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Another Feasibility Study For Women's Health Trial? Yes And No; It's 'Class Of 84's' Adieu

Is it yet another feasibility study for the Women's Health Trial? That is the question scientists and politicians are asking after last week's decision by the National Cancer Advisory Board to fund a $7.5 million

(Continued to page 2)

In Brief

Oncology Nurse Rumored For NCAB; Rosenberg To Give Karofsky Lecture; Fundraiser's $$ Short?

AN ONCOLOGY NURSE may be appointed to the National Cancer Advisory Board, the first ever to serve on the board, **The Cancer Letter** has learned. The White House appears to have finally made some decisions regarding replacement of some or all of the six members whose six-year terms expired last January, and the two positions open since last year. At least one candidate is awaiting clearance and was told to plan to attend the board's February meeting. . . . **STEVEN ROSENBURG,** NCI Surgery Branch chief, has been selected to delivery the 1991 Karnofsky Lecture at the annual meeting of the American Society for Clinical Oncology. . . . **STOP CANCER** Foundation may be running into trouble with corporations that made pledges to the fundraising effort but have failed to come through. Founder **Armand Hammer** has publicly promised NCI $7.5 million by the end of this year. . . . **INTERNATIONAL COUNCIL** for Cancer Research is sponsoring an International Conference on Cancer *Prevention, scheduled for* Feb. 12-13 in the National Library of Medicine's Lister Hill Auditorium. Current state of the art research and opportunities for international approaches to cancer prevention will be the focus of the conference. Registration ($150 which includes coffees and reception) is limited to first 200. Contact Veronique Malet-Dupont, phone 212/319-6920. . . . **ROSE KUSHNER** spent her last year updating her 42-page brochure, "If You've Thought About Breast Cancer..." Copies of the brochure are available from the Breast Cancer Advisory Center, P.O. Box 224, Kensington, MD 20895. . . . **LEUKEMIA SOCIETY** of America has set up a toll-free number for the public and medical professionals to request information about leukemia and related diseases. The number is 1-800-955-4LSA. . . . **ESTROGEN LEVELS** may account for the fact that breast cancer rates are six times higher in American women than in Japanese women, according to Ronald Ross, Univ. of Southern California School of Medicine. Ross's comparative study of postmenopausal women found estrogen levels significantly higher in Americans, a difference not completely explained by weight. Study was published in Sept. issue of "British Journal of Cancer."

Another Feasibility Study For WHT? Yes And No; 'Class Of 84's' Adieu

(Continued from page 1)

"preliminary phase" of the $106 million proposed Women's Health Trial.

The answer, as well as it could be gleaned from sources this week: Yes and No.

The preliminary, three-year phase was presented to the board as a necessary part of the 15-year WHT. In this phase, NCI will put out a Request for Proposals for a study coordinating center to develop the trial's protocol and address the feasibility of including minority women and women of low socioeconomic status. NCI will establish a policy board for the trial and issue RFPs for three clinical centers, including one at the coordinating center and two for recruitment of minority and low socioeconomic status women.

NCI had decided that, in order for the trial's results--and any subsequent dietary recommendations--to be relevant to most American women, the study population would have to be representative. The problem, according to Div. of Prevention & Control Director Peter Greenwald, is that scientists don't know how to do dietary intervention in anybody other than middle class white Americans.

"We feel the earlier studies established good compliance with well-educated mostly caucasian women. We don't have any information on the less educated and other groups," Greenwald told the board.

But that explanation does not satisfy some. Rep. Patricia Schroeder (D-CO), who had lobbied for the trial, released a statement this week complaining that, "We've heard excuse after excuse over the years, and now the scientists had finally agreed that it was time to move forward with a full scale trial. Why did the NCAB step in and reduce this to a feasibility study? The feasibility studies had been done for the full scale trial. What's going on down at NIH?

"Congress had expressly mentioned this study in both authorizing and appropriations language," Schroeder continued. "Congress will be interested to know why this study has been derailed."

DCPC Board of Scientific Counselors Chairman Edward Bresnick told **The Cancer Letter** that far from being derailed, the study can now proceed through the necessary first phase.

