THE CANCER LETTER

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SENATE SUBCOMMITTEE VOTES $970 MILLION FOR NCI IN FY 1980; MAGNUSON CANCER SUPPORT HOLDS FIRM

Heeding the demand by Sen. Edward Brooke (R.-Mass.) that "we should not be guided or intimidated by what happened in California," the Senate HEW Appropriations Subcommittee voted last week for an appropriation of $970 million for NCI for the 1979 fiscal year.

That figure is $62 million more than approved by the House and $92 million more than requested in the President's budget. NCI is spending $872 million this year.

If House and Senate conferees split the difference down the middle as they have for the most part in recent years, NCI would get nearly $940 million. That would mean that, for the first time in three years, NCI would receive an increase large enough to cover inflation with something left over.

There are some hurdles that must be cleared before that is accomplished, however. Last year, the conferees gave NCI 40% of the differ-

(Continued to page 2)

In Brief

ICC HAD ONLY PLANNING, NOT CORE SUPPORT GRANT; NUMBER OF RO1s IN '79 UNDERSTATED

CORRECTION: *The Cancer Letter* (June 9) commented that the Illinois Cancer Council, one of the recognized comprehensive cancer centers, had "lost its core grant" last year. The fact is that ICC never had a core grant. It had applied for one but was given instead an exploratory studies grant. ICC reapplied for core support in 1977 at about the time that Jan Steiner took over as director. Steiner said the site visit "proved very unsatisfactory and I, therefore, decided to withdraw the application before it reached NCAB. There is, therefore, no record of disapproval." Steiner commented that with only the exploratory, or planning, grant, site visitors "cannot anticipate the kind of achievement which is to be expected from other comprehensive cancer centers which have had core support. I believe that, given core support, I would be able to demonstrate within three years substantial progress towards fulfilling the 10 characteristics" (required by the National Cancer Advisory Board of comprehensive centers) . . . . ESTIMATE OF 1,497 approved R01 grants by NCI in the 1979 fiscal year which appeared in the chart shown in *The Cancer Letter* (June 16) probably was low. Number to be approved in 1978 was estimated at 1,670, and in 1980, 1,687. Staff members said the low figure for 1979 was based on the historical cycle, due to the fact that there would probably be a greater percentage of noncompeting renewals and thus fewer existing grants competing for renewals. However, the estimate did not take into account what should be the increasing number of research activities moved from contracts to grants. The number of approved grants in FY 1979 probably will be as high as or higher than in 1978.

BROOKE PUSHES FOR $1.016 BILLION, BLASTS "PROPOSITION 13 MENTALITY"

(Continued from page 1)

ence, at the House' insistence, so the 50-50 split is not assured.

The most serious threat may develop from what Brooke called "the Proposition 13 mentality." The shockwaves from the California vote rolling back property taxes panicked the House into an overreaction last week when it voted on the HEW appropriations bill. The House cut the amount of funds in the bill by 2% under the figure recommended by the Appropriations Committee, a cut that would total $800 million. The amendment authorizing the cut would leave it up to the HEW secretary to distribute the reductions throughout the controllable portions of the HEW budget (Social Security, Medicare and parts of Medicaid are fixed and not subject to cuts). No agency or program could be cut by more than 5%.

Giving Joe Califano or, if he delegated the authority, NIH Director Donald Fredrickson a chance to whack NCI's budget by 5% would almost guarantee that 5% would be cut. A 5% cut off the House figure of $908 million for NCI would push cancer funds to a level $9 million less than the institute will receive in the current fiscal year.

Sen. Warren Magnuson, chairman of the Senate HEW Appropriations Subcommittee, said he does not think that will happen. The subcommittee's first action when it met last week to finish marking up the bill was to remove the 2% cut from the language of the measure sent over from the House.

The Proposition 13 vote "can be read many ways," Brooke said. "One survey indicates that 70% of those who voted for it said they did not want any services cut. That's hypocritical. The Proposition 13 mentality could be disastrous. Our primary responsibility is to the people, within the confines of the budget."

