Chairpersons of Pathology in the United States
Benchmarks for Academic Publications and Professional Credentials

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Abstract

Chairpersons of pathology often are viewed as departmental role models in academic medical centers. To objectify this view, we undertook a systematic survey of publication records and professional certification among 126 chairpersons in the United States. The median of the total number of scientific publications by the cohort was 105 since graduation from medical school, and the median yearly number of peer-reviewed papers was 3.34 per person (mean, 4.25). A random 10% of the study population was analyzed further with reference to the percentage of publications that reflected basic science research; 41% of the total literature contributions of this subgroup fit that description, and only 38% of the chairpersons in the subgroup had 80% or more non–service-related publications. Of all chairpersons, 85% had obtained primary board certification in anatomic pathology, clinical pathology, or both, and 25% of the group had earned at least 1 subspecialty board certificate in addition. These numbers reflect an evolution in the professional backgrounds of chairpersons of pathology such that demands for academic scholarship and proficiency in hospital practice and management seem to pertain to that group.

There is little doubt that the milieu of training and practice in pathology continues to show substantial flux and uncertainty. Roughly 15 years ago, peer-administered manpower surveys projected a shortage of trained pathologists for the future, and this scarcity was validated in an assessment of academic departments of pathology several years thereafter. However, with the growth and proliferation of managed care throughout the 1990s, pathologists in virtually all American medical centers suffered substantial incursions into their patterns of practice, reimbursement, and scholarship. In addition, the results of other manpower studies done by health maintenance organizations at that time suggested that an oversupply of pathologists existed. These changes, along with additional factors to be considered subsequently, precipitated a marked diminution in interest in pathology as a career for US medical students. This situation has persisted and worsened. In fact, although 20 fewer residency training positions were offered nationally in our specialty in 2000 compared with 1998, 26.6% of all slots were still unfilled, and only 37.9% of the total positions (127/335) were accepted by American medical graduates.

Chairpersons of pathology may be called on to provide solutions to these problems and to serve increasingly as role models for medical students, residents, and colleagues. Ideally, individuals who are given the responsibility for leading departments of pathology should be energetic, enterprising, tactful, broadly experienced, discerning, managerially astute, and empathic, while at the same time having a high level of credibility and professional recognition for their personal scholarship. Pragmatically, there seems to be no uniform institutional approach to making certain that chairpersons actually have such attributes. Choice made in their selection may produce leaders who subsequently are perceived to
be deficient in their professional qualifications, and these chairpersons may have a decidedly adverse influence on their subordinates. Chairpersons with little training or experience in clinical service or, conversely, in applied or basic research may experience substantial problems adjudicating the retention or facilitating the growth and promotion of their faculty members. Similarly, problems in effectiveness may arise when chairpersons of pathology with little interest or experience in critical practice areas are involved in direction of related resident and fellow educational experiences.

With these issues in mind, we elected to study the records of scientific publication and formal certification by the American Board of Pathology (ABP) pertaining to 126 current chairpersons of pathology in the United States. The emphasis was to potentially benchmark these common measures of performance, particularly for developing faculty. The results of that analysis constitute the basis of this article and serve as a focus for discussion of trends in our specialty area.

Materials and Methods

The names of chairpersons of departments of pathology with accredited residency training programs were obtained from the Directory of Pathology Training Programs.7 The number of years since each person had graduated from medical school was obtained from the American Medical Association’s online physician database (http://www.ama-assn.org/ama-assn.h.htm). The names, as specified in the Directory of Pathology Training Programs, subsequently were entered into an Internet-based search engine for the National Library of Medicine (NLM; http://www.ncbi.nlm.gov/entrez/query.fcgi), which provides citations for all medical publications in Index Medicus back to 1966. While this method may not capture all publications on a person’s curriculum vitae, we believed it represented an unbiased and commonly used metric of academic productivity. These data were collated and entered into a Microsoft Excel (Microsoft, Redmond, WA) spreadsheet and analyzed using the program’s descriptive statistics package. The Official ABMS Directory of Board-Certified Medical Specialists (1999)8 was used as the source of information on board certificates chairpersons had earned. The nature of the institution at which each subject practiced (university-based medical centers vs free-standing or university-affiliated private hospitals) was recorded.

