Discussion | In this study, nearly one-third of hospices did not enroll undocumented immigrants or limited the number enrolled, and 23% of referrals were not accepted. Restricted enrollment was more common among for-profit and smaller hospices, which is not surprising given the financial challenges of enrolling patients without a funding source. Hospice reduces health care costs and improves end-of-life care quality.[5] Undocumented immigrants unable to access hospice may be forced to seek treatment for symptoms and psychosocial needs through emergency services or hospitalization, which may increase costs for health systems and compromise end-of-life care.

This study has several limitations. Of the 230 agencies responding to the full survey, 51 (22.2%) did not complete the survey questions pertaining to undocumented immigrants, and only 15 (8.4%) agencies responding to these questions came from the US West census region, where many undocumented immigrants reside and demand is likely high. Also, the proportion of for-profit hospices was low relative to their representation nationwide. These factors may limit generalizability and lead to overestimation of access.

Our data demonstrate existing demand for hospice for undocumented patients, and suggest hospice access may be disproportionately limited in areas with predominately smaller, for-profit agencies. As the proportion of for-profit hospice agencies continues to grow nationally, barriers to hospice access for undocumented patients may increase. While some cities and states are expanding health care for undocumented immigrants,[6] for many, health care access remains limited. Based on this study, such limitations persist through end-stage illness. Policies that reduce barriers to hospice for this population may improve end-of-life care and reduce costs.

Nathan A. Gray, MD
Nathan A. Boucher, DrPH, PA-C
Maragatha Kuchibhatla, PhD
Kimberly S. Johnson, MD, MHS

Author Affiliations: Duke Palliative Care, Division of General Internal Medicine, Department of Medicine, Duke University School of Medicine, Durham, North Carolina (Gray); Duke University Center for the Study of Aging and Human Development, Duke University, Durham, North Carolina (Boucher, Kuchibhatla, Johnson); Geriatrics Research, Education and Clinical Center, Veterans Affairs Medical Center, Durham, North Carolina (Boucher, Johnson); Department of Biostatistics and Bioinformatics, Duke University School of Medicine, Durham, North Carolina (Kuchibhatla); Division of Geriatrics, Department of Medicine, Duke University School of Medicine, Durham, North Carolina (Johnson).

Corresponding Author: Nathan A. Gray, MD, Duke Palliative Care, DUMC Box 2706, Durham, NC 27710 (nathan.gray@dm.duke.edu).

Published Online: February 6, 2017. doi:10.1001/jamainternmed.2016.8870

Author Contributions: Drs Gray, Kuchibhatla, and Johnson had full access to all of the data in the study and takes responsibility for the integrity of the data and the accuracy of the data analysis.
Concept and design: Gray, Johnson.
Acquisition, analysis, or interpretation of data: All authors.
Drafting of the manuscript: Gray, Johnson.
Critical revision of the manuscript for important intellectual content: All authors.
Statistical analysis: Kuchibhatla, Johnson.
Obtained funding: Johnson.
Administrative, technical, or material support: Boucher, Johnson.
Study supervision: Johnson.

Conflict of Interest Disclosures: None reported.

Funding/Support: This research was supported by a grant from the National Institute on Aging, R01AG042130.

Role of the Funder/Sponsor: The National Institute on Aging had no role in the design and conduct of the study; collection, management, analysis, and interpretation of the data; preparation, review, or approval of the manuscript; and decision to submit the manuscript for publication.

Additional Contributions: The authors acknowledge NHPCO, AAHPM, and state hospice and palliative care organizations for their assistance in providing information about the study to their members.

1. Passel JS, Cohn DV, Krogstad JM, Gonzalez-Barrera A. As growth stalls, unauthorized immigrant population becomes more settled. Washington, DC: Pew Research Center; September 3.http://www.pewhispanic.org/2014/09/03/as-growth-stalls-unauthorized-immigrant-population-becomes-more-settled/. Accessed February 22, 2016.

2. Zuckerman S, Waidmann TA, Lawton E. Undocumented immigrants, left out of health reform, likely to continue to grow as share of the uninsured. *Health Aff (Millwood)*. 2011;30(10):1997-2004.

3. Wallace SP, Torres J, Sadegh-Nobari T, Pourat N, Brown RE. Undocumented immigrants and health care reform. UCLA Center for Health Policy Research; August 31, 2012. http://healthpolicy.ucla.edu/publications/Documents/PDF/undocumentedreport-aug2013.pdf. Accessed February 22, 2016.

4. Jaramillo S, Hui D. End-of-life care for undocumented immigrants with advanced cancer: documenting the undocumented. *J Pain Symptom Manage*. 2016;51(4):784-788.

