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NCI GETTING A LOT FOR A LITTLE MONEY IT SPENDS OVERSEAS, INTERNATIONAL PROGRAM DIRECTOR SAYS

The National Cancer Program is a name that does not completely describe the effort mounted under provisions of the National Cancer Act of 1971—it is an international program, perhaps the most extensive international health effort ever undertaken.

NCI supports cancer research in 22 countries. More importantly, according to Gregory O'Conor, NCI associate director for international affairs, "The leadership we have been given as a result of funding by Congress, and the size of the program, has allowed us to be in a position to stimulate and encourage other governments and scientists in other countries, to participate in a coordinated effort, to be part of the scene. The fact that we have such a large cancer program has led other countries to devote their own resources to an increased effort."

In 1976, grants and contracts awarded to foregin investigators and institutions totaled $9.4 million. The 1977 budget for O'Conor's office is an additional $7.3 million, and that includes about $5 million for the operation of the International Cancer Research Data Bank.

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In Brief

BREAST CANCER TAPE READY; CONTROL PROGRAM PLANS FOR 1978 SUBJECT OF JULY 15 MEETING

LONG DELAY in distributing video tapes of last fall's "Report to the Profession" on breast cancer wasn't the fault of the General Services Administration (*The Cancer Letter*, May 27), according to NIH. "We can't lay that one onto GSA," said Storm Whaley, NIH director of communications. The delay was caused by problems in arranging for the contract for dubbing and distribution, he said. Lining up credit for continuing education also contributed to the delay. The six-hour tapes are now available to institutions and may be obtained by writing to NCI, Office of Cancer Communications, Bethesda, Md. 20014. . . . **VIRUS CANCER** Program Advisory Committee meeting scheduled for this week was called off because of the prospect that the committee will be abolished—it was on the list of NCI advisory groups suggested for elimination. "Committee members felt there was not much point in meeting if it is going to be abolished," said John Moloney, director of Viral Oncology. . . . **CANCER CONTROL** program plans for fiscal 1978 will be thrashed out by the Cancer Control & Rehabilitation Advisory Committee and NCI staff July 15. The meeting, 9 a.m. at the Blair Bldg in Silver Spring, Md., is open. . . . **NEW PUBLICATION:** *Genetics of Human Cancer, Vol. 3, Progress in Cancer Research & Therapy*, is available from Raven Press, 1140 Ave. of the Americas, NYC 10036, $20. It comprises the proceedings of a conference sponsored by NCI and the March of Dimes Foundation. Editors are John Mulvihill, Robert Miller and Joseph Fraumeni of NCI.

OTHER COUNTRIES ENCOURAGED TO STEP UP THEIR OWN CANCER RESEARCH PROGRAMS

(Continued from page 1)

The ICRDB came into being as the result of a directive in the National Cancer Act of 1971 which said NCI shall "establish an international cancer research data bank to collect, catalog, store, and disseminate insofar as feasible the results of cancer research undertaken in any country for the use of any person involved in cancer research in any country." The program includes the following services:

- CANCERLINE–A computer-based information retrieval system for immediate retrieval of abstracts derived from published cancer research results, descriptions of ongoing cancer research projects, and summaries of clinical protocols.
- Cancer Information Dissemination and Analysis Centers (CIDACs)–These operate in three broad areas of cancer research stressing the active dissemination of cancer research information to scientists and acting as reference and referral centers for investigators.
- CANCERGRAMS–Current awareness publications produced approximately monthly by CIDACs which contain abstracts of recently published articles in narrow subject areas. These are sent to researchers working in those subject areas.
- Current Cancer Research Project Analysis Center–This center collects and processes descriptions of ongoing research projects for compilation into SPECIAL LISTINGS. It is operated for the ICRDB Program by the Smithsonian Science Information Exchange.
- SPECIAL LISTINGS–Publications produced by CCRESPAC which contain descriptions of ongoing cancer research projects in narrow subject areas.
- International Scientist-to-Scientist Communication–A two-part project which provides awards of individual grants for research visits of scientists between countries, and provides basic support for international workshops in cancer research.
- Clearinghouse for Ongoing Work in Cancer Epidemiology–This clearinghouse supported by ICRDB and operated by IARC in Lyon, provides lists of epidemiology researchers and resources and responds to technical questions in this subject area.

