

## Working Group: Restructure NCI, Improve Review Process, Encourage Independence

*The Working Group on the NCI Intramural Program has recommended an overhaul of the Institute's organizational structure, including the separation of intramural and extramural functions into separate divisions.*

*In part three of the report, the group critiques NCI's existing organizational structure, and recommends reorganizing the Institute's five divisions into two intramural and four extramural divisions. Parts four and five discuss problems of quality assurance and tenure policy, and recommend improvements in those areas.*

*The opening sections of the report were published in the July 7 issue of **The Cancer Letter**. The remaining sections will appear next week.*

(Continued to page 2)

### In Brief

#### **NCI's Katz Named Director, Arthritis Institute; Hayden Promoted At Bristol-Myers Squibb**

**STEPHEN KATZ**, chief of the NCI Dermatology Branch in the Div. of Cancer Biology, Diagnosis and Centers, has been named director of the National Institute of Arthritis and Musculoskeletal and Skin Diseases. The appointment is effective Aug. 1. Katz succeeds Michael Lockshin, acting director, and Lawrence Shulman, the founding director of the Institute. Katz, a dermatologist and immunologist, will maintain his position at NCI. His studies of Langerhans cells and epidermally derived cytokines have demonstrated that skin is a critical component of the immune system. He has made seminal discoveries in the field of inherited and acquired blistering skin diseases. He joined NCI in 1974 as a senior investigator in the Dermatology Branch, became the acting branch chief in 1977, then chief in 1980. . . . **DONALD HAYDEN JR.**, vice president and general manager of Bristol-Myers Squibb Oncology/Immunology, has been appointed to the new position of president of the company's Pharmaceutical Group Oncology/Immunology business. He is responsible for the management of the medical, sales, marketing, regulatory, new business development and planning areas for the Oncology/Immunology business in the US. He joined Bristol-Myers Squibb in 1981. . . . **AMERICAN RADIUM SOCIETY** named its officers for 1995-96 at its annual meeting last month in Paris, France. The officers are: President, **Robert Byers**, M.D. Anderson Cancer Center; president-elect, **H. Rodney Withers**, Univ. of California, Los Angeles; secretary, **Thomas Griffin**, Univ. of Washington; and treasurer, **David Hussey**, Univ. of Iowa Hospitals.

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. . . Page 2

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. . . Page 4

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. . . Page 6

## **Bishop-Calabresi Committee Recommends Two Intramural, Four Extramural Divisions**

(Continued from page 1)

### **III Organization of the IRP**

The current organizational structure of the entire NCI is based on five divisions, the directors of which report to the NCI Director. These are the Division of Cancer Biology, Diagnosis, and Centers; Division of Cancer Etiology; Division of Cancer Prevention and Control; Division of Extramural Activities; and Division of Cancer Treatment. Each division includes three to five programs (with the exception of the Division of Extramural Activities, which has five branches). The programs are in turn divided into laboratories and branches, and these are further subdivided into sections. The IRP presently contains 57 laboratories and branches. All but the Division of Extramural Activities have both extramural and intramural programs.

In addition to the strictly intramural program, there are two additional major programs that serve the IRP in some way. First, there is a substantial body of so-called "in-house" activities, though they are formally extramural in nature. These comprise mainly contracts awarded to the Frederick Cancer Research and Development Center and, in particular, to the Applied Biosciences Laboratories at Frederick, a freestanding, government-owned, contractor-operated research facility. Second, there are a series of extramural contracts awarded to provide logistical support for the IRP.

Seven large administrative offices also report to the NCI Director. The Director is advised by the NCAB and the President's Cancer Panel.

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### **Strengths of the Current Structure**

The Working Group recognizes the justifications and strengths of this organization: it accommodates the relatively large size of NCI and its IRP, allows for intimate interactions between the extramural and intramural programs, is thematically comprehensive, and is responsive to legislative and executive mandates such as cancer epidemiology, prevention, and control.

### **Problems Raised by the Current Structure**

Whatever the worth of the current organizational structure, its evolution has not been one of coherent planning. Thus, the Working Group was not surprised to find that the structure has engendered multiple difficulties. Six organizational issues were identified that, unless addressed, will restrict the IRP's ability to perform its mission. While organizational changes cannot fully remedy entrenched administrative behaviors, significant changes should be made to reduce redundancy, streamline operations, promote collaboration, and optimize productivity.

