

A Targeted Intervention for the Career Development of Women in Academic Medicine

Although women are recruited to academic medical programs, their advancement to senior faculty positions is still far less frequent than that of their male counterparts.¹⁻⁴ Several studies have identified obstacles hindering the success of women faculty members,⁵⁻⁷ and balancing work with family responsibilities is a particularly salient challenge faced by many women.⁸ Research has demonstrated that differences between male and female faculty members without children are slight, but women with children may have less research funding, publish fewer peer-reviewed studies, report less career progress, and have less career satisfaction than men with children.⁹

For editorial comment see page 323

To improve the retention and advancement of its women faculty members, the Massachusetts General Hospital (MGH) initiated an awards program providing bridge funding to junior faculty women during the child-bearing years. We report herein the design and ongoing evaluation of this program.

Methods. This report relies on several complementary qualitative and quantitative sources, including program applications, evaluations written by recipients at the completion of their awards, written comments from chairs and division chiefs of the awardees' departments, and responses to survey questionnaires administered via e-mail to all awardees remaining at the institution in March 2005. Retention and promotion rates reported herein were determined from faculty registers maintained by MGH and Harvard Medical School in July 2006.

Results. Program Design. In response to growing evidence regarding the unique challenges facing women faculty with children, the MGH's Committee on Women in Academic Medicine sought to design a concrete, focused initiative to support faculty members facing these challenges. In 1997, it established the Claflin Distinguished Scholar Awards to provide financial support for the research efforts of women junior faculty during the critical child-rearing years. By offering targeted financial support during this period of increased personal responsibility and demands, the awards were intended to serve as a practical intervention to increase the likelihood that more women physicians and scientists would advance to senior faculty positions.

To promote the professional development that was envisioned by the Committee, the awards were designed to provide \$30 000 in direct costs per year for 2 years. Eligibility was limited to instructors or assistant professors holding a doctor of medicine or doctor of philosophy degree who were within 7 years of the first faculty appointment and who were responsible for the care of children. Applications included a 3-page research proposal, a biosketch, 2 letters of support, and a description of child-rearing responsibilities.

Award Applications. Response to the initial announcement of the awards in 1997 was dramatic. Thirty-one applications were received, and the expressed need for these awards, captured in the applicants' personal statements, was striking. Applicants wrote how the award would provide support until outside funding could be obtained or would be used to fund technicians to help with night and weekend duties, ensuring that their work would progress with minimal interruption. They spoke repeatedly regarding opportunities lost because of what they perceived as a "balancing act" between work and family. Raising children significantly changed their approaches to work and career as laboratory time became con-

strained by family responsibilities and evenings and weekends were no longer available for work. Early morning and evening talks and meetings were commonly identified as problematic. Applicants also noted that their research pace had slowed and that their productivity had decreased at a time when it needed to increase if they were to remain competitive in obtaining funding. Many no longer believed that they would continue along the same career path as their male colleagues. As one wrote, "Managing this daily push and pull between work and family makes life extraordinarily challenging, adding a new, previously unimaginable, layer of complexity."

Awards Funded and Characteristics of Recipients. In the 9 funding cycles since the inception of the awards, a total of 167 applications have been received from 122 individuals, with 41 awards made, for an overall success rate of 34% per applicant (25% per application). Award recipients include clinical and basic science researchers from a wide range of departments, including general medicine and surgery, as well as various specialties. Of the 40 award recipients, 27 held the rank of instructor at the time of the award, 12 were assistant professors, and 1 was a lecturer. The degrees held by recipients included both doctor of medicine and doctor of philosophy degrees in 6 cases, both doctor of medicine degree and a master's degree in 5 cases, a doctor of medicine degree alone in 14 cases, a doctor of philosophy degree alone in 14 cases, and a doctorate in science in 1 case.