O'Conor feels that the data bank is a useful tool that has helped his office in its efforts to encourage communication among scientists around the world. "But I don't want to overemphasize the data bank's contribution. The real emphasis should be on the fact that NCI has a coordinated program so immense that it has stimulated other governments and scientists in other countries to participate. For very little cost to us, we can offer virtually every country the opportunity to participate at whatever level they feel they are capable of. We encourage the idea that everyone has something to offer."

Israel, France and Italy in that order are the three largest participants in the program, in terms of NCI grant and contract dollars. Israel last year had 18 contracts and two grants totaling nearly $1.8 million. France had 10 contracts and three grants, $1.4 million, and Italy had 11 contracts and one grant, $1 million.

"Each country involved in cancer research has expertise in one or more areas that are very important to the Cancer Program," O'Conor said. There is hardly any area of the Cancer Program in which NCI does not support some research outside the U.S., through grants, contracts or exchange of personnel. Here are some of the larger contracts:

- Hebrew Univ., Jerusalem, preclinical studies on tumor protective activity of a methanol insoluble fraction of attenuated tubercle bacilli, $179,098.
- Nottingham Univ., England, immunotherapy of C3H murine mammary carcinoma, $100,650.
- Univ. of Uppsala, Sweden, investigations of possible correlations between morphological and epidemiological characteristics of breast cancer, $119,900.
- Univ. of British Columbia, synthesis of vinblastine, $103,666.
- Mario Negri Institute, Milan, study of the mechanism of drug action of antineoplastic agents as they relate to cancer metastasis, $179,100.
- Farmitalia, Milan, design and synthesis of aglycones related analogs of doxorubicinone and design and synthesis of derivatives and analogs of doxorubicinone, $354,704 (two contracts).
- Makerere Univ., Uganda, operation of a lymphoma center, $125,000.
- International Agency for Research on Cancer, France, seroepidemiology studies of nasopharyngeal carcinoma and Burkitt's lymphoma, $600,000; evaluation of carcinogenic risk of chemicals to man, $219,510.
- Weizmann Institute, Israel, study of the role of enzyme induction and chemical carcinogenesis, $189,355; alterations in translation of genetic messages induced by viruses and carcinogens, $144,900.
- Aichi Cancer Center, Japan, study in shifts of cancer risks for specific sites among Japanese migrants to the United States, $146,014.
- Radiological Institute, Netherlands, synergistic interaction of hormones and neutron radiation of mammary gland, $259,567.
- Karolinski Institute, Sweden, studies of the significance of herpes-virus in the etiology of some human cancers, $168,333.
- Univ. of Stockholm, Sweden, polycyclic hydrocarbon metabolism in the respiratory tract, $175,547.

Grants to non-U.S. institutions and investigators are very limited. Regulations require that grants outside the U.S. may be funded only if they are in the top one-third priority scores. The awarding agency

also must certify that they are supporting research that can best be done outside the U.S., or that the necessary expertise does not exist in this country.

There were only 33 grants supported outside the U.S. last year, compared with 96 contracts, with grantees receiving almost $1.5 million. The largest grant, $199,143, went to the Univ. of Brussels for support of EROTC Cooperative Clinical Groups. The U.S. Acute Leukemia Cooperative Group B (now the Cancer & Leukemia Cooperative Group) supported studies at Hospital Saint Louis Lareboisiere in France, $44,100. The Eastern Cooperative Oncology Group supports studies at Notre Dame Hospital in Canada, $27,076, and the Group for Study & Research in Cancer in France, $32,415.

The second largest grant, $98,000, went to the Royal Karolinska Institute in Sweden for studies on malignant behavior and cellular antigen expression.

Other grants include the Univ. of Manitoba, Canada, for cell-mediated immunologic destruction of tumor cells, $55,900, and Walter & Eliza Hall Institute, Australia, research on immunoglobulin Mrna, $48,418.