"It's not another feasibility study," Bresnick said. "The Women's Health Trial feasibility study was for middle class white caucasians. That doesn't mean you can take a group of individuals who are not middle class and not white, or even middle class and not white, and perform the same intervention. It is a feasibility study in part with the minority and low income groups.

"The argument posed at the Board of Scientific Counselors was, if you are going to do a feasibility study [for the low income, minority groups], why not tack it onto the first year of the proposal. The NCAB said, 'Let's do the first part.' It wasn't changed from what the BSC approved. It was always meant to be sort of a phase-in study."

As for the amount of money approved, $7.5 million is less than the amount the BSC approved for the first three years of the full-scale trial, which was $3.3 million for the first year of protocol development, and $9 million a year in the second and third years for start-up of the trial.

Next question: Was it a victory for the Women's Health Trial, or does this action presage ultimate defeat in two or three years? Again, the answer depends on one's perspective.

Here's one perspective: "Given the public and Congressional concern about women's health and the inclusion of women in clinical trials, I just don't understand why the NCAB took this action," Schroeder said in her statement. "I hope that NIH and NCI will not accept this new recommendation, but will fully support and fund the Women's Health Trial."

Here's another: One year ago, the NCAB voted not to fund the investigator-initiated Dietary Fat Intervention Trial in Women. Last week the same board, with the same members, gave the go-ahead to the preliminary phase of the revamped WHT.

Many of the board members were, as Nancy Brinker put it, "puzzled and troubled" by the amount of money required for the full WHT.

The trial is NCI's version of the "big science" versus

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small, investigator-initiated projects debate now raging in other fields, particularly space science and physics.

"It does involve a large sum of money, and there is concern among a lot of scientists whether this is the best use of funds," Bresnick said. "If it were an add-on, it would be a different story. But the feeling among a number of investigators is, you are forcing to NCI to use its budget in a mandated study."

Bresnick said he understood the NCAB's concern about funding, but was "a little miffed" that the Women's Health Trial "keeps coming back to DCPC to do a 'Superstudy.' But now we have a clear mandate to go through phase 1."

Had it not been for the efforts of one NCAB member, Helene Brown, the board might not have given even that limited mandate.

After Greenwald had described the trial and the proposal for the "preliminary phase" at the board meeting last week, the board spent about a full hour discussing the trial. Some board members had suggested the trial be put off for months or years until more information could be obtained on dietary intervention in low income and minority populations.

Board member Samuel Wells, Washington Univ., recommended that NCI spend at least the next few months gathering information and come back to the board's February meeting.

Board member Erwin Bettinghaus, Michigan State Univ., predicted that, "after two years, the study will cease." He explained that dietary intervention "will be very difficult to do in this particular group [low income and minority women]. Maybe we can find some bright new approach that we don't know about, and I think it's worthwhile trying."

Board Chairman David Korn resumed the meeting after a coffee break ready to entertain motions.

"Suppose the board were to express the sense that there be a detailed presentation in February of the implementation of the first three-year phase of this...and give the board some sense of understanding and comfort about this?" Korn asked.

At that point, Brown went on the offensive. "You're very likely to have a brand-new board in February," she said, noting rumors that the White House has picked replacements for the board's six-member "Class of '84," including Brown, whose six-year terms expired earlier this year. In addition, two other vacancies on the board may be filled. "Putting an issue like this on the table at a board meeting with the possibility of eight new members is a very big item."

Brown argued that the preliminary phase would provide Hispanic and black groups the opportunity to respond to an RFP on diet. "I know that in Los Angeles the Hispanic population has a low-fat diet...Sure, the food is going to be quite different...But I think you have a very distinct opportunity to learn something by putting out an RFP that would enhance the ability of some Hispanic groups to enter into this diet-cancer problem. I think the same from the black population in the U.S., many of whom are talking about the subject of diet and cancer. Again, you are going to open up something to a group of people that may have an opportunity now to come on-line and give you some really good information on whether it is feasible to be part of a trial like this when it gets off the ground...

"You have to write an RFP and it's going to have to be written by people from the Afro-American community and the Hispanic community who really do know the dietary habits. That's a very worthwhile thing to look at, as long as we're looking at diet. So I think, you're going to have to put these things out into the marketplace.

