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SHORT REPORT

Analysis of Physician Compensation Studies by Gender, Race, and Ethnicity

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Abstract

Purpose: This report investigated physician compensation studies by gender, race, and ethnicity.

Methods: Published U.S. physician compensation studies were assessed.

Results: Of the 47 data sets within 46 studies, 36 analyzed compensation by gender and 32 (88.9%) found disparities. Thirteen and eight analyzed for race and ethnicity, with disparities found in four (30.8%) and none, respectively. The sample sizes of the four data sets with differences by race were among the largest in the subset.

Conclusion: Most studies demonstrate pay disparities for women, but not for people who identify with underrepresented race/ethnic groups; however, small sample sizes may affect results.

Keywords: ethnicity; gender; physician compensation; physician salary

Introduction

Among the most important issues confronting the increasingly diverse physician workforce is fair pay. In the United States, both federal law and many states’ laws support compensation for people based on the work that is done rather than who is doing the work.1 Despite this, there is a large body of evidence that demonstrates pay gaps for women in general. A recent systematic review found that across countries and medical specialties, women physicians earned significantly less than men despite similar demographic and work-related profiles.2

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| Study references | No. of participants | Population studied | Variables in multivariable analysis | Gender disparities studied/found | Race disparities studied/found | Ethnicity disparities studied/found |
|------------------|---------------------|--------------------|-------------------------------------|---------------------------------|-----------------------------|-----------------------------------|
| Hayes (2020)      | 2,845               | Physicians at one academic institution (Mayo Clinic) with three locations | Gender, race/ethnicity, specialty, leadership position, full-time equivalent status, experience, age, work location, licensure, other compensable activities | Y/N                             | Y/N                          | Y/N                               |
| Lo Sasso (2020)   | 16,047              | New York State physicians entering first year of attending-level patient care practice | Specialty training, number of job offers, sex, age, gender, race/ethnicity, citizenship, education and training, educational debt, principal practice setting, location type, obligation to health professional shortage area, weekly patient care hours | Y/Y                             | N/N                          | N/N                               |
| Langer (2019)     | 41,396              | Physicians in clinical practice who participated in the Community Tracking Survey | Gender, age, degree, training, work hours, weeks worked, revenue sources, practice ownership status, geographic region, metropolitan statistical area category, race, ethnicity | Y/Y                             | Y/Y                          | Y/N                               |
| Pallant (2019)    | 149                 | Program director members of the Association of Pediatric Program Directors | Gender, race/ethnicity, age, academic rank, clinical appointment, number of raises, tenure track, years in program director role, number of noncombined residents in program | Y/Y                             | Y/N                          | Y/N                               |
| Apaydin (2018)    | 439                 | Physicians from 30 diverse practices within six states | Hours worked, composition of work hours, percent procedural time, specialty, compensation type, age, years in practice, gender, race, ethnicity, state and practice random effects | Y/Y                             | N/N                          | N/N                               |
| Read (2018)       | 374                 | Members (nonstudent) of the Internal Medicine Insider Research Panel within the American College of Physicians | Bivariate analysis performed comparing salary by gender and one other factor: specialty, employment status, age, race, primary professional setting, primary professional activity, marital status, spousal employment status, parental status | Y/Y                             | Y/N                          | N/N                               |

(continued)
Table 1. (Continued)

| Study references First author name (year) | No. of participants | Population studied | Variables in multivariable analysis | Gender disparities studied/found | Race disparities studied/found | Ethnicity disparities studied/found |
|------------------------------------------|---------------------|--------------------|-------------------------------------|---------------------------------|--------------------------------|----------------------------------|
| Madsen (2017)19                         | 1,371               | Full-time faculty members in U.S. academic emergency departments via the 2015 Academy of Administrators in Academic Emergency Medicine Salary Survey | Race/ethnicity, region, rank, years of experience, clinical hours, core faculty status, administrative roles, board certification, fellowship training, gender | Y/Y After adjustment, women's salaries were $19,418 lower | Y/N | Y/N |
| Freund (2016)10                         | 490                 | Sample of academic medical faculty from 24 U.S. medical schools | Race/ethnicity (combined category), gender, years since first academic appointment, retention in academic career, academic rank, departmental affiliation, percent effort in various areas, marital status, parental status, any leave or part-time status in the years between surveys | Y/Y After adjustment, women earned $16,982 less in annual compensation | Y/N | Y/N |
| Ly (2016)12                             | 61,327 from ACS survey 17,583 in HSC survey | 2000–2013 ACS to 2000–2008 HSC | ACS: age, sex, race, weekly hours worked, state of residence, time period HSC: Age, sex, race, number of hours worked per week, years in practice, practice type, percentage revenue from Medicare or Medicaid, specialty type | Y/Y In both studies, women had lower incomes than men | Y/Y In both studies, Black men had lower incomes than White men; incomes were similar for Black and White women | N/N N/N |
| Jagsi (2013)8                           | 1,012               | Recipients of NIH mentored career development awards | Gender, age, race, marital status, parental status, additional doctoral degree, academic rank, years on faculty, specialty, institution type, region, institution NIH funding rank, K award type, K award funding institute, K award year, work hours, research time | Y/Y After adjustment, women had lower annual salaries by $10,921 | Y/N | N/N |
| Seabury (2013)23                        | 7,653               | 1987–2010 March Current Population Survey | Hours worked, age, sex, race, state | Y/Y The annual earnings gap did not change significantly over time ($33,840 in 1987–1990 and $34,620 in 1996–2000) | N/N | N/N |
Table 1. (Continued)

