

The Future of Career Development Awards: How Will It Influence Mental Health Research?

TO THE EDITOR: We read with deep interest the special article in the Dec. 2006 issue by Thomas R. Insel, M.D., and colleagues regarding the state of affairs of the National Institutes of Health (NIH) funding. Indeed, as they point out, these are exciting times in biomedical research, with the promise of groundbreaking discoveries a tantalizing prospect for young investigators. However, the special article by Dr. Insel and colleagues left us disheartened because despite the fact that "[NIH] will be funding roughly the same number of grants as in 2006" (1, p. 2043), the National Institute of Mental Health (NIMH) has drastically cut its career development awards. These awards, so crucial to attracting young investigators, are so vital because they typically provide 5 years of funding, *including full salary support*. Simply put, these career awards provide a buffer period in which new investigators can become established and not worry about the incessant demands of applying for new grants as old ones near expiration. Although the biomedical research market will "realign" (1, p. 2044), Dr. Insel and colleagues minimize the cost this will inevitably entail to the public as many young investigators forego careers in mental health research.

Reference

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STEVEN K. ERICKSON, J.D., LL.M., PH.D.
New Haven, Conn.
Rochester, N.Y.
MICHELLE L. ERICKSON, M.D., M.B.A.
New Haven, Conn.

The authors report no competing interests.

Dr. Insel and Colleagues Reply

TO THE EDITOR: Drs. Erickson and Erickson are concerned about the costs to the public resulting from the downturn in support of NIH funding. As we enter the fourth consecutive year of subinflationary budgets for NIH institutes, we see the pain in many sectors of the biomedical research community, from new investigators applying for a first grant to senior scientists who are losing long-term support for a productive laboratory. The gap between supply and demand has become even more acute in the past year as success rates for most NIH institutes have fallen below 20%. To adapt to the decrease in funding in the current fiscal year, NIH has adopted several new pay policies designed to protect scientists who are most vulnerable (<http://grants.nih.gov/grants/guide/notice-files/NOT-OD-07-030.html>).

Each of the 27 institutes and centers at NIH faces somewhat different funding challenges. NIMH has had one of the highest investments in training, approaching twice the NIH mean. While success rates for research grants were falling from close to 30% to under 20%, NIMH support for training was growing at an unsustainable rate. Left unchecked, this imbalance between the pipeline and the payline would ultimately ensure that the Institute would not be able to support independent research by the generation of young investiga-

tors currently in training. To correct this imbalance, in 2004 NIMH initiated a plan to reduce the number of institutional training (T) grants and the number of mentored career (K) awards, with a goal of changing the training commitment from 10.5% to 8.6% of the total budget by 2010. From 2004 to 2006, the total number of mentored K awards dropped from 379 to 362. This is not exactly a "drastic" reduction, but it may feel draconian to a new applicant who finds that a grant with an excellent score is not funded. While there have been many excellent K awards that were not funded, 54 new mentored K awards were funded in 2006, ranging from basic neuroscience to services research. Moreover, the NIMH success rate for mentored K awards in 2006 was 27%, well above the success rate for research grants at NIMH. Note that last year the National Institute on Drug Abuse funded a total of 142 mentored K awards, and the National Institute on Alcohol Abuse and Alcoholism funded 58 mentored K awards, marking an increase in support and success rates well above success rates for research grants.

Drs. Erickson and Erickson are correct to note the importance of these awards for providing protected time for research training. Our challenge is to balance the funds committed to training with the funds available for research grants, ensuring that those in the pipeline will have an opportunity to become independent investigators. More than ever, as our special article noted, the current budget requires tough choices and careful planning. Drs. Erickson and Erickson remind us that these tough choices can create a new set of costs to the public.

THOMAS R. INSEL, M.D.
NORA VOLKOW, M.D.
TING-KAI LI, M.D.
Bethesda, Md.

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Readiness to Quit and Smoking Reduction Outcomes

TO THE EDITOR: We would like to contribute comments on the article "A Randomized Controlled Trial of a Smoking Cessation Intervention Among People With a Psychotic Disorder" (1) by Amanda Baker, Ph.D., and colleagues. First, the authors conclude that therapy procedures designed to enhance completion of smoking cessation intervention may enhance cessation rates in future studies. It is obvious that they seemingly attribute a higher smoking cessation or reduction to a dose-response effect of motivational interviewing and cognitive behavior therapy (CBT). However, some studies have shown that stage of change (2) is associated with compliance to the treatment program or clinical trial as well as final outcomes (3). Readiness to quit seems to play a key role in the prediction of smoking cessation or reduction, which is also evidenced in the article by Dr. Baker and colleagues, since they mention the extent of the stage of change in the pretrial and postbaseline periods. Indeed, the condition of compliance to a treatment program can be only considered as an intermediate outcome between readiness to quit and final smoking outcomes. It is also in accordance with the findings of our study, which is a randomized controlled trial of smoking reduction in inpa-