"I am willing to take a chance, as we do in all of research, to see whether some practical applications can come out of these steps. Therefore, I move that we approve, or however we do it, telling the Board of Scientific Counselors, the willingness of this board to approve an amount not to exceed 7.5 million, to do the things you have outlined.... At the same time, do whatever we have to do to ensure that what the BSC passed in terms of $106 million does not take place until the report on the expenditure and evaluation of these dollars for these purposes comes back."

Enrico Mihich, also "Class of '84," seconded the motion.

Board member Louise Strong, whose term also expires this year, asked for a clarification that the preliminary phase be separated from the trial, "so that if for various reasons it does not look like it could go into a widespread trial, we can say we have accomplished certain things...and so that we have a defined project with certain endpoints, but we are not necessarily billed as going into a full-scale trial in the view of all of the political pressure that surrounds this issue."

Further discussion focused on the trial's ethics. Board member John Durant and Div. of Cancer Treatment Director Bruce Chabner questioned whether allowing a control group to maintain a diet with greater than 30 percent of calories from fat is ethical considering federal guidelines recommend a low fat diet.

"I would say that if that's not ethical, then in my view some other trials sponsored by NCI are not

ethical," Greenwald said, naming the smoking trials and others for which NCI does not have enough money to offer intervention to everyone.

"To do what you're saying is a $200 million trial, not a $100 million trial," Greenwald told Chabner.

"But that's the right way to do the trial," Chabner said.

"You would not have a trial," Greenwald said. "To do nothing, in my view, is also a decision and I think you have to consider the ethics of that."

The board voted, with one abstention [ex officio representative Ralph Yodaiken, Labor Dept.], to do something.

'Final Draft' Of NIH Financial Plan To Be Discussed At Dec. 18 Meeting

The decade of the 1990s will be marked by increasing opportunities for scientific research, but only "measured growth" in federal funding, a fact that the biomedical research establishment "must confront," according to the NIH financial management plan mandated by Congress.

The plan is now in "final draft" form and is slated for public discussion at a meeting of the NIH Director's Advisory Committee on Dec. 18 (NIH Bldg. 31 Rm 10, 10:45 a.m.).

A copy of the plan obtained by **The Cancer Letter** sets a conciliatory tone with Congress: "Substantial Congressional appropriations for NIH over the past decade have supported significant growth of the national biomedical research enterprise," the plan says. "Expansion in support for NIH programs, growth in the number of highly trained, skilled investigators and increases in the number of research awards have resulted in notable scientific accomplishments and many new lines of investigation.

"The biomedical research community is entering the 1990s with unprecedented opportunities for new discoveries which will improve human health. In the coming decade, we must confront simultaneously the economic realities of genuine and substantial increases in the costs of conducting biomedical research and the prospect of only measured growth in funding."

Following the Dec. 18 meeting, a final document will be prepared for the NIH advisory councils and boards and then submitted to Congress, according to John Diggs, NIH deputy director for extramural research, in charge of developing the plan.

According to the plan:

▸Beginning in FY 1991, NIH will begin to move the average length of research project grants to four years.

Each institute and center will have the flexibility to develop their own portfolios by awarding a mix of three- and five-year grants, by emphasizing four-year grants, or by a combination.

▸Cost management measures will be taken to ensure that the average cost of research project grants increases in consonance with the Biomedical Research and Development Price Index.

[The Biomedical Research and Development Price Index is estimated by the Dept. of Commerce and measures the effects of price changes in costs associated with personnel, equipment and supplies used in biomedical research. The index is generally 1 to 2 percent higher than the Consumer Price Index or the price deflator for the Gross National Product.]

Initial review groups will continue to provide advisory councils and NIH staff with advice on the relative scientific merit of a project as well as the appropriate support level and duration. But, the plan said it is inappropriate to involve IRGs in judgements over indirect costs.

"If, however, the IRG recommended reductions are insufficient to meet NIH cost management objectives, institute and center staff, with advice from their councils/boards, shall assume the major burden of cost control by making further adjustments to grant budgets at the time each competing award is made.