5. Kelley AS, Deb P, Du Q, Aldridge Carlson MD, Morrison RS. Hospice enrollment saves money for Medicare and improves care quality across a number of different lengths-of-stay. *Health Aff (Millwood)*. 2013;32(3):552-561.

6. Berlinger N, Calhoon C, Gusmano MK, Vimo J. *Undocumented Immigrants and Access to Health Care in New York City: Identifying Fair, Effective, and Sustainable Local Policy Solutions: Report and Recommendations to the Office of the Mayor of New York City*. New York: The Hastings Center and the New York Immigration Coalition; 2015.

PHYSICIAN WORK ENVIRONMENT AND WELL-BEING

Differences in Mentor-Mentee Sponsorship in Male vs Female Recipients of National Institutes of Health Grants

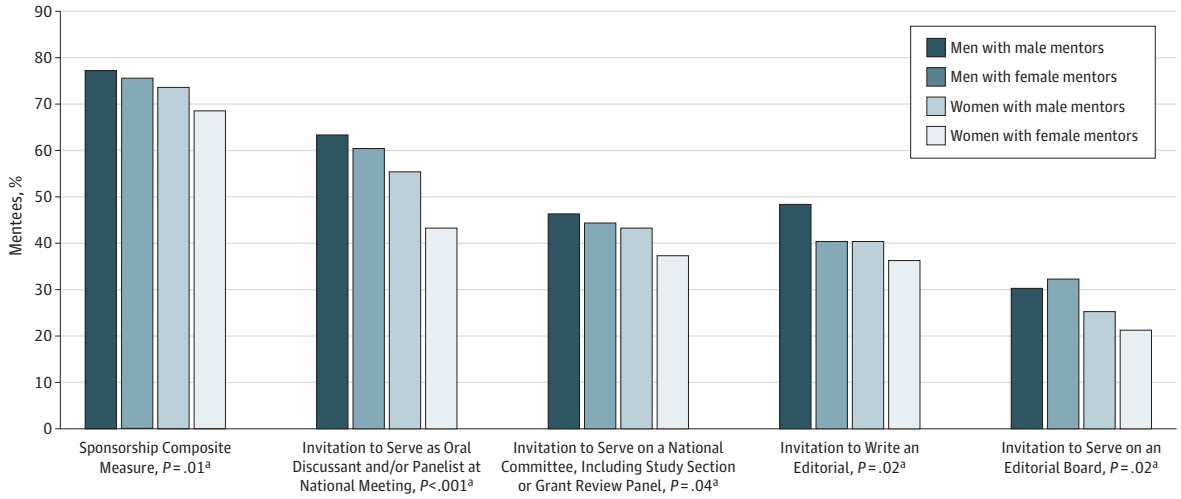
The term *sponsorship* describes advocacy on behalf of a high-potential junior person by powerful senior leaders that is critical for the career advancement of young professionals.[1] Distinct from the advisory role of a mentor, sponsorship requires senior leaders to risk their reputations by using their influence to provide high-profile opportunities that their mentees would otherwise not have.[2]

Editor's Note page 582

In business, women benefit less from sponsorship than men, which may contribute to a "gender gap" in leadership.[1,3] Lack of sponsorship may play a similar role in a "gender gap" among leaders in academic medicine.[4] We surveyed National Institutes of Health (NIH) Mentored Career Development (K) grant awardees to determine if sponsorship differs among men and women.

Methods | As part of a broader study of career development,[5] we conducted a postal survey in 2014 of all recipients of NIH K08 and K23 grants awarded in from January 2006 to December 2009 who remained in academic positions by 2014 to assess sponsorship experiences and the impact of sponsorship on academic success. Academic success was defined as satisfying at least 1 of the following criteria: (1) serving as principal investigator on an R01 or grants

Figure. Experiences of Sponsorship by Sex



This graph depicts self-reported experiences of sponsorship by K08 and K23 award recipients for men with male mentors (n = 442), men with female mentors (n = 89), women with male mentors (n = 323), and women with female mentors (n = 131). Unadjusted percentages are depicted for each of 4 individual sponsorship experiences and for a composite binary measure of having reported at least 1 of the 4 individual experiences.

