Communication from the ASGE Research Committee

GUIDELINE

Impact and outcomes of research sponsored by the American Society for Gastrointestinal Endoscopy

Prepared by: ASGE RESEARCH COMMITTEE

Mohammad F. Madhoun, MD, MS,* Gregory A. Cote, MD, MS,* Sushil K. Ahlawat, MD, FASGE, Nuzhat A. Ahmad, MD, Jonathan M. Buscaglia, MD, FASGE, Audrey H. Calderwood, MD, FASGE, Seth Crockett, MD, MPH, Dayna S. Early, MD, FASGE, Ferga C. Gleeson, MD, FASGE, Suryakanth R. Gurudu, MD, FASGE, Thomas F. Imperiale, MD, Julia J. Liu, MD, FASGE, Patrick Mosler, MD, Rahul Pannala, MD, MPH, Patrick R. Pfau, MD, Joseph Romagnuolo, MD, MScEpid, FASGE, Jewel Samadder, MD, Amrita Sethi, MD, Amandeep K. Shergill, MD, Eun J. Shin, MD, Field Willingham, MD, MPH, Jason A. Dominitz, MD, MHS, FASGE, Chair

This document was reviewed and approved by the Governing Board of the American Society for Gastrointestinal Endoscopy (ASGE).

Background and Aims: Since 1985, the American Society for Gastrointestinal Endoscopy (ASGE) has awarded grants for endoscopic-related research. The goals of this study were to examine trends in ASGE grant funding and to assess productivity of previous recipients of the ASGE grant awards.

Methods: This was a retrospective cohort analysis of all research grants awarded by the ASGE through 2009. Measures of academic productivity and self-assessment of the ASGE awards' impact on the recipients' careers were defined by using publicly available resources (eg, National Library of Medicine–PubMed) and administration of an electronic survey to award recipients.

Results: The ASGE awarded 304 grants totaling $12.5 million to 214 unique awardees. Funding increased 7.5-fold between 1985 and 1989 (mean $102,000/year) and between 2005 and 2009 (mean $771,000/year). The majority of awardees were men (83%), were at or below the level of assistant professor (82%), with a median of 3 years of postfellowship experience at the time of the award, and derived from a broad spectrum of institutions as measured by National Institutes of Health funding rank (median 26, interquartile range [IQR] 12-64). Nineteen percent had a master's degree in a research-related field. Awardees' median publications per year increased from 3.5 (IQR 1.2-9.0) before funding to 5.7 (IQR 1.8-9.5) since funding; $P = .04$, and median h-index scores increased from 3 (IQR 1-8) to 17 (IQR 8-26); $P < .001$. Multivariate analysis found that the presence of a second advanced degree (eg, masters or doctorate) was independently predictive of high productivity (odds ratio [OR] 2.92; 95% confidence interval [CI], 1.09-7.81). Among 212 unique grant recipients, 82 (40%) completed the online survey. Of the respondents, median peer-reviewed publications per year increased from 3.4 (IQR 1.9-5.5) to 4.5 (IQR 2.0-9.5); $P = .17$. Ninety-one percent reported that the ASGE grant had a positive or very positive impact on their careers, and 85% of respondents are currently practicing in an academic environment. Most of the grants resulted in at least 1 peer-reviewed publication (67% per Internet-based search and 81% per survey).

Conclusions: The ASGE research program has grown considerably since 1985, with the majority of grants resulting in at least 1 grant-related publication. Overall academic productivity increased after the award, and the majority of awardees report a positive or very positive impact of the award on their careers. Medical professional societies are an important sponsor of clinical research. (Gastrointest Endosc 2016;84:385-91.)

For the past 30 years, the American Society for Gastrointestinal Endoscopy (ASGE) has sponsored grants to conduct GI research. During this period, the ASGE issued annual requests for applications to conduct studies related to endoscopy ranging from bench, translational, and clinical research themes. In addition to these open calls

*Drs Madhoun and Cote contributed equally to this article.