**Evolution of an elaborate bureaucracy.** The current organization of the NCI IRP has evolved into an elaborate bureaucratic structure that has led to significant redundancy in management, with four lines of authority leading to the top. Many intramural scientists find this redundancy unnecessary and wasteful. The inertia of the system hinders the development of new scientific initiatives, inhibits collaboration, and allows the survival of unproductive programs.

**Intramural and extramural programs are supervised by the same individual within a division.** At any given time the attention and possibly the loyalty of the division director might be focused on only one program because of dual responsibilities. Division directors readily concede that the current system lends itself to advocacy of the IRP among the leadership; and coping with the demands of the IRP is a ready distraction from the seemingly more remote issues of the ERP. Although the capacity exists to coordinate the activities of the extramural and intramural programs, the Working Group found little evidence of attempts in this direction and therefore little justification for overlapping administration. In addition, different skills and experiences are needed to manage the intramural program versus the extramural, further warranting their separation.

**The multiple divisions do not favor collaborative effort.** Some programs have evolved

into a fragmented feudal structure that is not conducive to collaboration or cooperation when the opportunity arises. Organizational units within different divisions have no motivation to share or collaborate, leading to intellectual fractionation.

**The current organization of laboratories and branches encourages redundancy.** The substructure of the IRP presently comprises 352 separate research groups, an appreciable number of which appear to be thematically redundant. At least 46 of these are sections that each house only a single ~ 1~ scientist. In contrast, some laboratories and branches are exceedingly large and only could be effective if most of the doctoral-level staff were acting with full independence. Similarly, the divisions are strikingly disproportionate in size. In particular, the Division of Cancer Prevention and Control has only a token intramural effort. These disproportions may not be inherently disadvantageous on intellectual grounds, but they do raise managerial issues of efficiency and efficacy.

In addition, the substructures of the divisions, and in particular the number and sizes of laboratories, branches, and sections have been determined as much by considerations of personnel as by strategic and tactical needs. Simply put, the easiest way to reward scientists in the IRP is to make them laboratory, branch, or section chiefs, even if that requires the creation of new organizational units. The Working Group recognizes that this feature, while not unique to NCI, has produced some particularly striking results in its IRP.

**Top-down scientific management.** The present organizational structure appears to impose top-down scientific management, which prevents ideas and suggestions for new directions from rising up from the ranks of young investigators, a common occurrence in extramural research laboratories (see also Part V, Stewardship Review and Tenure Policy in the IRP).

**Administrative burdens impede research.** It has long been a complaint of IRP scientists that administrative requirements impede, rather than facilitate, the efficient conduct of high-quality research. Often the individual responsible for administrative decisions that affect research programs has no experience as a scientist. IRP scientists report high levels of frustration about being "hamstrung" by overly bureaucratic personnel and procedures. The structure as it now exists has failed to cope with regulatory and administrative impediments to

research and technology transfer. The general view is that at least some of these impediments are remediable, but that the fractionation of administrative effort among the multiple divisions has thwarted finding the remedies.

### Summary and Recommendations

The Working Group believes that the current organizational structure of the IRP is unnecessarily complex and redundant, and potentially disadvantageous to the ERP. In addition, burdensome administrative requirements appear to deter IRP scientists from their missions in basic and clinical research and technology transfer. Therefore, the Working Group makes the following recommendations regarding the organization of the IRP.

1. The Working Group recommends full separation of the IRP and ERP.

2. The IRP and ERP should each have a single deputy director. There could be two additional deputy directors, corresponding to existing positions: a Deputy Director in the office of the NCI Director and a Deputy Director for Extramural Activities. All the deputy directors should report directly to the NCI Director.

3. There should be two divisions in the IRP: the Division of Cancer Etiology and Biology, and the Division of Cancer Prevention, Diagnosis, and Treatment. Each would have a single director. An Associate Director should oversee operations at Frederick. In adding the position of Deputy Director for Intramural Research (DDIR) and reducing the IRP to two divisions, the Working Group intends that the NCI DDIR and the two division directors would all sit on the NIH Board of Scientific Directors and the Executive Committee of NCI.

4. The ERP was formally beyond the purview of the Working Group. But having recommended that it become a fully separate entity, the Working Group suggests that it have four divisions, the Division of Cancer Etiology and Biology, the Division of Cancer Diagnosis and Treatment, the Division of Cancer Prevention and Control, and the Division of Cancer Centers and Training. The Working Group proposes that an advisory body similar to the BSC be constituted for the divisions of extramural research, but recognizes that such a recommendation is also beyond its purview.

