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Increasing Diversity in Pediatric Hematology/Oncology

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Abstract

Background—Diversity is necessary for the survival and success of both biological and social systems including societies. There is a lack of diversity, particularly the proportion of women and minorities in leadership positions, within medicine.[1,2] In 2009 a group of ASPHO members recognized the need to support the career advancement of women and minority members. This article reports the results of a survey designed to characterize the comparative career pathway experience of women and minority ASPHO members.

Procedure—A group of ASPHO colleagues modified a published Faculty Worklife survey[3] for use by Pediatric Hematologist-Oncologists (PHOs). A link to an online version of the survey was sent to all ASPHO members.

Results—Of 1228 ASPHO members polled, 213 responded (17%). Women and minority PHOs reported less satisfaction than their counterparts on 70 of the 90 issues addressed in the survey including the hiring process, access to resources as well as integration and satisfaction with their organizations. Women also expressed greater dissatisfaction with issues of work-life balance, support for family obligations and personal health.

Conclusions—The current literature suggests that there are significant disparities in career opportunities, compensation and satisfaction for women compared to men and minority compared

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to majority faculty in academic medicine.[4–7] Our data, derived from a survey of ASPHO members, suggests that this holds true for PHOs as well.

Keywords

Diversity; Career Development; Women; Minorities; Leadership

Introduction

It is widely recognized that diversity is necessary for the survival and success of not only biological systems but social systems as well, such as communities, businesses and societies. A number of publications have drawn attention to the lack of diversity, particularly the proportion of women and minorities in leadership positions, within the field of medicine.[1,2] These articles have also drawn attention to the implications of this situation, both in terms of the underutilization of talent and in relation to disparities in health care and outcomes for the increasingly diverse population of the United States.[2,4]

Over the past 50 years there have been significant efforts by both government and professional organizations to promote diversity and equality of opportunity in the medical professions.[8] One important measure of progress is the change in the demographics of medical school faculty. According to data assembled by the Association of American Medical Colleges, between 1980 and 1999 the number of full time women faculty nearly tripled from 17% to 28%. During the same period the non-white faculty increased from 14% to 17%.[9] Women currently comprise 50.7% of the U.S. population, 48.8% of medical students and 35% of the total medical school faculty (48% in Pediatrics).[1] Challenges, however, remain. For example, while 22% of the U.S. population are considered members of underrepresented minority groups (African Americans, Mexican Americans, mainland Puerto Ricans and American Indians), these minorities made up only 4% of medical school faculty.[1,5] In addition, compared to their male counterparts, women and minorities often advance more slowly in academic rank, hold fewer leadership positions, and receive lower salaries.[6,10]

A variety of reports provide evidence that increasing diversity in the health care professions would enhance patient care, research and medical education.[4,11–13] In 2009 a group of American Society of Pediatric Hematology/Oncology (ASPHO) members recognized the need to support the career advancement of women and minority members. According to a recent analysis of ASPHO members, 44% are women and 25% are minorities.[14,15] However, among the current leadership of ASPHO including committees and Board members, less than 30% and 11% are women and minorities, respectively. In this way ASPHO faces the same challenges as other sectors of academic medicine to maximize talent, cultivate diverse leadership, and provide optimal, culturally competent care and clinical research. This article reports the results of a survey of ASPHO members designed to characterize the comparative career pathway experience of women and minority ASPHO members.

Methods

Survey Development

The ASPHO group began with a Faculty Worklife survey produced, used, and published by the University of Wisconsin-Madison.[3] A group of ASPHO colleagues reviewed the survey and modified it for use by Pediatric Hematologist-Oncologists (PHOs). For the purposes of this survey respondents were asked if they considered themselves a minority in their current institution and if so why. The planning group also added several items thought potentially to

have significant impact on career development and satisfaction. For example, respondents were asked whether they worked in an academic or non-academic practice. If academic, the respondents were asked if they were on a tenure track. It is important to note that the meaning and implications of tenure varies widely from one institution to another. Some institutions have even done away with the term altogether. Other questions included whether they were practicing in the US, and if they had received their MD degree in another country. The final survey included a total of 76 questions (the ASPHO version of the UW-M survey available upon request from corresponding author). This survey was approved by the institutional review boards of UCLA and Baylor College of Medicine. A description of the survey and its purpose was sent to all ASPHO members along with a link to an online version of the survey.