Sen. Lawton Chiles (D.-Fla.) said "There is no doublt in my mind that we'll have an amendment on the floor for that 2% reduction. If we don't cut it here, it will be cut on the floor."

Neither Chiles nor anyone else objected when Magnuson ordered the House cut removed.

Chiles pointed out that members of the House HEW Appropriations Subcommittee were hostile to the 2% cut and opposed it on the floor. Since they will be the House conferees, for the most part, Chiles suggested the reduction would not have much chance of surviving the conference.

If the Senate adopts the same language as in the House amendment when the bill reaches the floor, however, conferees could not do anything about it. They are limited to acting only on items in dispute. Chiles noted that an amendment to cut the overall, total budget for the year by 1% failed by only five votes in the Senate, and that was before the Proposition 13 vote.

Magnuson has long been a champion of the Cancer Program and in fact rarely misses an opportunity to point out that he sponsored the legislation as a young Congressman to establish the National Cancer Institute in 1937. Since he became chairman of the subcommittee, he could always be counted on to press for NCI and NIH appropriations substantially above the Presidential requests and the House figures.

Magnuson took over the chairmanship of the full Appropriations Committee following the death of Sen. John McClellan, and there was speculation that the additional responsibility might induce him to be more conservative with the NIH budget.

That appeared to be the case when the subcommittee reached markup of the appropriation for the National Heart, Lung & Blood Disease Institute. Magnuson moved that its budget be cut by $20 million under the House approved figure of $485 million.

Brooke objected and offered a substitute motion to add $25 million to the House figure, saying, "This is one place we know we're spending our money well. There is no argument that support of a broad spectrum of research in heart and blood disease has contributed significantly to the decline in mortality from those diseases."

"Let's make it $485 million and we won't have to argue with the House," Magnuson said, backing quickly from his proposal to cut it by $20 million.

The vote was 5-5 on Brooke's substitute, with Sens. Clifford Case (R.-N.J.), Charles Mathias (R.-Md.), Richard Schweiker (R.-Pa.), Birch Bayh (D.-Ind.) and Brooke in favor, Sens. Chiles, Quentin Burdick (D.-N.D.), William Proxmire (D.-Wisc.), Thomas Eagleton (D.-Mo.) and Magnuson opposed.

Magnuson's motion to accept the House figure also was a tie, with the same voting lineup. "Let's just say we temporarily agree on the House figure and let the full committee decide it," Magnuson said, and that's how it stayed.

Next came the NCI budget. Would Magnuson depart from his traditional all-out support of the Cancer Program and recommend a cut there too?

He may have been forced to take a little more conservative position on some programs, but not cancer.

"I'm suggesting, and it is just a suggestion," Magnuson said, "that we make it $910 million, plus the $20 million for training (the House figure actually was $888.2 million, with the $20 million for training to be added when the authorization bill is enacted). I wouldn't be averse to $925 million (plus the training money)."

"I would not be averse to $1.016 billion," Brooke said. "NCI requested $1.036 billion, and that was strongly supported by the National Cancer Advisory Board and the President's Cancer Panel. The administration requested only a 1% increase, and you can't even begin to cover inflation with that."

"No one's talking about the President's budget,"

Magnuson said. "I'm suggesting $925 million."

"I support your position," Proxmire commented. "It's too high, but I'll go along with you. The Cancer Institute has gone from $160 million in 1966 to the $925 million you propose. The head of NIH has said that if he had an additional $100 million to spend, he would give only $1 million of it to NCI."

Brooke asked if the $945 million proposed by Magnuson included cancer control, and the answer was that it did.

"I would like to believe that with all our other responsibilities, this bill more clearly defines the breadth and depth of what we stand for than anything else we do," Bayh said. "When the House strikes out 2% of this bill, and on the same day another committee votes for a new nuclear carrier, we've got to get our priorities in order. These diseases we are talking about (he included heart) account for well over half of the lives lost in this country every year. They are costly to treat. It would be foolhardy to make cuts now."