"NIH recognizes Congressional concern over arbitrary, across the board budgetary reductions. However, to hold cost increases in line with the biomedical price index, institute and center staff will need to adjust the initially recommended amounts so that, on the average, competing grants in one year will not increase by more than the biomedical price index over the previous year. This can be partially accomplished by a more precise cost analysis of the IRG recommended budget figures. At the same time, different grants as well as separate categories of grants may be adjusted by different amounts based on program considerations and scientific relevance."

When recommending for award grants near the payline, advisory councils will be asked to provide an assessment of the benefits and total costs of a grant. It is "critical" that quality research not be sacrificed "in the interest of awarding low cost grants."

Future year funding of each grant will be indexed to the first year's level plus an amount for programmatic escalation, which currently is 4 percent. "This will provide stability and predictability to the commitment base for the successive years of the grant. It is critical, however, that sufficient funds be appropriated to support the commitment base."

NIH also suggests establishing the indirect cost rate negotiated for the initial year of a grant for all years

of the grant. That action would require approval from the HHS Secretary.

▸**The concept of "approving" grant applications will be abolished and the success rate will be adopted to** reflect the ratio of applications funded to applications reviewed.

Congress demanded that NIH "eliminate the situation where 95 percent of applications are approved of which only half are really considered as deserving of support." Under the plan, NIH will eliminate the category of "approved but unfunded" applications.

NIH proposes that review groups and councils "'not recommend for further consideration' any application that does not merit funding under any circumstances." Other applications would receive a score and percentile ranking. The bottom tier of applications would not require review by advisory councils; however, councils would have the discretion to single out specific applications "on an exceptional basis."

The success rate--the rate derived by dividing the number of awards by the total number of applications reviewed--would be used to report funding ratios. NIH officials have predicted that the "success rate" for FY 1991 would be 33 percent under this scenario.

▸**Research training will be supported at the levels recommended by the National Academy of Sciences** to the extent possible without jeopardizing NIH's ability to provide increases in trainee stipends.

NIH will seek to increase trainee stipends by 2.4 to 9.4 percent, depending on years of experience and disparities with corresponding in-house salaries.

NAS recommended that the real growth in the training program should be 3.5 percent a year from 1989 to 1993. NIH said it "will make every effort" to support its share of the 13,794 combined NIH and ADAMHA trainee positions recommended for FY 1991. If funds are lacking to support a stipend increase and positions, NIH will give priority to stipend increases.

▸**The growth of research and resource centers will be managed by the amount of NIH appropriation available** for centers rather than by establishing a ceiling on the number of centers.

Congress had recommended a cap on the number of centers, but NIH said it jeopardizes flexibility. "It should be noted that some of the increase in number of centers is directly attributable to specific Congressional directives to establish new centers."

▸**Funding for "other mechanisms" will be increased to reflect inflation.**

"Other mechanisms" includes other types of research support; in addition, NIH included discussion of funding for the Office of the Director and maintenance and repair of NIH facilities, in its financial plan.

NCI Willing To Assist Proponents Of Therapies, But Won't Divert Funds

The "burden of proof" of the efficacy of an unconventional cancer treatment rests on the proponent, but NCI is willing to assist practitioners in developing data to support their claims, the institute has said in response to a Congressionally mandated report.

However, NCI will not establish a "separate track" for the special evaluation of unconventional cancer treatments that would serve to divert funds from meritorious research.

The NCI statement was in response to the September report by the Congressional Office of Technology Assessment on unconventional cancer treatments (**The Cancer Letter,** Sept. 28). The National Cancer Advisory Board last week approved a 12-page response to the 300-page OTA report.

The OTA report, NCI said, presented "a long list of initiatives which in many cases would be difficult, time consuming and costly to implement. In some cases, valuable resources would have to be diverted away from promising ongoing cancer research. Care must be taken to ensure that all funding decisions are based on careful, documented scientific rationale, and that efforts to test the efficacy of unconventional treatments do not undermine the principle of funding based on scientific merit."

NCI stressed that it operates from "a level playing field" and that any proponent of any therapy is welcome to contact NCI's experts for advice on preparing data for peer review.

