THE CANCER LETTER

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Preserve NCI's Role In Applied Research And Its Unique Environment, Chabner Says

Shortly before he left the NIH campus, Bruce Chabner sat down for an interview with ***The Cancer Letter****.*

Chabner, the former director of the NCI Div. of Cancer Treatment, now heads the Div. of Hematology and Oncology at Massachusetts General Hospital, Harvard Univ. Chabner is also the clinical director of the hospital's cancer center.

The interview was conducted on April 27 by editors Kirsten Goldberg and Paul Goldberg.

The Cancer Letter: You've been at NCI for 26 years. You've said you love this place. As you're leaving, what are your concerns?

CHABNER: I'm concerned about the people here. I want to see them supported and continue to have this unique environment for doing research. I don't want to see that lost.

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In Brief

Advisory Committee On Women's Health Chartered; CALGB Lists New Address

ADVISORY COMMITTEE on Research on Women's Health has been chartered to advise the NIH Office of Research on Women's Health. The mandate of the committee is to advise the ORWH director on enhancing women's health research, ensure that women are included in NIH-supported studies, and improve opportunities for women in biomedical careers. The committee held its first meeting April 24-25. Members of the committee are: Dyanne Affonso, Emory Univ; Kathy Albain, Loyola Univ.; Carol Aschenbrener, Univ. of Nebraska Medical Center; Byllye Avery, National Black Women's Health Project; Mary Berg, Univ. of Iowa; Edward Brandt Jr., Univ. of Oklahoma Health Sciences Center; David Brown, Univ. of Minnesota; Linda Burhansstipanov, AMC Cancer Research Center; Carola Eisenberg, Harvard Medical School; Sheryle Gallant, Univ. of Kansas; Lou Glasse, Vassar College; John Greene, Univ. of California, San Francisco; LaSalle Leffall Jr., Howard Univ. Hospital; Marianne Legato, Women's Health Specialist; Amelie Ramirez, Univ. of Texas Health Science Center at San Antonio; Gloria Sarto, Univ. of New Mexico; Marjorie Shultz, Univ. of California, Berkeley; Nancy Sabin Wexler, Columbia Univ. . . . **CANCER AND LEUKEMIA GROUP B** Central Office has a new address and phone effective May 15: 208 S. LaSalle Street, Suite 2000, Chicago, IL 60604-1104, tel: 312/702-9171, fax: 312/345-0117.

Chabner: "I Want To See A Balanced Program Continue"

(Continued from page 1)

CL: Are you saying it's being lost?

CHABNER: I think we're going through a lot of uncertainty. And it's not clear where things are going to settle, what the new equilibrium is going to be.

Particularly, I think for the clinical people and the people involved in applied research—drug development and pharmacology, clinical trials—there is more uncertainty.

I have no doubt that people doing basic research here are going to be generously supported, and a very high quality of research is going to continue to be done. Probably even better quality than we've had in the past.

We've lost some very good basic people over the last five years, and there is a rebuilding job to be done, and I have no doubt that that will get done under the new leadership.

What I'm worried about is the clinical part, and applied part of the research program here.

CL: What makes you worried?

CHABNER: I think the NIH leadership is not as familiar with that as they are with the basic part of it, and the new leadership of the Cancer Institute is unlikely to come from the clinical area.

We are facing cutbacks here. The cutbacks are likely to occur where people have the least confidence and are least familiar with the work.

There is a philosophical issue here, too. NIH as a whole, I think, is shifting its focus toward basic biology, and less toward categorical diseases.

In the process, the things we've done for the past 20 years are probably going to be less important.

THE CANCER LETTER

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CL: Is that where things should be going?

CHABNER: It's a philosophical argument. One can certainly acknowledge that the progress we've made in terms of treatment has been important, but not overwhelming.

An alternative approach is to invest everything—or most of everything—in basic research, hoping that you'll come to some fundamental understanding that will allow you to cure things or prevent things in a more global way. It's a matter of philosophy.

We've tried to have a balanced program here for the past 25 years. The progress has been very rapid in basic research in the past 10 years. Now there is tremendous pressure to take advantage of this progress in basic research by investing everything in it.

What concerns me is that—having been on the outside now for three weeks—I see how hard it is to do applied research outside.

There is virtually no drug discovery going on in academic centers. It's difficult to do trials and to do innovative research. There is increasing pressure on research dollars. Hospitals don't have the money to invest in it. The biotechnology companies are in tough shape.

This place is unique in having the resources to do it.