| Study references | First author name (year) | No. of participants | Population studied | Variables in multivariable analysis | Gender disparities studied/found | Race disparities studied/found | Ethnicity disparities studied/found |
|------------------|--------------------------|---------------------|--------------------|-------------------------------------|---------------------------------|-------------------------------|-----------------------------------|
| Analysis by race/| Rosenthal (2017)         | 157                 | Members of the     | Multivariable analysis not          | Y/Y                             | N/N                           | Y/N                              |
| gender (separate)|                          |                     | Academy of        | performed                           | Average women’s salary was $20,000 less |                              |                                  |
| Analysis by race | Marcelin (2019)          | 2,075               | Infectious Diseases | Practice type, race, ethnicity      | N/N                             | Y/N                           | Y/N                              |
| and/or ethnicity  |                          |                     | Society of North America |                        |                                |                              |                                  |
| only (not gender) |                          |                     |                    |                                     |                                |                              |                                  |
| Kaplan (2018)    |                          | 604                 | Sample of academic | Race/ethnicity, setting, rank, effort | N/N                             | N/N                           | Y/N                              |
| Lin (2016)       |                          | 26 in 2004, 38 in    | medical faculty    | distribution in teaching, clinical and |                                |                              |                                  |
|                  |                          | 2009, 54 in 2014    | from 24 U.S.       | research activities                 |                                |                              |                                  |
| Cheng (2020)     |                          | 72                  | Faculty at one     | Multivariable analysis not          | Y/Y                             | N/N                           | N/N                              |
|                  |                          |                     | academic (Johns    | performed                           | Unadjusted physician salaries   |                              |                                  |
|                  |                          |                     | Hopkins) otolaryngology program |                        | were $23,135 lower for women      |                              |                                  |
| Gambhir (2021)   |                          | 170                 | Surgeons within a  | Academic rank, surgical subspecialty | N/N                             | N/N                           | N/N                              |
| Pelley (2020)    |                          | Number not given    | multi-institutional health care system (University of California) | gender                         | Adjusted mean salaries were $45,904 lower for women |                              |                                  |
| Sangji (2020)    |                          | 461                 | Trauma surgeons, members of The Eastern Association for the Surgery of Trauma | Gender and age or practice type (analyzed separately) | Fewer women than men made an income of $300,000 or more (57% vs. 83%) | N/N                           | N/N                              |
| Shah (2020)      |                          | 366                 | Neurocritical care physicians, members of the Neurocritical Care Society | Multivariable analysis not performed | Men’s median salary range was $276,000–$300,000 compared to women $251,000–$275,000 | N/N                           | N/N                              |
| Study references   | First author name (year) | No. of participants | Population studied                                                                 | Variables in multivariable analysis                                                                 | Gender disparities studied/found | Race disparities studied/found | Ethnicity disparities studied/found |
|--------------------|--------------------------|---------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|---------------------------------|-------------------------------|----------------------------------|
| Winkelman (2020)32 |                         | 85                  | Urogynecologists employed at public universities with publicly available salary data | Academic rank, leadership roles, years since residency, gender                                       | Y/Y                             | N/N                           | N/N                              |
| Demody (2019)44   |                         | 260                 | Otolaryngologists employed at Veterans Affairs Medical Centers with level 1 complexity | Number of years since graduation, h-index, gender, geographic location, faculty rank                 | Y/N                             | N/N                           | N/N                              |
| Horowitz (2019)33 |                         | 366                 | Neonatologists, members of the American Academy of Pediatrics Section on Neonatal-Perinatal Medicine | Gender, geographic region, work with physician assistants, in-house call, years postfellowship, administrative time, daily rounding on critical care patients, clinical time, medical education time, work with neonatal hospitalists, eligibility for annual bonus, large central metropolitan county, academic institution | Y/Y                             | N/N                           | N/N                              |
| Wiler (2019)34    |                         | 7,102               | Physicians belonging to academic emergency medicine departments                    | Gender, academic rank, geographic region, type of hospital, years at faculty appointment, year of survey | Y/Y                             | N/N                           | N/N                              |
