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MASSIVE NEW RADIATION RESEARCH PROGRAM COSTING FROM $300-400 MILLION OVER 10 YEARS SUGGESTED

A massive new research program designed to develop high energy radiation systems for the treatment of cancer was tentatively proposed to the National Cancer Advisory Board by three leaders in the field of radiation oncology. One of them—Simon Kramer, Thomas Jefferson Univ.—said that "Looking at the whole package, including clinical trials, and including the cost of the machines, it would take $300 to $400 million over the next 10 years."

Kramer and Herman Suit, of Massachusetts General Hospital and Harvard, presented a strong case for increased emphasis on radiation

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In Brief

FREDRICKSON WILL STAY AS NIH DIRECTOR; NCI GROUP TO STUDY RHOADS' CLINICAL CENTER IDEA

DONALD FREDRICKSON will remain as NIH director, HEW Secty. Joseph Califano told appreciative NIH staff members last week. Fredrickson has earned the respect of scientists and other NIH staff for the even-handed way he has run the agency during the last two years. NCI executives were relieved; although Fredrickson has acknowledged and supported competing claims of the other institutes, he's been fair in dealing with NCI. Califano said keeping Fredrickson was the first step in "depoliticizing" NIH. The next step: permitting appointment of advisory group members without subjecting them to political clearance, a practice adopted with enthusiasm by the Nixon Administration. . . . **SPECIAL COMMITTEE** of NCI executives will study the suggestion by NCAB Chairman Jonathan Rhoads regarding development of clinical cancer centers around the country (*The Cancer Letter*, Jan. 28, Feb. 4). Bayard Morrison, NCI assistant director, will chair the committee. Other members are Diane Fink, Vincent DeVita, Irvin Plough, William Walter and Robert Schonfeld. . . . **BILLS INTRODUCED** recently in the House include two by Rep. Robert Drinan (D.-Mass.)—HR 2040 would establish a "health protection tax" on cigarettes (a similar measure was defeated in the Senate last year), and HR 2419, to authorize FDA to regulate tobacco products. Rep. Jack Kemp (R.-N.Y.) submitted HR 2448, which would "promote the development of methods of research, experimentation and testing that minimize the use of, and pain and suffering to, live animals". . . . **NEW PUBLICATION**: *Public Education about Cancer—Recent Research & Current Programs*, published by UICC, edited by John Wakefield. Single copies are available free from Managing Editor, UICC, Conseil-General 3, 1205 Geneva, Switzerland. . . . **THREE APPOINTMENTS** announced by M.D. Anderson Director Robert Hickey are Carmault Jackson, to director for extramural programs; Warren Rutherford, to hospital administrator, and Gerald Bodey, to medical director of the Clinical Research Center.

'DRAMATIC IMPROVEMENTS' IN CURE RATES HELD POSSIBLE WITH NEW RADIOTHERAPY

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oncology to the Board. They were assisted by William Powers, professor of radiation oncology at Thomas Jefferson and a member of the Board.

Kramer told the Board that conventional x-ray therapy—gamma rays—"is continuing to improve. We have not reached a plateau." He reffered to "dramatic improvements" in survival achieved by radiotherapy, either alone or in combination with other modalities, in recent years. More improvements can be expected with conventional x-rays, Kramer said, but he and Suit cited results of the limited clinical studies using high energy beams to suggest that they could lead the way to vast improvement in survival.

The most striking recent advance using conventional radiotherapy mentioned by Kramer was the study with early breast cancer patients conducted at Yale, Harvard, Hahnemann and Thomas Jefferson. The study involved 145 stage I and stage II patients.

"There is a good deal of evidence to show that in early breast cancer patients we can obtain local control as well with just excision of the tumor and adequate radiation therapy as you can with an operation that causes loss of the breast," Kramer said.

After three years, 17 of 17 stage I patients have survived. Of the stage II patients, about 80% have survived five years, Kramer said.

"I don't know what value you can put on preservation of function, but plainly it is important," Kramer said. "For a person to retain normal function so he can continue in a normal way is hard to put a price on. I believe that radiotherapy can preserve that function better than ablative procedures."

