THE CANCER LETTER

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Kennedy Bills Would Authorize Senior Scientist Service, New Foundation, Construction Grants

Low government salaries has impaired the ability of NIH to recruit and retain scientists, resulting in lost research opportunities, NIH Director James Wyngaarden and others told the Senate Committee on Labor & Human Resources this week.
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In Brief

Fauci, Lenfant, Bulkley Rumored For NIH Job; Jimmie Holland Gets Psychiatric Oncology Chair

THREE POSSIBILITIES as the new NIH director, according to campus gossip: **Anthony Fauci**, director of the National Institute of Allergy & Infectious Diseases, who was singled out by President Bush during the campaign as one of his "heroes;" Claude Lenfant, director of the National Heart, Lung & Blood Institute; and **Bernadine Bulkley**, who as deputy director of the Office of Science Technology Policy represented the White House on the National Cancer Advisory Board in the early 1980s. . . . **JIMMIE HOLLAND**, chief of the Psychiatry Service at Memorial Sloan-Kettering Cancer Center, has received the Wayne E. Chapman Chair of Psychiatric Oncology, the world's first endowed chair in this field. Holland is a pioneer in delineating the prevalence and nature of the psychological and psychiatric complications of cancer. The chair is named in memory of the senior partner of Cravath, Swaine & Moore. . . GIANNI BONADONNA, internationally acclaimed for the breast cancer clinical trials he has headed in Milan, will be the Edward Rotan Visiting Professor in the M.D. Anderson Cancer Center Div. of Medicine for two weeks, starting July 31. . . . **CORRECTION:** It is the Case Western Reserve Univ./Ireland Cancer Center in Cleveland which is having its cancer center core grant reviewed, not Cleveland Clinic (**The Cancer Letter**, July 14). Nathan Berger is director of the Ireland Cancer Center, which is considered a prospect for consideration as a comprehensive center if it does well in the review. . . . **RICHARD HOLMES**, chief of nuclear medicine at the Univ. of Missouri Hospital and Clinics and at the Harry S. Truman Memorial Veterans Administration Hospital, is the new president of the Society of Nuclear Medicine. Holmes succeeded **Barbara** Croft as president of the society. . . . **BETTY DANIEL**, clinical nurse specialist in gastrointestinal oncology/endocrinology at M.D. Anderson, received the Outstanding Oncology Nurse Award from the American Cancer Society's Greater Houston Unit.

Kennedy Bills Would Establish NIH Director's Fund, Rehabilitation Center

(Continued from page 1)
Also, lack of funding for construction and renovation of facilities "threatens our lead in biomedical science," Committee Chairman Edward Kennedy said.

The hearing was held to discuss a package of legislation that was scheduled to be introduced this week by Kennedy (D-MA). The legislation would create a separate personnel system for senior scientists at NIH, a private foundation to bring private funding into NIH for personnel, and would provide $150 million for construction of biomedical facilities.

"Like any other enterprise, good science requires good leadership," Kennedy said in an opening statement. "Inflexible personnel rules and rigid salary caps are a handicap to the Institutes."

In addition, the lack of federal support for construction "threatens our lead in biomedical science," Kennedy said. "Over 50 percent of biologic science departments and over 40 percent of medical institutions reported recently to HHS that their research space is inadequate. Space is now the number one limiting factor to research progress."

The five part legislative package introduced by Kennedy has the following features:

--Senior Biomedical Scientist Service. Authorizes the HHS Secretary to establish a separate personnel system with enhanced compensation rates for civil service and commissioned corps employees in the fields of biomedical research or clinical research evaluation. It would also allow for flexibility of some benefits, including retirement.

The amount of funding requested for the proposal and the numbers of employees who would be eligible for the higher pay were not available as The Cancer Letter went to press this week.

--Foundation for Biomedical Research. Requests $1 million to $2 million in federal funding of start up costs for a private foundation that would support endowed chairs for senior biomedical investigators. The foundation would operate within the structure of the research programs of NIH and the Alcohol, Drug Abuse and Mental Health Administration.

The foundation would seek to attract and retain internationally known scientists by offering competitive support for salaries, equipment and space. The foundation also would support the NIH Scholars Program through the provision of stipends and research expenses for promising young scientists, who would be appointed for no longer than six years.