5. The Working Group endorses the recommendation of the 1992 Task Force on the

Intramural Research Program for the establishment of an Administrative Policy Board chaired by the DDIR of NIH. It also recommends that NCI establish its own standing committee of scientists to review administrative issues and report to the DDIR of NCI. This committee should serve as a central advisory panel to evaluate the impact of administrative decisions on research and to advise the NCI administration on the impact of current regulations and requirements.

#### **IV Quality Assurance in the IRP**

No aspect of the NCI IRP is more important than quality assurance. The continued monitoring of research excellence is the only way possible to guarantee that performance remains at the cutting edge. In addition, quality assurance provides an *objective basis for allocating division funds and stimulates recognition of meritorious programs, especially those of young investigators.*

In its 1994 report the EAC [External Advisory Committee to the Director, NIH] reminded NIH that periodic peer review is crucial to the long-term excellence of all scientific institutions, including the IRP. The report stated, "The review process can be positive when it calls attention to deficiencies in time for them to be corrected. When improvement is not adequate, a review provides reliable justification for shifting resources from less productive to more productive scientists."

The EAC also recognized the importance that intramural scientists be judged on past achievements rather than future projects, as this distinguishes the intramural from the extramural program. This requires, however, that reviewers take into consideration the long-term nature of some of the intramural projects, thereby allowing adequate time to develop innovative programs of excellence. The Working Group strongly concurs with the principles as stated by the EAC and finds that they are entirely appropriate in considering processes of review in the NCI IRP. However, during the course of the Working Group's review of the NCI IRP, it encountered diffidence about, and even resistance to, both the recommendations of the EAC and the NIH Implementation Plan. Thus, the Working Group found it necessary to reconsider the issue of quality assurance within the NCI IRP.

Any consideration of quality control for the IRP must acknowledge its special circumstances: its mission to push the frontier of feasible experimentation; the commitment to retrospective

rather than prospective review; the privilege of relatively secure funding for individual investigators; the need to be nimble in response to national need and legislative or executive mandates; and the need for team approaches in some aspects of the IRP effort.

#### **Strengths of Current Processes for Quality Assurance**

The current process for quality assurance within the IRP accommodates many of the special features listed above. First, there is a formal structure for the review of all the activities of the IRP. Second, there have been efforts to improve this structure and its performance in recent years, which could now be augmented by the Implementation Plan of the DDIR of NIH. Third, there is an attractive *new tenure* system, as recommended by the Implementation Plan and in response to the EAC. And fourth, the NCAB provides a device for ongoing oversight.

#### **Problems with Quality Assurance in the IRP**

Despite concerted efforts by NCI to assure quality in the IRP, the Working Group found cause for concern. The review of programmatic performance has not been sufficiently rigorous or objective. Many members and some chairs of BSCs do not believe that the Boards have been effective. Their charges are vague, their utilization varies from one division to another, and their deliberations are typically rushed, superficial, and rarely proactive.

The Working Group encountered the same adverse opinion of the site visits used to evaluate intramural research programs. The selection of site visitors has been subject to cronyism, and the reviews and recommendations produced through the process tend to be muted.

The review process has given inadequate attention to the budgets for research programs and individual scientists, in part for want of adequate data. This has led to a lack of financial accountability on the part of investigators and NCI administrators and has increased the tendency of reviewers to conduct prospective, rather than retrospective reviews.

Lack of accountability and inadequate budget review has led to vast disparities in support provided individual investigators. The Working Group believes these disparities are not fully correlated with merit. The budgets for some laboratories within the IRP appear to have grown beyond any reasonable or effective level, yet do not seem to have been

scrutinized for cost effectiveness. To dramatize this point, the Working Group notes that at least 55 of the individual investigators in the NCI IRP have line budgets of more than \$1 million, and another 12 are just under that amount. While investigators in the ERP are subject to exceptional budgetary surveillance when their funding rises above a set amount, the same accountability is not required in the IRP.

In addition, lack of accountability has led to the formation of some NCI research programs that have escaped the current system of peer review. These programs were described as extramurally based but intramurally administered. It is essential that peer review be performed consistently throughout the various units conducting research.

*Finally, there has been no formal, consistent, and objective means of appeal for IRP scientists who have been the subject of adverse reviews. This deficiency, when combined with suspect site-review procedures, is particularly problematic.*

Previous advisory committees as well as NCI staff have stressed the importance of the unique research opportunities afforded in the NIH IRP. Even a cursory review of NCI intramural programs, however, shows that relatively few are unique in concept or implementation. Most programs have counterparts in the extramural community, and many intramural programs cannot even be considered the best in their particular field of inquiry.