Kramer compared five-year survival rates in 1955 with those of 1970 with improvements credited to radiation therapy—cervix, 30% to 60%; nasopharynx, 20% to 40%; bladder, 5% to 25%; tonsil, 25% to 45%; oral cavity, 30% to 50%; Hodgkin's, 30% to 75%; inoperable prostate, 10% to 75%; and inoperable breast, 10% to 25%.

"Even in patients in which chemotherapy has made a major impact, radiotherapy remains a key part of the treatment," Kramer said. These include Wilm's tumor, five year survival in 1950 at 20%, in 1970 at 80%; rhabdosarcoma, five year survival in 1950 at 20%, in 1970 at 50%; and leukemia, six week survival in 1950 to three plus years in 1970.

"As chemotherapy is able to deal with either overt or subclinical metastasis, it becomes even more important to deal with the local situation, because we believe that most systemic modalities like chemotherapy or immunotherapy will work best when the patient has been relieved of the major tumor burden," Kramer said. "We must recognize that we still fail a good deal of the time. We fail in brain tumors, we fail in gastrointestinal tumors. In about one-third of all patients, local failure is probably a major cause of death. In these areas where we fail, I believe we can make a major contribution with new forms of management, with new modalities and new accessory treatment."

Suit noted that gamma rays are "a highly effective method of curing patients with early cancer or moderate size lesions." But they are not so effective with patients with large lesions or those in which the tumor is so situated anatomically that it is not feasible to administer an adequate dose of radiation.

"There is a clear need for more effective treatment of the primary or regional tumor, hopefully by means that leave little or no morbidity and a happy and productive member of society," Suit said. "There are a number of highly attractive approaches for improving the results of radiotherapy.

"One of the most promising is the use of particle beams instead of gamma rays, in many situations. For example, use of fast neutron or some of the charged particles such as heavy, charged ions, negative pions, or protons. This particle approach is particularly attractive because improved results are almost certain and the rationale behind the utilization of these beams is persuasive.

"There are two ways to go in planning improvements," Suit continued. "One is to improve the distribution. Increase the dose to the tumor, and diminish the dose to normal tissue will give a higher frequency of tumor control. Secondly, increase the differential response between tumor and normal tissue. Thus, we would like to have a radiation beam which would provide a physical advantage in terms of a dose distribution and a biologic advantage in that there would be a greater differential in response between tumor and normal tissue.

"The particle beams offer advantage in both categories. The fast neutron beams offer an advantage in radiation biology. Proton has an important advantage in dose distribution. Heavy ion beams, negative pion, offer both radiobiologic and dose distribution advantages."

Suit referred to a study conducted at four institutions—Hammersmith Hospital in London, Univ. of Texas-M.D. Anderson, Univ. of Washington, and the Middle Atlantic Neutron Therapy Assn., Washington, D.C. These involved a total of 2,000 patients, "the selection of which precluded any long term survival," Suit said. Many had advanced metastatic disease at the time treatment was started, or other "extraordinarily advanced disease." These included advanced inoperable tumors of the parotid gland, and advanced tumors of the cervix, head and neck, sarcoma of the soft tissue.

One group of 71 patients received the neutron treatment; 54 are free of disease. A control group of 63 received gamma rays, and only 12 survive disease free. Another group of 38 patients with carcinoma of the mouth were divided, 19 receiving neutron

neutron therapy and 19 gamma rays. In the neutron group, 15 remain free of disease compared with only three in the other group.

"We can't make too much of data of this magnitude coming from one center (London);" Suit acknowledged.

Benno Schmidt, chairman of the President's Cancer Panel, asked for specifics on the program being proposed. "How many machines will we need to give neutron therapy the kind of tests this will require? Would you extend proton and pi meson research beyond existing tests?"

Kramer said that 10 "optimized hospital machines" would be needed for clinical trials in neutron therapy. He suggested that simultaneously, research and development be carried out with the other machines, two of each kind. "But we need to do more thinking before we can give you some precise numbers."