Results

All but 11 chairpersons in the study were based at university medical centers; 6 others were located at university-affiliated hospitals, and only 5 headed departments without a formal academic association. Of the 126 chairpersons, 118 (93.6%) were graduates of US medical schools. The average time (mean = median) that had elapsed since completion of medical school was 31 years for the entire sample population; the longest time in practice was 52 years and the shortest time, 15 years. On the initial NLM search, the largest number of citations per person was more than 4,000. It was obvious that this was because of nonspecificity of common names that was difficult to resolve and that badly skewed the data. After exclusion of 8 common names for which it was impossible to determine definitively whether the specific persons in question had authored the exceedingly high number of papers listed in the NLM, the number of peer-reviewed publications written during each subject’s career ranged from 2 to 534 (2-210 for private hospitals and university affiliates; 4-534 for university centers). Even these upper limits may be high, but every reasonable effort was to have any bias favor the chairpersons. The mean, median, and mode of total publications per chairperson were 128, 105, and 117, respectively; the differences reflected the wide SD of the population (SD = 107). Normalization of the publication records for years since medical school graduation yielded a median of 3.34 and mean of 4.25 articles per year of professional life. Frequency distributions for the group are shown in Figure 1 and Figure 2.

To attempt an analysis of basic science–oriented vs clinically oriented publications by chairpersons of pathology, a randomly chosen subset representing 10% of the total population was used. Articles authored by that group were scrutinized to determine whether they reflected topics relating to clinical or nonclinical investigations. Articles dealing with translational research with any reasonable clinical application in the near future were considered clinical. The percentage of each person’s total publications that was represented by basic science work was tabulated in this manner Figure 3.

For professional specialty certification by the ABP Figure 4, 107 (84.9%) of 126 chairpersons held primary certificates in anatomic pathology (n = 33), clinical pathology (n = 3), or anatomic and clinical pathology (n = 71); all 19 of the noncertified chairpersons were located at university medical centers. Thirty-one subjects also had earned subspecialty certification in various practice areas. The most common of these were neuropathology and immunopathology (8 persons each), followed by hematopathology (n = 7), cytopathology (n = 4), transfusion medicine (n = 3), medical microbiology (n = 2), and dermatopathology and forensic pathology (1 person each). Three chairpersons held 2 or more subspecialty certificates. Data on recertification were not available.

Discussion

As the principal representatives and administrators of educational programs in their specialty area, chairpersons of
pathology are the focus of increasingly greater scrutiny. Until approximately 15 years ago, leaders of departments of pathology were chosen primarily for their academic accomplishments, research experience, and abilities to secure new grant funding, with the intent that these qualities would serve as ideals for junior faculty and house staff to emulate. Whenever attention was paid to fiscal management skills shown by chairpersons, it was related principally to the stewardship of extramural research funding, not clinical income. Indeed, in our conjoint experience, it formerly was common for chairpersons of pathology to regard practice-related revenue largely as an adjunct source of financial support for departmental research programs, with lesser attention to it in a more modern corporate sense.

These paradigms changed dramatically as academic pathology entered the 1990s. Research funding became much more difficult to obtain, at least through traditional sources, and profit margins at most university medical centers suffered substantially in the wake of sweeping changes in reimbursement for health care. Gradually but steadily, chairpersons of pathology were expected to devote more of their professional efforts to plans for institutional fiscal security, efficiency, and stability, rather than purely scholastic endeavors. At the same time, attitudes of the governing bodies of most universities began to change, in reference to the granting of tenure to academic faculty in schools of medicine. An ever-escalating level of peer-reviewed publication, extramural salary support, teaching
effort, and service performance was attached to that process, as discussed in earlier communications.16-20 In the university community in general, this situation now has reached a crisis of sorts, such that a recent issue of Academe (the official publication of the Association of American University Professors) was entitled “Tenure: Will It Survive?”21