Outcomes. The Claflin Award recipients have been successful by several outcome measures. Retention has been high among the awardees, with 36 (90%) of the 40 recipients remaining at the institution. Promotions among awardees have included 17 promotions to assistant professor, 4 promotions from assistant professor to associate professor, and 1 promotion from instructor to assistant professor and on to

Table. Promotions and Retention

Year	Applications, No.*	Award Recipients			Applicants Who Never Received Award*		
		No.	Promotions, No.†	Remaining at Institution, No.‡	No.	Promotions, No.†	Remaining at Institution, No.*
1997	31	3	3	2	20	8	8
1998	13	2	1	2	7	3	4
1999	14	2	2	2	1	1	0
2000	21	5	4	5	9	2	5
2001	21	4	1	3	7	2	5
2002	24	7	6	6	16	6	13
2003	17	6	4	6	9	1	9
2004	13	6	1	5	6	2	5
2005	13	5‡	0	5	6	0	6
Total	167	40‡	22	36	81	25	55

*Individuals who applied in multiple years were analyzed for their final year of application (to avoid double counting of individuals and to ensure that the nonawardee list did not include individuals who were successful in a subsequent year). As a result, the total number of applications in each year exceeds the number of award recipients and nonrecipients.

†Based on review of the Harvard Medical School and Massachusetts General Hospital faculty registers in July 2006. One award recipient (in 1997) and 1 applicant who never received the award (in 1998) received promotions from instructor to assistant professor and from assistant professor to associate professor. In both cases, this was counted as 1 promotion (to avoid double-counting of individuals).

‡Excludes 1 individual who was selected for award in 2005 but left the institution before award tenure began.

associate professor. The **Table** details the retention and promotion of the applicants for the awards.

A survey administered in March 2005 to the 32 award recipients of the award from 1997 to 2004 who remained at the institution yielded 30 responses (94% response rate). These awardees listed 366 original research publications, 273 presentations, and 54 honors received since receipt of the Claflin Award. The survey results also indicate that the grants have served as seed funding for subsequent grants from the National Institutes of Health, private foundations, and pharmaceutical companies. The amount of grant support received by the awardees since the initiation of their awards has far surpassed the institutional cost. The institution provided \$2 100 000 for the 35 awards made from 1997 to 2004, whereas the total amount received to date in direct costs by the 32 recipients from 1997 to 2004 who remain at the hospital (limited to the grants for which the awardees are the principal investigators) has been \$51 401 314.

Perceived Impact. Recipients' written program evaluations also suggest program efficacy. The awardees describe the tremendous impact of the award on their professional development at a critical stage in their careers. The funding allowed them to advance their studies, hire students and start teams, or keep their laboratory space

and independence during a lapse in grant support. Many note how the assistance allowed them to overcome impediments that are largely unique to women with academic careers. As one woman reports:

The Claflin Award was particularly important for me because it came at the time when I had 3 small children in early elementary school and preschool. The Claflin Award gave me a measure of breathing space for both my scientific and personal life to mature and survive some exceptionally busy years.

The award recipients also describe how they became more optimistic about their careers after receiving the award. Many mention how the awards changed their view of the institution's commitment not only to their own careers but also to that of women scientists as a whole. In addition, the institutional support conveyed by the award was felt to be important in bolstering individual divisional support for the applicants' careers. As one recipient summarizes:

This Award assisted me in the achievement of a more independent scientific position, acknowledged by the members of my group and by my mentor. Being awarded this prestigious fellowship meant to me more than just financial support. It instilled new confidence in my work and increased my awareness of the obstacles that women scientists have to face and overcome.

Awardees also suggest the possibility that the awards program may have a positive impact on women's careers more generally, even beyond the careers of the awardees themselves. Many find themselves advising trainees in their departments on how to manage families and careers, and some have found that discussing the institution's response to the challenges that women faculty face has helped them in recruiting other female researchers to their laboratories.

Department chairs and division chiefs also report an overwhelmingly positive impression of the program. They describe the awards as "instrumental" and coming "at a critical stage" in the recipients' careers. As one chair concludes,

[There are] few programs with as great an impact on the careers of junior faculty as the Claflin Award. The ONLY problem with the program is that it is far too small to match the need.