[a] *P* values evaluate the presence of a difference between men and women holding National Institutes of Health (NIH) Mentored Career Development (K) awards in regression models that adjust for other demographic characteristics (age, race), job characteristics (grant type, year of grant award, medical specialty), level of funding for the NIH institute that granted the K award, and level of NIH funding received by the individual's institution of employment.

totaling more than $1 million since receipt of K award; (2) publishing 35 or more peer-reviewed publications; or (3) appointment as dean, department chair or division chief.[5] Respondents were asked to report sponsorship experiences, including an invitation to serve as an oral discussant or panelist at a national meeting, write an editorial, serve on an editorial board, or serve on a national committee, including NIH study section or grant review panel. Sex of mentors and mentees was determined by self-report. We also created a single composite binary measure of sponsorship, defined as reporting at least 1 of these 4 sponsorship experiences. Respondents were also asked if their mentor acted as a sponsor by helping them obtain desirable positions or creating opportunities for them to impress important people. We used the χ^2 tests to assess the association of the composite measure of sponsorship and academic success and to compare proportions between men and women. Additionally we constructed multiple variable logistic models for the composite measure of success and for its components as outcomes separately to adjust the estimated effect of the sex of the mentee for mentee demographics (age, race), job characteristics (grant type, year of grant award, medical specialty), level of funding for the NIH institute that granted the K award, and the level of NIH funding received by the individual's institution of employment.

Results | Of the 1066 respondents (62.4% of 1708 originally surveyed), 995 remained in academic medicine in 2014 and constituted the analytic sample; 461 (46%) were women, 703 (71%) white, and mean (SD) age was 43 (4.3) years. Sponsorship was significantly associated with success ($P < .001$); 298 of 411 men (72.5%) and 193 of 327 women (59.0%) who reported sponsorship were successful, compared with 71 of 123 men (57.7%) and 60 of 134 women (44.8%) who did not report sponsorship.

Any sponsorship experience, as well as specific sponsorship experiences, were more commonly reported by men than women, with significant differences between men and women (**Figure**). No sex differences were observed for perceptions of the mentor's use of influence to support the mentee's advancement (290 of 449 women [64.6%] and 344 of 527 men [65.3%]; $P = .16$) or bringing the mentee's accomplishments to the attention of important people (260 of 449 women [57.9%] and 319 of 531 [60.5%]; $P = .44$).

Discussion | What might explain these sex differences in sponsorship? Female mentees may have less powerful mentors who are therefore unable to act as sponsors, may less actively request sponsorship opportunities, or may require (or be viewed as requiring) other types of mentorship (such as advice on navigating professional obstacles based on sex or work-life balance) that crowds out the time mentors have to pursue sponsorship; also, mentors may be less likely to think of female mentees for sponsorship opportunities. Much less likely, given this highly qualified cohort, is that male mentees received more sponsorship based on superior merit.

Given that sponsorship appears common and is associated with success, further attention to gender equity in this regard is critical. Male and female mentors alike should consciously act as sponsors by reviewing opportunities and offering high-profile opportunities to mentees. Mentees should seek connections with higher-level leaders to cultivate sponsors as part of their mentorship team. More widespread sponsorship may not only enhance the careers of individual women

but may also help to increase the diversity of perspectives leading the national conversation in academic medicine.

Elizabeth W. Patton, MD, MPhil, MSc
Kent A. Griffith, MS
Rochelle D. Jones, MS
Abigail Stewart, PhD
Peter A. Ubel, MD
Reshma Jagsi, MD, DPhil

Author Affiliations: Department of Obstetrics and Gynecology, Boston University, Boston, Massachusetts (Patton); Department of Surgery, Veterans Affairs Boston Healthcare System, West Roxbury, Massachusetts (Patton); Center for Cancer Biostatistics, School of Public Health, University of Michigan, Ann Arbor (Griffith); Center for Bioethics and Social Sciences in Medicine, University of Michigan, Ann Arbor (Jones, Jagsi); Department of Radiation Oncology, University of Michigan, Ann Arbor (Jones, Jagsi); Department of Psychology, University of Michigan, Ann Arbor (Stewart); Schools of Business, Public Policy and Medicine, Duke University, Durham, North Carolina (Ubel); Institute for Healthcare Policy and Innovation, University of Michigan, Ann Arbor (Jagsi).

Corresponding Author: Reshma Jagsi, MD, DPhil, Department of Radiation Oncology, University of Michigan, 1500 E Medical Center Dr, UHB2C490, SPC 5010, Ann Arbor, MI 48109 (rjagsi@med.umich.edu).

Published Online: February 20, 2017. doi:10.1001/jamainternmed.2016.9391

Author Contributions: Dr Jagsi had full access to all of the data in the study and takes responsibility for the integrity of the data and the accuracy of the data analysis.
Study concept and design: Patton, Ubel, Jagsi.
Acquisition, analysis, or interpretation of data: Griffith, Jones, Stewart, Jagsi.
Drafting of the manuscript: Patton, Griffith, Jagsi.
Critical revision of the manuscript for important intellectual content: All authors.
Statistical analysis: Griffith.
Obtained funding: Jagsi.
Administrative, technical, or material support: Patton, Jones, Jagsi.

Conflict of Interest Disclosures: None reported.