Statistical Analysis

Most items were coded on a 1 to 4 or 5 point scale with higher numbers indicating stronger agreement. Ordinal Logistical Regression was used to examine differences between groups on these items. T-tests were used with continuous variables (e.g., age) and Chi Square tests with categorical variables (e.g., Tenure vs. Non-Tenure track).

Results

Participant Demographics

In 2008, prior to the initiation of this project, ASPHO conducted a brief survey that included demographic items. The survey was sent to 1392 members, of which 642 members (46%) responded. The current (2010) online survey was sent to 1228 members, of which 213 members (17%) responded (Table I and Supplementary Tables I and II). The reasons for the discrepancy in response rates for the 2008 and 2010 surveys are uncertain. It may be due to the fact that the 2010 diversity survey was substantially longer. Presuming that the general demographics of ASPHO membership has not changed in the last several years, it appears that proportionally more women responded to the 2010 than the 2008 survey (52% vs. 44%, Chi square p value <0.05). Perhaps male ASPHO members were less likely to think the survey was pertinent to them.

The proportion of "non-white" respondents appears approximately the same (23% for 2008 vs. 26% for 2010, Chi square p value = ns). Chi square tests also indicated no differences between survey groups in the proportions of major ethnic categories (e.g., Asians, Blacks, Hispanics, Native Americans) responding to the survey. Forty-eight respondents (23%) were self-identified minorities. Thirteen of these respondents were white and listed other factors such as gender, sexual orientation, religion and foreign medical graduate as reasons for this perception.

It is noteworthy that 58% of respondents have considered leaving their institution in the past three years. Younger and older PHOs did not differ on this item. Women were more likely than men to be working at the same institution where they completed fellowship and to be in an academic setting (Chi Square = p<0.01 and p<0.05 respectively). Women in academic settings were less likely to be in a tenure track position (Chi Square = p<0.05). Women were also less likely to be married or partnered (21.1% women unmarried vs. 6.1% % men, Chi Square = p<0.01). There were no differences between minority and majority respondents on these items.

Age was found to be significantly associated with various participant characteristics in this sample. For example, women were younger than men (mean=44 vs. 52, p<0.001), minorities were younger than majority members (45.5 vs. 48.5, p<0.05), and non-tenure track academics were younger than tenure track colleagues (45 vs. 50, p<0.01). When age was

significantly associated with an item, additional Multiple Ordinal Logistic Regression analyses were conducted with age as a categorical variable to control for age. The median age of 47 was used to divide the group into younger and older sub-groups. These additional analyses revealed that although age may, in some cases, slightly modify the relationships between other variables (e.g., younger minority participants felt less successful in hiring negotiations than older minorities), the initial relationships remained (e.g., minority participants felt less successful than majority participants in hiring negotiations after controlling for age). For clarity and conciseness, the data for representative items have been presented in terms of the primary comparisons of male vs. female and minority vs. majority participants (not controlling for age). Tables containing the complete data analysis have been placed in Supplemental Tables I through X.

Survey Item Clusters

Supplemental Tables III through X provide the complete results of Ordinal Logistical Regression analyses for groups of survey items within thematic clusters (e.g., the Hiring Process). An Odds Ratio (OR) of less than one means that a particular group was less likely to agree with an item that their counterparts, while values of greater than one mean the group is more likely to agree with the item. For example, an OR of 1.5 means that group is 1.5 times as likely to agree with an item as its comparison group. Only items that produced trends ($p<0.10$) or statically significant differences between groups are displayed in the tables. The Supplementary Tables also indicate where significant associations were found with the following groups of interest: Non-tenure compared to tenure track Academics, PHOs who received their MD degree outside of the US compared to MDs from the US practicing in the US, non-academically compared to academically based PHOs and younger compared to older PHOs.

For many items all respondents gave relatively positive ratings. For example, male, female, minority and majority groups all strongly agreed with the statements "I am treated with respect by colleagues" and "I am treated with respect by students". However women, minorities and the other groups of interest tended to respond in ways that indicated they felt disadvantaged or less positive compared to their counterparts. The few instances where these groups had more positive responses than their counterparts are noted in the supplemental tables.

Hiring process

Women, minorities and non-tenure track PHOs were significantly less satisfied with various aspects of the hiring process than their counterparts (Supplemental Table III). Women were also significantly more likely to describe themselves as naïve about negotiation (OR 3.3, $p<0.0001$) as were younger PHOs. It is noteworthy that although younger PHOs also thought they were more naïve (OR 2, $p<0.01$) and unsuccessful in negotiations (OR 0.6, $p<0.10$), they were more likely to state that a mentor or colleague advised them on the hiring process (OR 2.3, $p<0.01$).