Bayh's wife, Marvella, had a mastectomy several years ago and is presently undergoing treatment for recurrence of her breast cancer.

"The thing that has impressed me, we who have had the unfortunate personal experience with cancer, is the degree of progress we've made," Bayh said. "Because of the money we've spent, we now have the ability to cure 85-90% of some cancers. In my judgment, we are very close to seeing dramatic progress."

Insisting that this is not the right time to cut funds for cancer research, Bayh said, "When you're on the other guy's 15 yard line, you don't punt."

Proxmire complained that "NCI works almost exclusively on treatment, rather than prevention (a fallacy)."

Magnuson interrupted. "May I suggest $950 million? I just don't like to go to a billion. $950 million is generous."

"I would have to vote no," Proxmire said. "I know you would," Magnuson growled, and called for the vote. Case, Eagleton, Burdick, Mathias and Magnuson voted for it. Chiles had left the meeting by then, and Proxmire, Bayh, Brooke and Schweiker voted against it, the latter three hoping they could get more.

UPTON AGREES THAT ORGAN SITE PROGRAMS ARE SUCCESSFUL, BUT CHANGES POSSIBLE

Once again the National Cancer Advisory Board's Subcommittee on National Organ Site Programs has given solid approval to the program and recommended that it be continued essentially as it is, with increased funding.

The Board went along with the recommendation, but NCI Director Arthur Upton intends to give the program some further consideration. It is possible some changes will be made in the structure of the program.

"There is no reason to contend that the Organ Site Program is not a success," Upton told *The Cancer Letter*. He pointed out, however, that one of the primary goals of the NCI reorganization he initiated earlier this year is to separate program management from review. The four National Organ Site Programs utilize the same committees for both management and review. "If that is not considered ideal for other components of NIH, the question could be asked, should we not reappraise those practices for the Organ Site Program," Upton said.

Each of the Organ Site Programs—Bladder, Prostate, Large Bowel and Pancreas—is managed through a headquarters institution supported by an NCI grant. Each has a working group of non-NCI scientists which reviews grant applications and works actively to coordinate laboratory and clinical research and to stimulate new applications in areas where opportunities are perceived.

NCAB, scientists involved in the programs and NCI staff have generally agreed that placing program management in the hands of scientists away from NCI has been effective. Not the least of the benefits has been that it has permitted NCI to support a large ($14.5 million in FY 1977) program with minimal burden on NCI staff.

"The concept of management at the institutions was desirable at the outset," Upton said. "I agree that the programs are successful. We shouldn't wring our hands and say they have failed, or haven't worked. On the other hand, I think we should continue to reassess where we are, where we are going. With a tightening budget, we must minimize duplication, tighten administration.

"Whether we continue as we are or find there is a need to change the program in some way, we will not do anything to upset the applecart," Upton emphasized.

A decision Upton will have to make soon is where the Organ Site Program will be housed in NCI. All other grant programs which were administered by the Div. of Cancer Research Resources & Centers have been or are being moved to one of the program divisions (except, so far, construction grants). Since the thrust of the Organ Site Programs cuts across the missions of all the other divisions, it could be difficult to lodge them in one or the other. Upton said he is still discussing the various options with his staff.

The NCAB subcommittee recommended against placing the programs in a "thrust-oriented division with a narrow charge." The subcommittee's summary and recommendations:

"The Subcommittee observes that the National Organ Site Program is a successful endeavor which has stimulated research interest in disease areas where previously there had been small investigational effort. The level of activity in each of the four projects has been curtailed by plateau funding. Continuation of the program with increased funding to maintain stability is recommended.