Drug Development Unique At NCI

CL: You're saying that there is nobody out there to step up to the plate—in terms of clinical research and drug discovery—if NCI is to abandon that role.

CHABNER: Well, I'm trying to create that sort of a place where I am.

But there are not many places in the country where that's going on. There are a few large cancer centers, and the people who run those places are having a hard time keeping things together.

CL: Shouldn't there be a strong federal role, then, as a central resource?

CHABNER: I think so. But whether NIH sees it—you know, again the philosophy. Is the best investment in NIH dollars in a balanced applied versus basic program? Or is it in basic biology? Or is it in prevention?

Congress is telling us that they want to spend lots of money on prevention. They've invested large amounts of new money in prevention over the past year, basically taking it away from treatment.

Frankly, I don't see great opportunities in prevention right now. I don't think there is an adequate

scientific base in prevention. It may be here 10 years from now, but the kinds of things that can be done right now with this expansion of prevention dollars are pretty limited.

I don't think you're going to prevent much cancer through research in retinoids and dietary manipulations.

CL: Can there be another Taxol, and if so, where will it come from?

CHABNER: I'm not sure we're going to have another Taxol. It's going to be, probably, quite a different drug.

CL: Who would develop it?

CHABNER: Good question. I will be able to answer this question much better about three months from now.

Up until April 1 [*Editor's note: the official date of Chabner's retirement as DCT director*], I had a hard time talking to people in the industry about what they were doing. There are a lot of interesting biologicals out there, particularly thrombopoietin, which I think will make a difference in patient management.

I'm very eager to get involved with testing drugs such as the farnesyl transferase inhibitors—those are the drugs designed to block the RAS oncogene developed in colon cancer and pancreatic cancer.

The way NCI approaches drug development is different from industry.

At NCI, you have the flexibility to follow ideas without worrying whether you are going to make half-a-billion dollars a year on it. You're much more willing to take a chance on drugs than the outside world.

And the decision-making process here involves scientists and clinical investigators. In companies it involves the whole management structure, which at the top may be lawyers and business people, and people who really don't have a great scientific interest in what's going on.

CL: So, if anything, there should be a stronger role for NCI?

CHABNER: I think the NCI program is complementary. It's a place for small companies to go. It's a place for people with unusual ideas to go. It has the flexibility to do things industry might not try.

It has a very good and unique natural products program, which I hope will continue.

These things are even more obvious to me than they were three or four weeks ago, or months ago.

On the other hand, there are terrific biotechnology companies out there doing very interesting things. Being on the outside, I'll have a better chance to work with the biotechnology industry and the pharmaceutical industry.

CL: Here is what you said in your final remarks to the DCT Board of Scientific Counselors:

"Is the mission of the Cancer Institute to prevent and cure cancer best accomplished by a substantially greater investment in basic research at the expense of current targeted programs such as drug discovery and development, cooperative groups, the cancer centers and other translational research programs? This debate will surely proceed in the next few months."

You threw out the question. How do you answer it?

CHABNER: My answer is, I want to see a balanced program continue. I think it's important to have these other elements.

Clinical research outside is in sad shape. It really is. It's hard to get funding for clinical research. We are emphasizing basic science so heavily that people tend to do very basic research. If you are trying to be a clinical investigator, getting funding is very, very difficult.

At MGH, Goal To Build Clinical Faculty

CL: Would you give us an in-a-nutshell picture of what you will be doing at Massachusetts General.

CHABNER: I am trying to build a good clinical faculty there and attract good young people who do competitive laboratory work.

My priorities in terms of building the research program are: clinical pharmacology, so we can test new drugs; clinical genetics, because I think genetics is going to be extremely important in the next 10 to 20 years. And then, hopefully, I can attract one or two really good clinical investigators who do state-of-the-art basic research in the laboratory, but have a clinical interest—people who are interested in vaccines, immune modulation, gene therapy.

There are two or three young people I'm talking to who have those interests.

Those are the basic things. I can't afford to do much more than that. There already are some very good people there. Surprisingly, some of the strongest people don't even work in hematology and oncology. They're in endocrinology or gastroenterology. They are very willing to cooperate.

The other advantage we have is that we will work

closely with Brigham [and Women's Hospital] and, likely, with Dana-Farber [Cancer Institute]. Our clinical programs will be strengthened because of that relationship. Also, we have access to people working in the labs in these institutions.

The other place of strength for us is [Massachusetts Institute of Technology], which is right across the street, and several of our people are working in laboratories there.