Comment. We report herein our experience with the Claflin Awards program as an innovative practical strategy that can be easily adapted by diverse academic medical institutions to supplement their efforts to improve the development of women's careers. Based on the early evidence presented here, we believe that these awards have had a positive impact in our institution, and we hope that other institutions

will be inspired to undertake similar initiatives.

The awards program was not designed as part of a controlled study to measure outcomes in terms of research support, promotions, or retention. The overall rates of promotion and research funding for junior faculty at our institution cannot provide an appropriate comparison because many faculty members focus primarily on clinical activities and do not view research or academic promotion to be a career priority. Therefore, funding and promotions among highly motivated, research-oriented awardees would be expected to be higher than those among the remainder of the faculty. Similarly, there are risks in comparing the award recipients to applicants who did not receive the award. Although we do provide the promotion and retention figures in both groups to provide a context for the rates of promotion and retention among the awardees, we caution the reader not to overinterpret these data. Academic promotion is dependent on productive scholarly activity, which is in turn related to factors such as the number of publications written, the external validation conveyed by grant funding and honors, and the number of years at rank. We have every reason to believe that the award recipients systematically differed from nonrecipients in each of these factors at the time of application for the awards. The same factors that led to the selection of certain applicants for the award over others likely made them more attractive for promotion. It is for this reason that we do not present a strict actuarial analysis, which would be necessary if the 2 groups were to be compared formally. The number of applicants is simply too small to allow us to control for the other factors that are expected to differ between awardees and nonawardees.

Given the lack of a control group, one could argue that the selected group of award recipients would have been predicted to have research success, given their past accomplishments, with or without the additional institutional support provided by the award. However, the pool of female junior faculty at the MGH is, and has been for some time, a group from whom high academic achievement would be expected, yet no increase in the number of senior women faculty had occurred. Several

studies have demonstrated that despite equivalent educational backgrounds, training, and early research success, women lag behind their male counterparts in obtaining funding, necessary personnel, space, and equipment.^{10,11} Therefore, given the historical precedent, the success of these researchers could not necessarily have been assumed. However, whether the initial achievements of the award recipients will foster further career growth will need continued assessment.

Despite these limitations, the early qualitative evidence suggests a positive impact of the awards program. Although not quantifiable, an important consequence of the awards seems to have been in altering recipients' perceptions of the institution and their expectations for a future in academic medicine.¹² In addition, by supporting women who will later serve as mentors to another generation of women faculty members, the awards may have a broader effect in changing the institutional climate for women in academic medicine.^{13,14}

In summary, the Claffin Awards have involved a relatively small institutional cost, which has been dramatically offset by subsequent outside funding received by award recipients. Retention has been achieved for the majority of awardees, and a large number have been promoted. Most importantly, the awards seem to have helped enhance the morale and productivity of female faculty at our institution. Therefore, we propose the model of the Claffin Distinguished Scholar Awards as a practical component of institutional strategies to support women's careers in academic medicine. We hope that this report will inspire similar programs elsewhere.

Reshma Jagsi, MD, DPhil
Joan R. Butterson, MD
Rebecca Starr, MBA, MSW
Nancy J. Tarbell, MD

Correspondence: Dr Tarbell, Center for Faculty Development and Partners Office for Women's Careers at Massachusetts General Hospital, 370 Bulfinch, Boston, MA 02114 (ntarbell@partners.org).

Financial Disclosure: None reported.

Author Contributions: Dr Tarbell

was the principal investigator for this project and confirms that she had full access to all of the data in the study and takes responsibility for the integrity of the data and the accuracy of the data analysis.

Acknowledgment: We acknowledge the invaluable administrative assistance of Brenda Vega. We also thank the members of the MGH Committee on Women in Academic Medicine who provided insights into the process of designing this award, as well as those applicants and recipients of the Claffin Awards who provided detailed written comments regarding the need and impact of the award program. Finally, we acknowledge the Executive Committee on Research at MGH, as well as hospital leadership, for their vision and commitment in funding these awards.

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