Under Kennedy's proposal, the foundation would have four ex officio members: the chairman and ranking minority member of both the House Energy & Commerce Committee and the Senate Labor & Human Resources Committee. The ex officio members would appoint one representative of the general biomedical field, one representative of the biobehavioral field and two representatives of the general public.

--Biomedical and Behavioral Research Facilities Construction Program. Kennedy's bill would create an extramural grants program, to be located in the NIH Div. of Research Resources. Public and nonprofit research institutions would apply for grants to expand, remodel, renovate or alter existing research facilities or to construct new facilities. The grants would be subject to merit review and to review by a national advisory board, which the bill establishes. The bill sets award criteria for both established institutions and for "emerging centers of excellence."

Federal funding for construction would be limited to 50 percent of the total necessary costs. The bill authorizes $150 million for 1990, and "such funds as are necessary" for 1991 and 1992.

--NIH Director's Discretionary Fund. The bill establishes a discretionary fund to be used by the NIH director to support research costs, purchase of equipment, or other costs when expenses fall outside the normal funding cycle.

The discretionary fund would be provided for out of .5 percent of the funds appropriated for extramural research, up to $25 million a year for the next three years.

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--Center for Medical Rehabilitation Research. The Kennedy package also includes legislation creating a center for medical rehabilitation research at NIH. The center is authorized to award grants, contracts and cooperative agreements for research and training. The bill establishes a committee to coordinate the rehabilitation research currently being conducted at NIH. No budget figure was available for this item in the package.

Wyngaarden, in his last official appearance before a Senate committee, testified that the inability to pay competitive salaries has caused several vacancies at NCI to remain unfilled. He said that NCI's Radiation Oncology Branch, which is trying to expand, has not been able to hire a senior radiation oncologist or a radiochemist. Without the senior scientist, some trials have had to be postponed, he said.

NCI's Surgery Branch has been severely affected, Wyngaarden said. The branch has not been able to hire a plastic surgeon, a thoracic surgeon, or general cancer surgeons.

Also during the past year, Wyngaarden said, NIH has not been able to recruit a pharmacologist to conduct AIDS related drug analysis studies, a scientist to do research in nerve regeneration, a cancer radiation therapist, or several surgical specialists.

"NIH was not successful in filling any of these positions owing to inadequate compensation," Wyngaarden said. "As a result, a number of promising laboratory and clinical research initiatives have not been pursued, and several other existing programs have been curtailed."

"What is going to be the impact?" Kennedy asked.

"It's a judgment call, but it is my judgment that while things are not desperate --that is too strong a word--there is a negative balance," Wyngaarden said. "We are losing senior people and people in their prime. Though we have a deep bench, it is not unlimited. The quality of NIH could fall."

Wyngaarden cited studies that demonstrate the salary gap between NIH salaries and those in the private sector or academia. Senior Executive Service physicians are paid about half as much as their counterparts in academia. Other doctoral staff are paid 19 percent less than comparable university positions.

The gap in pay between NIH and American medical schools is increasing, from $39,000 in 1982 to $99,000 this year.

A survey NIH conducted of employment offers that had been made to scientific staff illustrates the problem. About a quarter of the NIH doctoral level scientists responded to survey.

Of the senior physicians who responded, 83 percent said they had received one or more offers ranging from $100,000 to $500,000. The average offer was $166,000, about twice their NIH salary.

"With offers of this magnitude, NIH can expect to lose a substantial number of key senior research scientists and science managers," Wyngaarden said.

Also in the past year, salary considerations have led several prominent midlevel scientists to leave NIH, Wyngaarden said.

Wyngaarden cited the recent Institute of Medicine report on the intramural program, which made a number of recommendations (**The Cancer Letter,** March 3).

One of the key recommendations was that Congress authorize NIH to develop a demonstration project that would implement simplified hiring and pay administration.

A report by the National Commission on the Public Service also sounded the call for higher salaries, recommending "prompt action by the President and Congress to raise the cap on the Senior Executive Service, even if this means that their pay in some instances could exceed that being received by political appointees above them."

A proposal released last week by President Bush would raise the cap on the SES to $125,000 a year. About 200 NIH scientists would be eligible under the plan, Thomas McFee, assistant secretary for personnel administration, told the committee.

McFee said that NIH has been developing its own pay raise proposal that would establish a Senior Biomedical Research Service. Exactly 713 scientists would be eligible for the service. The pay limit would be based on a percentage of the mean salary of chairmen of clinical medicine departments at American medical schools.