tients with chronic schizophrenia. The patients with a strong readiness to quit (preparator or contemplators) were 7.7 times ($p=0.003$) more likely to reduce smoking than those with a weak readiness to quit (precontemplators), with adjustments for covariates including severity of tobacco dependence, antipsychotics, and clinical symptoms. We conjecture that pretrial scores of the stage of change in the three treatment groups in the article by Dr. Baker and colleagues may be proportional to subsequent compliance to CBT sessions. Second, we would like to compare the preliminary data of our research with their article. In our study, 110 male participants (schizophrenia: 77.3%; schizoaffective disorder: 22.7%) who smoked an average of 16 cigarettes per day were recruited. The 7-day point prevalence of abstinence at 8 weeks postbaseline of our study was 0.9% versus 15%, and the percentage of smoking reduction larger than 50% was 11.8% versus 43.5%. Possible explanations for the discrepancies between our study and the study conducted by Dr. Baker and colleagues, respectively, could be the distribution of age (42 years versus 37 years), sex (male only versus both sexes), ethnicity (Chinese versus Caucasian), schizophrenia diagnosis (100% versus 54%), stage of change (mostly precontemplation versus mostly preparation), and different adjunctive interventions (brief psychoeducation versus CBT and motivational interviewing). The article by Dr. Baker and colleagues has shown that smoking reduction may be a reasonable outcome measurement among people with psychosis. In addition, we would like to emphasize that motivation may play an important role in predicting the success of smoking cessation.

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TSUO-HUNG LAN, M.D.
HSIEN-JANE CHIU, M.D.
BO-JIAN WU, M.D.
TZI-HUNG HUNG, M.D.
TSUNG-MING HU, M.D.
Hualien County, Taiwan

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Drs. Baker and Lewin Reply

TO THE EDITOR: Drs. Lan, Chiu, Wu, Hung, and Hu raise the important issue of the role of stage of change in adherence to treatment and treatment outcome in our smoking cessation trial, although evidence in support of the stage of change model is generally lacking (1). In our analysis of the baseline characteristics of our cohort (2), we reported that precontemplators and contemplators had significantly fewer lifetime attempts to quit compared with those at the preparation stage of change. Among the 147 smokers with a psychotic disorder

who were assigned to the treatment group, there were 14 precontemplators, 73 contemplators, and 60 at the preparation stage. On average, those at the precontemplation (mean=5.79 sessions) and contemplation (mean=5.74 sessions) stages attended one less treatment session than those at the preparation stage (mean=6.80 sessions) ($F=4.15$, $df=2,144$, $p=0.02$).

One of the key outcomes in our article was the smoking reduction status (i.e., whether or not participants had reduced their daily consumption of cigarettes by 50% or more, including abstinence, relative to baseline). Baseline stage of change was not significantly associated with smoking reduction status at 3, 6, or 12 months (for the cohort as a whole, nor among those receiving treatment). For example, among the treatment group, 28.6% of precontemplators, 31.5% of contemplators, and 31.7% of those at the preparation stage met our smoking reduction criterion at 12 months ($\chi^2=0.05$, $df=2$, not significant). Moreover, all of the associations between treatment status and smoking reduction status reported in Table 1 of our article remained statistically significant after controlling for baseline stage of change.

Although nicotine replacement therapy was only provided to participants during the 10-week intervention period, we assessed self-reported use of nicotine replacement therapy between the 6- and 12-month follow-up interviews ($N=272$). Likelihood of using nicotine replacement therapy during this period was associated with baseline stage of change (precontemplators, 12.1%; contemplators, 24.8%; preparation, 38.2% [$\chi^2=10.04$, $df=2$, $p<0.01$]). Additionally, there was no significant association between nicotine replacement therapy use during this period and intervention status (comparison group, 24.1%; attended fewer than five sessions, 31.3%; attended five to seven sessions, 35.9%; attended all sessions, 30.9% [$\chi^2=2.65$, $df=3$, not significant]).

In summary, among our cohort of smokers with a psychotic disorder, we found the stage of change to be associated with the number of previous attempts to quit, the number of treatment sessions attended, and the subsequent use of nicotine replacement therapy, but not smoking reduction status. Thus, in our study, the stage of change does not account for the reduction in smoking reported, suggesting that the intervention (consisting of nicotine replacement therapy, motivational interviewing, and CBT) led to these changes. We propose that strategies to enhance engagement in treatment and the identification and delivery of effective treatments appear to be separate but important issues that need to be considered in parallel. Stage of change for smoking reduction may be a useful index of treatment preparedness, but it should not be the primary basis for initiating or changing treatment.

References

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AMANDA BAKER, Ph.D.
TERRY J. LEWIN, B.Com.(Psych)Hons.
Newcastle, Australia

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