Program Activities of the National Prostatic Cancer Project FY 1977

Therapy (primarily chemotherapy)	$775,368
Viral Studies	555,495
Model & Tissue Culture Systems	517,718
Hormone Studies	269,579
Immunology Studies	215,765
Epidemiology	188,674
Radiotherapy	172,979
Carcinogenesis	113,272
Cancer Cell Markers	111,375
Enzyme Studies	100,792
Pathology	64,020
Diagnosis - general	35,255

Program Activities of the National Large Bowel Cancer Project FY 1977

Carcinogenesis	$1,184,699
Immunology Studies (general)	667,587
Therapy (primarily chemotherapy)	613,653
Immunotherapy	424,383
Cancer Cell Markers	311,915
Hemocult Studies	250,329
Enzyme Studies	210,849
Cell Cycle Studies	197,247
Model & Tissue Culture Systems	195,573
Immunodiagnosis	159,722
Dietary Factors	134,813
Membrane Studies	121,634
Cell Kinetics	114,925
Intestinal Microflora	110,932
Epidemiology	105,782
Ulcerative Colitis	98,282
Familial Polyposis	83,108
Hormone Studies	81,962
Hereditary Factors	81,126
Asbestos	77,793
Viral Studies	74,033
Bile Acids	52,776
DNA Processes	50,215
Intestinal Stomas	48,143
Chemoprevention	25,550
Cyclic AMP	22,455

Program Activities of the National Pancreatic Cancer Project FY 1977

Carcinogenesis	$691,362
Diagnosis - general	286,035
Immunodiagnosis	234,421
Epidemiology	206,671
Model & Tissue Culture Systems	75,463
Radiodiagnosis	64,736
Metabolic Studies	55,583
Hormone Studies	31,935
Pathology	15,645

Program Activities of the National Bladder Cancer Project FY 1977

Therapy (primarily chemotherapy)	$557,665
Immunology Studies (general)	555,574
Carcinogenesis	374,265
Chemoprevention	353,228
Epidemiology	232,323
Automated Cytology	217,444
Model & Tissue Culture Systems	208,573
Dietary Factors	163,904
Immunodiagnosis	108,472
Pathology	102,637
Metabolic Studies	89,144
Chromosomal Studies	66,734
Immunotherapy	65,011
Viral Studies	48,688

"Additionally, the research efforts undertaken by each of the Organ Site Projects are different, but they all include a broad area of program activities rather than focusing on a single narrow part of the cancer problem relevant to that organ site. For this reason, the subcommittee recommends that the National Organ Site Program be maintained in an organizational structure such that the broad representation of programmatic interest can continue to thrive. It should not be placed in a thrust-oriented division with a narrow charge, as this would alter the broad scope of the program."

The report noted that previous reviews of the Organ Site Projects by this subcommittee and its predecessor committees have all determined that these projects have developed effective research plans, have set good priorities, have attracted new investigators, and have stimulated new research efforts in these organ site areas. Their management by outside scientists actively working in the field and the resultant communication between laboratory and clinical scientists has been very effective.

"Special efforts have been directed at communicating research opportunities, needs, and discoveries to the scientific and medical community. Furthermore, the projects make every effort to avoid duplication of ongoing research."

The subcommittee report said data it had compiled "show a sustaining interest of the scientific community as evidenced by increasing numbers of applications and the increasing numbers recommended for approval."

However, "although the projects have been growing, there has been a recent decline in the number of grants awarded as a result of a plateau in funding. The dollar amounts currently being allocated to these projects are not adequate for maintaining a stable Organ Site Program. This is indicated by the growing disparity between the number of worthy applications

and the dollar amounts allocated to the projects. As the projects have matured, they have not been able to keep up with increasing investigator interest.

"The investigative programs undertaken by each of the National Organ Site Projects are different, but each encompasses a broad range of activities."

The tables on page 4 show the programmatic areas covered by each project and the dollar allocations to each area.

"From these analyses," the report says, "it becomes readily apparent that the projects cannot be characterized as having any particular single major thrust. Rather, each project supports a broad spectrum of programmatic areas, both laboratory and clinical, representative of exploitable opportunities identified for that particular organ site area. This allows each project to exploit new leads as they develop without program restraints; that is, they can explore the areas of cause and prevention, detection and diagnosis, treatment, etc., as opportunities appear. The ability to explore such a wide range of areas with a particular disease orientation has been one of the unique features of these projects."