Michael Millman, staff officer of the Institute of Medicine, testified that a key feature of the IOM report was a recommendation that NIH create endowed chairs that are outside the federal civil service system to recruit top scientists.

"NIH needs on occasion to be able to recruit from the ranks of the most outstanding, established scientists, whose presence would inject new intellectual stimulation to the program," he said. The

committee recommended that Congress charter a foundation to permit the private support of up to 10 endowed chairs for distinguished investigators.

Need For Construction Money

Five university officials testified about the critical need for biomedical facilities constructing funds. They were David Challoner, vice president for health affairs, Univ. of Florida College of Medicine; Dennis Barnes, office of government affairs, Univ. of Virginia; Glenn Langer, associate dean for research, UCLA; Linda Wilson, president, Radcliffe College; David Satcher, president, Meharry College of Medicine.

"The expansion of the research program of NCI included funds for research facilities and, from 1972 to 1982, almost $300 million in current and almost $700 million in constant 1988 dollars were invested in space for cancer research," Challoner said. "But by and large, formal federal grant support programs for construction or remodeling have been small and highly targeted."

He noted that universities have been further constrained by the 1986 tax reform, which limited access of institutions to tax exempt borrowing.

Malpractice Reform Bill Introduced; Would Limit Claims To $250,000

Legislation that attempts to stem the flood of medical malpractice lawsuits and limit the amount of claims has been introduced in Congress.

Rep. Robert Mrazek (D-NY) introduced a bill that would provide financial incentives to encourage states to establish medical liability arbitration panels to hear and resolve malpractice claims.

The bill, HR 2858, would appropriate $100 million to the Dept. of Justice to provide to states that establish arbitration panels.

The panels would have the authority to dismiss frivolous claims, hear legitimate claims and adjudicate award settlements to compensate for pain and suffering. The amount of award would be limited to $250,000. Attorney contingency fees would be limited on a sliding scale.

"The benefits to the entire health care system would be tremendous if there were regulations for the entire country," Mrazek said in his introduction of the bill.

Malpractice insurance premiums vary widely across the country. In California, which enacted malpractice limits in 1975, premiums for obstetricians are about $46,000 a year, while in some areas of New York premiums are $100,000 a year. Obstetricians in Florida pay as much as $200,000 a year.

The legislation, if enacted, would provide substantial relief for the courts, Mrazek said. Cases before the arbitration panels would be settled within a year, he said. Malpractice cases now generally take from a year to as long as eight years.

The bill "is a comprehensive attempt to ameliorate the current malpractice crisis by assuring the equitable financial reparation of victims of medical negligence, providing for the prompt resolution of claims, reducing the burden on our court system and ensuring accountability," Mrazek said.

Mrazek introduced similar legislation in twice in the past four years. Both times the bills died in subcommittees.

The arbitration panels would have to have at least three members: a certified health professional, a person license to practice law in the state, and a professional arbiter. However, states can create larger panels.

In cases involving multiple defendants from multiple health care specialties, a representative from each defendant's health care specialty would be appointed to the panel hearing such cases. Each representative would be agreed upon by the plaintiff. Not more than three health care professionals would serve on any panel and would have only one vote between them. The state attorney general would appoint panel members.

The panel would have exclusive jurisdiction over medical negligence claims. A state could provide for more than one panel with different geographic jurisdictions. Appeals of the panel's decision could be made to the appropriate state court.

The bill has been referred to the Judiciary Committee and the Energy & Commerce Committee.

Joint FDA-NCI Conferences On Approval Criteria Suggested

FDA and NCI should cosponsor a series of disease oriented conferences on approval criteria for new drugs for specific indications, Martin Abeloff told a recent meeting of the National Committee to Review Current Procedures for Approval of New Drugs for Cancer and AIDS.

A former chairman of FDA's Oncologic

Drugs Advisory Committee, Abeloff suggested that results from the conferences be published by FDA.

He also advised FDA to produce written recommendations about trial endpoints, which could then be distributed to investigators and industry.

In addition, Abeloff suggested that working relationships between FDA and NCI could be improved by having an NCI representative serve on FDA's advisory committee, and by having the FDA committee chairman serve on the Div. of Cancer Treatment's Board of Scientific Counselors.

Other recommendations included the early involvement of FDA advisory committees in phase 1 and 2 meetings on new agents.