The wisdom of retaining programs that are not unique, or at least outstanding compared with similar extramural programs, is questionable. To maintain state-of-the-art clinical and basic research at NCI, the programs must be periodically compared with the research that defines the "art," both inside and outside the IRP.

### **Summary and Recommendations**

Stringent review of the NCI IRP is needed now, more than ever, because of the institutional "aging" typical of most large organizations, the acceleration of cancer research, and budget constraints. It was not evident to the Working Group that review of scientists and senior administrators within the IRP is uniformly objective or that there is sufficient distance between the BSCs and the scientific directors to ensure objectivity in review.

The Working Group recommends that the procedures used to evaluate the IRP and its scientists be improved to encourage more objectivity and expertise on the part of reviewers, to reward

excellence and initiative, and to improve the diversity and morale of intramural investigators.

The Working Group recognizes the validity of retrospective review for the IRP. The excellence of the overall NCI program is built upon a variety of approaches to the management of research. Prospective and retrospective methods of evaluating research vary and encourage creativity in different ways. It is generally agreed that the overall performance of NCI is best served by retaining prospective review in the extramural program and retrospective review in the intramural program.

In order to ensure the best use of NCI funds, the Working Group believes that overall quality assurance needs to be improved. This requires changes in the way peer review is conducted for the IRP.

1. All research conducted by the IRP, whether in laboratories of intramural investigators or through extramural contracts serving intramural programs, should be subject to peer review administered by the DDIR.

2. Under the recommended revised organizational structure, there will be BSCs with oversight over intramural activities only. The BSCs should be substantively involved in the review of research in progress, budgets, setting of priorities and goals, and recruitment. These issues should be considered from the standpoint of individual investigators as well as the research programs of laboratories, branches, and divisions. To these ends, the BSCs should receive a clear written charge that specifies their responsibilities in detail, emphasizing the need for retrospective rather than prospective review and for oversight of budgets. The charge to the BSCs should be codified and standardized within the IRP.

3. Nominations to the BSCs should come from their sitting chairs, who may solicit recommendations from various sources. Nominations should then be discussed with the DDIR of NCI and the NCI Director, who has final appointment authority. Members should be appointed on the basis of their expertise and their ability to evaluate programs and personnel objectively. The BSC Chair should be selected by the DDIR of NCI and the NCI Director from past or current BSC membership.

4. Programs should be evaluated on the basis of past achievements, rather than future plans.

5. The Working Group believes that the use of site visits has not applied sufficient rigor in the evaluation of research in the IRP. Thus, the Working Group recommends abandoning the routine use of site

visits for such evaluation. Instead, written progress reports from investigators under review should be submitted to extramural reviewers (perhaps two per investigator) chosen by the DDIR of NCI in consultation with the BSC chair. The reports should include all publications from the period under review, descriptions of published and unpublished progress, explanations for lack of progress, and full information on budgets. All tenure-track and tenured scientists in the IRP should be subject to such review at intervals of four years. The extramural reviewers would receive written instructions about the nature of the review (in particular, that it is deliberately retrospective) and would be asked to submit written evaluations of the research progress and the budget. The evaluations would be used by the BSC in making a final recommendation, which would be reached by discussion followed by a secret ballot.

6. Extramural reviewers and the BSC should be asked to consider the cost of research, including contractual fees. Reviewers should be provided with the exact cost of each project and its component parts, including the costs of contracts used in support of intramural research.

7. Written reviews could be supplemented by site visits when a BSC questions the judgment of the written reviews for an individual or when the BSC concludes that significant changes in existing budgets are appropriate.

8. Should an investigator feel that the review of his/her program was flawed, there should be a formal, uniform process for rebuttal and appeal available to address the investigator's concerns. A mechanism for rebuttal and appeal should be established and administered by the DDIR of NCI. It should not involve individuals in a supervisory position to the investigator.

9. It is the impression of the Working Group that budgets for some individual investigators in the IRP have become excessive. The Working Group suggests that the NCI Director consider whether investigator budgets above a predetermined amount should undergo special review, as is now the case in the ERP of NCI.

#### **V. Stewardship Review and Tenure Policy in the IRP**

Quality in research requires more than rigorous review; it requires individual talent. It is vital that the NCI IRP sustain and regularly renew its scientific talent, through measures to encourage the creativity, independence, and welfare of its current staff, and

through vigorous recruitment to fill vacancies.

