Does Being a Chief Resident Predict Leadership in Pediatric Careers?

Joel J. Alpert, MD*; Suzette M. Levenson, MPH‡; Cindy J. Osman, MD, MS§; and Sabin James, MDb

Abstract. Objective. Many organizations make efforts to identify future pediatric leaders, often focusing on chief residents (CRs). Identifying future leaders is an issue of great importance not only to the ultimate success of the organization but also to the profession. Because little is known regarding whether completing a CR predicts future leadership in medicine, we sought to determine if former pediatric CRs when compared with pediatric residents who were not CRs reported more often that they were leaders in their profession.

Design/Methods. Twenty-four pediatric training programs stratified by resident size (<18, 18–36, and >36) and geography (East, South, Midwest, and West) were selected randomly from the Graduate Medical Education Directory (American Medical Association, Chicago, IL). Program directors were contacted by mail and telephone and asked to provide their housestaff rosters from 1965–1985. The resulting resident sample was surveyed by questionnaire in 1995.

Results. Fifteen of 17 program directors (88%) who possessed the requested data provided 1965–1985 rosters yielding a sample of 963 residents. Fifty-five percent of the resident sample (533) responded. Fifty-eight of the respondents had not completed a pediatric residency, leaving a survey sample of 475. Thirty-four percent (163) were CRs. The sample had a mean age of 47, 67% were male and 87% married. Fellowships were completed by 51%. More former CRs compared with non-CRs (75% vs 64%), more former fellows than non-fellows (75% vs 60%) and more males than females (74% vs 55%) reported they were professional leaders. These associations persisted in a logistic regression that controlled for CR status, gender, marital status, and fellowship status as leadership predictors. Former CRs, former fellows, and men were, respectively, 1.8, 2.3, and 2.3 times more likely to report professional leadership.

Conclusions. Pediatric residents who were former CRs and/or fellows, and males were more likely to report professional leadership. Although men were more likely to report professional leadership, with more women entering pediatrics the reported gender differences will likely disappear over time. Pediatrics 2000; 105:984–988; chief residents, leadership, pediatric education, women in medicine.

ABBREVIATIONS. CR, chief resident/residency; AAP, American Academy of Pediatrics.

I dentifying and nurturing future leaders is a matter of great importance to the medical profession, its organizations, industry, and society.1 Becoming a chief resident (CR) indicates the selection of individuals who, by virtue of their accomplishments, including clinical skills, teaching abilities, and personalities, are recognized as worthy of being leaders of their resident groups.2–7 The CR often serves as bridge between the resident staff and the faculty. Many of us remember our CR with affection, admiration, and respect.

Believing that CRs are more likely to become professional leaders, a number of industry-sponsored programs have been directed at CRs, not only to recognize leadership but also to establish and nurture a relationship with future leaders. Many medical organizations offer programs for medical students, residents, and young physicians with the goal of recruiting members and identifying potential leaders for their organizations.8,9 Leadership is even more important as physicians in general are being challenged in today’s tumultuous health care environment to assume community, professional, and even political leadership.

There have been a number of studies that have tracked the careers of pediatric residents,10–13 but none to our knowledge have focused on leadership. One study has described the work of pediatric CRs and how it has changed over time, emphasizing administrative rather than teaching and clinical skills.7 There have also been many anecdotes that suggest CRs hold important leadership positions in medical education, practice, and organizations. One study reports that the CR is excellent preparation for future medical leadership roles9 and being an excellent teacher has been associated with having been a CR.14

We conducted a survey of pediatric residents and CRs to examine whether completion of a CR was a predictor of a leadership career in medicine. We also wanted to identify characteristics other than CR that might be associated with leadership roles.

METHODS

Study Design

To represent the spectrum of residencies, pediatric programs listed in the Graduate Medical Education Directory (American Medical Association, Chicago, IL) were stratified by resident size (<18, 18–36, >36) and geography (East, South, Midwest, West), resulting in 12 size/geographic groups, ie, small, me-
The program directors of the selected programs were contacted by 2 mailings followed, if necessary, by telephone calls. The current program director was asked to provide their resident rosters from 1965–1985, with addresses if available. We identified current addresses, if not available from the program director, from the Fellowship Directory of the American Academy of Pediatrics (AAP) and the Directory of American Medical Specialties. The sample was sent a structured questionnaire. There were 2 mailings. The instrument included questions regarding leadership status and demographic information. The sample worked at completion of residency, CR, or fellowship. If the respondent indicated they had been a CR they were asked to choose from a preselected list the reason why. Possible answers included prestige, additional clinical training, interest in research career uncertainty and other. To obtain information regarding leadership, 3 groupings of questions were asked. The first group asked about the respondents’ self-perception of leadership, both in their profession and their community. After being presented with 2 definitions of leadership the respondent was asked using a 5-point scale (strongly agree to strongly disagree) whether or not they believed they were a leader in the profession and or their community. The second group of questions asked respondents to list leadership positions held in a number of areas (hospital, medical school, professional organization, administration, military, government, community, philanthropy, and religion). Finally, respondents were asked to provide numbers of publications and honors received.