It's a very good research environment, and MGH doesn't have to pay for most of it. The MIT part is simply a collaboration. Dana-Farber and Brigham are very well funded, good places. We have our own cancer center, which has excellent people.

CL: So you will be getting close to duplicating some of the aspects of what is done at NCI.

CHABNER: I guess that's right. There is a much greater emphasis on genetics there. One of the mistakes the Cancer Institute made in the last five years was not getting much more involved in cancer genetics in the late '80s, early '90s. I was an advocate for that, but it just didn't happen.

There are a variety of reasons. I think we missed an opportunity, and the resources went to the [National] Center for Human Genome Research. It could have happened here at this Institute.

It's not a disaster that it's a separate place. But I think NCI missed an opportunity to build a very important research program or go in a new direction.

Concerns About Intramural Program

CL: What do you think have been the accomplishments of DCT during your tenure?

CHABNER: I think we've trained a lot of terrific people. We trained something like 16 cancer center directors, and I don't know how many heads of clinical oncology programs. That was probably the single most important product.

The second is a lot of very good innovative clinical research, some of which has paid off with significant benefits to patients.

The HIV programs, the gene therapy program, Steven Rosenberg's lab [NCI Surgery Branch], some of the clinical trials. Certainly 20 years ago, the lymphoma trials. The initiation of combination therapy in breast cancer and ovarian cancer were very important things. Most recently, Taxol has been the most important thing we've done.

CL: What are your concerns about DCT?

CHABNER: What it will look like two years from now.

CL: What do you fear the most?

CHABNER: I fear that it's going to be split into intramural and extramural components. I think that will be a significant disadvantage, particularly if they try to do drug development.

The cooperation between the intramural and extramural people has been critical in making this intelligent effort and incorporating new science into the screening effort, and getting people to try drugs that come through the screen.

There's a very active interest in the drugs that are coming out, and people here are willing to test them on patients. I think that would be very difficult if the programs are split.

I'm also worried how the intramural program is going to be managed. It would be a disadvantage for it to be managed by a person who doesn't understand clinical research.

CL: What would be your advice to the next NCI director?

CHABNER: My advice? Oh, God.

I guess it would be to be aware of some of the very fine people who are here, and to listen and talk to them, and give them an opportunity to flourish, and not to make arbitrary decisions without talking to the people who are actually doing the job.

I'm referring specifically to the potential split of the intramural and extramural programs.

CL: Any other pitfalls?

CHABNER: Realizing what's going on outside, it's inevitable that the intramural program is going to get smaller.

There is so much difficulty outside in getting funding for research. This place is going to be subjected to enormous pressure to downsize. There are very, very good people outside who are not getting funded.

While I think the mission of the intramural program is so important that we should give it a break, it's hard for us to continue to justify the size of the intramural program as it existed 10 years ago, or five years ago.

The idea that we could keep all those resources is probably not going to fly.

CL: Do you think those are appropriate resources?

CHABNER: I think they are appropriate only if the laboratories and clinics are extraordinarily productive. They've got to be doing something unique, and they have to be the best in their field.

I think the quality of intramural research is very,

very good. But I don't think all of it is extraordinarily good..

CL: It's the responsibility of the extramural advisors to tell you how well you are doing. Does the site visit process need to be more rigorous?

CHABNER: I'm very proud of the site visit process that was put in place here. I think the whole thing can be dealt with by realizing that if the program downsizes, you have to save the really high quality stuff. Most people know where the quality is here, and where we have problems.

CL: Where are the problems?

CHABNER: There are not many. Most of the people are very high quality. I think we need to take a careful look at the size of some of the programs. *And that may be the major issue.*

Unfortunately, in the government it's hard to fire people. You can cut back, but it's pretty hard to really fire people.

Taxol Case: "Distorted In Congress"

CL: We have seen you go up to Capitol Hill many times, speaking for NCI. What do you take back from the controversy over Taxol?

CHABNER: I thought there was some substance to the issues raised; it occurred at a time when there were significant drug price increases that were probably not justified. But the specific case of Taxol was badly distorted in Congress. It became a political issue.

It was construed inappropriately as a give-away, when in fact the company [Bristol-Myers Squibb] did a fantastic job of getting the drug out there and marketing it.

They are making money on it—no question. On the other hand, people have access to it, and there are programs for indigent access. The price was not out of line with what other drugs cost at the time. They didn't have patent protection on that drug, and they will probably have a very short period when they are the only seller of the drug.

CL: It must feel different to be in the hot seat, as you were, from being at the press table. What was it like?

