BRIEF REPORT: Completing a Scholarly Project During Residency Training
Perspectives of Residents Who Have Been Successful

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BACKGROUND: Resident research has potential benefits and scholarly activity is an internal medicine residency training requirement. This study sought to learn about the resources needed and the barriers to performing scholarly work during residency from residents who had been successful.

METHODS: A questionnaire was delivered to 138 internal medicine residents presenting their work at the 2002 American College of Physicians-American Society of Internal Medicine annual session. Residents were asked to comment on why they had participated in a scholarly project, the skills and resources needed to complete the project, as well as the barriers. Comparisons were made between residents who presented a research abstract and those who exhibited a clinical vignette.

RESULTS: Seventy-three residents (53%) completed the questionnaire. Thirty-nine residents presented a clinical vignette and 34 displayed a research abstract. Residents participated in research for a variety of reasons, including intellectual curiosity (73%), career development (60%), and to fulfill a mandatory scholarly activity requirement at their residency program (32%). The most common barriers were insufficient time (79%), inadequate research skills (45%), and lack of a research curriculum (44%). Residents who had presented research abstracts devoted more time (median, 200 vs 50 hours; P < .05) to their project than those who exhibited clinical vignettes. Sixty-nine percent of residents thought research should be a residency requirement.

CONCLUSIONS: The majority of respondents reported that their scholarly project was a worthwhile experience despite considerable barriers. Teaching research skills more explicitly with a focused curriculum and providing adequate protected time may enable residents to be successful.

KEY WORDS: resident research; ACGME; graduate medical education.
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ternal medicine resident alumni have viewed research experiences as worthwhile and influential in their career choices.1 Resident research has other benefits, such as fostering skills relevant to clinical practice and promoting lifelong learning.2 Recognizing scholarly activity as an important part of residency training, the Residency Review Committee for Internal Medicine (RRC-IM) established a requirement in 1994 that residents must complete “original research, comprehensive case reports, or review of clinical and research topics.”3 Previous studies have surveyed program directors about resident research and scholarly activity.3,5 Residents may provide more valuable insight into which types of projects are worthwhile, and how residency programs can best allocate time and resources to successfully support their scholarly efforts.

We surveyed residents to determine 1) their reasons for participating in a scholarly project, 2) the skills and resources needed to complete a successful project during residency, and 3) the barriers they experienced.

METHODS

Survey Administration

We specifically wanted to survey residents who had completed a successful scholarly project. Therefore, we sampled residents who had been selected to present their work at a national meeting, the 2002 American College of Physicians-American Society of Internal Medicine (ACP-ASIM) annual session. This included residents who won first-place awards for either original research or clinical vignettes at a regional ACP-ASIM associates meeting. All 138 house officers who were presenting their work at the national meeting were approached to participate and given a questionnaire with a stamped return envelope. To maximize participation, several follow-up mailings were sent to presenters before they graduated from their residency training. Data were kept confidential. The study was approved by the Johns Hopkins Bayview Institutional Review Board.

Survey Content

The survey instrument was developed through review of the literature and discussions with both house staff and several internal medicine residency program directors. The 4-page questionnaire was organized into 4 topic areas: 1) previous research experience and career plans, 2) factors related to the resident’s involvement in their project, 3) program resources to support resident research, and 4) resident’s opinions on scholarly work. In exploring the level of institutional support for scholarly activity, residents were asked about factors such as the presence of a research curriculum, the ability to use elective time to work on the project, and the availability of funding.6,7

Data Analysis

Descriptive statistics summarized responses to all questions. Comparisons were made between residents who submitted research abstracts and those who submitted clinical vignettes. We chose to make these comparisons because both types of projects are acceptable scholarly activities as described in the RRC-IM requirement. We hypothesized that research projects would require significantly greater research skills, mentor involvement, and time to complete. Furthermore, residents who completed research projects might be more interested in
conducting research as part of their careers and deem the research requirement to be more worthwhile.

Responses to 5-point Likert scales were dichotomized and analyzed as proportions. Data were categorized by abstract type, research abstract versus clinical vignette, for bivariate analysis. $t$ tests, $\chi^2$, and Wilcoxon rank sum tests were used to compare the categories. Data were analyzed using Stata 8.0 (Stata Corporation, College Station, TX).

RESULTS

Surveys were returned by 73 of the 138 participants (53%). Fifty-three percent of respondents exhibited a clinical vignette and 47% presented original research abstracts. Two thirds of respondents (66%) were postgraduate year (PGY) 2 or 3 residents when the project was initiated and 69% had participated in research prior to residency. One fifth of respondents (21%) expected to have careers as clinician-investigators. There were no significant differences in response rates, past research experience, or fellowship and career plans between residents who presented research abstracts and those who presented clinical vignettes (all $P > .05$). Residents who presented research abstracts were more likely to respond that their research experience had positively influenced their desire to pursue a research career (56% vs 33%; $P = .05$).

Residents commented on barriers to completing their scholarly project. The most common barriers cited by residents were the lack of time (79%), lack of research skills (45%), and the lack of a research curriculum (44%) (Fig. 1). There were no significant differences in responses between the residents presenting the two types of scholarly projects.

Residency Program Support of Scholarly Activity

Most residents agreed or strongly agreed that their residency program is very supportive of resident research (68%), with no difference between abstract type ($P > .05$). Sixty-eight percent reported that their residency program had a mandatory research requirement. Thirty-four percent reported that their program has a curriculum for teaching research skills. Although most residents rated highly the importance of various research skills for the successful completion of their project, only 19% to 38% felt these skills are thoroughly taught at their residency program (Table 1). Fifty-one percent reported that their institution has a

![FIGURE 1. Percentage of residents who rated the following barriers to completion of their research project as important or very important. *There were no statistically significant differences in responses between residents who presented research abstracts and those who presented clinical vignettes. †Five-point Likert scale: 1=very important, 2=important, 3=neutral, 4=not important, 5=not very important.](image-url)