Schmidt asked if the personnel is available to conduct tests of that magnitude, and Kramer answered affirmatively.

Vincent DeVita, director of NCI's Div. of Cancer Treatment, asked for his comment, said he "firmly supports" a major investment in that kind of research. "We look for intact patients. The less ablative surgery required, the more effective systemic therapy can be. Radiotherapy can replace ablative surgery in many cases. In breast cancer, it appears possible that we can control the primary tumor with radiotherapy, with chemotherapy for systemic treatment."

William Shingleton, Board member and a surgeon, was asked for his opinion "as a surgeon". He said it was "important to investigate these new ways, to improve treatment and results." But he denied that surgical removal of tumors always interfered with function in a major way.

Board Chairman Jonathan Rhoads warned that "We have to watch for the remote effects of radiation. Five years is not a parameter. To determine effects of radiation, we need 15 to 20 years of observation."

"This program is of an obvious size, cope and importance–if the Board backs it up–it will mean we'll have to go to Congress for a special appropriation," Schmidt said. "We'll have to make a special presentation to the Congressional appropriation and authorization committees. We'll have to meet the issues head on. It will require a heavy investment in equipment, based on halfway technology. We'll have to make a convincing presentation, comparing this magnitude of an investment with the magnitude required to reduce carcinogens in the environment, and there are other programs that are underfunded."

"Is this the best strategy?" asked Board member Harold Amos of Harvard. "This is a major initiative. We talk about issues of biohazard, environmental carcinogens. Why not talk about this as a major program? At least present it as such to Congress?"

"It's my experience that we would do poorly with figures we're not prepared to support," Schmidt answered.

Frederick Seitz, Board member from Rockefeller Univ., commented that some government agencies, including the Atomic Energy Commission, have been decommissioning high energy radiation machines and that some might be available for biomedical use at little or no cost. Most of those in existence now were developed for physicists and are not especially suitable for clinical use.

Powers said that there was no intion of laying out the program in full at this time. "It would be premature for us to look for large funds now. We particularly do not want it looked at as competing with other programs."

Schmidt suggested that "We can tell Congress we may be presenting a new program to them, based on promising research, and that we'll need some major new money."

NCI has been supporting the development of particle radiation programs, with grants through the Div. of Cancer Research Resources & Centers, although not anything like the amounts mentioned by Kramer. The DCRRC budget for radiation development in FY 1977 is $4.1 million, and estimated budget for 1978 is $4 million.

NADER GROUP BACKS FDA IN CONTROVERSY OVER TESTING OF ANTICANCER DRUGS

The Health Research Group, a public citizens' group affiliated with Ralph Nader's organization, has jumped into the controversy over the Food & Drug Administration's delays of anticancer drug testing, supporting FDA's position and opposing the plan to remove the agency's regulatory authority over such tests.

In a letter to Rep. Paul Rogers, chairman of the House Health Subcommittee, signed by HRG attorney Anita Johnson and medical director Sidney Wolfe, HRG asked Rogers "to resist the claims of the cancer experimenters that they can regulate themselves in this sensitive area, and to encourage FDA to apply the same ethical standards to experimentation with cancer patients as with all other patients."

The letter lists 10 drugs for which clinical tests were delayed by FDA at one time or another during the past 15 months "which (according to NCI) allegedly demonstrate the arbitrariness of FDA restrictions on human research. We explain the issues raised by FDA for each of the 10 as best we can determine. In each case, we believe that FDA raised issues of critical importance to the safety of the subjects, and value of the research."

The drugs and HRG's discussion of each follow:

1. Anguidine. "NCI and FDA had information that this drug resulted in an abnormally low platelet count of less than 50,000/mm^3 at a dose of 2.4 mg/

m^2 in humans. This low platelet count would impair the ability of the blood to clot, raising the fear of bleeding and stroke. NCI authorized studies at 5 mg/m^2–twice the toxic dose. FDA objected because of the size of the dose and its resultant toxic effect."