The Univ. of Cairo is a member of the Southwest Oncology Group and is undertaking combined modality trials for treatment of bladder cancer. Although it is technically supported by NCI, that money will not come out of the NCI budget. The U.S. still has a substantial amount of P.L. 480 (counterpart) funds in Egypt, which was payment in local currency for U.S. aid, mostly food shipments. It has to be spent in Egypt, and the government agreed that support of cancer research was a good use for it.

What has NCI received for the dollars it has spent abroad?

"It's hard to identify anything specific as the most important thing," O'Conor said. "Many foreign scientists have made major contributions in their respective fields. I would hate to identify one single thing as the most important. Maybe you could say Bonadonna's studies (breast cancer adjuvant therapy) although that may not turn out to be in the end.

"The feeling I have is that as a result of increased international participation in cancer research, progress in all fields has been accelerated. We're getting increased communication with our scientific colleagues abroad who are providing new ideas, new perspectives, new approaches that, working in our own environment, we would not get to the same degree."

O'Conor pointed out that there are some things that can be done outside the U.S. that cannot be done here, primarily epidemiological and environmental studies. Foreign participation in clinical trials increases the number of patients brought into th studies. Although some countries do not have strict standards controlling use of human subjects in research, HEW requires that U.S.-supported clinical trials in foreign countries comply with HEW regulations.

MANY SCIENTISTS BUT NOT MUCH MONEY, WEIZMANN MAKING MAJOR CONTRIBUTION

REHOVOTH—Weizmann Institute researchers are working harder than ever to keep their lead as the top non-U.S. recipient of the NCI basic research dollar. Since the institute's 15-year-old biomedical research spurt began, "NCI has been...and continues to be our main supporter," said Leo Sachs, Weizmann cancer chief.

The Israel budget is increasingly dominated by layouts for defense. Education and care of the booming pediatric population consumes most of the remaining government money.

There is a high concentration of scientists and engineers in Israel and unemployment is low. But the research emphasis is on solving technological problems related to agricultural and commercial production. The Israel National Council for Research & Development and the Israel Academy of Sciences have little money to offer for basic biomedical research—considered a luxury item by the heavily indebted and taxed Israelis.

The Israel Cancer Society also cannot contribute much to help defray the high cost of research. The society is not well supported in Israel, relative to the population. Its activities are not highly visible. There is no hint of any antismoking campaign. "Smoke-filled room" remains an appropriate description for most public meeting places.

Domestic funds for cancer research amount to a few million Israeli pounds, according to Sachs. The current exchange rate is about 8.80 pounds to the dollar. That exchange rate is important because much research equipment and material must be purchased outside Israel, frequently from the U.S. The forecast does not improve any; further devaluation and inflation is accepted by the government and population as inevitable.

In the face of this weak internal support, Weizmann found the U.S. NCI to be a good friend. "We have found NCI over the years to be remarkably fair and extremely helpful," Sachs said. Peer reviewers may be more critical of extra-U.S. proposals, the cancer chief said, but this has not been a major bar to the Weizmann researcher.

Biomedical research grants and contracts are subject to the same "Buy America" policy as all U.S. government purchases. In addition to passing merit review, project proposals must justify program uniqueness, why work should be supported at that institution, and why the research could not be conducted at an American facility. "I find the demand a reasonable policy," Sachs said.

Weizmann's work is conducted within the traditional grant and contract modes, with no large program projects. NCI conducts regular reviews, according to Sachs. Site visits are not conducted annually.

Institute researchers "get together regularly to dis-

cuss what we're doing and work going on in the scientific effort. At the moment we have very good collaboration and see no need to change, and NCI doesn't seem to mind," Sachs said.

The same, non-rigid format exists for institutional approval of project proposals submitted to NCI. Proposals are reviewed by the appropriate department head and staff consultants, then forwarded to Sachs for final approval. Sachs can veto any application he feels unworthy of submission to NCI. There is no institutional review committee to which the applicant can appeal. The lack of a review body also means that Sachs has the last word on his own projects.

There are some 20 senior investigators in Weizmann's biology faculty which expends a majority of its effort on cancer research. The informal structure of the cancer effort allows the Leipzig-born, U.K. educated Sachs to continue work as a bench scientist. Sachs works within the genetics department which he established in 1960 and continues to head.