Funding/Support: This research was funded by the National Institutes of Health (grant No. 5 R01 HL101997-04). Dr Patton was supported by the Robert Wood Johnson Foundation Clinical Scholars Program and the US Department of Veterans Affairs. Dr Jagsi was supported by the Elizabeth Caroline Crosby Fund.

Role of the Funder/Sponsor: The funders/sponsors had no role in the design and conduct of the study; collection, management, analysis, and interpretation of the data; preparation, review, or approval of the manuscript; and decision to submit the manuscript for publication.

1. Hewlett S, Peraino K, Sherbin L, Sumberg K; the Center for Work-Life Policy. *The Sponsor Effect: Breaking Through the Last Glass Ceiling*. Harvard Business Review Research Report 2010. Boston, MA: Harvard Business School Publishing; 2010. https://hbr.org/product/the-sponsor-effect-breaking-through-the-last-glass-ceiling/10428-PDF-ENG. Accessed January 19, 2017.

2. Hewlett SA. *Forget a Mentor, Find a Sponsor*. Boston, MA: Harvard Business School Publishing; 2013.

3. Foust-Cummings H, Dinolfo S, Kohler J. Sponsoring women to success. Catalyst Report. 2011. http://www.catalyst.org/system/files/sponsoring_women_to_success.pdf. Accessed December 13, 2016.

4. Travis EL, Doty L, Helitzer DL. Sponsorship: a path to the academic medicine C-suite for women faculty? *Acad Med*. 2013;88(10):1414-1417.

5. Jagsi R, DeCastro R, Griffith KA, et al. Similarities and differences in the career trajectories of male and female career development award recipients. *Acad Med*. 2011;86(11):1415-1421.

Editor's Note

Gender Disparities in Sponsorship—How They Perpetuate the Glass Ceiling

What do we mean when we talk about the "glass ceiling?" The phrase has been circulating for decades but still refers to the unofficially acknowledged barrier to advancement in a profession, particularly affecting women and minorities.

In 2016, as in other professional fields, women continue to be underrepresented in high-profile positions within medicine, particularly faculty positions within academic medicine—only 38% in the United states as of 2014.[1] Beyond a waste of intellectual capital, this disparity could lead to potential lack of diversity in the research agenda and future health practices.[1] In this issue of *JAMA Internal Medicine*, Patton and colleagues[2] report results from a survey of academic medicine faculty that identifies differences in sponsorship for men and women and suggest this difference as a possible mechanism leading to a "gender achievement gap."

Patton and colleagues[2] distinguish "sponsorship" and "mentorship" and argue that this differentiation is the crux of the gender gap problem. Though the former is generally thought to be a subset of the latter, sponsorship is a higher-stakes effort on the part of the mentor, requiring the mentor to put his or her reputation on the line to obtain high-profile opportunities for their young and rising mentees. Sponsorship is not discussed much in medicine, although it has been described extensively in the business world. Indeed, Ibarra and colleagues[3] find that women in business are likely to be overmentored and undersponsored; women are more likely to be given well-meaning advice about understanding themselves rather than guidance to move forward in their careers—in contrast, men are much more likely to be engaged in strategic planning about advancing into new roles.[3]

This Research Letter by Patton and colleagues[2] finds that though mentor sponsorship of their mentees equates to more academic success across all fields, it appears that women are undersponsored compared with men. Furthermore, both male and female mentors sponsor their female mentees less than their male mentees. There still clearly remains much work to do to eliminate sex-based barriers to professional success. This study by Patton et al[2] suggests an innovative approach to working toward more sponsorship—and strong mentorship—of women in medicine.

Saate Shakil, MD
Rita F. Redberg, MD, MSc

Author Affiliations: Department of Medicine, University of California, San Francisco, San Francisco (Shakil, Redberg); Editor, *JAMA Internal Medicine* (Redberg).

Corresponding Author: Rita F. Redberg, MD, MSc, Department of Medicine, University of California, San Francisco, 505 Parnassus, Ste M1180, San Francisco, CA 94143 (redberg@medicine.ucsf.edu).

Conflict of Interest Disclosures: None reported.

1. Edmunds LD, Ovseiko PV, Shepperd S, et al. Why do women choose or reject careers in academic medicine? a narrative review of empirical evidence. *Lancet*. 2016;388(10062):2948-2958.

2. Patton EW, Griffith KA, Jones RD, Stewart A, Ubel PA, Jagsi R. Differences in mentor-mentee sponsorship in male vs female recipients of National Institutes of Health grants [published online February 20, 2017]. *JAMA Intern Med*. doi:10.1001/jamainternmed.2016.9391

3. Ibarra H, Carter NM, Silva C. Why men still get more promotions than women. *Harv Bus Rev*. 2010;88(9):80-85, 126.