FDA itself has been trying to encourage early involvement by drug sponsors with the agency. Gregory Burke, acting director of Oncologic & Pulmonary Drug Products at FDA, said the agency has sent out letters to drug sponsors about meeting with FDA officials in early stages of drug development. "In the cancer area, this is beginning to happen," he said.

The need for research on quality of life measurements and other surrogate endpoints was identified as a major issue by Abeloff and other participants at the meeting.

Sidney Wolfe, Public Citizen Health Research Group, told the meeting that the use of quality of life measurements will become more and more important in the future.

"Given that it's likely we're going to have two drugs with survivals that are identical, the differential between them in terms of which one should be used more widely is going to likely rest on these endpoints," he said.

Wolfe also cited a statement by FDA's Robert Temple implying that quality of life data is not routinely submitted by cancer researchers. Wolfe quoted Temple's response to the DCT board as saying, "In the absence of studies showing the improvement of symptoms or some other quality of life measure, which we would certainly accept, but have never seen submitted, it is not clear what evidence of effectiveness other than equivalent survival we can use."

"The statement seems to imply that these other endpoints...have not been submitted," Wolfe said.

Stating that quality of life is "obviously measurable," Wolfe said approval of arthritis drugs, for example, are dependent on quality of life data such as functional measurements.

Wolfe said that although he has been told by cancer researchers that shrinkage of tumor correlates with quality of life, he was told by one investigator that tumor shrinkage was too expensive to measure.

"I don't believe that. I think it's really in a sense too expensive not to measure."

Committee member Samuel Hellman, however, said that such data is often submitted to FDA, but is not accepted.

Discussing the recent approval of erythropoietin, he said, "one of the endpoints that was clear was the efficacy of the drug in raising hemoglobin, yet that was not considered a reasonable endpoint. There the endpoint was submitted, but the endpoint demanded was survival, so your comment may be true that sometimes it's not submitted, but often it is submitted and not accepted."

Epo is "an example of a drug that was clearly effective in what its purpose was, which is to elevate blood count, whether or not that had a beneficial effect on survival."

Discussing the use of surrogate markers, Hellman said some surrogate markers are the direct effect of an agent, such as tumor regression.

"The question is, is it sufficient, is it enough tumor regression to improve survival or patient comfort. There is no doubt that it can be measured...it is directly related."

Again referring to epo, he said that it is not known whether increasing a patient's blood count will necessarily prolong life. "You can't expect the drug to do more than raise the blood count--that's what it was designed to do. So that is not an indirect marker, it is a very direct marker.

"Similarly, tumor response is a very direct marker, it's not surrogate, it is in fact what the agent was designed to do.

"With cancer, where one's dealing with a disease in an elderly population which has tremendous competing mortality and very complicated outcomes, I would suggest to you that survival is a bad endpoint, it's not clean, it doesn't give you the information that you want many times, and unless you're looking at a population in which there is no competing mortality, you're much better off looking at what you intended to do" such as "make the tumor get smaller. That's what you intended to do, and if it works and makes the tumor get smaller, you have an endpoint which is much cleaner."

Concurring, Committee Chairman Louis Lasagna said, "to call a complete remission in

cancer a surrogate endpoint is a crazy way to describe it."

Abeloff and FDA officials at the meeting repeatedly emphasized that survival is not the sole criteria used by FDA to determine efficacy.

Despite the assertions that survival is not necessarily a requirement for drug approval, at least one current member of FDA's Oncologic Advisory Committee believed it was necessary for approval.

"You said you thought survival as an endpoint was a statutory requirement" and that relative efficacy is also required for approval, Lasagna asked Robert Capizzi.

"Yes, I thought there had to be a head to head comparison with the established therapy of the day," Capizzi said. "I find it refreshing that is not a requirement."

Lasagna warned that "demands for relative efficacy, which in my opinion are not mandated by the statute or allowed, are a move in the wrong direction." That and "insisting on survival data when there are other endpoints" prolong the approval process.

He also noted that there is already a tradition of approving drugs on the basis of surrogate markers, such as the use of blood pressure readings to determine the efficacy of antihypertensives.

FDA is in the process of preparing guidelines for specific tumor types, and has already finished four, one of which doesn't even include survival as an endpoint, John Johnson, head of FDA's Oncologic Drugs Group, said. Guidelines have been completed on ovarian, colorectal, and superficial bladder cancer, and are in the process of being written up for advanced breast cancer.