Access to Resources

Minority respondents expressed significantly more dissatisfaction than their majority counterparts on 10 of 13 items (Supplementary Table IV). Women, minorities and younger respondents were significantly more likely to think their salary was not fair and equitable (OR 0.4, $p<0.001$; OR 0.4, $p<0.01$ and 0.4, $p<0.001$ respectively).

Respect, Integration and Satisfaction with Organization

Women express significantly more dissatisfaction than male counterparts on 14 of 23 items (Supplemental Table V) including strong differences on items measuring influence over resource allocation (OR 0.4, p<0.001) and satisfaction with career progress (OR 0.4, p<. 0.001). It is noteworthy that Non-US MDs practicing in the US tended to feel more like a full and equal participant in decision-making than their counterparts (OR 2.5, p<0.10). They also were more likely to state that meetings allowed all participants to share their views (OR 4, p<0.01).

Promotion Process for Tenure Track Academics

There were few significant differences in ratings of satisfaction with the promotion process for non-tenure compared to tenure track academics (Supplemental Table VI). Similar to the ratings of personal stress and health, women respondents rated satisfaction and support in the tenure process more negatively than their male counterparts on 4 of 7 items. Interestingly, women and younger PHOs did indicate that they were more likely to be informed about assistance for faculty seeking promotion (OR 2.2, p<0.10 and OR 2.9, p<0.05 respectively). Of note, there were again no differences between minority and majority respondents on these items. Younger PHOs were also more negative about the tenure process also with the same exception of being better informed about the availability of institutional assistance provided by the institution to help faculty seeking tenure.

Work-Life Balance and Organizational Support for Family Obligations

Women expressed significantly less satisfaction than their male counterparts on 7 of 11 items on this topic (Supplemental Table VII) including a much greater likelihood of stating that they considered leaving their current organization to achieve better life balance (OR 2.9, p<0.0001). Minority PHOs were less satisfied on 4 of 11 dimensions as were non-tenure track academics. Young PHO's were less satisfied on 8 of 11 dimensions.

Personal Stress and Health

In contrast to previous item clusters, minority respondents did not differ from their majority counterparts on any ratings of stress and health. However, women respondents reported higher levels of stress and lower ratings of health than their male counterparts on 7 of 9 items with significant differences on 4 items beyond the p<0.01 level (Supplemental Table VIII). Younger PHOs also rated higher levels of stress than their older counterparts on 8 of 9 items.

Organizational Climate for Women and Minorities

In the field of organizational research, the term climate refers to perceptions of the work environment.16 The survey questions within this cluster produced very intriguing results. Women respondents rated the organizational environment for women more negatively than their male counterparts on all 10 items, but minorities rated the environment for women more negatively than their non-minority counterparts on only one item (Supplemental Table IX). The situation was reversed for the Climate for Minorities items, with minorities ratings being relatively negative on 8 of 10 items and women only rating 2 items more negatively than their male counterparts (Supplemental Table X). Further, non-academically based PHOs tended to give more positive ratings of organizational environment for women than their academically based counterparts on two items: 1) the department actively recruits women (OR 2.2, p<0.10), and 2) department has too few women leaders (OR 0.5, p<0.10). Lastly, non-tenure track respondents trended towards more positive ratings of the environment for minorities than their tenure track colleagues on three items: 1) the department enhances the climate for minorities (OR 1.8, p<0.10), 2) the department has too

few minority leaders (OR 0.6, p<0.10), and 3) the department moves minorities into leadership positions (OR 1.8, p<0.10).

Discussion

A recent report by the American Association of Medical Colleges gives a snapshot of the gender, race and ethnicity of faculty within various departments in U.S. medical schools.1 The report also examines faculty rank across medical schools for women and minorities. Pediatrics is second only to Obstetrics and Gynecology as the specialty with the highest proportion of women. Pediatrics and pediatric sub-specialties also attract relatively higher percentages of non-white physicians than most other specialties.7 Unfortunately, the available data does not allow detailed comparisons within and between specific subspecialties such as pediatric hematology/oncology and this is certainly an important area for future research (e.g., the gender distribution of full professors within pediatric hematology/oncology versus other pediatric subspecialties).