The National Bladder Cancer Project received $3.9 million in FY 1977 out of a total of $5 million NCI spent on bladder cancer research. The National Prostatic Cancer Project received $3.6 million, out of $5.8 million NCI spent on prostate research. The National Large Bowel Cancer Project received $5.4 million out of $13 million spent in that area by NCI. The National Pancreatic Cancer Project–just getting under way in 1977–received $1.9 million out of $5.5 million.

Funds spent by NCI in those four areas in addition to the Organ Site Program support were distributed through traditional grants, contracts, the Clinical Cooperative Groups, program projects and cancer control.

UPTON RESPONDS TO McGOVERN BLAST, SAYS NCI TO SEEK MORE NUTRITION RESEARCH

Sen. George McGovern has joined the list of NCI critics, attacking the Cancer Program for spending too much money on treatment research and only "1% on nutrition despite the agreement agmong many scientists that 40-50% of cancer is caused by nutrition factors."

McGovern made that charge at a hearing of the Senate Select Committee on Nutrition which he chairs. NCI Director Arthur Upton responded the following day, appearing before the committee and agreeing that NCI would put more of its resources into nutrition research.

McGovern asked Upton if a congressionally mandated, budget line item for nutrition would be helpful. Upton answered that since he did not know what additional research is warranted, or what is needed, he did not know what the mandated figure should be.

NCI is spending about $16 million on nutrition research this year, about $4-5 million through the Diet, Nutrition & Cancer Program. "Dr. (Gio) Gori has done a creditable job in getting that program off the launching pad," Upton told ***The Cancer Letter.*** But with the rest of the $16 million scattered among other NCI divisions, "it doesn't make sense to continue to focus on that one program. Each of the divisions needs to look at its own program and more adequately support nutrition research. Times are changing, and people are recognizing opportunities. It is up to NCI to let investigators know that support for nutrition research is available, and to encourage them."

The DNCP has stimulated nutrition research through contracts and Cancer Research Emphasis Grants. Upton is encouraging investigators to develop research projects which can be supported through traditional investigator initiated grants.

Upton's statement to the McGovern committee described activities in nutrition research related to cancer.

"Increased interest in the role of diet and nutrition in carcinogenesis has arisen from numerous worldwide epidemiological studies. These have demonstrated convincingly that there are correlations between national cancer rates and consumption of foodstuffs; between dietary habits and migration of population groups, as related to cancer; and between cancer risk and the dietary habits of individuals (for example, case-control studies in the Hawaiian Japanese).

"From such studies, and also from data obtained in animal models, a complex picture emerges of multiple causative factors, involving combinations of cancer-causing agents, cofactors, and natural or acquired metabolic peculiarities of the individual. In addition, it is necessary to keep in mind that we generally are working in most studies with exposure to weak cancer-causing agents present in small amounts over long periods of time.

"Despite the impression that cancers are linked with dietary patterns and the inability to pinpoint specific dietary carcinogens, scientists agree that factors in diet and nutrition (including drinking water contaminants) appear to account for a large number of human cancers. One of the factors that has been strongly implicated is obesity, which is thought to contribute to the high incidence of cancers of the colon, breast, ovary, prostate, and endometrium in this country."

Upton described the possibilities of preventing some forms of cancer through nutrition. "Because the development of cancer is viewed as a process involving sequential steps, or stages, an inherent potential for prevention exists, in that inhibition of the process may conceivably be introduced at any stage. Enzymes involved in the activation and deactivation of carcinogens are studied. Factors such as nutritional status, hormones, and genetic background that deter-

mine the levels of these enzymes are also studied. Information obtained from these studies may help in the development of methods of blocking the activation processes, and thus reduce the effect of carcinogens.