CHABNER: It was exasperating. It was frustrating. It made you lose confidence in the political process.

There were times when staff people involved on the Congressional side told me, "Don't take it personally. We really like you. We really think you're doing a great job. This is just the way things are—the politics of the situation."

Yeah, don't take it personally that we are beating you up. You lose respect for people who do things like that. My reaction to some of the people involved in the [National Surgical Adjuvant Breast & Bowel Project] investigation is the same.

CL: If we could stay on the Taxol issue for a little while, there was a picture painted of the naive NCI giving away this valuable commercial property.

CHABNER: But at the time it was licensed, it wasn't a valuable property. No other American company wanted it. It was a big problem. You had an insoluble drug which had limited activity. And which you couldn't make. And you had to cut trees down to get it. It was no bargain.

Now that everybody knows it's a terrific drug, it's a different story. But back when it was licensed, this wasn't the case. This company was buying a potential albatross.

CL: So there you are: you hit the jackpot and get dragged to Congress, and get beat up for it.

CHABNER: It doesn't make you feel fulfilled. At one of the hearings we had with Sen. David Pryor [(D-Ark.)], one of the citizens' lobbies put up numbers that had no relationship to reality.

They were parading around with placards that made it sound like NCI had discovered everything and given it all away to industry. It's irresponsible. It makes you wonder.

CL: Do you think NCI did a good job of responding to that?

CHABNER: Well, you know, that's not our business to deal with the public in the PR arena. We're not very good at that. It's almost like having a competing circus.

When Barnum and Bailey comes to town, NCI doesn't have its own troupe to send out to try to attract attention.

CL: Should it?

CHABNER: No, I don't think so. I don't think it's necessary.

Most congressmen are very responsible, and they want to do the right thing. But when these issues get into the hands of ambitious and maybe amoral staffers, they can do a lot of damage.

The first hearing on the NSABP was an absolute circus.

NSABP: "Badly Managed By Everybody"

CL: What do you take back from the NSABP controversy? How did it look from the hot seat?

CHABNER: Again, it was badly managed by everybody involved, including us [NCI]. I think the newspapers were irresponsible. The Congressional investigators were ruthless and irresponsible, and tried to make a disaster out of something that was really not a disaster.

The NSABP leadership was slack in dealing with data monitoring. It was a big disadvantage, and they looked bad.

They had a potential scandal on their hands, and when you look at the way they were doing business, they neglected to do all the things that were necessary to ensure the accuracy of the data.

There were reasons. They were rapidly expanding the [Breast Cancer] Prevention Trial. They were riding the crest of some positive studies, and they felt that research was the number one priority, and not data management.

Still, they didn't do a good job of ensuring the accuracy of their data. When the ax fell, and people looked carefully at how they were doing business, they couldn't stand much scrutiny.

It was very unfortunate that Dr. [Bernard] Fisher [former chairman of NSABP] was portrayed in a poor light by this. But I think he didn't respond very well, either.

CL: As a management issue, shouldn't NCI have worked harder earlier?

CHABNER: I think NCI was lax in enforcing the rules. We tried, but we didn't do a very good job. We should have been certain that Dr. Fisher published his reanalysis immediately. We gave him slack. We believed that there was no change in the conclusions, and didn't push it as hard as we should have.

Things got out of hand after the Congressional hearings started.

I think the issue of misconduct is very questionable. I think Dr. Fisher's intentions were reasonable. He made mistakes, but I don't think [the misconduct charge] was warranted. But that wasn't my decision.

Dr. Fisher gave a long speech after I left [the NSABP annual meeting in San Diego last March], in which he said there was a conspiracy involving NCI, Univ. of Pittsburgh and [Rep. John] Dingell [(D-MI), then chairman of the Subcommitte on Oversight and Investigations of the House Energy & Commerce Committee] to undermine him and make him the fall guy.

If there was a conspiracy, I certainly didn't know about it.

CL: Wasn't there a meeting before the second Dingell hearing?

[*Editor's note: On May 31, 1994, less than two weeks before Dingell's second hearing on NSABP, NCI officials, Dingell staff and officials from the Univ. of Pittsburgh held a meeting on the NIH campus.* **The Cancer Letter**, *Aug. 12, 1994*]

CHABNER: There was an evening meeting in May, right. I was there, but I didn't hear any deal made at that meeting.

There was a transition, certainly, between the first and second hearings. [Following the first hearing,] Broder said [Dingell's subcommittee] decided that we're not the bad guys after all. It was Fisher's ineptitude—Fisher's neglect—that was the issue.

