

## *A Report from ASPO*

# Strategies to Maximize the Competitiveness of Cancer Survivorship Grant Applications: A Report from the American Society of Preventive Oncology's Survivorship Interest Group

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## Introduction

In 2008, an estimated 1.4 million people will be diagnosed with cancer in the United States (1). More than two-thirds of these individuals will experience a "cure" due to improvements in early detection and treatment (2). Overall, the number of cancer survivors in the United States now exceeds 11.1 million (3) and increases ~2% annually (4). The cancer survivorship experience also touches untold numbers of survivors' families and friends.

As the cancer survivorship population has grown, so has our awareness of the medical and psychosocial challenges faced by cancer survivors (4, 5). Yet, the evidence base to guide survivors seeking to enhance their well-being and clinicians providing follow-up care remains limited (6-8). This diminishes our society's ability to reduce the \$130 billion annual cost of lost productivity due to cancer and premature death (2), much of which is attributable to survivors and their families.

Cancer survivorship research can make a substantial contribution to the health and well-being of survivors and their families, and could reduce our society's cancer-related economic losses. Although the National Cancer Institute funding for survivorship research increased from \$2 million in 1998 to \$22 million in 2004, this is a modest investment compared with the more than \$1 billion spent annually on treatment-related research (5).

The American Society of Preventive Oncology's Survivorship Interest Group's (9) 2008 Annual Meeting featured two brief presentations and extended discussion among the 30 attendees about strategies to maximize the competitiveness of cancer survivorship grant applications. An important concern regarding competitiveness relates to the fact that at the NIH and in many other funding agencies, grant applications for cancer survivorship research compete directly with applications addressing other cancer-related topics such as basic science, prevention, diagnosis, and treatment. The purpose of this report is to summarize the group's discus-

sion for dissemination to cancer prevention and control researchers, as well as to survivor advocates and overseers of grant review processes.

## Ensuring Grant Applications are Relevant to Cancer Survivors

Unlike many other areas of cancer research, the grant review process for survivorship applications often involves a higher level of interaction between scientists and survivor advocates. Whereas scientists and survivors often share common interests in cancer research, their perspectives, priorities, and presentation styles often differ. Competitive applications and thoughtful review processes consider and manage these differences.

Several suggestions to improve survivorship applications' competitiveness emerged during the presentation and discussion. To ensure relevance to cancer survivors, scientists were encouraged to involve survivors early in the process of developing ideas and applications. Survivor input can also contribute to ensuring that the translational relevance and research plan are presented in a manner accessible to a range of reviewer expertise. Finally, the most competitive applications provide clear plans for dissemination of the results to survivors, their families and friends, as well as the public.

Ideas to improve the review process were also mentioned. An increased pool of survivor reviewers would facilitate better matches between topics and reviewers. Additional training for survivor reviewers covering fundamental research principles could improve their skills and confidence, and benefit the review process. Finally, review panel chairs should play an important role as facilitators by guiding interactions between survivor and scientific reviewers. This is another area in which specific training is likely to improve competence.

## Ensuring Grant Applications Appeal to Scientific Reviewers

Attendees recognized that many challenges faced by survivorship proposals are common to proposals regardless of topic, such as the need for a clearly articulated set

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of aims addressing an important question in a methodologically rigorous fashion. Nevertheless, there are several challenges that seem heightened in survivorship research and these were the focus of discussion.

Because cancer survivors experience both physical and psychosocial sequelae, and these sequelae can be interrelated, attendees recognized a need for the survivorship field to recognize the importance of both dimensions and to develop more integrated theoretical foundations for proposals. It was suggested that aging research might provide examples of more comprehensive biopsychosocial models.

Cancer clinical trials have obviously contributed extensively to improvements in cancer survival, yet trials frequently lack the type of extensive long-term follow-up that could address important survivorship questions. In addition, trials rarely gather information on nontreatment exposures such as diet, physical activity, mental health, and social support. Finally, trials typically enroll homogenous patient groups with nearly identical cancer types and treatment. Although this provides the best scientific rigor for treatment trials, the results may generalize poorly to the larger and more heterogeneous population of patients and survivors. Scientists were encouraged to look for opportunities to expand the ability of trials to contribute to survivorship research.