OTA's recommendations were called "options" and were listed under four major groupings. The options and the NCI response follow:

Options to broaden the base of information on the use of unconventional cancer treatments in the U.S.:

▸OTA recommended that NCI conduct studies on the characteristics and motivations of cancer patients who use unconventional treatments, that this could be done in SEER areas where incidence data is already collected.

NCI said previous attempts and studies have found that there are "several significant problems" in conducting such studies. First, it is difficult to identify patients who are currently on unconventional treatment. "Many practitioners using unconventional therapies specifically request that patients not respond to a survey researcher. Often the patients are not aware that the therapy offered is an unproven or

unconventional treatment," NCI said.

▸OTA recommended that NCI conduct "utilization studies" to determine the types of unconventional treatment used in the U.S.

NCI responded that, again, there would be difficulties. "Of greater concern, however, is the suggestion that the extent of use of unconventional treatments should be a factor in priority decisions about clinical trials. The fact that considerable information is currently available through the American Cancer Society and the FDA should not be overlooked," NCI said.

Gathering and making available information on unconventional cancer treatments and practitioners.

▸OTA recommended that NCI could have the Cancer Information Service evaluated for adequacy and quality of the information it provides.

NCI said it has implemented a quality assurance program, called Cancer Information System Telephone Evaluation and Reporting System (CISTERS), under which 4,000 test calls will be placed in a year and the quality of responses monitored. CIS logs over 500,000 calls per year; of those about 3,000 are regarding unconventional treatment, indicating, NCI said, that "the magnitude of the problem is not great."

Improving information on the efficacy and safety of treatments used by U.S. citizens.

▸OTA said NCI has a mandate to examine widely used unconventional cancer treatments, but that its activities in this area are not "formalized" and are reactive to outside pressure. NCI should screen components of unconventional treatments, OTA said.

NCI responded that its mandate reads: "[to support] the demonstration of new methods for the dissemination of information to the general public concerning the prevention, early detection, diagnosis, and treatment and control of cancer and information concerning unapproved and ineffective methods, drugs and devices for the diagnosis, prevention, treatment and control of cancer."

NCI's Investigational Drug Branch, of the Cancer Therapy Evaluation Program, has the overall responsibility for therapy evaluation and has procedures to evaluate agents.

Furthermore, NCI, through the Small Business Innovation Research Program, has funded a grant to develop a comprehensive database on unconventional cancer treatments, the NCI response said. The grantee plans to have a prototype of the system available by next May that would provide physicians on-line responses to questions about unconventional therapy.

▸OTA suggested that NCI develop specifications for a simple "best case" series that might be acceptable for peer review of unconventional treatments.

NCI responded that it tried to develop a best case series in 1978, prior to beginning clinical trials on laetrile, but the attempt failed because practitioners did not participate. OTA also attempted such a review of "Immuno-Augmentive Therapy" and failed. "These experiences provide a microcosm for the general difficulties and inability to carry out best case studies of unconventional treatments," NCI said.

However, such an evaluation could be successful if it were a "good faith effort" by all parties, NCI said. CTEP is developing a short, easily comprehendible paper on cancer clinical trials methodology, which will lay out the procedures for the development of a best case series. Any practitioner could follow the procedures to provide anecdotal information about patients who might have experienced an antitumor benefit from an unconventional therapy.

▸OTA said NCI could fund and small group of consultants who are experts in evaluation methodology to advise unconventional practitioners.

NCI's response: "Currently all proponents of cancer therapies have the same access to NCI's experts. NCI practices on a level playing field for all proponents, and NCI staff are available to provide technical assistance. Currently the staff of the Regulatory Affairs Branch and the Investigational Drug Branch function as the main contact point for information about filing INDs or having compounds tested. They also advise on clinical trial design and methodology and can provide guidance on assembling best case reviews. CTEP is also willing to evaluate data on unconventional treatments and provide recommendations for future development and guidance for a study design and its conduct."

▸OTA recommended that NCI or another agency could fund a project to evaluate unconventional treatments. A review committee should include mainstream scientists and unconventional practitioners.