#### **Strengths of IRP Recruitment, Tenure, and Promotion Policies**

There are reasons to believe that the NCI IRP could readily meet the objectives of rigorous recruitment and support of intellectual talent. First, the appointment to tenure track in the IRP offers attractive resources to young investigators. The IRP should be able to exploit this in the recruitment of new doctoral-level staff. Second, the leadership of the IRP has been subject to at least a modicum of surveillance over the stewardship of talent and resources. Third, there have been recent and laudable grass-root initiatives directed toward the encouragement of doctoral-level careers for women and minorities underrepresented in the sciences.

#### **Problems in Recruitment and Stewardship**

Despite areas of excellence, the Working Group found deficiencies in the recruitment and sustenance of individual scientists throughout the NCI IRP. Perhaps the most troubling finding was a broad dissatisfaction with the general ethos within the intramural community. Scientists reported a hierarchical approach to research that is both intimidating and limiting to the development of independent investigators. Examples of this were found among section, laboratory, and branch chiefs. While this problem is not universal, it appears to be alarmingly prevalent, and seems to have escaped remedy by the division directors. As a consequence, at least some scientists find their independence repressed, or at least discouraged, and creativity is secondary to the programmatic needs of superiors.

The Working Group recognizes that the mission of the IRP includes research that requires a team effort. But there is no substitute for the creativity of individual scientists in the long term, and some portions of the IRP seem to have lost sight of this principle. Arguments in support of the hierarchical approach to research within the IRP appear to be self-serving.

Similarly, the NCI IRP has used poor practice in recruiting new scientists. Like any other research organization, the IRP, in order to remain competitive and on the cutting edge, must constantly renew its store of intellect and ideas through aggressive, rigorous, and open recruitment of new talent. Although recommendations of the EAC regarding recruitment have already been implemented, the

Working Group found evidence that all efforts are not being made to recruit young investigators with potential for independent research careers. Advertisements for tenure-track positions appear to be very narrow and designed to fulfill and sustain technical needs within existing programs. Vacancies at all levels have usually been filled by resident staff rather than through recruitment from the outside research community. This practice has led to an inbreeding of attitudes and failure to tap the full pool of biomedical talent available.

Once recruited, *intramural* scientists should be provided the opportunity to work in a setting that rewards excellence and creativity. The Working Group strongly endorses the new NIH-wide tenure policy which utilizes the judgment of senior NIH scientists rather than administrators. The system will have to be evaluated after some time, but the structure seems appropriate to meet previous concerns regarding arbitrariness, failure to recognize truly independent investigators, and the entrenchment of a reward system that favored those who followed the *direction* of laboratory chiefs rather than their own research paths.

The Working Group found little evidence of stewardship review at all levels of administration from laboratory chiefs to the Institute director. The current system permits dominance of laboratory chiefs in the scientific, budgetary, personnel, and operational issues faced by an independent investigator. This unchecked power allows laboratory chiefs to direct scientific operations toward their own line of research, thereby hindering the career development of independent investigators. There is little accountability required for administrative actions and too little attention paid to the role of laboratory chiefs in career development of junior faculty. Appointments to laboratory chief are rarely revoked. Individual investigators, particularly junior scientists, have limited opportunities to expand their research portfolios and increase their resources beyond those allowed and approved by senior management.

The Working Group believes strongly that the independence of investigators can never be fully realized until all tenure-track and tenured junior faculty have independent annual budget authority and are given the opportunity to compete for additional funds to develop new ideas.

Despite recent efforts across the NIH IRP to improve tenure and stewardship review, the Working Group identified lingering concerns. In particular, the

new tenure system has been greeted with resistance by some IRP supervisors. In addition, some IRP staff expressed concern that the new tenure system would not recognize the special difficulties that arise when research requires a team approach.

Finally, the NCI has historically paid inadequate attention to the barriers confronting women and underrepresented minorities in pursuing research careers within the IRP.

Recent studies have shown that women and minorities generally enter the IRP at lower salary and that their career paths have a lower trajectory throughout their time in the IRP. [Draft Report from the Resource Advisory Committee of DCBDC/NCI, 1995, and The Status of Intramural Minority Scientists, NIH, 1994.] Inequities at the lowest entry levels almost predestine an adverse outcome, for it is this early period in which the junior scientist must establish a track record, which will then justify additional resources and opportunities for advancement.