Observational studies also make vital contributions to survivorship research, although they face corollary challenges to trials. Populations with variable cancer types and treatments, and in some cases, limitations in the available treatment and other data raise concerns about scientific rigor, even though generalizability may be superior to most treatment trials. The Childhood Cancer Survivor Study has made invaluable contributions to our understanding of survivorship by enrolling a diverse cohort and then conducting subgroup analyses appropriate to the questions at hand. Bhatia and Robison recently suggested that this approach may be useful for expanding adult survivorship research (7). Our discussion also focused on the need for survivorship researchers, perhaps in conjunction with funders and clinicians, to clarify how to balance the competing demands of scientific and clinical relevance, recognizing that the impracticality of conducting randomized clinical trials for every question requires the use of observational studies to answer important survivorship questions.

Attendees indicated that many funding programs, particularly those sponsored by foundations, focus on curing cancer. The resulting emphasis on treatment obviously addresses an important topic, yet may overlook the importance of improving survivors' lives once they are cured. Because scientists preparing survivorship proposals must make a particularly strong case for their work, there may be an opportunity for the field, perhaps in conjunction with survivorship advocacy groups and the National Cancer Institute, to develop additional compelling national data about the survivorship concerns and related costs. These data should allow researchers to

highlight how survivorship research is an important part of overcoming the overall burden of cancer.

## Conclusions

The need for survivorship research is obvious given the growing cancer survivor population, the wealth of data demonstrating that survivors are at an increased risk for morbidity and mortality, and the limited evidence to guide their health maintenance and follow-up care. Because funds directed to survivorship research remain limited relative to funds for treatment research, survivorship proposals must maximize their competitiveness. In addition to strategies for overcoming challenges common to many proposals, survivorship proposals may be strengthened by ensuring relevance through the involvement of survivors in proposal development, including clear plans for disseminating results and presenting theoretical models that integrate physical and psychosocial dimensions. There also is a need to weigh the scientific rigor of clinical trials with the broader generalizability of observational studies, and to consider how trials might be expanded to enhance their contribution to survivorship research. Alterations in the review process might also increase the competitiveness of survivorship proposals. Specific suggestions include training for survivor reviewers and encouraging review panel chairs to facilitate interactions between survivor and scientific reviewers. Finally, there may be an opportunity for the survivorship field to develop additional compelling national data about the extent of survivorship concerns and persuasive arguments demonstrating how survivorship issues are part and parcel of reducing the burden of cancer.

## References

1. Jemal A, Siegel R, Ward E, et al. Cancer statistics, 2008. *CA Cancer J Clin* 2008;58:71–96.
2. American Cancer Society. Cancer facts and figures 2008. Atlanta: American Cancer Society, 2008. Available at: <http://www.cancer.org/downloads/STT/2008CAFFfinalsecured.pdf> (last accessed September 13, 2008).
3. Ries LAG, Melbert D, Krapcho M, et al., editors. SEER Cancer Statistics Review, 1975–2005, National Cancer Institute. Bethesda (MD), [http://seer.cancer.gov/csr/1975\\_2005/](http://seer.cancer.gov/csr/1975_2005/), based on November 2007 SEER data submission, posted to the SEER web site, 2008.
4. Anonymous. Cancer survivors: living longer, and now, better. *Lancet* 2004;364:2153–4.
5. Hewitt M, Greenfield S, Stovall E, editors. From cancer patient to cancer survivor: lost in transition. Washington (DC): National Academies Press; 2006.
6. Ayanian JX, Jacobsen PB. Enhancing research on cancer survivors. *J Clin Oncol* 2006;24:5149–53.
7. Bhatia S, Robison LL. Cancer survivorship research: opportunities and future needs for expanding the research base. *Cancer Epidemiol Biomarkers Prev* 2008;17:1551–7.
8. Earle CC. Cancer survivorship research and guidelines: maybe the cart should be beside the horse. *J Clin Oncol* 2007;25:3800–1.
9. Trentham-Dietz A, Buist DSM, Kelly KM, Jacobson JS, Paskett E, ASPO Survivorship Interest Group. Charting a strategic direction for the American Society of Preventive Oncology's Survivorship Interest Group. *Cancer Epidemiol Biomarkers Prev* 2007;16:1912–3.