"It would be difficult to define the parameters of this type of project and to reach consensus in a review committee composed of such diverse groups," NCI commented. In addition, NCI would have to justify the rationale for funding unconventional therapies when so much meritorious research in the regular grant pool cannot be funded. More importantly, it would establish a "separate track" for unconventional therapy, which undermines the concept of a "level playing field," NCI said.

"The preferred solution is to encourage the proponents of unconventional treatments to interact directly with CTEP to develop data which would

support the conduct of trials through NCI's established clinical trials mechanism or which could be used in the submission of a grant request," NCI said. "This approach has been used successfully for hydrazine sulfate, an agent which many considered unconventional. A small randomized trial of chemotherapy with or without hydrazine sulfate provided data that supported the initiation of definitive trials through NCI's Clinical Cooperative Group program."

▸OTA recommended that the federal government maintain a registry for reports of documented tumor regressions following unconventional treatment and for regressions occurring without any treatment.

NCI commented that this sort of registry "would further knowledge" about spontaneous regression and it could be done by CTEP if it were inexpensive. However, the analysis of a registry "would be even less reliable than the best case analysis," NCI said.

▸OTA recommended that the federal government maintain a registry for reports of adverse effects of unconventional cancer treatments. NCI noted that such a reporting system exists through FDA.

Making available information on legal sanctions against practitioners and health fraud related to unconventional cancer treatments.

▸OTA said little information is available to the public on practitioners of unconventional cancer treatments who have been convicted of practicing medicine without a license and that this information would be useful to patients.

NCI said it provides such information in response to inquiries "when information is available," but that this is not the National Cancer Program's mission. FDA, state health departments or local medical societies might more appropriately carry out this function.

Wynder, Weinberg Head Recipients Milken Foundation Cancer Awards

Ernst Wynder's research which demonstrated the link between lung cancer and cigarette smoking, and his subsequent efforts in preventive oncology, "probably will save more lives than all of us put together in the next 20 years," Gerald Rosen commented in introducing the winner of the Distinguished Clinician prize at the Milken Family Medical Foundation Cancer Research Awards presentations.

Wynder, president of the American Health Foundation, and Robert Weinberg, professor of biology at Massachusetts Institute of Technology, each received $250,000, the largest cash prizes in the world exclusively for cancer researchers. Weinberg received the Distinguished Basic Scientist award for his work in oncogene research.

The Milken awards, presented for the third year, total $800,000 including the two major prizes and six of $50,000 each to scientific and clinical cancer investigators.

"The Milken Family Medical Foundation Cancer Research Awards program is a significant step toward greater recognition of the value of professionals in the field of cancer research and will also encourage the most outstanding cancer investigators to continue to dedicate their careers to the leadership of cancer research and the education of future generations of investigators," Rosen said. Rosen, director of the Cedars-Sinai Cancer Center in Los Angeles and scientific director of Salick Comprehensive Cancer Centers Inc., is chairman of the awards selection committee.

Weinberg was recognized for significant strides in oncogene research which included demonstration that oncogenes play a role in human tumors. He also discovered the first recessive oncogene playing a role in human tumors causing inherited childhood malignant retinoblastoma.

"Due to the work of a large number of laboratories, we have achieved dramatic insights into the genetic causes of cancer," Weinberg said in accepting the award. "I am confident that by the year 2000, several forms of cancer will be vanquished."

Wynder said that his award "is a singular honor for me personally, but more importantly for the field of preventive oncology. Prevention is an important part of clinical oncology." He commented that "we can prevent cancer long before we understand its mechanisms" and insisted that "cancer is not an inevitable part of aging. The true art of medicine is prevention."

Wynder gave credit to his colleague, Dietrich Hoffman, AHF deputy director, as his longtime collaborator and partner.

Wynder is a pioneer of modern epidemiology as it applies to cancer causation. His first research linking lung cancer and cigarette smoking appeared in 1950 in the "Journal of the American Medical Assn." He initiated the practice of metabolic epidemiology and furthered the concept of interdisciplinary research in cancer etiology and prevention.

Winners of the $50,000 scientific investigator awards:

* Owen Witte, professor of microbiology and molecular genetics at UCLA's Howard Hughes Medical Institute.