Statistical Analysis

Bivariate comparisons were conducted using Mantel-Haenszel χ² test for categorical data and Student’s t test for continuous data. For the self-perception of leadership multivariate analysis, the dependent variable, “Do you consider yourself a leader?” was created by collapsing the 5-point scale into a dichotomous variable (agree, disagree). Multiple logistic regression was performed to identify predictors of leadership controlling for potential confounding factors. Statistical significance was defined as P < .05.

RESULTS

Response Rate

Fifteen of the 24 program directors contacted provided their 1965–1985 housestaff rosters. Of the 9 non-respondents (all of whom were contacted), 4 had no resident rosters, 2 programs did not exist in the 1965–1985 period, 1 had no CRs, and only 2 ultimately did not provide their list. Thus, the program sample represents 15 of 17 (88%) of programs that could provide the requested data. The programs selected ranged from small programs with resident numbers <30 to the larger programs with well over 100 residents. All geographic areas were represented, 3 of 6 from the East, 4 of 6 from the Midwest, West, and South responded. Four of 8 small programs responded, 5 of the 8 medium, and 6 of the 8 large. Seven of the programs were university-based and 1 was military. The 15 programs provided a resident sample of 963. Most programs did not or could identify their CRs. Some programs had 1 to 2 CRs per year while for others the CR could have been a third-year rotation.

Five hundred thirty-three residents (55%) responded to 2 mailings. Fifty-eight reported not completing a pediatric residency program, yielding a sample of 475 respondents (52%) with usable questionnaires. One hundred sixty-three of the respondents (34%) replied that they were former CRs and 312 (66%) completed a 3-year residency without a CR. Seven percent of the sample completed their residency in the 1965–1969 period, 16% from 1970–1974, and 28% from 1975–1979. Almost half, 49%, completed their residency in the 1980–1984 period.

Demographics

Respondents had a mean age of 47. Sixty-seven percent were male, 87% were married, and 91% had children. Eleven percent had a non-MD postgraduate degree. The vast majority (96%) were board-certified and 5% had recertified. Half of the sample (51%) had completed a fellowship, while office-based private practice was the primary site of current work for most of the respondents (49%). Two hundred seventy-seven respondents (59%) worked in urban sites. These findings were generally similar to the demographics of the AAP’s Periodic Survey of Fellows conducted in 1995, with the exception that our sample was slightly older (47 vs 43 years), had fewer women (33% vs 43%) and fewer who reported medical schools as a work site (14% vs 21%; Table 1).

Eighty-eight percent of the respondents reported holding past or present positions in their major hospital. Similarly, 57% held past or present positions in a medical school. Fifty percent held administrative positions and 75% were active past or present in professional organizations. Twenty-six percent had military service; 19% held government positions; 31% held philanthropic positions; and 35% occupied leadership positions in their religious community.

The overall mean number of past and present leadership positions reported per respondent was 6.8 ± 4.4. The mean number of publications were 10.1 ± 20 and 44% reported receiving honors.

<table>
<thead>
<tr>
<th>TABLE 1. Demographic and Practice Characteristics of Study and AAP Comparison Sample*</th>
<th>Sample (n = 475)</th>
<th>AAP (n = 1612)</th>
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<tr>
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<tr>
<td>Age</td>
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<tr>
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* AAP data from 1995.
Overall Perception of Leadership

Webster's Dictionary defines a leader as “an individual with a position at the front.” The medical literature updated in 1998 by Berwick et al. has identified leaders as assuming a broad range of pivotal roles both in their profession and in their community. Respondents were asked if they agreed with the statement “I am a leader in my profession,” after being presented the 2 descriptions of leadership above. Three hundred twenty-one (68%) agreed or strongly agreed with this statement. Likewise, 262 (56%) agreed or strongly agreed with the statement “I am a leader in my community.”