"Dietary constituents have been shown to affect the metabolism of chemical carcinogens by an enzyme system called microsomal mixed-function oxidase system. Increased activity of this enzyme system appears to exert a protective effect in detoxifying carcinogens. As an example, food additives called antioxidants [BHA (butylated hydroxyanisole) and BHT (butylated hydroxytoluene)] have been found to inhibit chemical carcinogenesis. To date, studies have shown that BHT induces increased activity of the microsomal mixed-function oxidase system. The mechanism of action of BHA in producing inhibition of carcinogenesis is under investigation. A large amount of research is in progress in various laboratories in studies of the microsomal mixed-function oxidase system.

"Other antioxidants also have anticarcinogenic effects. Selenium reduces tumor frequency in several experimental situations. Evidence also has been obtained showing an inverse relationship between selenium occurrence in soil and forage crops and cancer death rates in the United States and Canada in 1965.

"Both vitamin C and vitamin E have antioxidant properties and may exert a protective effect against chemical carcinogenesis. Vitamin C (ascorbic acid) has been shown to block nitrosamine formation from secondary amines and nitrite by causing a breakdown of nitrite.

"The most useful agents for the inhibition of promotion of carcinogenesis have been the retinoids (chemical relatives of vitamin A), which have been used to reverse the action of substances that cause cancer of the skin, lung, bladder, and breast in experimental animals. The National Cancer Institute supports a clinical trial of 13-cis-retinoic acid to test the value of the compound in preventing or delaying recurrence of bladder lesions in patients who have had early bladder cancers removed surgically. Other possible studies under consideration include using retinoids to prevent progression of early lesions in the lung and uterine cervix.

"Diet and nutrition research has implications also in the treatment (by surgery, radiotherapy, and chemotherapy) and rehabilitation of cancer patients. Anorexia (lack of appetite) and cachexia (wasting) are frequent problems, and result in malnourished patients who lose the capacity to counteract the complicating factors of cancer and the effects of aggressive anticancer therapy.

"Recent studies suggest that changes in taste perception may be one factor in anorexia. Cancer patients often have an elevated threshold for sweetness and a lowered threshold for bitter flavors. Reseasoning may encourage food intake.

"Other studies have attempted to produce increased understanding of the lost interst in food or the need for increased nutrient requirements. In general, the cachexia that results from cancer involves three problems with respect to nutrition: decreased eating, differing requirements by the host and the tumor for specific nutrients, and side effects of therapy that may create or increase nutrition-related problems.

"Clinical studies have shown that a nutritionally balanced patient has a better change of undergoing successful treatment and withstanding the rigors of the disease itself. Radiation therapy may cause major problems with eating. Surgery to various parts of the digestive tract may inhibit eating. Drugs used in chemotherapy may require changes in a patient's diet, so that an adequate nutritional intake can be maintained. Although immunotherapy has not been linked to nutritional problems, it is often used in conjunction with one or more of other cancer therapies. The role of nutrition in the maintenance of immuno-competence has been well documented.

"Clinical trials are under way to determine the potential benefit for cancer patients of receiving high levels of nutrients (hyperalimentation) while receiving therapy. The impact on the immune and metabolic functions of the patient is also being evaluated. Several of these studies have been added to existing clinical trials utilizing a known therapy, in order to compare the effects of these known therapies with and without hyperalimentation. The results of these studies should be available in two to three years.

"Other, indirect, procedures include controlling the side effects of therapy that affect food intake and nutrient utilization, modification of food preparation practices to increase acceptability to the patient, and education of the patient's family and hospital staff regarding the importance of maintaining nutritional status during therapy.

"As this brief summary has indicated, the evidence from statistical, experimental, and clinical studies suggests that diet and nutrition are important factors in the causation, development, and control of cancer. Increasing emphasis is therefore necessary and is being given to research in this important area of cancer research."

