

# A Framework for Improving Resident Research Participation and Scholarly Output

M.M. Manring, PhD, Julia A. Panzo, BA, and Joel L. Mayerson, MD

Department of Orthopaedics, The Ohio State University, Columbus, Ohio

**OBJECTIVES:** The Accreditation Council for Graduate Medical Education requires that “faculty should encourage and support residents in scholarly activities.” There are no guidelines, however, to illustrate how this should be done, and only a small number of published reports offer examples of successful efforts to spur resident research. We sought to improve our residents’ participation in scholarly activities.

**DESIGN:** We describe a multifaceted program to quickly build resident scholarship at an orthopaedic department.

**SETTING:** Large academic medical center in the Midwestern United States.

**PARTICIPANTS:** An experienced medical editor was recruited to assist faculty and mentor residents in coordinating research projects and to direct publishing activity. Additional publishing requirements were added to the resident curriculum beyond those already required by the Accreditation Council for Graduate Medical Education. Residents were required to select a faculty research mentor to guide all research projects toward a manuscript suitable for submission to a peer-reviewed journal. Activities were monitored by the editor and the resident coordinator.

**RESULTS:** Over 4 years, total department peer-reviewed publications increased from 33 to 163 annually. Despite a decrease in resident complement, the number of peer-reviewed publications with a resident author increased from 6 in 2009 to 53 in 2012.

**CONCLUSIONS:** The addition of an experienced medical editor, changes in program requirements, and an increased commitment to promotion of resident research across the faculty led to a dramatic increase in resident publications. Our changes may be a model for other programs that have the financial resources and faculty commitment necessary to achieve a rapid turnaround. (*J Surg* 71:8-13. © 2014

Association of Program Directors in Surgery. Published by Elsevier Inc. All rights reserved.)

**KEY WORDS:** Resident education, publications, scholarship, resident research

**COMPETENCIES:** Medical Knowledge, Professionalism, Practice-Based Learning and Improvement

## INTRODUCTION

Scholarly activity is a requirement for both faculty and residents under the standards of the Accreditation Council Graduate Medical Education to “establish and maintain an environment of inquiry and scholarship with an active research component.” One of the primary measures of compliance with this requirement is the publication of original research or review articles in peer-reviewed journals.<sup>1</sup> Publishing is a requirement for faculty advancement at many if not most institutions and has been linked by some studies to future academic achievement, and pursuit of fellowship opportunities, by resident physicians.<sup>2-4</sup>

Despite the importance of resident publishing, there are no established guidelines to the development of an effective program to promote it. Over the past decade, medical school faculty in a variety of training programs have described efforts to improve the research environment and quantify results.<sup>5-11</sup> As noted by Penrose et al.,<sup>7</sup> the most common barriers to resident participation in research are a lack of time, lack of infrastructure, lack of mentoring, and lack of financial support, and any attempt to improve research output by residents or faculty must deal with these obstacles.

We describe our efforts during 2009 to 2012 to improve our orthopaedic department’s publications program, with a special emphasis on increased resident success in scholarly output. Our experience may be a useful guide for some departments to consider as they seek not only to meet Accreditation Council for Graduate Medical Education requirements but also to create an environment that is more conducive to research and professionally fulfilling for residents and faculty.

*Correspondence:* Inquiries to Joel L. Mayerson, MD, Department of Orthopaedics, Division of Musculoskeletal Oncology, The Ohio State University, James 1st Floor Ambulatory Clinic, 300 West 10th Avenue, Columbus, Ohio 43210; fax: +1-614-293-3747; e-mail: joel.mayerson@osumc.edu

## METHODS

In January 2009, our department ended a 2-year period of interim leadership, as a new chair was recruited with a charge to improve the department's clinical, teaching, and research programs. An aggressive recruitment drive built the faculty from 16 with their primary appointment in orthopaedics at the end of 2009 to 35 by December 2012, and clinical and training opportunities were expanded in all orthopaedic subspecialties. However, a Resident Review Committee site review in 2009 identified several longstanding shortcomings, and the training program was placed on probation in spring of 2010. The resident complement was reduced from 30 (6 residents per year) to 29 in 2011 and 28 in 2012 as part of a probationary requirement to eventually step down the overall complement to 25 (5 per year). Before the probation was announced, the faculty had begun to address its shortcomings in residency training and scholarly effort. One of the major goals of the faculty and chair was to achieve a measurable increase in a verifiable index of resident scholarly accomplishment: peer-reviewed publications. A secondary goal was to increase the number of resident research presentations at national and international conferences.