Current literature indicates that there are significant disparities in career opportunities, compensation and satisfaction for women compared to men and minority compared to majority faculty in academic medicine.4;6;10;17 For example, in a recent study of 2,168 life science researchers, DesRoches et al.6 found that the salaries for female researchers were approximately $6,000 to $15,000 less than their male counterparts after controlling for differences in productivity and other professional factors. Similarly, Fang et al.10 in a study of 50,145 full-time medical school faculty found that underrepresented minorities, compared to white faculty, were less likely to be promoted after adjusting for cohort, sex, tenure status, degree, department, medical school type and receipt of NIH awards. Our data, derived from a survey of ASPHO members, suggest that such disparities may hold true for PHOs as well.

When compared to their counterparts in this sample, both women and minorities thought they negotiated less successfully and were less satisfied with the hiring process. While women were as likely as men to state that they received advice from mentors and colleagues, they felt significantly more naïve about negotiations and were significantly less satisfied with their department's efforts to obtain resources for them, with their start up package and the hiring process in general. While both women and minorities were less likely to think their salary were equitable, minorities were much less satisfied than their majority counterparts with their access to resources including office and laboratory space, internal funding, information system support, and support for research and clinical activities.

Women were less likely to feel respected and integrated into their organization. In addition to reporting less respect from colleagues and their chairs, they were less likely to feel they had a voice in resource allocation and decision making. Women also expressed greater reluctance to raise issues regarding the behavior of colleagues for fear of negative impacts on their own reputation. Finally, women were less satisfied with their current job and career progress. They were also significantly less likely to recommend their current organization to a candidate or accept their current position if they had a chance to do it over again.

Both women and minorities reported less satisfaction with work life balance, but women reported broader dissatisfaction in this arena and were more likely to consider leaving their current organization to improve life balance. Women reported much more personal stress than their male counterparts, while minority and majority respondents did not differ. Both women and minorities reported less satisfaction with the organizational environment related to their own groups although curiously they did not perceive the same barriers with respect to each other's groups (e.g., women did not perceive minorities as experiencing the same organizational disadvantages and vice versa). Non-tenure track academics, PHOs with non-

US MD degrees and non-academically based PHOs also expressed some corresponding dissatisfaction.

One intriguing aspect of the results in this respect that bears further investigation is the difference between subgroups on ratings of the organizational environment for women and minorities (Supplemental Tables IX and X). We found that non-academically based respondents were more likely than their academic counterparts to say that the departmental environment for women was good and less likely to think that their department had too few women leaders. Similarly non-tenure track respondents were more likely than their tenure track counterparts to say that their department enhances the environment for minorities and promotes minorities to leadership positions. It may be the case that non-academic settings offer better opportunities for women and that organizations with more non-tenure track faculty offer better opportunities for minorities. However, it may also be the case that the differences reflect a lack of understanding of the challenges faced by members of other groups. For instance, the non-academic group tended to have more males than females (Chi square $p<0.10$) and the non-tenure group had significantly less minority than majority members (Chi square $p<0.0001$). Furthermore, minorities rated the organizational environment for women as less favorable than their counterparts on only one out of 10 items and women rated the environment for minorities as less favorable on only 2 of 10 comparable items. It may be difficult for any of us to truly appreciate the challenges faced by others in the same setting, even those who may face comparable disadvantages.

This study has several limitations and the results should be interpreted with caution. A major limitation is the relatively low response rate (17%). As mentioned above, the overall ratings of career satisfaction of the respondents appear relatively high. For example 74% of women and 81% of minorities were satisfied with the process of their hiring; 70% of women and 74% of minorities felt like a full participant in problem-solving and decision-making; 80% of women and 76% of minorities were satisfied with their current job; and 95% of women and 94% minorities felt respected by their colleagues. It may be the case, however, that the respondents are more or less dissatisfied with their career experience than ASPHO members who did not respond.

Another significant limitation of this study involves the decision to allow respondents to classify them selves as a minority or majority in their institution rather than using the federally designated categories of under-represented minorities (e.g., Blacks/African Americans, Hispanics/Latinos and American Indians/Alaska Natives). Although the proportion of respondents who fall within the federally designated categories in the current survey is the same as the 2008 member survey, the numbers in both cases are too small to make definitive statements about the experience of members within these groups. Although the differences found between the self-identified minority and majority members in the current study indicate that minority status is in some ways certainly relative to context (e.g., being one of few men in a predominately female organization), the amount and pattern of differences may be very different for a focused sample of federally defined underrepresented minorities.