Sachs has long received NCI support for chemical carcinogenesis testing, an area now of burning interest in the U.S. Sachs did not foresee a great expansion of his program resulting from the increased NCI budget in this field. Sachs' team will continue to seek cell culture systems which identify the conversion of chemicals into carcinogens. They aim to pinpoint the control mechanism which regulates this conversion and to identify the active metabolite in the process. Next step would be to find a way to control exposure to the carcinogen or to control the enzyme regulation so as to minimize the ensuing cellular activation.

In genetics, Sachs and coworkers Joseph Aloni and Marian Fogel investigate the biochemical changes caused in cells by cancer viruses. The studies aim at determining how these viruses can be released from the cancer cells.

The focus of this non-NCI supported effort is the reversibility of cancer cells to normal cells. His work has been with myeloid leukemia cells from mice and humans and sarcoma cells from animals.

The team succeeded in transforming cells in some animals. Normal cells need macrophage granulocyte inducer (MGI), a fibroblast produced protein, to differentiate into mature myeloid cells. Sachs added MGI to myeloid leukemia cells in culture and injected the mixture into leukemic animals. In some animals the myeloid cells were induced to differentiate normally as well as produce normal macrophages and granulocytes which stopped reproducing abnormally.

The experiments yielded two results, according to Sachs. First, the test allowed an identification of myeloid leukemia cell types not before identified. The second was the categorization of responders into three groups: those which were induced to differentiate normally (D+), those which were induced to differentiate partially (D), and those which could not be induced to differentiate at all (D–).

In vitro test of some cancer chemotherapeutic agents now in use showed the drugs induced differentiation in these D+ cells, but none in D– cells. "This shows that chemotherapeutic agents not only kill cells, but also induce differentiation and change cell behavior. This is a possible explanation why agents work in some patients and not in others. Perhaps by identifying these cells before treatment, we could modify therapy appropriately," Sachs said.

The hypothesis requires testing with clinical material from large numbers of patients, Sachs stressed. "There is only a small number of patients available in Israel, but it might be something NCI could introduce without great difficulty into their clinical trials. It might also be worth checking into tumors other than leukemia."

Myelotic leukemia incidence is about the same in Israel as in the U.S., but small available population is not the only reason a clinical trial would be difficult to run in Israel. Personnel to conduct the testing is scarce. Medicine shortages make uniform therapy difficult to maintain. The medical care system is plagued with doctor, nurse, and hospital worker strikes as well as overcrowding of facilities. Combined with the high cost, running a clinical trial would be a monumental feat in Israel.

Several other Weizmann units research cancer-related questions. Sachs cited three other departments devoted exclusively to cancer study: chemical immunology, headed by Michael Sela; cell biology, headed by Michael Feldman, and virology, headed by Ernest Winocour.

Sela's lab works with carcinoembryonic antigen and other diagnostic and immunological techniques. Sela's team also studies the effects of chemotherapeutic agents on antibodies.

Feldman's team works with modified lymphocytes which destroy malignant cells in vitro. Recent experiments demonstrated that the modified lymphocytes prevent growth and proliferation of cancer in animals.

Winocour's work aims at deciphering the mechanism by which tumor viruses invade the cell genetic apparatus and cause transformation to malignancy.

This article was written for ***The Cancer Letter*** *by Myrna Zirkind, former assistant editor of "The Blue Sheet," who is participating in a work-study program in Israel.*

AUSTRIA GETS LITTLE FROM NCI EXCEPT ENCOURAGEMENT, IDEAS; HIGHEST RATE

VIENNA–If Israel is an example of a small country with a big cancer problem which receives substantial research support from NCI, Austria is one with the same problem but which has almost no support from the U.S.

Austria is, in fact, a prime example of what Gregory O'Conor was talking about as one of those countries which has been stimulated by the massive U.S. effort to devote an increasing amount of its own resources to the attack on cancer.

NCI supported only one project in Austria last year—a $50,000 contract with the Institute of Molekularbiologie in Kratechwill to study response of the embryonic mammary gland to androgenic hormones.

The main Austrian cancer research effort is centered in the Institute for Cancer Research in Vienna, headed by Heinrich Wrba. The institute was started in 1953, supported largely by donations. It became part of the Univ. of Vienna in 1965 and started receiving support from the Austrian Ministry of Science. Wrba came to Vienna from Heidelberg, where he was director of the cancer institute.