Instead of having a single faculty member solely responsible for direction of the residency program, 2 associate program directors were appointed from the faculty: 1 for research and 1 for curriculum. They worked together to establish a completely revised resident research policy that instituted 4 requirements for each resident:

- (1) to prepare a review article or systematic review of the literature during their postgraduate year (PGY)-2 or PGY3 year;
- (2) to complete 1 clinical or laboratory research project for presentation at our annual research day;
- (3) to prepare and submit at least 1 manuscript based on his or her research project to a peer-reviewed journal by the end of their PGY-5 year; and
- (4) to mentor, during their PGY-5 year, 1 junior resident in the preparation of a review article or systematic review.

Secondly, faculty members were required to take a larger role in individual resident's research. Each resident was assigned research advisors, at least 1 clinical and 1 research faculty member, during the PGY-1 year. Regular meetings were established to monitor topic development for manuscripts, presentations, and funding submissions to granting agencies that focus on orthopaedic resident research, such as the Orthopaedic Research and Education Foundation (OREF). The research advisors are charged with monitoring an individual resident's progress through the 4 goals outlined before. Faculty members were assigned to deliver didactic lectures to residents on research methodologies, such as study design, statistical analysis, and university and federal regulations.

Finally, the department also expected to increase the overall number of scholarly publications to at least reflect its growth in faculty, and thus made a major investment in personnel by recruiting an experienced medical editor from an orthopaedic department in another state. The editor is not a basic scientist or clinician but a PhD in liberal arts with 25 years experience in the publishing field. His assignment was to work with faculty and residents in several defined areas related to making departmental research more efficient in developing written material (manuscript submissions, revisions, grant applications, protocols, etc.). In the case of rejected manuscripts, the editor worked with faculty and residents to revise for resubmission to another journal, continuing to shepherd the manuscript to eventual publication.

We reviewed our publication record over the past 4 years to determine whether and to what extent our changes in curriculum and staffing affected our scholarly output, with a primary measure of peer-reviewed publications. We also reviewed faculty productivity, both research (publications) and clinical output (relative value units [wRVUs]) during the same study period to learn whether our changes affected faculty.

## RESULTS

During 2009 to 2012, the number of residents in the program decreased slightly, from 30 to 28, as the probationary decrease in complement began to take effect. However, the number of resident publications increased dramatically. As recently as calendar 2006, no department publication listed a resident coauthor. In 2009, 6 manuscripts had resident coauthors. That increased to 28 in 2010, 49 in 2011, and 53 in 2012 (Fig. 1). As the number of residents in the complement actually declined, the number of publications with resident authors was approximately 9 times greater. Residents coauthored more systematic reviews, as expected given our requirements, but displayed a much more dramatic increase in the number of original studies (Table 1), particularly clinical studies as opposed to basic science, and residents were listed as first author in an increased number of publications (Table 2). The growth in resident publications reflects a similar growth in the number of peer-reviewed publications overall, from 33 in 2009 to 163 in 2012 (Fig. 2). Although the number of faculty roughly doubled, the number of overall publications increased nearly fivefold. To determine whether the growth in the total number of faculty was the only explanation for the overall increase in publications, we examined the records of 13 faculty members who were present at the end of 2008 and remained on the faculty at the end of 2012. Those 13 faculty members produced a total of 19 peer-reviewed publications in 2008 and 18 in 2009, but 52 in 2010, 65 in 2011, and 59 in 2012.

Of those 13 faculty members, 10 were surgeons and 3 researchers. The 10 clinicians published 11 manuscripts in 2009, 51 in 2010, 58 in 2011, and 54 in 2012.

Download English Version:

<https://daneshyari.com/en/article/4297626>

Download Persian Version:

<https://daneshyari.com/article/4297626>

[Daneshyari.com](https://daneshyari.com)