When FDA has completed 10 such guidelines, Johnson estimated they will be sufficient to extrapolate to other tumors.

Upon questioning from Lasagna, Johnson said that guidelines for first line treatment of ovarian cancer allow complete response rate to be used as the sole basis for approval "under certain conditions."

Discussing FDA's decision not to approve carboplatin for first line therapy, he said the advisory committee said that if "the carboplatin combination gave a better complete response rate than the cisplatin combination, that could be sufficient basis for approval. Unfortunately, it didn't."

"I'm beginning to feel like I'm in the twilight zone here or something," Lasagna said. "You're demanding superiority to approve the drug." Johnson responded, "We're willing to approve if they're equal or approximately equal," Johnson said.

Earlier in the meeting, Abeloff said, "I don't think it is reasonable to expect the FDA to approve a new drug for a specific clinical situation in which cure is already obtainable with an alternate drug regimen unless you can show survival equivalency or an awfully good surrogate endpoint" such as pathologic complete response.

Franco Muggia, Univ. of Southern California, told the committee that large scale trials to prove the equivalency of analogs are not only unnecessary, but hinder other clinical research efforts.

FDA guidelines have been misinterpreted to indicate that superiority is required, he said, necessitating trials with large numbers of patients. "Such large scale trials would not be unreasonable for a totally new class of drugs," but are unreasonable for proving the equivalency of analogs, he said.

Muggia cited a French oncologist's comments about a large trial comparing carboplatin to cisplatin. He commented that such a large trial "was not justified to prove that Coca Cola is the same as Pepsi Cola."

The perceived need to show superiority of agents is resulting in a loss of initiative by American investigators by "tying up clinical resources in lengthy equivalency trials," he said.

Muggia also criticized FDA's "sweeping rejection of response rates and other data, particularly in relation to establishing indications for analogs. At least in that area, one should recognize response rates."

FDA's "inflexibility in allowing the use of drugs beyond well defined trials considered to lead to NDAs" was identified as another pitfall in cancer drug approval methods.

He also suggested that FDA has misjudged "the time and the effort required for survival studies in advanced cancer."

Muggia was one of several speakers to bring up the issue of insurance reimbursement for experimental therapy. Characterizing the denial of payment for care associated with experimental therapy as a "national tragedy unfolding now," he said reimbursement for cancer patients is being arbitrarily withheld.

Capizzi also cited troubles with reimbursement from the Health Care Financing Administration and private insurance firms.

"I am fearful that this attitude will greatly impede the progress of clinical trials," he said.

House Committee Adds Only $6.5 Mil. To NCI Total Over President's Request

The House Appropriations Committee offered NCI little budgetary relief in the FY 1990 budget appropriations it sent to Congress this week.

The funding bill, which the committee passed on a voice vote Tuesday, includes $1,652,666,000 for NCI, an increase of $6.593 million over the President's budget request, and an $81.7 million increase over the FY 1989 budget. Those figures do not include AIDS funding.

In its report on the appropriations bill, the committee listed some areas of progress in cancer research, noting that there has been "good news and bad news."

The subcommittee directed NCI to "do whatever it can" to reverse the trend of increasing cancer incidence rates among minorities, and to increase support for research on the disparity in cancer deaths of persons over age 65, minorities, the disadvantaged and the rural poor.

In referring to minorities, the report said, "Part of this growing gap could result from the inability of medically underserved populations to receive the most up to date diagnosis and treatment. It is important that the causes of these disparities be defined and that NCI do whatever it can to reverse this trend."

The only specified funding the subcommittee added to the NCI budget was $1.5 million for the planning and development of "a very limited number" of proton beam therapy referral centers for treatment of inoperable and inaccessible brain tumors.

"The committee is impressed with the potential such a program will have on the effective treatment of certain tumors and vascular diseases." NCI must report on the use of the funds and the potential of the treatment within six months of the budget bill's enactment.

The bill provides $7.67 billion for NIH, slightly more than $149 million above the President's request. The subcommittee added $34 million to the budget of the NIH director's office for upgrading the NIH supercomputer.

The bill also provides $1.6 billion for funding of AIDS research within the Public Health Service. The committee said it had not adopted the President's proposal to fund all AIDS activities under a single appropriation. However, the committee did not earmark a specific amount within its report for AIDS research at NIH or the Alcohol, Drug Abuse & Mental Health Administration.