2. 3-Deazuaridine. "NCI sent this drug to investigators without a clinical brochure, the document which tells investigators what is already known about the drug. Investigators should have had a clinical brochure warning that this drug causes ulceration and necrosis of skin in animals, an effect which, if it also occurred in humans, would severely compromise cancer patients by making them vulnerable to infection at a time when they are least capable of fighting infection."

3. Thalicarpine. "This drug had severe, life-threatening central nervous system reactions in animal studies, which were confirmed in early human studies. Moreover, the early human studies showed the drug had serious toxic cardiovascular effects. FDA objected to one of two studies on the drug because the protocol of that one study did not convey warnings on the known toxicities, and made no provision for monitoring for the feared cardiovascular effects. The objectionable protocol was from M.D. Anderson Hospital in Houston."

4. Daunocycin. "A number of investigators were conducting experiments with this drug when one reported to NCI that some of his patients had serious liver reactions. The liver is important in digestion and has a major role in detoxifying the blood. FDA requested detailed information on other patients given the drug, and found that NCI had very few details on the patients involved. In fact, it was impossible to determine the liver response in other patients (NCI did not even name the age and sex of some of the patients). NCI treated the Daunomycin toxicity reports as though the problem was caused by an impure manufacturing lot–although the staff believed that an impurity was not responsible–and the only action taken by NCI was initiation of a (lackadaisical) recall of one lot of Daunomycin.

5. Thiadiazole and allopurinol. "NCI wanted to sponsor an experiment using these two drugs in combination. FDA suspected that these two drugs might be more toxic when taken together than each drug taken alone, and asked for a prior animal study comparing the combination with each drug alone. NCI began human studies anyway. Shortly thereafter, the results of animal studies showed that the combination had "severe potentiation of lethality," and was "contraindicated" in patients. As feared by FDA, the combination dose level thought to have potential benefit to patients was far higher than the lethal combination dose in animals."

6. Maytansine. "FDA objected to the paucity of information given to drug investigators by NCI. Important information on the ability of the drug to cause paralysis in animals was not conveyed, and clear information on dose-response curves and the effects of the drug on individual organs–information which was available–was not conveyed in NCI documents to drug investigators."

7. Chlorozotocin. "NCI proposed to allow this drug to go into human trials without a clinical brochure describing what was already known about the drug."

8. Diglycoaldehyde. "Animal studies on this drug showed that it could cause severe toxicity to the pancreas. In human studies, several effects emerged which identified pancreatic injury, including disorders of digestive enzymes, which could produce diabetes, calcium disorders so great as to cause muscle-locking, and blood disorders such as a Coombs anemia. However, NCI test protocols did not notify investigators and monitor for these effects."

9. Dianhydrogalactitol. "Investigators using this drug were not informed by NCI of the results of earlier trials, which left the investigators unable to monitor effects properly."

10. Rubidazone. "NCI proposed to sponsor studies on this drug for treatment of leukemia without any specification in the protocol of what kinds of leukemia were being treated. Since leukemia is not one, but several distinct diseases, administration of rubidazole without specification of the exact illness would have greatly diminished the value of the study."

The deficiencies cited for delaying or interrupting studies of each drug, as listed by HRG, were of course identical to those advanced originally by R.S. K. Young, FDA's group leader for oncology and the staff member most responsible for those actions. Most of them are regarded by NCI staff and the investigators around the country who have been affected by the delays as classic works of a bureaucrat run amock.

"It's become a joke," Vincent DeVita, director of the Div. of Cancer Treatment, told *The Cancer Letter.* It would be laughable, except that it is causing DeVita and his staff so many problems and so much work that they don't feel much like laughing.

All those issues "of critical importance to the safety of the subjects and value of the research" might seem plausible, and serious enough to stop research, to the layman totally uninformed on the subjects of anticancer drug development, clinical research with cancer patients, and the background of NCI-FDA relations. They were plausible enough, at any rate, to convince HRG it was time to get on with their job of protecting the public.