Upton told the committee that the Diet, Nutrition & Cancer Program has convened more than 30 workshops in which 200 experts developed proposals for research on the role of nutrition in cancer causation and treatment. By the end of 1977, some 31 projects had been initiated and a range of educational and informational documents developed.

"Two practical dietary handbooks were prepared for the nutritional management of adult and pediatric cancer patients. These are: 'Diet and Nutrition: A Resource for Parents of Children with Cancer,' prepared in collaboration with the Candlelighters; and

'Diet and Nutrition for Cancer Patients and Their Families.' NCI has also supported the preparation of another publication, 'Feeding the Sick Child,' which just won an award from the American Institute of Graphic Arts and the Federal Design Council.

"NCI has supported the preparation of and has released five technical reports in the area of nutrition, and is preparing a handbook for dieticians, 'Nutrition in Cancer Therapy and Rehabilitation: A Guide for Health Professionals.'

"The Diet, Nutrition and Cancer Program coordinates its research activities with the various NIH programs, as well as other government agencies, and participates in activities of the NIH Nutrition Coordinating Committee."

DEVELOP PARTICLE RADIATION UNITS, SUPPORT CLINICAL TRIALS, NCAB ASKED

A "Particle Working Group" established by the National Cancer Advisory Board to advise it on whether or not to encourage NCI to step up research on particle radiation therapy has recommended that the institute "program the development and installation of clinical units and facilities for particle radiation therapy."

The working group, chaired by NCAB member William Powers, a radiologist, included five NCAB members in addition to Powers and Div. of Cancer Treatment staff members Vincent DeVita, Eli Glatstein and Francis Mahoney. The group also suggested that:

—Continued scientific investigations in biology, physics, and engineering are needed.

—A coordinated program of scientific studies and clinical trials directed towards a transfer of existing science and technology to clinical problems is required.

—Clinical and biological investigations on physics units until they can be replaced by clinical units should be continued.

—Coordinated clinical trials using hospital and radiation therapy optimized treatment units should be performed.

Cooperation between NCI and the radiation oncology community should be continued.

The report noted that "president programs of NCI support particle radiation studies in biology, physics, engineering and clinical trials. There is sound biological and physics basis for this clinical application. There is a medical imperative for improved local control of tumor in patients with cancer, while preserving the patient's organs and functions.

"Preliminary patient experience indicates a significant benefit, even when using physics units not appropriate to clinical practice. Definitive and appropriate studies cannot be accomplished in the physics facilities which are clinically inadequate and often remote from the health care environment.

"Clinical trials, using dedicated medical appropriate units, are needed. The radiation therapy community has demonstrated the willingness and urgency to do these clinical studies and the physics, biology, and engineering groups are eager participants.

"Improvements in systemic therapy of subclinical disease demand better local-regional contro of cancer with minimal injury to normal tissues sensitive to the systemic therapy. The impact of this program on improved local-regional control of cancer will be substantial."

Clinical research in the U.S. using neutron machines is being conducted in Washington, D.C., Houston, Seattle and Cleveland. Trials also are being conducted using the pi meson facility at Los Alamos, but NCI is considering now additional support only for neutron machines. The particle therapy research at present is confined to equipment built for physics research and is not satisfactory for clinical work. The beam cannot be moved, requiring clinicians to move patients into sometimes awkward and less effective positions. Existing machines are located away from hospitals.

The DCT Board of Scientific Counselors has recommented that NCI support development of two more neutron facilities and clinical trials when the facilities are operating (***The Cancer Letter***, March 31). M.D. Anderson Hospital is putting in a machine at a cost of $2 million, plus another $1.4 million to house it.

Powers has asked for a 10 year, $500 million program for a full scale effort in particle therapy, but NCI is unlikely to go that far until results of neutron trials are in.

Mary Catterall, who has done extensive clinical research with neutron radiation therapy at Hammersmith Hospital in England, related some of her experiences to the Board. Nearly all clinical trials there using the process have involved treatment of patients witn advanced cancer.