Besides the emphasis on cancer among minorities, the poor and elderly, the report stated the committee's general support for basic research, clinical trials, efforts to develop a nutrition laboratory, adjuvant therapy, research on suramin and tumor infiltrating lymphocytes and training of minority scientists.

The committee said it supported NCI's issuing of the clinical alert on node negative breast cancer last year and noted that, "Innovative ways of expanding information dissemination should be explored." Expansion of the PDQ system should continue and other ways for enhancing patient and physician education explored, the committee said.

NCI Advisory Group, Other Cancer Meetings For August, Sept., Future

Cancer Centers Support Grant Review Committee--Aug. 2, Holiday Inn Crowne Plaza, Rockville, MD. Open 8:30-9:30 a.m.

Comprehensive Fine Needle Biopsy--Aug. 5-12, Kauai. 9th annual comprehensive course sponsored by Cleveland Clinic Foundation. Contact Extended Programs in Medical Education, Univ. of California, Rm U-569, San Francisco 94143, phone 415/476-4251.

Molecular Mechanisms of Carcinogenesis--Aug. 13-18, Copper Mountain, CO. Contact Marilyn Marsh, phone 301/530-7093.

Hepatic Pathology--Aug. 16-18, Bethesda, MD. Armed Forces Institute of Pathology and American Registry of Pathology. Contact ARP, C.A. Tuchis, Rm 1062, Washington DC 20306, phone 202/576-2980.

NCI Laboratory of Tumor Cell Biology--Aug. 21-16, Bethesda Hyatt Regency Hotel. Phone 301/496-5118.

Cancer Management Course--Aug. 25-26, Buffalo. Contact as above.

Gastrointestinal Cancer--Aug. 27-Sept. 1, Jerusalem. Second international conference. Contact GIA Secretariat, PO Box 50006, 61500 Tel Aviv, Israel.

XI Congreso Nacional de Cancerologia--Aug. 27-31, Lima. Contact President, Instituto Nacional de Enfermedades Neoplasticas, Av. Angamos Este 2520, Surquillo, Lima, Peru.

5th European Conference on Clinical Oncology--Sept. 3-7, South Bank Centre, London. Contact Conference Associates EECO, Congress House, 55 New Cavendish St., London W1M 7RE, UK.

XIIth Brazilian Head & Neck Surgery Congress--Sept. 3, Fortaleza. Contact Brazilian Head & Neck Surgery Society, Rua Teodoro Sampaio, 115-2 andar, CEP 05405, Sao Paulo, Brazil.

Advances in Drug Development and Delivery--Sept. 8-9, Lexington, Ky. Lucille Parker Markey Cancer Center Second Annual Cancer Symposium, with separate programs for physicians and nurses. Contact Karen Christian, Markey Cancer Center, 800 Rose St., Lexington, KY 40536, phone 606/257-4500.

Innovative Approaches in Cancer Therapy--Sept. 8-9, Pittsburgh. Fourth annual Mary A. Davis Memorial Symposium. Contact Kristine Krutules, Pittsburgh Cancer Institute, 200 Meyran Ave., Pittsburgh, PA 15213, phone 412/624-1023.

ACOS Cancer Management Course--Sept. 8-9, Eugene, OR. Contact Cancer Dept., American College of Surgeons, 55 E. Erie St., Chicago, IL 60611, phone 312/664-4050.

Ohio Valley-Lake Erie Assn. of Cancer Centers--Sept. 8-9, East Lansing, MI. 12th annual oncology meeting. Contact Nikolay Dimitra, Michigan State Univ., Rm B220 Life Sciences, East

Lansing 48824, phone 614/292-1135.

Incidence of Cancer in Women in Different Countries--Sept. 10-15, Soul, Korea. 21st Medical Women's International Congress. Contact MWIA Secretariat, Haedenkampstr. 1,5000 Cologne 41, FRG.

European Assn. for Cancer Research--Sept. 11-13, Galway, Ireland. 10th anniversary meeting. Contact Dr. S.M. Lavelle, Experimental Medicine, University College, Galway; or in North America, Dr. J.H. Weisburger, American Health Foundation, Valhalla, NY 10595.

Immunology in Solid Tumors: Animal Models--Sept. 11-12, Crowne Plaza, Rockville, MD. Attendance limited; apply by sending letter of research interests and reason for attending to Dr. John Finerty, Cellular Immunology Program, EPS Rm 634, NCI, NIH, Bethesda, MD 20892. For further information, phone Fran Oscar, 202/842-7600.