Here's what Johnson and Wolfe might have discovered had they looked into the NCI-clinical investigator side of the controversy:

–A platelet count of 50,000 is not abnormally low in cancer patients who participate in phase I studies. "That's routine," DeVita said. "There is little risk. It is trivial. It is to be observed, and communicated to

the appropriate places, but should not be cause for stopping the study. In this case, the IND had been approved by FDA, but when the platelet count was routinely reported, the study was stopped. This is the kind of thing that drives Jay Freireich (chief of experimental therapeutics at M.D. Anderson, where an anguidine study was ordered stopped by FDA) up the wall. He invented platelet transfers. No one knows more about the problem than he does." Yet the study was stopped, by one individual (Young) who was totally unfamiliar with at least that aspect of cancer drug reaction, an aspect that was widely known to clinical investigators in the cancer field, and to DeVita's staff.

–The issues of brochures not being distributed with the drugs goes back to pre-R.S.K. Young times at FDA. For at least 15 years, NCI and FDA had agreed that brochures were not necessary in phase I studies because investigators performing those studies have always worked very closely with NCI staff in developing the drugs. Not only were they totally informed on chemical structure of the drugs and all preclinical work including animal studies, but they helped write the protocols. "There was nothing we could tell them in the brochures they didn't already know," DeVita said.

NCI has agreed to provide brochures, and they were being prepared when FDA used their absence as an excuse to stop the studies. "There was no safety hazard," DeVita said, and thus no reason to stop the studies. But DeVita agreed that brochures should be available, and will be from now on.

–The complaint about thalicarpine "is the biggest joke of all," DeVita said. FDA reacted to a report of a "serious toxic effect" and ordered the study stopped. It turned out that a patient had received the drug and also been given morphine, and then went to sleep. FDA also was concerned over reports that thalicarpine caused some mydriasis–dilation of the pupil of the eye. "As far as I know, no one has ever died of mydriasis," DeVita said. "That's trivial."

Cardiovascular toxicity is not uncommon with many anticancer agents. Clinicians constantly encounter the problem. Good clinicians will always monitor the patients closely and pick up any problem, DeVita said.

–The problem with daunomycin was probably an interaction with another drug, DeVita said. "Never for a moment did we think it was due to an impurity." The drug was recalled just to be on the safe side, but most had been used and only 2,000 of 20,000 vials were returned. Tests "proved we were correct," DeVita said.

–The thiadiazole-allopurinol combination study was just one, being conducted by Irwin Krakoff, then at Memorial Sloan-Kettering. The animal toxicity results were related to Krakoff. "It was a judgment decision, Krakoff was capable of handling it. There was no reason to hold up the study," DeVita said.

–Maytansine has probably been the most intensively watched anticancer drug ever developed, from the moment the late Morris Kupchan isolated it at the Univ. of Virginia. For FDA, and for HRG, to say that "important information was not conveyed" simply is not true. "They fail to recognize our method of communicating," DeVita said. Phase I and phase II contractors meet six times a year, with reports presented on all drugs under study. The investigators using maytansine couldn't have known more about the drug if they had discovered it, developed it and conducted all the preclinical work themselves.

–The complaint that the rubidazone protocol did not specify the types of leukemia to be studied displays ignorance of the purpose of phase I studies. "The focus is on the drug, not the disease, in phase I," DeVita said. "When we switch to phase II, then the focus is on the disease." Any leukemia patient is eligible for a phase I study. If the drug shows some effect on one type of leukemia, that is noted and followed up.

DeVita agreed with HRG on one point–he does not want Congress to take the regulatory authority for anticancer drug development away from FDA and give it to NCI. He has said on several occasions that he would rather not have that job, and would accept it only if there were no other way around the impasse raised by FDA.

Fortunately, there does appear to be another way. DeVita feels that Richard Crout, director of FDA's Bureau of Drugs, "does understand our problems and is trying to work out a solution," DeVita said. This involves the package presented by NCI (***The Cancer Letter***, Jan. 28). It may or may not include the use of an advisory committee to review IND applications, which DeVita feels might be useful but is not necessary to achieving a workable arrangement.