With a population of 7 million, Austria has the highest cancer incidence of any country in the world. The NCI publication, "Cancer Rates and Risks," lists an age-adjusted rate of 192 per 100,000 for males and 130 for females in Austria in 1966-67. The U.S. rate was 146 and 104 for whites, 178 and 121 for nonwhites.

Wrba said the rate now is closer to 260, but that was not age adjusted.

All of Austria's neighbors have significantly lower rates—Italy, 152 for males in 1967, Switzerland, 164, West Germany 174. Figures were not available in the NCI publication for Yugoslavia, Hungary and Czechoslovakia, but Wrba said they were all substantially less than Austria's.

Austrian epidemiologists are looking at dietary, smoking and other environmental factors to determine some of the reasons for the vast differences. Wrba is inclined to blame much of it on the fact that Austria has a disproportionately older population. Austria suffered extremely heavy casualties in World War II, when Hitler swept the country clean of its young men and sent most of them to the Russian front.

The institute has undertaken a cooperative epidemiological study with Hungary, but such an effort with the eastern countries is unusual. "Is the Iron Curtain a biological curtain too?" he asked. "There are certain indications that it is."

Another factor could be the high percentage of autopsies performed in Austria, and Wrba said that many deaths are attributed to cancer even though that was not the primary cause of death.

Austria is not first among its neighbors in bronchogenic cancer, which seems to rule out differences in smoking habits as a factor. The country does have a very high gastric cancer incidence, particularly in certain districts. Innsbruck has the dubious distinction of leading the country in that disease.

Wrba's staff numbers about 100, and includes 30 scientists and from six to 25 (at different times) post doctoral fellows, both MDs and PhDs. His budget totals about $7.2 million a year, a little less than half of which comes from the Austrian government. Contributions from various sources make up the rest. The Cancer League, Austria's counterpart of the American Cancer Society, is becoming increasingly effective, Wrba said.

"I'm a fanatic partisan of the heterogeneous way," Wrba said. "Success depends on trying different approaches, from molecular biology to clinical research. Some of my critics have said the institute should concentrate on one or two fields. I don't agree. Our people have learned to talk with each other. At our staff meetings, when the chemists talked, the MDs would not come. But now they listen."

About three-fifths of the institute's efforts are in basic research, two-fifths clinical research. The clinicians are heavily into chemotherapy and immunotherapy.

The institute has no beds, and clinical research is a cooperative venture with physicians in Vienna and other cities. "We have 20 clinical trials going all over Vienna, involving all cancer sites," Wrba said. One problem: the cooperating physicians receive no pay for participating in the trials. Austria has a national health insurance program which covers all patient costs and physicians receive their fees through that system, but they get nothing extra for research. "I think we would get better data if they were paid," Wrba said. Another problem is coordination. "That's my responsibility, and it is difficult.

"I'm fighting for beds here," Wrba said. "The idea of a comprehensive cancer center is important." He would like to have 100 beds, to assure patients they are getting the best therapy while permitting the institute to demonstrate latest treatment techniques to clinics around the country; to have the capability of trying new approaches; and to educate young MDs in oncology.

Wrba has had the unfortunate experience of working up one study at a Vienna hospital only to have it dropped when the hospital decided it needed the beds for other patients.

Austria has a major program of encouraging annual physical examinations, as part of its health insurance system. Wrba estimated that 30% of the population has annual checkups. Screening includes mammography and Pap tests.

Wrba was interviewed in Vienna by ***Cancer Letter*** *editor Jerry Boyd.*

EPPLEY PROBE COULD LEAD TO TIGHTER TIME AND EFFORT RECORD KEEPING

One of the results of the General Accounting Office investigation of Eppley Institute's contract with NCI (***The Cancer Letter,*** June 10) could be that all HEW supported investigators will have to improve their time and effort record keeping. One of the criticisms of Eppley that GAO will make in its report is that time charged to the contract by Eppley staff members either was not adequately shown in the records or could not be verified.