CL: Is it fair to say that Fisher was the fall guy in this?

CHABNER: Was he? I think you're a fall guy if you didn't do anything wrong and you get blamed. He didn't manage that group very well. On the other hand, he did some brilliant things scientifically. So, it's a mixed thing.

CL: You're a fall guy when you're accused of something you didn't do.

CHABNER: I guess you're a fall guy when you lose your position inappropriately. I think that his stepping down and becoming the scientific director of NSABP rather than the chairperson was an appropriate decision, because he wasn't sending us information on time.

NSABP held on to information. They weren't concerned about us knowing, and we really needed to know. The St. Mary's case was clearly in their files, and had been known for six months, and nothing was done about it. We found it when we went up there. I don't think there was any way with the degree of public concern and public scrutiny that was going on that [Fisher] could continue to be the chairman of the group.

He could have functioned thereafter as scientific director, and he actually had accepted that job. He was willing to have another person in charge of the management of the group.

I think the decision to remove him from the scientific directorship and to charge him with misconduct was much more difficult to justify. [*Editor's note: In May 1994, NCI rejected a proposal by NSABP to create a position of scientific director, to be held by Fisher. At the same time, NCI initiated a misconduct investigation against Fisher.* **The**

Cancer Letter, *May 6, 1994. Fisher was named NSABP scientific director earlier this year.* **The Cancer Letter,** *March 17.*]

Lessons In Crisis Management

CL: If we were to look back at the way NCI reacted to it—and this is just a view from the sidelines—one sees an organization made dysfunctional by this whole thing.

CHABNER: Yeah, you're right. It was.

CL: In what way?

CHABNER: The way to deal with this kind of situation is to let the staff manage it.

CL: And that was not done?

CHABNER: And that was not done.

CL: Do you feel that you were out of the loop? Were you prevented from doing what you thought was right?

CHABNER: It wasn't a matter of being prevented from doing what was right. I didn't have the opportunity to do what I thought was right.

CL: And the right thing, in your opinion, would have been to—

CHABNER: I think we should have let Dr. Fisher stay on as scientific director.

And, frankly, my testimony would have been different. If you look at the hearings, I hardly said anything. I had to sit there and listen.

CL: I think the view on the outside is that NCI let Congress walk all over it.

CHABNER: Yeah. The hearing came out as: "Bernie Fisher took advantage of us, and that will never happen again."

CL: Because we won't let anyone take advantage of us ever again?

CHABNER: No, we're the sovereign.

CL: Do you think a stronger statement should have been made?

CHABNER: I think we should have said: The NSABP leadership and NCI staff didn't do a good job of managing the group. But the study stands. It's been corroborated by numerous other studies. We'll examine it piece-by-piece and report back to you on it, but we have faith in this study. It's wrong to dismember the group and to blemish the reputation of Dr. Fisher, who's made extraordinary contributions. The public has no reason to question or fear that the results are not accurate.

That has certainly been borne out since then.

CL: Let's say this crisis was mismanaged by someone on top. Are there checks and balances of some form that could keep it from happening again?

CHABNER: Nobody really knew how to deal with it, because the political arena is so different, and we don't have access in the same way as Dingell does to the newspapers. His staff were feeding documents to the papers—any document they wanted, and they could create a hysterical reaction.

That's why the residual angry feelings and frustrations that I have over this are not going to go away. But that doesn't mean I would have done any better managing it on my own. If I had been left to my own devices, I'm not sure it would have turned out any better.

CL: What is the damage from the NSABP controversy, in terms of clinical research, in terms of cooperative groups? Is there damage?

CHABNER: It's getting less and less with time. NSABP was shaken to the roots, and I hope it can function again. I think it will. The rest of the cooperative groups are functioning fine.

Unfortunately, [the NSABP controversy] didn't have what I would hope to have been a desired effect, and that is, that in picking the next leadership of this institution, people should think very hard about [the leadership's] relationship to people doing clinical trials.

Will the new NCI director and his staff understand trials? Do they support them? Do they have a working relationship with the people doing the trials?

I'm afraid that those questions were not foremost in the minds of the people picking the next director.

Getting back to my original point: A situation like that requires some sensitivity to who is doing the research and how much confidence you have in them. You have to depend on a staff that knows and understands, and can respond. You can't micro-manage this from up top. I think that's a lesson we all learned.

CL: If we were to boil it down further, in terms of handling these crises, what is there to be learned by the next NCI director?