ACCC MEMBERS PONDER PSYCHOSOCIAL PROBLEMS, CANCER PROGRAM DEVELOPMENT

Research in psychosocial problems of cancer patients is needed to help develop management practices to better deal with those problems, Melvin Krant, director of cancer programs and professor of medicine and psychiatry at the Univ. of Massachusetts, told members of the Assn. of Community Cancer Centers.

The keynote speaker in a session on psychosocial considerations in cancer care at the ACCC annual meeting, Krant said that quality care depends to a large degree on physicians "caring for their patients, not merely being involved in the care of patients."

Krant referred to one study which suggested that certain psychological factors may be involved in the etiology of breast cancer–denial and repression of conflicts, sexual problems, including frigidity, unresolved conflicts with mothers, inhibited expression of anger, masochism, loss of a loved person, loss of a major emotional relationship, and depression.

"It was thought in the early part of this century that healthy, robust people didn't get cancer," Krant said. "There has been little research in the last 10-15 years on these themes."

Mila Tecola, clinical social worker in the oncology division of Georgetown Univ. Hospital, said that hospitals should provide systems for helping their staff and families of patients as well as the patients themselves, to cope with the illness. She said that physicians and other staff members feel "drained" by the loss of patients. Many at her hospital discuss their feelings of failure with her. "It's cathartic for them," she said, and suggested that this approach be formalized into regular staff sessions.

Wendy Schein, project officer for NCI's Div. of Cancer Control & Rehabilitation on a contract studying the psychosocial aspects of breast cancer, said that the contractors have developed systems for counseling patients at various stages—from pre-diagnosis, by providing information and referrals, through pre-admission, pre- and post-operative and rehabilitation.

David English, executive director of a San Francisco hospice, said that "the quality of dying is what a hospice is all about. It's a concept, not a building, to provide the psychological, spiritual, and social needs of the terminally ill. Physicians effectively abandon a patient once it is determined he is incurable. The concept of a hospice is that the patient should be pain free, symptoms under control, all his needs met and the needs of his family. Counsel is provided the family up to one year after the patient's death."

Robert Frelick, Wilmington, Dela., said he was "disturbed by an approach that separates the care of the terminally ill patient from the team that previously cared for him. In our community cancer programs, we have to recognize that the care of the terminally ill is the responsibility of the team that has been caring for them all along. We need stronger home care programs. Although 70% of cancer patients die in hospitals, most are only there the last two to three days."

Charles Vogel, associate professor of oncology at the Florida State Comprehensive Cancer Center, led off a discussion on allied health personnel and the team concept of cancer care. "I couldn't function as a medical oncology researcher without paramedics, to monitor protocol compliance and do the other paperwork that's required," Vogel said. "The best clinical care is in a research setting, and we can't do it properly without paramedics. Funding is a key issue for them. If we recognize they are as important in a community setting as they are in a research setting, we need to lobby for reimbursement for them."

Vogel said that a program at his hospital to improve staff morale and reduce turnover involves regular conferences with nurses, the psychiatrist, chaplain and social workers. "Staff sessions should include physicians, but they did not attend." Failure of physicians to attend staff meetings "is the most frustrating aspect of the entire problem," Vogel said.

Vogel said that hospital staff should be rotated into the outpatient clinic occasionally, "so they can see the results of our successes" as a morale builder.

Viola Harrell, physician assistant in oncology at the Univ. of Miami, said that the PA "acts as an intermediary between ward nurses and physicians .... Patients become close to us, because we spend more time with them."

John Nelson, director of the Northeast Florida Cancer Progra m in Jacksonville, said that he employs a physician assistant in private practice "and I rely heavily on him."

Patricia Porcher, enterostomal therapist at St. Vincent's medical center in Jacksonville, described the pilot program started four years ago with the goal of providing an enterostomal therapist at each hosptial in that area. Her training was supported in part by the American Cancer Society, and she has in turn trained specialists for each of the other hospitals, although not all work full time at it.

Porcher said the specialists give preoperative counseling to patients, explain the surgical procedures, "and acquaint the patient with exactly what will happen to him." Post operative counseling starts immediately in intensive care. Once the IVs are removed, the patient is trained to care for himself. Patients are not discharged until they can care for themselves, or until a family member learns the procedure. Ostomy patients are sometimes trained to work with new patients, matched by age and sex.