Joint Muscoloskeletal Tumor Society and European Muscoloskeletal Oncology Society Meeting--Sept. 11-13, Bologna, Italy. Contact Bone Tumor Center, Instituto Ortopedico Rizzoli, Via Pupilli 1, 40136 Bologna, Italy.

Pathological Effects of Radiation--Sept. 11-13, Bethesda, MD. Contact American Registry of Pathology, C.A. Tuchis, Rm 1062, Washington DC 20306, phone 202/576-2980.

EORTOC-PAM-AACR-BACR Symposium on Cell Membrane and Cell Signals as Targets in Cancer Chemotherapy--Sept. 13-17, Cambridge, UK. Contact BACR Secretariat, Institute of Biology, 20 Queensberry Pl., London SW7 2DZ, UK.

National Committee to Review Current Procedures for Approval of New Drugs for Cancer and AIDS (Lasagna Committee)--Sept. 13, Parklawn Bldg, 5600 Fishers Lane, Rockville, MD, Third Floor Rm E, 9 a.m.-4 p.m., open.

Transrectal Ultrasound in the Diagnosis and Management of Prostate Cancer--Sept. 14-16, Chicago. Fourth international symposium. Contact Diversified Conference Management, PO Box 2508, Ann Arbor, MI 48106, phone 313/665-2535.

Cancer Technology Transfer--Sept. 14-16, Marriott Hotel, Princeton, NJ. First symposium on new investigational cancer technologies and their transfer. Contact Kim Mazzei, Administrator TEX ICT, 1 Bruce St., Newark, NJ 07103, phone 201/456-4600.

American Society of Pediatric Hematology/Oncology--Sept. 15-17, Chicago. Second annual meeting. Contact Carl Pochedly MD, Secretary, ASPHO, Box 97, Wyler Children's Hospital, 5841 S. Maryland Ave., Chicago, IL 60637.

Gene Regulation Oncogenesis AIDS--Sept. 15-21, Loutraki, Greece. First international conference. Contact Dr. Steve Kottaridis, Director of Virology, Hellenic Anti-Cancer Institute, 171 Alexandras Ave., 115 22 Athens, Greece.

International Society of Chemotherapy--Sept. 17-22, Jerusalem. 16th congress. Contact KENES, PO Box 50006, Tel Aviv 61500, Israel.

Tumor Biology 89--Sept. 17-22, Freiburg, FRG. International Society of Oncodevelopment, Biology, and Medicine. Contact Prof. Dr. S. von Kleist, Institute of Immunobiology, Medical Faculty, Univ. of Freiburg, Stefan-Meier Str. 8, 7800 Freiburg, Federal Republic of Germany.

National Cancer Advisory Board Committee on Cancer Centers--Sept. 17, 6 p.m., NIH Bldg 31 Rm 7.

NCAB Committee on Planning & Budget--Sept. 17, 7:30 p.m., NIH Bldg 31 Rm 8.

NCAB Committee on Information & Cancer Control for the Year 2000--Sept. 18, 7:30 a.m., NIH Bldg 31 Rm 7.

National Cancer Advisory Board--Sept. 18-19, NIH Bldg 31 Rm 6, open 9:30 a.m.-1:30 p.m. Sept. 18, 8 a.m. to adjournment Sept. 19.

NCAB Committee on AIDS--Sept. 18, NIH Bldg 31 Rm 8, to start immediately following the closed session of the full board, probably about 5 p.m.

NCAB Committee on Environmental Carcinogenesis--Sept. 18, NIH Bldg 31 Rm 7, 6 p.m.

NCAB Committee on Minority Manpower--Sept. 18, NIH Bldg 31 Rm 8, 7:30 p.m.

Chemical Carcinogenesis--Sept. 18-22, Villasimius, Sardinia, Italy. 5th Sardinian international meeting. Contact Dr. A. Columbano, Istituto di Farmacologia e Patologia Biochimica, Via Porcell 4, 09100, Cagliari, Italy.

La Prevention, le Depistage et l'Information en Cancerologie: Les Obstacles Psycho-Sociaux--Sept. 19-21, Montpellier, France. Contact Centre Regional de Lutte Contre le Cancer, 34094 Montpellier, Cedex, France.