This has been a sore point with many NIH academ-

ic contractors for some time, and is not unique with Eppley or NCI, according to James Graalman, chief of NCI's Research Contracts Branch. Many feel that the requirement now is too stringent and unrealistic and therefore it is widely ignored. On the other hand, there is evidence that contractual obligations of professional staff to devote definite percentages of their time to the projects are also being ignored.

OMB circular A-21 requires monthly reports and certification by the appropriate supervisors that the reports are accurate. How that can be accomplished short of installing time clocks and punch cards is now being debated at HEW.

Congressman David Obey (D.-Wisc.), who initiated the GAO investigation, listed as one of the deficiencies found by GAO the allegation that the Eppley contract proposal was not properly reviewed "in a manner consistent with HEW or NCI guidelines or standard procedures." Obey had previously cited the fact that the review was done by an ad hoc committee rather than a chartered standing committee as the basis for that charge.

Neither Graalman nor Carl Fretts, who was NCI contracts chief at the time the contract was awarded, was prepared to answer that charge before the specific language in the GAO report is available, probably at the end of the summer. Fretts, who now is director of the NIH Div. of Contracts & Grants, said he was "not aware of any HEW regulations which impact on committee review." Fretts said he did not think that HEW procurement regulations mentioned whether review committees should be ad hoc or standing.

Graalman pointed out that there was "a whole list of programs that didn't have standing committees in 1973." Committee review at NCI then was governed largely by a guidebook put together by the Research Contracts Branch and signed by Fretts. Its provisions were not binding. The current guidebook is signed by Acting Director Guy Newell.

Reservations GAO and others may have about ad hoc committees is that they conceivably could be "stacked" to influence the outcome of the review. NCI contends that the stature of the scientists on the Eppley review committee rules out that possibility.

Another of the GAO charges reported by Obey was that Eppley could not account for 50,000 animals, only that they were "destroyed." ***The Cancer Letter*** reported that it was Eppley's position (as well as NCI's) that considering the fact that several hundred thousand animals had been bred at Eppley during the eight years the contract was in effect, 50,000 wastage was not excessive.

The Cancer Letter learned, however, that GAO claims the 50,000 were destroyed in a 12-18 month period during which the total number of animals bred was 84,000. That would be excessive, unless there were a large number of older animals that were culled out, or a large number of newborns that were eliminated for a variety of reasons, or both. GAO recognized that this needs clarification and is checking into it.

Obey staff aide Scott Lilly objected to what he said was the inference in ***The Cancer Letter*** June 10 that the charges were made by Obey and not GAO. Lilly insisted that the seven major deficiencies listed in Obey's news release were reported by GAO.

ELIZABETH MILLER TO BE NEW PANEL MEMBER; SCHMIDT DENIES INFLUENCE LOSS

Elizabeth Miller, McCardle Laboratory for Cancer Research, who for 35 years has worked in chemical carcinogenesis, will be the new member of the President's Cancer Panel. Miller is the immediate past president of the American Assn. for Cancer Research.

The appointment of Miller instead of William Shingleton, the candidate recommended by Panel Chairman Benno Schmidt, is further evidence that Schmidt's clout with the Carter Administration is substantially less than it was with the previous regimes. But Schmidt does not see it that way.

"Dr. Miller's appointment was discussed with me and I heartily approved of it," Schmidt told ***The Cancer Letter***. HEW Secretary Joseph Califano, after receiving Schmidt's recommendation of Shingleton, director of the Duke Comprehensive Cancer Center, decided that the appointment should go to either a woman or a black. Califano's office suggested Miller and Schmidt suggested Harold Amos, professor of microbiology and molecular genetics at Harvard who has been a superb member of the National Cancer Advisory Board, as the black candidate.

Califano eventually decided on Miller, and Schmidt said "I heartily concurred. Dr. Miller is a distinguished scientist and a top notch person. I agree that there is a lot of merit in having a woman on the Panel, and there is merit in having someone with such good credentials in environmental carcinogenesis."

Schmidt said he did not consider the appointment of Arthur Upton as NCI director over his candidate, Arnold Brown, a slap at either himself or the Panel. He acknowledged that the fact that Califano decided to set up a search committee, after the Panel had recommended Brown, "is another matter." But Schmidt said Califano discussed Upton's appointment with him "and I told the secretary he was entirely satisfactory. I never felt that any recommendation of mine was the only one in the world. When the secretary talks to me about a recommendation, and he has a substitute and I accept it, I don't consider that a diminution of my influence."