Robert Theissen, Tacoma medical oncologist, said, "We can't continue to massage our overblown god complexes by insisting that we have to make all the decisions. Allied health personnel know the psychosocial areas better. Let them make some decisions. Physicians will have to learn to cooperate, to take orders."

John Carpenter, assistant to the director of the Univ. of Alabama Comprehensive Cancer Center, discussed the breast cancer demonstration network the center operates throughout the state supported by an NCI contract. The center works with community physicians and involves about 25% of the state's breast cancer patients. Patients are randomized into either the classical radical or modified radical mastectomy. Those with positive nodes receive either melphalan or CMF chemotherapy, following protocols supplied and monitored by the center. Of 168 patients, seven have recurred so far, Carpenter said.

The center has found only 29 "significant" treatment errors, out of 1,200 patient visits, Carpenter said. "This is a lower rate than the Southeast Oncology Cooperative Group," Carpenter said. "It is close to the irreducible minimum. I think we have shown that we have a system that works." He said that the results compare favorably with the results in the

Fisher and Bonadonna studies.

John Yarbro, director of the Missouri Cancer Program, noted that Carpenter "was talking about a significant proportion of the breast cancer patients in the entire state. This is what Congress was talking about in the Cancer Act—not just centers, but the impact they can have."

Yarbro said the Alabama project demonstrates that community physicians can follow protocols, "better than those in at least one cooperative group, and that research protocols can be used in community hospitals. It shows that in a non-research study you can have results comparable to those of Fisher and Bonadonna, close enough to draw some conclusions. I hope we can confirm those results in other states. It would have a major impact on the Cancer Program."

Stephen Carter, director of the Northern California Cancer Program, outlined his plans for a new type of cooperative group his program is organizing, a multi-institutional regional group. Its membership would be limited to Northern California and Northern Nevada; it would be multimodal, with equal representation of all modalities; it would be disease oriented, with all protocols either designed or approved by the group; and it would engage in community outreach activities.

David Goldenberg, executive director of the Ephraim McDowell Cancer Research & Treatment Network in Kentucky, described some of the projects his organization handles in dealing with a rural area that covers the eastern half of the state. It provides central and regional organization facilities, demography and caseload data and projections, an inventory of cancer related health care services, design of a central tumor registry, a newsletter, a "Cancer Hopeline" telephone service, physician brochures, tumor conferences and protocol studies, oncology lecture series, a community chemotherapy consultant program, a radiation oncology center program, and developmental fundraising campaigns. "We are in effect a regional office for the NCI Office of Cancer Communications for dissemination of information," Goldenberg said.

Jake Henry, administrator of Southwest Texas Methodist Hospital in San Antonio, discussed his clinical oncology program. Its objectives include development of a multidisciplinary management scheme, field test new methods and techniques, consolidate resources, develop clinical guidelines, and provide community programs for patient care, Henry said. A cancer committee composed of professional staff "is one of the most important elements of the program," he said.

Joseph Kraut, O'Connor Hospital in San Jose, Calif., discussed the project of developing a community cancer program under a contract from DCCR. It includes three hospitals. "Others in the area want to be involved. It makes no sense to limit this to three hospitals in a city of 1 million," Kraut said. Word of the program has spread outside the San Jose area, he said. "People ask their physicians to refer them to us."

DCCR Director Diane Fink said that "there is a growing recognition that community hospitals can be involved in all control activities. . . . Aside from highly experimental clinical research protocols, there is no reason a community hospital can't follow cancer protocols."

Fink said she was concerned "about premature transfer of technology. It is a problem, determining what is ready for transfer." Conferences can be useful, she said, and she asked for ACCC advice on how to improve state of the art dissemination.

Fink predicted that there will be "greater involvement" of the federal government in support of community cancer control activities, more scrutiny of local physicians by the government, more emphasis on patient rights, and greater participation by groups such as ACCC in research.