Neoadjuvant Therapy and Upper Gastrointestinal Cancer--Sept. 20, Cleveland. Contact Ronald Bukowski MD, Cleveland Clinic Cancer Center, 9500 Euclid Ave (T33), Cleveland, OH 44195, phone 216/444-6825.

Oncology Social Work: A Clinical Focus--Sept. 21-22, Clearwater Beach, FL. Florida Society of Oncology Social Workers sixth annual conference. Contact Linda Scott, FSOSW Conference Chairperson, H. Lee Moffitt Cancer Center & Research Institute, PO Box 280179, Tampa 33682, phone 813/972-4673.

Cancer Care: Increasing the Odds--Sept. 21-22, Atlantic City, NJ. Contact Richard Attilio, Comprehensive Community Cancer Center, Allentown Hospital-Lehigh valley Hospital Center, 17th and Chew Streets, Allentown, PA 18104, phone 215/776-8880.

Cancer Update--Sept. 22, London. Myeloma and paraprotein-aemias. Contact Conference Centre Manager, Royal Marsden Hospital, Fulham Road, London SW3 6JJ, UK.

Biology and Clinics of Breast Cancer--Sept. 25-27, Genova, Italy. Joint NCI-IST meeting. Contact E. Campora, Istituto Nazionale per la Ricerca sul Cancro, Viale Benedetto XV, 10, 16132 Genova, Italy.

Molecular Mechanisms and their Clinical Application in Malignancies--Sept. 26-27, Toronto. 12th annual Bristol-Myers Symposium on Cancer Research. For information phone 416/333-43330.

Symposium on Tumor Targeting--Sept. 28-30, Brussels. 50th anniversary of Jules Bordet Institute. Contact Administrative Secretariat, ECCO, Rue Vilain XIIII, 17a, B-1050 Brussels, Belgium.

Gynecologic Cancer Update--Sept. 28, Allentown, PA. Contact Sandra Smith, Allentown Hospital-Lehigh Valley Hospital Center, 17th and Chew Streets, Allentown, PA 18104, phone 215/778-2582.

FUTURE MEETINGS

Breast Cancer: Current Research, Practice and Controversy--Oct. 6, Chapel Hill, NC. Contact Nancy Barnes, Office of Continuing Education, Campus Box #7000, Univ. of North Carolina, Chapel Hill 25799, phone 919/962-2118.

Blood Cell Growth Factors: Their Biology and Clinical Applications--Oct. 8-12, Capri. Sponsored by "International Journal of Cell Cloning," 4100 S. Kettering Blvd., Dayton, OH 45439; and International Menarini Foundation. Organized under auspices of the Hipple Cancer Research Center.

Living with Cancer--Oct. 31, New York. Conference on survivorship sponsored by the Oncology Nursing Education Committee of Columbia-Presbyterian Medical Center. Contact Columbia Univ. Comprehensive Cancer Center, 701 W. 168th St., Rm 1424, New York 10032, phone 212/305-6905.

Melanoma: State of the Art Research--Nov. 8, Chicago. Illinois Cancer Council conference. Contact Patti Jelen, Coordinator, ICC, 36 S. Wabash Ave. Suite 700, Chicago 60603, phone 312/346-9813.

Multidisciplinary Management of Bronchogenic Carcinoma: Advances and Controversies--Nov. 11, Cleveland. Contact Betty Olson, Education Coordinator, Ireland Cancer Center, Univ. Hospitals of Cleveland/Case Western Reserve Univ., 2074 Abington Rd., Cleveland, OH 44106, phone 216/844-7858.

Comprehensive Care in Pediatric Hematology/Oncology--Nov. 16-18, Orlando. Contact Cindi Butson, Florida Assn. of Pediatric Tumor Programs Seminar, PO Box 13372, Gainesville, FL 32604, phone 904/375-6848.

American Radium Society--April 21-25, 1990, Scottsdale, AZ. 72nd annual meeting. Contact Suzanne Bohn, American Radium Society, 1101 Market St., 14th Floor, Philadelphia, PA 19107, phone 215/574-3179.

Critical Issues in Tumor Microcirculation, Angiogenesis, and Metastasis: Biological Significance and Clinical Relevance--June 4-8, 1990, Pittsburgh. Contact Hilda Diamond, Associate Director, Biomedical Engineering Program, Carnegie Mellon Univ., Pittsburgh, PA 15213, phone 412/268-2521.