In her presidential address at the AACR annual meeting last month, Miller said that the fact that chemical carcinogenesis is strongly dose dependent is a point "too often slighted in public discussions of possible human hazards. . . . While some hazards may well exist for human populations from the use of saccharin or certain other chemicals . . . the questions

to be asked must include how much risk their use entails and how much benefit would be lost from various restrictions on the use of the chemical. The single fact that a chemical causes some mutations or some cancer in experimental animals at high levels of dosing may not always be an adequate reason for removing it from uses beneficial to the public."

Brown told ***The Cancer Letter*** "I can sincerely say there is no question Arthur Upton will do an excellent job" as NCI director. "His qualifications are outstanding, and I wish him the best of luck."

Brown said he will continue as chairman of the Clearinghouse on Environmental Carcinogens "as long as the new director wants me to."

RFPs AVAILABLE

Requests for proposal described here pertain to contracts planned for award by the National Cancer Institute, unless otherwise noted. Write to the Contracting Officer or Contract Specialist for copies of the RFP, citing the RFP number. Some listings will show the phone number of the Contract Specialist, who will respond to questions. Listings identify the respective sections of the Research Contracts Branch which are issuing the RFPs. Their addresses, all followed by NIH, Bethesda, Md. 20014, are:

Biology & Diagnosis Section – Landow Building
Viral Oncology & Field Studies Section – Landow Building
Control & Rehabilitation Section – Blair Building
Carcinogenesis Section – Blair Building
Treatment Section – Blair Building
Office of the Director Section – Blair Building
Deadline date shown for each listing is the final day for receipt of the completed proposal unless otherwise indicated.

RFP NO1-CP-75924-69

Title: *Quantification of changes in body composition in cancer patients*
Deadline: *July 26*

This project will determine changes in body composition in cancer patients and thus focus on the relationship of nutrition and cancer therapy. The objective of this project is threefold: First, the project is to follow prospectively changes in body composition in specific tumor types as problems of cachexia are hypothesized to vary among tumor types. Secondly, the project is to determine if the administration of optimal nutrition support either in the form of enteral or parenteral support, can preserve the composition of the body or at least minimize losses particularly of lean body mass. Thirdly, the project is to determine if significant differences in body composition result from the oral or enteral administration of optimal nutritional support as compared to venous or parenteral administration.

It is anticipated that this project will be a randomized, prospective clinical trial involving multiple institutions. After the awards are made, each participating institution will be required to incorporate common procedures into its experimental protocol. This common protocol must be approved by the project officer before patients are admitted to the study.

RFP NO1-CP-75923-69

Title: *The role of nutritional supplements in the maintenance of cancer patients during outpatient therapy*
Deadline: *July 28*

The objectives of this project are the following:

–To compare the effects of supplemental nutritional support versus conventional feeding on nutritional status, tumor growth, and response to antineoplastic therapy.

–To determine food and nutrient intakes of cancer patients during outpatient therapy.

–To determine food preferences of cancer patients during outpatient therapy.

–To test acceptability of the oral nutrient solutions used as supplemental nutritional support.

This project is anticipated to be a multidisciplinary, multi-institutional cooperative study, coordinated with other relevant DNCP projects. Each research institution will be required to incorporate common procedures into its experimental protocol. The protocol must be approved by the project officer before patients are admitted to the study.

RFP NO1-CP-75925-69

Title: *Development and validation of standard procedures for the nutritional assessment and monitoring of adult and pediatric cancer patients*
Deadline: *July 22*

The objectives of this project are to evaluate existing procedures for assessing nutritional status from metabolic, biochemical, physiological and anthropometric parameters, to recommend specific procedures for assessing nutritional status in anorectic patients, and to establish mean values and ranges in healthy individuals, anorectic patients, and non-anorectic cancer patients for each parameter.

It is anticipated that this project will be a multidisciplinary, multi-institutional cooperative study, coordinated with other relevant DNCP projects. Each research institution will be required to incorporate common procedures into its experimental protocol. The protocol must be approved by the project officer before patients are admitted to the study.

