

Biostatistics Funding: Opportunities from NIH

Keith Crank, ASA Research and Graduate Education Manager

Over the past couple of months, ASA Director of Science Policy Steve Pierson and I have been talking with a number of people in the academic biostatistics community. Two issues have surfaced as being of primary importance (in terms of the community's interaction with the National Institutes of Health): the need for more funding to train the next generation of biostatisticians and the need for more funding for methodological research in biostatistics.

The increasing demand for biostatisticians and the need for the development of new methods to understand biomedical data make these requests fairly obvious and worth supporting. But, according to the National Institutes of Health (NIH), there are opportunities available and the biostatistics community is not applying for them. See the related article by Michelle C. Dunn on Page 13 for information about one of these opportunities.

As I pointed out in the sidebar to my November *Amstat News* article, the National Institute for General Medical Science (NIGMS) supports predoctoral training through its Ruth L. Kirschstein National Research Service Award (NRSA) Institutional Research Training Grants (T32). (Other institutes also support biostatistics training grants.) In recent years, there have been few, if any, applications to NIGMS from the biostatistics community. (The next deadline is January 25, 2010.) For methodological research in biostatistics, NIH currently has a study section—Biostatistical Methods and Research Design, or BMRD—that was specifically established to review this kind of proposal. However, over the past year (maybe longer), the number of submissions has dropped significantly, and this study section is in danger of being merged with another.

The existence of these 'opportunities' does not mean all is well. There is a restriction to U.S. citizens or permanent residents for the training grants. This leaves out about 60% of the students who earn PhDs in statistics, broadly. And it leaves out all master's-level students, even though there is a need (and a strong demand) for people with that level of education. (U.S. institutions award about four times as many master's degrees in statistics as they do PhDs in statistics.)

The training grant proposals are reviewed by panels with expertise in a range of disciplines. Since the panels are chosen based on the expertise needed to review the proposals submitted, few of the panelists are biostatisticians. This means biostatistics proposals are not reviewed by biostatisticians. Increasing the number of general biostatistics training grant proposals to

NIGMS should force NIGMS to increase the number of biostatisticians on the review panel.

It is important for biostatistics programs to compete for (and receive) these training grants. The number of U.S. citizens earning a bachelor's degree in statistics from a U.S. institution increased by 40% between 2001 and 2005. There was a 60% increase at the master's level between 2002 and 2007. Because of the longer time it takes to earn a PhD, it is too early to determine whether PhD production will increase, as well. However, it is likely to do so, if there is funding support for these students.

Encouragement to go to graduate school also is coming from the Summer Institutes for Training in Biostatistics (SIBS) programs. Each program provides training in biostatistics for approximately 20 undergraduate students. The students must be U.S. citizens. Begun in 2004 at three institutions, this program will increase to eight institutions in the summer of 2010. The original three SIBS programs have been effective in getting about 60% of their students to go to graduate school, mostly in biostatistics or epidemiology. If the additional five programs are as successful, an additional 50–60 U.S. students could be added per year to graduate programs in biostatistics. If there is no funding to support their graduate studies, the value of the SIBS programs will be diminished. For more information about SIBS, visit www.nhlbi.nih.gov/funding/training/redbook/sibsweb.htm.

Our understanding is that there is a misconception among some members of our profession regarding how percentiles—the measures the NIH institutes and centers use to make funding decisions for R01 and R21 research grants—are determined for grants reviewed by the BMRD study section. All study sections assign a priority score (10–90) to each reviewed application reflecting the evaluation of scientific merit. For BMRD proposals, the priority scores are converted to percentiles based on only the priority scores given to other applications reviewed by BMRD in the current and previous two review cycles. Thus, concerns that BMRD scoring may put applicants at a disadvantage when compared to that for other study sections are unfounded, as NIH will have already adjusted for any discrepancies before it makes funding decisions. While there may be good reasons for requesting review by other study sections, general methodology proposals in biostatistics should be submitted to BMRD.

To contact me, send an email to keith@amstat.org. Questions or comments about this article are always welcome. ■