

The Profession

Factors that Determine Academic Versus Private Practice Career Interest in Radiation Oncology Residents in the United States: Results of a Nationwide Survey

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Summary

We surveyed academic career interest in US radiation oncology residents and recent graduates to assess factors that influence career decisions. Baseline interest and academic productivity before residency were strong factors in determining academic career interest as well as postgraduate year level, elective time offered for research, and academic degree. Productivity during residency did not necessarily correlate with career interest, although research opportunities during residency was cited as an important factor.

Purpose: To determine what factors US radiation oncology residents consider when choosing academic or nonacademic careers.

Methods and Materials: A 20-question online survey was developed and sent to all US radiation oncology residents to assess factors that influence their career interest. Residents were asked to rate their interest in academics (A) versus private practice (PP) on a 0 (strong interest in A) to 100 (strong interest in PP) scale. Responses were classified as A (0-30), undecided (40-60), and PP (70-100). Residents were also asked to rank 10 factors that most strongly influenced their career interest.

Results: Three hundred thirty-one responses were collected, of which 264 were complete and form the basis for this analysis. Factors that correlated with interest in A included having a PhD ($P=.018$), postgraduate year level ($P=.0006$), research elective time ($P=.0003$), obtaining grant funding during residency ($P=.012$), and number of publications before residency ($P=.0001$), but not number of abstracts accepted in the past year ($P=.65$) or publications during residency ($P=.67$). The 3 most influential factors for residents interested in A were: (1) baseline interest before residency; (2) academic role models; and (3) research opportunities during residency. The 3 most influential factors for residents interested in PP were: (1) baseline interest before residency; (2) academic role models; and (3) academic pressure and obligations.

Conclusions: Interest in A correlated with postgraduate year level, degree, and research time during residency. Publications before but not during residency correlated with academic interest, and baseline interest was the most influential factor. These data can be used by residency program directors to better understand what influences residents' career interest. © 2013 Elsevier Inc.

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Introduction

Radiation oncology has become an increasingly competitive field for medical school graduates in the United States. Annual data from the 2011 National Residency Matching Program indicate that of 163 US seniors who applied to radiation oncology as their only choice of residency, 23 (14%) were not able to match, a rate that is exceeded only by dermatology, orthopedic surgery, plastic surgery, and general surgery (1). As programs continue to be faced with the ever-increasing quality of applicants, many evaluate candidates on the basis of their academic potential as evidenced by research publications, presentations at scientific meetings, and grant funding, factors that are assumed to play an important role in determining the applicant's career path. Programs typically include several months of research elective time to support and encourage academic interest, and overall, radiation oncology residents have been successful in publishing first author publications (2). In fact, resident research productivity has been shown to correlate with elective time allowed during residency (3), suggesting that elective time is an effective way to encourage academic-bound trainees. However, a resident's decision to pursue an academic versus private practice career path is multifactorial, affected by factors both intrinsic and extrinsic to the residency training experience (4).

A study by Wilson et al in 2005 surveyed graduating senior residents of the 2004 graduating class to determine what factors influenced the particular career path they had chosen immediately upon graduation (5). The results suggested that academic pursuits during residency played an important role in choosing an academic career. Nevertheless, several issues remain unclear: (1) Among these residents, what is their degree of academic interest upon entering residency? (2) How does an interest in academic medicine change over time during residency? and (3) What types of academic activities during residency most correlate with academic interest? The answers to these questions could be important for training programs to better recognize trainees with a genuine academic career interest and how to foster and develop that interest during residency.

The purpose of this study was to determine the factors that influence academic versus nonacademic career interest in all radiation oncology residents in the United States.

Methods and Materials

Under institutional review board approval, a 20-question online survey was devised and delivered using commercial software (Qualtrics, Provo, UT). Because no comprehensive mailing list of current radiation oncology residents is maintained, the survey link was sent to the residency program directors and program coordinators at all listed US residency training programs in the online directory of the American Medical Association website (6). Directors and coordinators were then asked to forward the survey to their respective resident trainees to complete. Surveys were initially sent on November 25, 2012, and responses were collected through January 7, 2013. To improve the initial response rate, an additional collection period was added from April 8, 2013, to April 27, 2013.

Respondents were asked to provide demographic information, academic degree, and characteristics of their residency training program in addition to information on their research productivity

(ie, number of research projects, abstracts, and publications) before and during residency. Finally, they were asked to rate their interest in academics (A) versus private practice (PP) on a 0 (strong interest in A) to 100 (strong interest in PP) scale. The full survey is shown in Table 1.

Statistics

Career interest responses were classified as either A (0-30), undecided (U, 40-60), or PP (70-100). As part of the 20-question survey, residents were asked to rank 10 factors that most influenced their career interest from 1 to 10, with 1 being the most important and 10 being the least important. JMP and SAS software was used for all statistical computations (SAS Institute, Cary, NC). Comparisons of response rate between selected prognostic

Table 1 Online survey sent to all radiation oncology residents in the United States

Question:

- Year in training
- Highest academic degree
- Gender
- Age when starting radiation oncology residency
- Started in another medical field before radiation oncology?
- Number of elective months offered in residency for research?
- Does program support Holman pathway?
- Obtained grant funding during residency?
- Does residency have formal training in clinical trial design?
- Does residency have formal education in biostatistics?
- Number of first author publications before entering residency?
- Number of first author publications in the past 12 months?
- Number of first author publications since starting radiation oncology residency?
- Number of first author abstracts accepted at a national meeting in past 12 months?
- Number of projects completed as lead investigator in past 12 months?
- Number of first author manuscript submitted for publication in past 12 months?
- Breakdown of project types during residency (clinical vs lab-based)
- Interest in career type following graduation currently (0-100; 0-academics; 100-private practice)?
- Interest in career type following graduation when beginning residency (0-100; 0-academics; 100-private practice)?
- Rank the following factors in order of importance that influenced career interest (1 = most influential, 10 = least influential)
 - A. Baseline interest entering residency
 - B. Research opportunities during residency
 - C. Academic role models in your program
 - D. Influence of resident colleagues
 - E. Success in publishing papers
 - F. Success in having abstracts accepted at national meetings
 - G. Financial reasons
 - H. Academic pressure and obligations
 - I. Teaching opportunities
 - J. Perceived job market
- For recent graduates, what job type did you take (academics, private practice)?

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