RFP NO1-CP-75922-69

Title: *In vivo quantification of body nitrogen*
Deadline: *July 25*

The objectives of this project are to evaluate the existing literature and procedures for the ^{14}N (n, 2n) ^{13}N technique of whole body neutron activation, evaluate the safety of the procedure in both pediatric and adult cancer patients and controls, develop and evaluate a procedure which could be used in a clinical setting, and validate the technique in cancer and con-

trol patients using existing facilities and resources. The project will evaluate and validate a new technique for measuring total body nitrogen using whole body neutron activation using 14 MeV fast neutrons and its ^{14}N (n, ^{2}n) ^{13}N reaction in cancer patients. Monthly progress reports and a final report on the project will be produced.

Contract Specialist for above four RFPs: Linda Waring
Carcinogenesis
301-427-7575

RFP NCI-CM-87160

Title: *Study of the effects of anticancer agents on reproduction*

Deadline: *Approximately Aug. 1*

Accrue information on the effects of oncolytic agents on animal reproduction. These data are needed for two primary reasons: To support requests for a new drug application, and to provide information concerning the possible adverse effects on the reproductive system and thereby give patients the opportunity of making an "informed decision" regarding progeny.

The successful offeror will conduct studies in accordance with the protocol described in the January 1966 "Guidelines for Reproductive Studies for Safety Evaluation of Drugs for Human Use." These guidelines encompass three segments: 1) Studies of fertility and general reproductive performance. 2) Teratological studies. 3) Perinatal and postnatal studies.

It is anticipated that one award will be made for a three year period.

Contract Specialist: Otis Parham
Cancer Treatment
301-427-7463

RFP CI-77-0221

Title: *Reproductive and teratologic effects of long term exposure to diesel exhaust emissions*

Deadline: *Approximately Aug. 1*

Study to measure the possible harmful effects of diesel exhaust emissions. While some of the components of diesel exhaust have been investigated for toxicological effects little information is available for whole emissions. The study to investigate the reproductive and teratogenic effects of whole diesel emissions is to be conducted at EPA's Center Hill Research Facility in Cincinnati, Ohio. The contractor must possess the capability to evaluate teratogenic changes, reproductive disfunction, and organ pathology including detection of carcinomas.

Contractor personnel will be required to be on-site for varying periods of time. EPA will provide exposure chambers, production and monitoring of diesel exhaust and care of animals.

Negotiated Contracts Branch
Contracts Management Division
Environmental Research Center
Environmental Protection Agency
Cincinnati, Ohio 45268

RFP 210-77-0040-0000

Title: *Behavioral procedures for reducing worker exposure to carcinogens*

Deadline: *Approximately Aug. 1*

Developing and testing an employee motivation program that will ensure employee use of healthful work practices which can reduce exposure to carcinogenic agents.

Contracting Officer
National Institute for Occupational Safety & Health
5600 Fishers Lane, Room 1-58
Rockville, Md. 20857

CONTRACT AWARDS

Title: Continuation of Hormone markers for the detection and diagnosis of cancer
Contractor: Harbor General Hospital, Torrance, Calif., $230,402.

Title: Continuation of an ongoing contract, Glycoproteins of the mammary cell surface
Contractor: Wistar Institute, $99,700.

Title: Continuation of Evaluation of serum LDH isoenzymes in women with breast tumors
Contractor: Mercy Hospital & Medical Center, Chicago, $34,440.

Title: Continuation of Collection of specimens from patients with breast cancer
Contractor: Univ. of South Carolina, $55,000.

Title: Addendum to assessment of manpower needs in selected oncology specialties
Contractor: Geomet Inc., $60,716.

Title: Programming services in support of the contract management system (modification)
Contractor: Sigma Data Computing Corp., $11,167.

Title: Continue SEER and Third National Cancer Survey data processing services
Contractor: Geomet Inc., $496,306.

Title: Continue studies of national occurrence of RNA tumor viruses and host-gene control of their expressions
Contractor: The Jackson Laboratory, $460,209.

The Cancer Letter—*Editor* JERRY D. BOYD

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