In their roles as both the pectorial and academic chiefs of their departments, chairpersons often represent the first persons in the ladder of decision making that leads to tenure. Indeed, it is our view that a chairperson’s major responsibility is facilitating the growth and development of faculty. Hence, their abilities to judge the overall worth of any given faculty member are crucial. As a corollary to that fact, the support of faculty has a direct and undeniable effect on recruitment and retention of qualified house staff in departments of pathology. In 1997, Tuthill and Jukic22 made the following observations:

Thirty percent of liaisons (resident representatives participating in a survey on pathology housestaff education by the Resident Physicians’ Section of the American Society of Clinical Pathology [sic]) felt that attending faculty spent less time on resident-related educational activities than in the previous year. Fifty-seven percent attributed this change to increased service load, with another 25% citing decreased numbers [of faculty]. Sixty-four percent felt that attending duties had increased, with 12% reporting a large increase. This followed a trend reported by the majority of respondents indicating decreased research time spent by faculty, as well as decreased off-service time.

Chairpersons ideally must make certain that faculty can attain the institutional criteria needed for tenure and promotion and, as much as possible, educate the professoriat at large on the particular tasks, contributions, and institutional worth of their faculty members who are concerned principally with service and teaching activities.

With that relatively lengthy preamble, several observations from this study are noteworthy. First, it would seem that the general academic productivity and scholarship of chairpersons of pathology continues at a substantial level. The median of total publications per chairperson was 105, representing an average and median of 4.25 and 3.34, respectively, per person per year since graduation from medical school. Overall, 41% of the scientific articles produced by a randomly surveyed subgroup of the chairpersons were concerned with research in the basic sciences, and 5 of 13 of those persons had devoted 80% or more of their scholarly output to that general subject area. Although, in a sense, these numbers corroborate time-honored premises about the professional activities of chairpersons of pathology, they can be viewed in another, more modernistic way as well. That is, 59% of scientific publications by the aforementioned subgroup did not deal with basic research topics, and most of these presumably were not funded by extramural grants. These data mirror the findings of Flotte,23 Berman et al,24 and Borkowski et al.25 These authors note that the majority of published research in pathology is not supported by extramural grants. In this respect, publications of chairpersons of pathology seem to mirror those of pathology as a whole and may be used as benchmarks for departmental colleagues. Furthermore, at the aforementioned mean of yearly publications since completion of medical school, the productivity of chairpersons of pathology at large could be used to propose a general target for other faculty members, with a goal of approximately 50 articles at the standard 7-year time point after tenure-track university appointments, when decisions on tenure typically are made. Such a guideline may help junior faculty and chairpersons to objectively assess this often-used criterion for promotion eligibility.

It may be surprising to many people that only 85% of chairpersons hold primary certificates, with or without subspecialty qualifications, in anatomic or clinical pathology or both. In the current climate of hospital credentialing, board certification generally is regarded as mandatory to avoid unwanted legal liabilities and to procure appropriate compensation for professional services. It is probable that in part, the persistence of chairpersons who have not become diplomates of the ABP reflects ongoing attitudes from the past, holding that academic physicians did not “need” to attain board certification because of their research orientation. Also, the practice of appointing physicians trained in other specialties (eg, internal medicine, pediatrics) as chairpersons of pathology likewise contributes to this issue. Because of the aforementioned practical considerations, as well as a role-modeling effect on house staff in pathology, we believe that board certification in pathology should be regarded as mandatory for chairpersons of pathology. A more contemporary commitment to the importance of service work in the academic community is, in fact, represented by the fact that 25% of all current chairpersons have at least one subspecialty certificate from the ABP, in addition to primary certification.

One might well speculate on what the future will bring in reference to desired (or necessary) qualifications for chairpersons of pathology. The demand for physician-pathologists capable of serving that role is growing, and 20 open chairperson positions currently exist in the United States.26 It is not outside the realm of possibility that successful candidates for departmental leadership will need not only full-service training and credentialing and a background of academic scholarship but also formal business experience (including fiscal and personnel management) and training in educational techniques and information technology. Individuals
with substantial breadth and depth of accomplishment will be required to revitalize our specialty area, and they must be chosen with increasing care and diligence in the years to come.

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