decade make a more important impress upon the cancer problem than the discovery of its cause, or causes. It took more than 30 years following the discovery of the tubercle bacillus to implement that knowledge in a manner that brought about a definite decline in the mortality of tuberculosis. Most cancers are curable when local. The problem is to find the early case, just as it is today in tuberculosis."

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"If success should attend our efforts to demonstrate the value of exfoliative cytology as a case-finding procedure and an aid to diagnosis," Dr. Heller told his colleagues, "we shall be able to deal a decisive blow against cancer in the United States.

"We believe that mortality from uterine cancer, which now claims the lives of 16,000 women each year in our country, could be dramatically reduced by widespread use of the cytologic test as a health practice.

"If, for instance, the test should prove effective for the early detection of epidermoid cancer of the lung, which is taking an increasing toll in the United States, as well as for cancer of the other sites I have mentioned, we would indeed have an effective weapon to place in the hands of health authorities and the medical profession."

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● RADIO

Saturday, July 26, 1958, 1:30-1:45 p.m., EDT
"Adventures in Science" with **Watson Davis, director of Science Service, over the CBS Radio network. Check your local CBS station.**

Dr. Frank H. Sparks, president of the Council for Financial Aid to Education, New York City, will discuss "Who Should Pay for Higher Education?"

EDUCATION

Change in Emphasis Seen In Medical Education

► **NEW IDEAS** of "coordinated" training for medical students are evolving in individual schools and in teaching institutes of the Association of American Medical Colleges.

As outlined by Dr. Robert A. Moore, president of the Downstate Medical Center of State University of New York in Brooklyn, in the *Journal of the American Medical Women's Association* (March), a composite of these innovations would include:

1. Two years of liberal arts education.
2. One year of transition from college to medical school.
3. Four years of medical school, including internship.
4. Reorientation of course material to emphasize the human body as a whole, rather than scientific disciplines.
5. A school year of at least 40 weeks; 48 to 50 weeks in the final year.
6. Assignment to each student of a family which he would follow during the entire period of medical school.
7. A coordinated outpatient program that would include home care.

Principles and processes, rather than detailed facts, must now be the goal, Dr. Moore says, since no individual can hope to remember even a small part of the facts now accumulated by the medical sciences.

New concepts of comprehensive medicine demand the same originality and imagination in researching educational methods as are necessary in research on scientific subjects, says Dr. Moore.

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MEDICINE

Cancer Test Promising

► **AMERICAN** scientists are currently experimenting with a cancer detection technique that could "deal a decisive blow against cancer in the United States."

This was revealed by Dr. John R. Heller, director of the National Cancer Institute, Bethesda, Md., to cancer specialists gathered in London for the International Cancer Congress. (See pp. 35, 36, 47.)

The detection technique involves exfoliative cytology whereby cells that are normally and continuously being sloughed off by the body's organs are collected and studied in the laboratory. The test itself is not a diagnosis for cancer but a first step in warning doctors that suspicious cells are present within the body. It is the hope of cancer researchers that the technique will give them their first mass screening procedure for detection of cancer in sites in the body.

The anti-cancer weapon was evolved by Drs. George N. Papanicolaou and Herbert F. Traut and proved highly successful in a Memphis, Tenn., study of 108,000 women to detect uterine cancer.

The Memphis results were so encouraging, Dr. Heller told the Congress, that the National Cancer Institute decided to obtain additional data as applied to uterine cancer and to undertake research to learn the usefulness of the technique for detecting cancer of the lung, large bowel, urinary bladder, and prostate gland.

Currently 12 such Institute studies are underway in the U. S., with two in Columbus, Ohio, and one each in Houston, Tex., Kansas City, Mo., Louisville, Ky., Madison, Wis., Memphis, Tenn., Philadelphia, Pa., San Diego, Calif., Washington, D. C., Hagerstown, Md., and Winston Salem, N. C.