In one study of 28 patients with soft tissue sarcoma, complete regression was achieved in 24, Catterall said. There were three extensions, two of which were "edge extensions, not actually in the treated area." Persisting control continues in 21.

Catterall said that recurrence rates after surgery for that disease ranges from 53-74% depending on the tumor size.

A Hammersmith trial used neutrons to treat 71 head and neck cancer patients; complete response was achieved with 55, and there has been one recurrence. It was a controlled trial, with 63 patients randomized to gamma rays, with 27 complete responses and 12 recurrences.

"If we had machines which could be rotated around the patients, we could get better results," Catterall said. "Winston Churchill once told Franklin Roosevelt, 'Give us the tools and we'll finish the job.' I say, give us the machines and let us get on with the job."

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 of 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.

SOURCES SOUGHT

RFP NO1- CP-85640-58

Title: *Studies of normal, premalignant, and malignant epithelial tissues of the human*

Deadline (for submission of resumes): *July 2*

Offerors must have experience in experimentation using human tissues, and requirements of informal consent and state-federal laws pertaining to human experimentation must be met. Tissues are to be collected at the time of surgery (i.e., within 30 minutes of death from patients with and without cancer). A team of trained interviewers and experienced epidemiologists is necessary to obtain a complete history from the donor and/or donor's family.

Nonneoplastic and neoplastic tissue must be defined and classified by routine light microscopy, high resolution light microscopy (4 sections), cytochemistry, immunocytochemistry, and electron microscopy (scanning and transmission). Expertise both in recognizing stages of reversible and irreversible ischemic cell injury and in culturing the tissue are essential in evaluating the viability of the tissue.

Facilities for and experience in the safe handling of human tissue and chemical carcinogens is required. It will be necessary for offerors to collaborate with investigators at the Veterans Administration Hospital (Washington, D.C.); National Cancer Institute; Litton Bionetics Inc. and Frederick Cancer Research Center on carcinogenesis projects with human tissues (trachea, bronchus, lung, pancreatic duct, colon and breast). In addition, transportation of viable tissues to these locations is required. Since success of experiments depends crucially upon viable tissue, promptness in delivery is of utmost importance.

Total professional level of effort including those individuals supported as well as those not supported by the proposed contract should be at least 5.7 person-years. Technical level of effort should be at least 4 person-years. Histological, pathological, cytochemical, electron microscopic and cell/organ culture expertise are required for the successful attainment of the proposed project's objectives.

Interested organizations should submit a resume of experience, capabilities and facilities to perform this effort.

Contract Specialist: M. Armstead
Carcinogenesis
301-427-7574

Title: *Program for asbestos exposed workers in Tyler, Texas*

Deadline: *None listed*

Parties interested in the development of a community based program for asbestos workers, their families and the public of Tyler, Texas, and whose proposed facilities and personnel will include experts in medical followup, data management, community organization, professional and public education and in smoking education and cessation efforts, are invited to submit complete information to the procuring office listed below.

Facilities in Tyler will be required at the implementation of the proposed program. Information furnished should include the qualifications of scientists, physicians and technical personnel, and a description of expected general and special facilities. An appropriate portion of the current medical follow up program will be included in the proposed effort.

Contracting Officer: James Cavanagh
Cancer Control
301-427-7984

NCI CONTRACT AWARDS

Title: Research of Hodgkins Disease and other malignant lymphomas, continuation
Contractor: Stanford Univ., $35,000.

Title: Studies of the molecular basis of viral carcinogenesis, continuation
Contractor: Johns Hopkins Univ., $66,630.

Title: Data processing services for SEER and Third National Cancer Survey, continuation
Contractor: Geomet Inc., $228,910.

Title: Studies of leukemia virus DNA polymerase, continuation
Contractor: Massachusetts Institute of Technology, $396,320.

Title: Breast Cancer Detection Demonstration Project, renewal
Contractor: Univ. of Oklahoma, $299,410.

The Cancer Letter –*Editor* JERRY D. BOYD

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