

## News From the National Institute of General Medical Sciences (NIGMS)<sup>1</sup>

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### WHAT IS NIH DOING TO IMPROVE ITS SUPPORT OF NEW INVESTIGATORS? HOW DOES ABOLISHING THE FIRST INDEPENDENT RESEARCH SUPPORT AND TRANSITION (FIRST, R29) AWARDS ACCOMPLISH THIS?

Beginning with the June 1998 receipt date, NIH will no longer accept First Independent Research Support and Transition (FIRST, R29) applications. The announcement is posted on the NIH web site at <http://www.nih.gov/news/pr/nov97/od-21.htm>. This action is taken in a move to support new investigators and to improve their chances for continued success at long-term research careers.

Last year NIH Director Dr. Harold Varmus commissioned a trans-NIH working group to evaluate the success of new investigators in the present NIH system and make recommendations for support of this group in the future. The working group was co-chaired by Dr. Marvin Cassman, Director of the NIGMS, and Dr. Elvera Ehrenfeld, Director of the Center for Scientific Review. The committee included several members representing the scientific community. The group's report was presented to several groups at the NIH and in public forums, including the open session of the National Advisory General Medical Sciences Council (meeting minutes can be found at the NIGMS web site at [http://www.nih.gov/nigms/about\\_nigms/council.sept97.html](http://www.nih.gov/nigms/about_nigms/council.sept97.html)).

The working group identified several questions and evaluated relevant historical data regarding the R29 award compared to the R01 award. The R29 award has several significant features, most notably a budget that is limited to \$350,000 in direct costs over five years, with no more than \$100,000 in any one year. Another requirement is the commitment of a minimum of 50% effort for the principal investigator. The R01 is a regular research grant, which is a flexible and unrestricted award. Some selected questions the group asked and answers they found are listed below:

### ARE NEW INVESTIGATORS APPLYING IN LOWER NUMBERS?

No, but their median age has increased from 35 (in 1981) to 39 (in 1994).

### DO INVESTIGATORS APPLYING FOR AN R29 HAVE AN ADVANTAGE?

Yes, they have a significantly higher application success rate.

### DO R29 AWARDEES HAVE A LOWER PROBABILITY OF SUCCESS ON THEIR COMPETITIVE RENEWALS?

Yes, although not for the top 10% of the group. The second and third decile awardees are consistently less successful when compared to the R01 awardees.

### CAN NEW INVESTIGATORS GET AN R01 ON THE FIRST TRY (UNAMENDED)?

Yes, in the period from 1993–1995, approximately 60% did; however, in 1980–1983, over 85% did.

### HAS THE R29 AWARD INCREASED THE NUMBER OF NEW APPLICANTS OR PROMOTED THEIR RETENTION?

No, because although a higher proportion of R29 applicants receive awards initially, they have a lower success rate upon submission of their competing renewals.

The report of the working group also dealt with other issues, including the fate of M.D. vs. Ph.D. applicants (their success rates were comparable) and success of the mentored career (K08 and K11) awards (these were found to be very helpful to M.D.s with limited research experience). Those topics are thought to be of less interest to this readership and will not be covered in this column. The small grant (R03) mechanism was also evaluated (it was judged not to be helpful to new investigators), but it represents only a small number of grants across the NIH.

The working group recommended that the R29 award be abolished. It was their belief that the dollar amount was insufficient to support many research programs and keep them viable. Furthermore, the requirement that at least half of the principal investigator's total effort be dedicated to the R29 grant could be burdensome. The committee felt it would be far more valuable if "new investigator" status (defined to be someone who has never received a major research grant from the NIH) was clearly identified on an R01 application, and if initial review groups—the study sections—were instructed to expect less preliminary data from new investigators. It would then be up to the review system and the institutes' judgment to determine the dollar amounts of the awards. A reasonable budget and five-year duration of support were strongly encouraged.

The committee also expressed concern regarding the need to replace investigators leaving research. Historically, scientists have retired at a rate of about 8 to 9% per year. The group recommended new investigators be funded at a comparable rate, in order to ensure sustained health of the biomedical research enterprise. To promote stability, NIH has committed in FY 1998 to supporting at least the number of new investigators funded in the last fiscal year (1466 new awards), along with giving those grantees sufficient

<sup>1</sup> Future topics for this column: new NIH review scoring criteria, and your suggestions.

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funds to provide adequate research support. This will require judicious decision-making and distribution of financial resources. It is encouraging that NIH has just received an overall budgetary increase of 7.1%, the largest increase in over a decade.

In conclusion, NIH plans to support new investigators in the following ways in the future:

1. By encouraging review groups to consider that new investigators have less experience, both in terms of grantsmanship skills and in accumulated preliminary data, and therefore "give them a break".

2. By awarding grants to new investigators at appropriate rates, considering the loss of established investigators from the system (NIGMS is already reaching beyond its normal pay range to fund investigators who are new to the federal granting system).

3. By ensuring that dollar amounts awarded to new investigators are sufficient to substantially support the proposed research project.

4. By ensuring that the duration of grants awarded to new investigators is appropriate to support a laboratory that may just be getting fully staffed and up-and-running.