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for grant submissions, there have been several targeted ASGE grants devoted to early and mid-career development and requests for applications evaluating specific technologies (eg, radiofrequency ablation and video capsule endoscopy). The overall objectives of this program are 2-fold: (1) to produce research that has a direct impact on patient care while optimizing the application of endoscopy in clinical practice, and (2) to support scholarly activities for scientists with an interest in endoscopy. For young investigators, the grants are intended to serve as a springboard to further extramural funding.

The awards are distributed annually through a competitive process based on the novelty, significance, methodologic rigor, and feasibility of the proposal. Details about the ASGE grants program are available online (http://www.asge.org/research/). Since its inception, the grants program has been managed by the ASGE Research Committee with oversight from the Governing Board. The objectives of this publication, developed by ASGE Research Committee members, are to assess the association between these awards and subsequent scientific publications and the career trajectories of the awardees.

METHODS

Subjects and variables

The ASGE database was used to identify all grant recipients from 1985 to 2009. The database contained information about the award amount, the year of the original grant, and the title of the grant proposal as well as the academic rank of the recipients. Publicly available resources (ie, National Library of Medicine [PubMed]), Web of Science, Research Portfolio Online Reporting Tools, and Google) were used to collect and verify publication data related to the original award, number of publications since the award, current academic appointment, and relevant leadership positions. For awardees with a common surname, the middle initial or full name was used in an effort to accurately associate publications with the appropriate grant recipient. Finally, the ASGE grant recipients were invited to complete an online survey requesting information on the outcome of their grants, notable grant-related products, and self-perceived impact of being an ASGE grant recipient. These invitations were sent at least 5 times to each awardee. For those not responding to the invitation e-mail, an attempt was made to reach each awardee by sending at least 2 additional personal e-mails from one of the Research Committee members.

Search criteria

Each awardee's current employment setting (eg, academic [including faculty rank], private practice, or industry), demographics, academic degrees, and any leadership positions were identified by using an Internet Google search (www.google.com). Academic productivity was measured by 3 benchmarks: (1) publishing at least 1 grant-related manuscript, (2) total number of citations, including citations per year since grant award, and (3) current h-index score[13]–this is a metric that quantifies an individual author's productivity by factoring publication numbers and citations referencing the author's work. To assess the number of publications before the award year, a PubMed search of the MEDLINE indexed literature (www.PubMed.com) was performed for each awardee, assessing all publications extending to the antecedent year of the grant award. To assess the number of publications since the award, a PubMed search of the MEDLINE indexed literature was performed for each awardee, by using the last name and the first initial, from the year of award to October 2013, which was the time during which these data were procured. Any related publications between the award year and October 2013 were assessed and evaluated by 2 independent committee members. A second PubMed search with keywords from the grant title also was performed for each investigator to determine whether or not they had published work based on their grant. The number of citations, citations per publication, and h-index for each ASGE grant recipient were obtained by using Google scholar (http://scholar.google.com) and Web of Science (http://wokinfo.com). Awardees were then categorized into low and high productivity based on the number of citations per year (dichotomized by the median for the cohort with high productivity defined as >5.7 PubMed citations per year since receiving the ASGE grant).

Survey content and administration

The survey instrument was developed and refined by members of the ASGE Research Committee. The survey was pilot tested by members of the ASGE Governing Board and Research Committee to assess content and construct validity. Awardees were surveyed about their current institutions, current practice settings, leadership positions, number of peer-reviewed research publications before and since the ASGE award, whether or not the awardee received other grant funding since the ASGE award, and impact of the grant on collaborations and on their careers overall. Respondents were then asked to provide any feedback or take-home message regarding their ASGE awards (the complete survey is available online, https://www.surveymonkey.com/r/?sm=YxEfDSejmhtsgNONF9F3Bg%3d%3d).

Data synthesis and statistical analysis

Data were entered into an Excel spreadsheet (Microsoft Corporation, Redmond, Wash) and imported for analysis with SAS software (SAS Institute, Cary, NC). Descriptive statistics were used to report the main findings. Continuous variables were reported as mean ± standard deviation, and categoric variables were reported as percentages and CIs. Parametric (eg, 2-sided *t* test) and nonparametric (eg, Wilcoxon rank sums) tests were used