CHABNER: I think there are a lot of things to be learned. Number one, don't panic. Have confidence in your staff and the investigators. And realize that anything that comes out of this is going to be distorted, amplified and over-played in the press.

And you are just going to have to take it.

"A Fantastic Time For Cancer Research"

CL: How about the prospects for cancer research, in general? Where do you see things going?

CHABNER: Well, if we had more resources, it's a fantastic time.

We've got absolutely superb young people trained in basic research, clinical people who—if they are given the opportunity and support—will be able to apply what they are doing to the problem of preventing and curing cancer.

We have never had a better opportunity to make progress. It's very encouraging that almost without exception, people in the best scientific labs around the world are thinking about cancer and how their work applies to cancer.

Even people doing endocrinology or diabetes or whatever it is—receptor work—any kind of molecular, cellular biology, DNA repair—all sorts of things. People working on fruit flies are finding genes that are involved in cancer.

Everybody is thinking about cancer and trying to understand how their work relates to cancer. This is a very exciting time. It's just a matter of keeping the whole thing together so that we can make some meaningful applications to the disease.

And that means having the ability to turn this into drugs and clinical strategies.

CL: And that's the role of NCI?

CHABNER: That's the role of NCI, and of places like Mass General.

RFP Available

RFP NCI-CN-55104-63

Title: **Microsimulation Model For Colorectal Cancer Screening**

Deadline: Approximately June 19

NCI Div. of Cancer Prevention and Control, Applied Research Branch, is soliciting proposals for the Microsimulation Model for Colorectal Cancer Screening. This project is to develop a computer-based simulation model which will be a useful aid in the systematic evaluation of evidence, from randomized controlled trials and other sources, on the efficacy and effectiveness of various approaches to colon cancer screening.

The following tasks will be necessary: 1) Substantial new programming work will have to be done to address the complex issues in colorectal cancer screening; 2) The initial values of model parameters (including distributional specifications) need to be developed; 3) Exploratory calculations will be performed with the initial version of the model. Extensive sensitivity analysis will be performed to identify the parameters that are most crucial in determining the cost-effectiveness results for the various tests; 4) Continued and more refined analysis of key natural history and screening test parameters will be conducted by using the model to simulate existing RCT, case-control and other screening studies; 5) The end objective of the project is to have a functional quantitative model which will describe those aspects of the colorectal cancer screening which are currently believed to be important and produce estimates of effectiveness and cost effectiveness of various screening policies and programs.

Contract Officer: Tina Huyck, NCI RCB, PCCS, Executive Plaza South Rm 635, 6120 Executive Blvd MSC 7226, Bethesda, MD 20892, tel: 301-496-8603.

RFA Available

RFA CA-95-012

Title: **Investigator Grants For Clinical Cancer Therapy Research**

Letter of Intent Receipt Date: Sept. 1

Application Receipt Date: Oct. 20

The Cancer Therapy Evaluation Program and the Biological Response Modifiers Program of the *NCI Div.* of Cancer Treatment invite research grant applications to conduct therapeutic clinical trials research employing new agents, concepts, or strategies for the treatment of cancer. This initiative is aimed at encouraging new clinical investigators who have not previously had independent grant funding to submit research applications in this area. Approximately $2 million in total costs per year for four years will be committed to fund applications. Ten new awards will be made.

Inquiries: Diane Bronzert, DCT, NCI, Executive Plaza North Rm 734, Bethesda, MD 20892, tel: 301/496-8866, fax: 301/480-4663, email: bronzerd@dct.nci.nih.gov

Program Announcement

PA-95-056

Title: **Biobehavioral Pain Research**

The purpose of this PA is to inform the scientific community of the interests of the various institutes at NIH and to stimulate a wide range of basic and clinical studies on pain as it relates to the missions of these Institutes. Applications using the R01 and R29 mechanisms, as well as the R03 mechanism by some institutes, are encouraged to study individual differences in pain responses that may be due to factors such as genetic differences, endocrine activity, neural activity, immune function, psychological state, disability state, age, gender, and cultural background. Research is also needed in areas such as understanding the neuro-anatomical pathways and the neurophysiological mechanisms in pain. The pain experience needs to be examined at all levels of research including the gene, molecule, cell, organ, and individual with the goal of developing biobehavioral interventions to manage or prevent pain.

Inquiries: Mary Lucas Leveck, National Institute of Nursing Research, Natcher Bldg Rm 3AN-12, Bethesda, MD 20892, tel: 301/594-5963, mleveck@ep.ninr.nih.gov