Witte first identified that the unique tyrosine kinase activity of the Abelson murine leukemia virus oncogene was responsible for its malignant potential. His group later showed that a closely related oncogene, BCR-ABL, was critically involved in the genesis of several kinds of human leukemia including chronic myelogenous leukemia. His laboratory has been a leader in the development of tissue culture techniques for the study of blood cell development and malignant transformation.

Witte said that the award "is quite humbling. It caused me to step back and wonder what have we really done for cancer patients. There is a lot more to be done."

* Stuart Aaronson, chief of the Laboratory of Cellular & Molecular Biology at NCI's Div. of Cancer Etiology.

Aaronson's pioneering discoveries have demonstrated that genetic alterations causing cells to become malignant involve the constitutive activation of genes normally involved in growth factor signaling pathways. The initial discovery of the normal function of an oncogene derived from his cloning and characterization of the v-sis oncogene, which was shown to encode a molecule closely related to the platelet derived growth factor.

Aaronson said he had made the decision to work in cancer research because he felt it was the best way he could "do things to help people."

* Michael Gottesman, chief of the Laboratory of Cell Biology in NCI's Div. of Cancer Biology, Diagnosis, & Centers.

Gottesman, in close collaboration with Ira Pastan, chief of DCBDC's Laboratory of Molecular Biology, has identified the human gene responsible for resistance of cancer cells to many of the most common anticancer drugs and has shown that this gene encodes a protein which acts to pump drugs out of drug resistant human cancers.

Gottesman said that "Ira Pastan made all this work possible," and he noted that many of the past and present Milken award recipients "are at NCI. With your support, we can continue our research there."

Winners of the $50,0000 clinical investigator awards:

* Thaddeus Dryja, associate professor of ophthalmology and associate surgeon in ophthalmology at Massachusetts Eye and Ear Infirmary.

Dryja's major research has been in molecular genetics of hereditary eye diseases, with emphasis on retinitis pimentosa and associated retinal degenerations and retinoblastoma.

Dryja said that the Milken award to him was like the farmer who won $1 million in a lottery. Asked what he would do with the money, the farmer said, "I'll keep farming until it's all gone."

* Waun Hong, professor of medicine and chief of the section of head, neck, and thoracic medical oncology at M.D. Anderson Cancer Center.

In building a program for head, neck, and lung cancer patients, Hong has carried out research on development of chemopreventive approaches to prevention of cancers of the aerodigestive tract. He is also involved in development of new therapeutic strategies for preserving the larynx.

Hong said the most rewarding aspect of the award was the "recognition by peers of the value of the research we are doing."

* Robert Ozols, chairman of medical oncology at Fox Chase Cancer Center and former investigator in the Medicine Branch of NCI's Div. of Cancer Treatment.

Ozols is internationally recognized for his work in ovarian cancer. His research focuses on how cancer cells develop resistance to anticancer drugs and on strategies for overcoming that resistance. He has developed new clinical approaches to treating ovarian cancer patients, using high dose chemotherapy and pharmacologic techniques to reverse drug resistance.

Ozols said that while he was "overwhelmed" by being selected for the award, "I wish it was for curing ovarian cancer. Eventually we will. At NCI, Bob Young [then chief of the Medicine Branch and now president of Fox Chase] taught me a lot about ovarian cancer, most importantly that it will be cured."

Members of the awards selection committee in addition to Rosen were Samuel Broder, Alex Fefer, Emil Frei, David Golde, James Holland, Philip Leder, John Macdonald, and Lois Murphy.

Final Issue Of The Year; Staff Will Scatter, Tape And Fax Stay

This issue of **The Cancer Letter**, Number 48 of Volume 16, is the final issue of 1990. The next issue, Volume 17, Number 1, will be dated Jan. 4, 1991.

Some **Cancer Letter** staff members will scatter for holiday preparations and R&R starting Dec. 15, and the office will be closed Dec. 22 to Jan. 2. All of us may be contacted by leaving messages either live or on tape, as the case may be. We will check the phone answering machine daily.

News items, subscription orders, and other important documents will be welcomed by our fax machine (202/543-6879) at any hour, every day.

Best wishes for the holiday season and New Year.