Fellowship completion and gender were characteristics related to leadership. Those who completed fellowships were more likely to consider themselves leaders and more males than females considered themselves leaders (Table 2).

Those who considered themselves leaders were more likely to practice in hospital and medical school settings and were more likely to report more time spent in research, teaching, and administration. Fifty-four percent of leaders reported receiving honors compared with 24% of nonleaders and reported more leadership positions (7.9 vs 4.3), and reported more publications (13.4 vs 4.5).

Leadership and Gender

Although females were just as likely to have been a CR as males (29% vs 37%; Table 3), 81% of the male CRs said they were leaders compared with 61% of the female CRs (P = .007). Twenty percent of the CRs reported that they became CR for prestige, while 35% saw it as a time for additional training and 35% because of career uncertainty. Of the CRs who reported that they became CRs because of prestige, 90% reported that they were leaders in their profession. Women who reported prestige as the reason they became a CR were just as likely as males to report professional leadership. Moreover, women who were CRs were more likely to strongly agree with the statement that they were a leader than women who were not CRs (57% vs 38%). Females were less likely to be in private practice than males, but more likely to be in health maintenance organizations, health centers, or hospital settings. Females were more likely to teach and males were more likely to be in administration. More males reported themselves as married but women provided more anecdotal comments about children and family.

Self-Reported Leadership Characteristics of Former CRs Compared With Non-CRs

More former CRs compared with non-CRs agreed that they were professional leaders. In addition, former CRs held more leadership positions and more often reported receiving honors. There were no statistically significant differences between former CRs and non-CRs in terms of number of publications and demographics including work setting; however, former CRs were more likely to practice in a rural setting (Table 4).

Multivariate Analysis

Multiple logistic regression included CR status, gender, marital status, fellowship status, and honors received as independent variables to see whether any of these demographic factors independently predicted leadership. Former CRs, former fellows, men, and honors received were (respectively) 1.8, 2.3, and 1.98, and 3.3 times more likely
to agree or strongly agree with the statement “I am a leader in my profession” (Table 5). Marital status was not related.

**DISCUSSION**

Gaining admittance to medical school and becoming a physician starts a process that may be seen as identifying and selecting those who are destined to be leaders in their field. The selection of medicine as a career often attracts those who have been leaders in high school and college. So, it comes as no surprise that two-thirds (68%) of respondents see themselves as leaders in their profession and over half (55%) as community leaders.

Because the sample ended with 1985 completion of residency and the survey was conducted in 1995, all respondents had at least 10 years of work experience and ample opportunity to demonstrate career leadership. The answers provided support the view that CRs are more likely to report they are leaders. Being male and having completed a fellowship was also strongly associated with reporting professional leadership.

Former CRs presented a range of answers as to why they had become CRs. Although viewed as an honor, there have been times when programs have had difficulty selecting their CR and often the decision to become CR was based on career uncertainty as much as the prestige involved. Some programs (especially smaller ones) have a CR rotation in the PL3 year while large programs often had 2, 3, or even 4 CRs.

The gender difference in reported leadership is important, especially as pediatrics as a career choice is increasingly attractive to women. The reasons for the observed gender difference are undoubtedly numerous. Women in equivalently accomplished positions may not identify themselves as leaders. Women may choose to spend more time in areas outside of medicine than men do. In the survey, a number of women commented that spending time with their family was a priority. Of course, men may be more likely than women to be awarded leadership positions because of historic discrimination and the so-called glass ceiling. As reported, there was no gender difference in reported leadership if prestige was the reason for becoming CR.

There are important limitations to our study. We relied on a subjective and limited definition of leadership, which depended on self-reporting. Those who responded are possibly more likely to consider themselves leaders and this could have resulted in an overstatement of the overall leadership role. Finally, CRs may have been more likely to respond and possibly may have overstated their leadership role.

**CONCLUSION**

In our study, being a CR, completing a fellowship, being male, and receiving honors are predictors of perceived professional leadership in pediatrics. Organizations such as the AAP are developing outreach efforts, as well as leadership programs, to identify and to prepare the organization’s future leaders. Programs organized by industry for CRs may also be a means of identifying future leaders. The fact that women do not see themselves as leaders as often as men deserves follow-up. In 1999, the presidents of the 3 AAP chapters that received awards for excellence were women. At this time, the editors of 2 of the world’s preeminent medical journals (Journal of the American Medical Association and The New England Journal of Medicine) are women. We believe that with more women entering pediatrics the observed gender difference in this study will disappear over time.

**ACKNOWLEDGMENTS**

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