The Working group views these deficiencies in renewing and sustaining talent with great concern. They may represent the largest barrier to achieving and preserving excellence in the IRP.

### Summary and Recommendations

The Working Group encountered within the IRP an environment that is not conducive to independence on the part of younger scientists. The Working Group also confirmed the EAC findings that the IRP has failed to recruit new *talent vigorously* and that its policies for promotion of scientists have lacked rigor. In order to fulfill its mission, the IRP must consistently seek to renew its intellectual capital. Its scientists should be provided the opportunity to work in a setting that encourages independence and rewards both creativity and excellence. To sustain and renew talent in the IRP, the Working Group recommends the following.

1. The role of the laboratory and branch chiefs should be defined more explicitly. The Working Group views them as comparable to department chairs in academic settings. In that light, they should encourage and facilitate the independent development of the scientists under their supervision.

2. Stewardship reviews of laboratory and branch chiefs and scientific directors should be conducted by extramural committees selected by the BSC Chair and the NCI DDIR. Reviews should consider each individual in terms of success in recruitment and

mentoring, and in fostering the career development of independent investigators, the professional welfare of women and underrepresented minorities in the program, and the equitable allocation of funds. The reviews should be separate from any assessment of research performance and should seek the views of all individuals who are under the authority of the supervisor.

3. The Working Group recommends that laboratory and branch chiefs and scientific directors be appointed for renewable terms of five years. If a stewardship review is adverse, it should be repeated after one year. Two poor reviews would be cause for removal from the supervisory position.

4. The Working Group strongly supports the implementation of the new tenure system in the IRP and is confident that it will allow proper advancement of basic and clinical scientists.

5. Recruitment of excellent scientists at all levels of the IRP should be vigorously conducted, and competitions for positions should be fully open to scientists in the intramural and extramural communities. Primary consideration should be given to the abilities of the individual, rather than to fulfilling a particular need of the laboratory, branch, or section chief.

6. Independent investigators, tenure track and above, should receive fully specified budgets at the beginning of each fiscal year and should have full control over those budgets throughout the year. Any necessary rescissions over the course of a year should be accomplished in an equitable manner.

7. The Working Group believes that the NCI IRP should develop a cadre of talented young scientists who would establish their careers as independent investigators, but move on from the IRP to other institutions within three to five years. As a first effort, the Working Group suggests the establishment of an NCI Distinguished Fellows program, with awards made through a well-advertised national competition. The program would fund as many as 10 young investigators per year, with terms of no more than five years. Fellows would establish research groups of three to five individuals within select laboratories and branches. The program would be administered by the DDIR of NCI.

8. The Working Group recommends that NCI set aside approximately \$3 million annually for an open grants competition within the IRP of NCI. An average of 30 three-year awards of \$100,000 could be made for research above and beyond that already being

conducted in accordance with the programs reviewed by the BSCs. Review of proposals could be conducted by a trans-NIH committee administered by the DDIR of NCI. The awards would be intended primarily for young investigators, but available to any **tenure-track** or tenured investigator.

The funds should be used to develop new ideas and pilot programs with no programmatic specification. Funding should be considered supplemental to the investigator's programmatic research budget. It would become the responsibility of the investigator, with neither the competitively awarded funds nor the base funds available for reprogramming by the section or laboratory chief.

Should the grants program prove successful, the NCI might consider making the competition available to all intramural NIH scientists conducting research relevant to cancer.

9. The Working Group recommends establishing a program targeted for recruitment of women and minorities at all levels, and endorses plans to include women and minority representatives on search committees for tenure-track and tenured scientists. Suitable examples for recruitment plans can be found in the measures required of extramural training grants.

10. The Working Group recommends developing programs of mentoring for women and minority scientists within the IRP.

11. The Working Group urges that the stewardship review of laboratory and branch chiefs and scientific directors address issues of recruitment and advancement of women and minority scientists. There have been laudable efforts to examine the welfare of minority and women scientists throughout NIH and NCI. These efforts have generated explicit recommendations regarding *stewardship and stewardship review*. The recommendations of those reports could be easily implemented through the review of stewardship recommended above.

12. An ombudsperson should be appointed by the DDIR of NCI to deal with career advancement (as well as other concerns of women and underrepresented minorities) and administrative issues.

**The Cancer Letter** invites comment on the Working Group's report in the form of Letters to the Editors. Letters may be sent to: PO Box 15189, Washington, DC 20003, or e-mail: 73322.2044@compuserve.com.