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 NCI-CB-74155-31

Title: *Immunoprophylaxis of an occular solid malignant tumor in cattle*
Deadline: *April 11*

Determine whether intralesional injection of BCG cell wall emulsion into cattle at a premalignant stage will interrupt the process leading to malignancy.

RFP NCI-CB-74156-31

Title: *Antigenicity in premalignant lesions in humans*
Deadline: *April 11*

Determination of the existence of immunologic markers in premalignant lesions in humans.

RFP NCI-CB-74157-31

Title: *Identification of persons exposed to carcinogens using the methods of immunology*
Deadline: *April 11*

Comparison of human populations at risk of ele-

vated exposure to suspected carcinogens with populations at minimum risk.

RFP NCI-CB-74158-31

Title: *Immunoprevention of malignant solid tumors in animals*
Deadline: *April 11*

Development of immunological means for interference with the progression of solid tumors from the premalignant to the malignant stage in animals.

RFP NCI-CB-74159-31

Title: *Antigenicity of precancerous lesions in animal models*
Deadline: *April 11*

Elucidation of the apparent inefficiency of autologous complement in abortion of neoplasm development.

Contracting Officer: Robert Townsend
Biology & Diagnosis
301-496-5565

RFP WA 77-B087

Title: *Expert evaluation of published research studies on the carcinogenicity and toxicity of selected chemicals*

Evaluation of health effects research studies on selected chemicals. The contractor will be required to assemble a group of scientific authorities in the fields of oncology, toxicology, teratology and genetics for in-depth evaluation of published scientific research studies on specific chemicals, primary suspect, carcinogens.

Copies of this RFP will be available for distribution to prospective contractors by Feb. 15. If your organization has been advised that an EPA "RFP list" number has been assigned to the organization's address, your letter or telegram must include the assigned number when requesting RFP. A written request for a copy of this RFP should be received by Feb. 15.

RFP WA 77-B088

Title: *Chemical technology and economics in environmental perspective*

Acquisition of information on selected chemicals or chemical classes regarding industrial production, distribution, processing, uses, disposal, economics, and feasible material substitutions and process changes which would reduce hazard potentials.

Copies of this RFP will be available for distribution to prospective contractors by Feb. 10.

RFP WA 77-B064 — Recd 2/16/77

Title: *Short term report preparation and editing services*

Quick turnaround capabilities to prepare and edit, from raw data and/or rough drafts, final reports, for release to the public, which evaluate the hazards posed by marketed chemicals and chemical classes. The contractor must be able to gather small amounts of data, analyze complete data packages, write reports, prepare charts and graphs as needed, edit copy, and type and reproduce documents within a highly abbreviated time frame.

Copies of this RFP will be available for distribution to prospective contractors by Feb. 10.

Environmental Protection Agency
Headquarters Contract Operations
Negotiated Procurement Section (PM-214-C)
Crystal Mall 2, Room 700-A
Washington, D.C. 20460 Attn: Linda McKay
for above three RFP announcements

RFP 210-77-0046-0000

Title: *Cell surface changes in benzene-induced leukemias*
Deadline: *Approximately March 15*

The National Institute for Occupational Safety & Health is soliciting proposals from organizations interested in following two experimental approaches to determine the nature of cell-surface changes.

National Institute for Occupational
Safety & Health
5600 Fishers Lane Room 1-58
Rockville, MD 20857

CONTRACT AWARDS

Title: Systems planning support services for the NCI/OD National Cancer Program
Contractor: JRB Associates, $748,529.

Title: Development of cell strains from ductal and exocrine portion of the pancreas
Contractor: American Type Culture Collection, Rockville, Md., $172,398.

Title: National Cancer Program information clearinghouse and allied services
Contractor: Kappa Systems, Inc., $320,806.

Title: Technical services in support of the National Cancer Program's management information system
Contractor: Mitre Corp., $58,000.

Title: Expansion of cervical cancer screening program
Contractor: Virginia Dept. of Health, $30,240.

The Cancer Letter—*Editor* JERRY D. BOYD

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