In addition, more research could be done to determine the contributions and interactions of the major factors of interest. For example, in the case of a female under-represented minority does ethnicity or gender play a greater role in creating barriers to success, or do these factors combine to produce even greater obstacles for the PHO? A third significant limitation resulted from the authors being unaware that ASPHO had conducted a membership survey in 2008. The variance in items severely limits direct comparisons between survey results on a variety of important issues (e.g., academic rank of women and minorities in the current sample).

The case has been made by leaders in medicine, including reports by the Institute of Medicine, that care of an increasing diverse patient population will be better served by a proportionately diverse workforce.[11] This certainly includes the diversification of faculty ranks to provide women and minorities role models for academic careers.[18] This diversification of faculty may also enrich the context of medical education in ways that undoubtedly improve the cultural and linguistic competencies of all providers.[4,19]

Merchant and Omary,[13] writing about underrepresented minorities (URMs), provide examples of what institutions can do to increase minority recruitment and retention. At the personal level, organizations concerned with physician education at all levels of development and in a variety of settings are beginning to recognize the importance of leadership and organizational skills in addition to traditional technical skills for career effectiveness and success.[20–27] Eagly and Carli,[28] writing about the complex challenges to attaining leadership positions for women, outline a set of strategies that can be useful to both women and minorities such as career planning, professional skill development, networking and mentoring. The Executive Leadership in Academic Medicine (www.drexelmed.edu/ELAM) is an excellent example of a national organization equipping women to lead, and providing an ongoing network of support.[29]

The 2010 ASPHO annual meeting offered a workshop on increasing diversity in pediatric hematology/oncology featuring a review of the survey findings and a panel of leaders in the field, chosen for their interest in the topic. The panelists, speaking from their own experiences, echoed the literature and reinforced the importance of the pursuing strategies such as those discussed above, noting that there were needs for changes at both institutional and personal levels. At the institutional level, panelists thought it was essential that leaders critically to review the equity of salary arrangements, leadership opportunities and distribution of rank among faculty members and establish transparent policies and procedures that promote diversity, equity and merit-based reward.[30] At the individual level, the panelists highlighted the importance of cultivating mentorship relationships and skills in negotiation.[31,32]

This study characterizes the comparative career pathway experience of women and minority ASPHO members. In this sample women and minority PHOs expressed less satisfaction than their male and majority counterparts on 70 of the 90 issues addressed in the survey. The findings provide targets for institutions, individuals and ASPHO as a society in efforts to improve the recruitment, retention and ultimate effectiveness of these professionals who are crucial to the diversification of the field. The study also produced some findings that point to the challenges to increasing diversity.

For example, the survey included a cluster of 10 items regarding the environment for women at the respondent's organization and a cluster of 10 similar items regarding the environment for minorities. Women rated the environment for women at their organization less favorably than men on all 10 items. However, there were no significant differences between minority and majority respondents' ratings of the environment for women on 9 of 10 items in this cluster. Likewise, while minorities rated the environment for minorities at their organization less favorably than majority respondents, there was no significant difference between the ratings of women and men on 8 of 10 items in this cluster. While women perceived the organizational environment as challenging for women they were no more likely than men to see the same environment as challenging for minorities. The same is true for how minorities perceive the organizational challenges for minorities versus the challenges for women. This subtle disparity in perceptions of the organizational environment for groups with whom we do not automatically identify can compound the effects of more obvious, structural barriers to increased diversity such as the under representation of women and minorities in

leadership positions or ineffective efforts to promote diversity.33 ASPHO can play an important role in two ways. Firstly, by maintaining a focus on these issues in the planning of meetings and offering other mechanisms of support for the professional development of its women and minority members, and secondly, by increasing the entire membership's awareness of the importance of and challenges to increasing diversity in Pediatric Hematology/Oncology.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

Acknowledgments

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Table I

2010 Diversity Survey Demographics (N=211)[a]

Age	Mean = 47.9
Gender	Female = 52%
Etnicity	
White, non-Hispanic	76.67%
Asian	14.33%
Hispanic	6.67%
Black/African-American	1.43%
Native American	.48%
Other	1.92%
Self-Identified Minority	23%
Academic Setting[b]	84%
Tenure Track[c]	47%

[a]N=211. 2008 ASPHO Member Survey Response Rate=46%, 2010 Response Rate=17% (Chi square p ≤.001). No significant differences between 2008 and 2010 proportions of ethnic categories.

[b]84% of 2010 versus 65% of 2008 respondents were in academic settings (Chi square p<.05).

[c]For academic settings only.