| Burns (2018)35    |                         | 97                  | Tenure-track faculty on one academic pathology department (Johns Hopkins)           | Type of appointment, academic rank, years at rank, gender                                          | Y/N                             | N/N                           | N/N                              |
| Hoops (2018)36    |                         | 86                  | Surgeons at a single academic institution (Oregon Health & Science University)      | Rank, fiscal year, gender                                                                         | Y/Y                             | N/N                           | N/N                              |
| Morris (2018)37   |                         | 44                  | Surgeons at a single academic medical institution (University of Alabama at Birmingham) | Multivariable analysis not performed                                                               | Y/Y                             | N/N                           | N/N                              |
| Trotman (2018)38  |                         | 2504                | Members of the Infectious Diseases Society of America                               | Employment affiliation or facility type, age, gender                                               | Y/Y                             | N/N                           | N/N                              |
| Study references | No. of participants | Population studied | Variables in multivariable analysis | Gender disparities studied/found | Race disparities studied/found | Ethnicity disparities studied/found |
|------------------|---------------------|---------------------|-------------------------------------|---------------------------------|-------------------------------|-----------------------------------|
| Kapoor (2017)    | 573                 | Academic radiologists at 24 public medical schools | Sex, age, faculty rank, years since residency, clinical trial involvement, NIH funding, total Medicare payments, scientific publications, clinical volume, graduation from a top-20 medical school | Y/N                             | N/N                           | N/N                              |
| Nguyen Le (2017) | 29,856 in 1990, 36,368 in 2000, 47,362 in 2010 | Physicians from the Integrated Public Use Microdata Series 1990 and 2000 and 2007-2011 ACS (data combined) | Sex, age, race/ethnicity, marital status, number of children, hours worked per week, weeks worked per year, business ownership status | Y/Y After adjustment, the unexplained decrease in women’s earnings ranged from 52% to 57% | N/N                           | N/N                              |
| Jagsi (2016)     | 2,679               | Cardiologists from 161 practices | Age range, gender, race/ethnicity, subspecialty, job characteristics including full-time, work RVUs and new patient office visits, patient care breakdown, geographic region, practice composition and other practice factors, practice compensation model | Y/Y After adjustment, women had lower salaries by $31,749 | N/N                           | N/N                              |
| Jena (2016)      | 10,241              | Academic physicians at 24 public medical schools | Age, sex, experience, specialty, years since residency, faculty rank, NIH funding, clinical trial participation, publication count, medical school attended (top 20 vs. not), Medicare payments, geographic region | Y/Y After adjustment, women had $19,878 lower salaries | N/N                           | N/N                              |
| Ritter (2016)    | 1,878               | Infectious disease physicians, members of the Infectious Diseases Society of America | Practice type, gender, age | Y/Y Gender disparities in income span age ranges and practice types and are greatest for solo/owner/ partner physicians | N/N                           | N/N                              |
| Manahan (2015)   | 843                 | Breast surgeons, members of the American Society of Breast Surgeons | Gender, ownership, years of practice, practice type, fellowship training, geographic location, urbanicity, breast surgery case volume and proportion of practice | Y/Y After adjustment, income was $68,000 lower for women | N/N                           | N/N                              |
| Spencer (2016)   | 848                 | Urologists, members of the American Urologic Association | Age, gender, work hours, call frequency, practice setting and type, fellowship training, Advance Practice Provider employment | Y/Y After adjustment, women had lower compensation | N/N                           | N/N                              |
| Study references | First author name (year) | No. of participants | Population studied | Variables in multivariable analysis | Gender disparities studied/found | Race disparities studied/found | Ethnicity disparities studied/found |
|------------------|--------------------------|---------------------|--------------------|------------------------------------|-------------------------------|-------------------------------|----------------------------------|
| Weaver (2015)    | 45 776                   | Hospitals who responded to the 2009–2010 Hospital Medicine Physician Worklife Survey | Gender, leadership role, prioritizes substantial pay, pediatric specialty, practice model, practice region, FTE, days per month of clinical work, daily billable encounters | Y/Y After adjustment, women earned $14,581 less | N/N | N/N |
| Willett (2015)   | 46 241                   | Internal Medicine program directors, members of the Association of Program Directors in Internal Medicine | Academic rank, career in general internal medicine, age, gender | Y/Y After adjustment, women's salaries were significantly lower | N/N | N/N |
| Henderson (2014) | 47 433                   | Faculty members within four neurological specialties within one health care system (the University of California) | Institution, academic rank, chair status, specialty, Scopus publication count, Scopus h-index | Y/Y Multivariate regression demonstrated women's salaries were 12% lower | N/N | N/N |
| Neither gender nor race/ethnicity analysis performed | Mead (2020) | 1,970 | Physicians practicing general orthopedics and seven orthopedic subspecialties who participated in the American Medical Group Association compensation survey | Multivariable analysis not performed—compensation compared against hours worked per week | N/N | N/N | N/N |
| Ringel (2019)    | 49 858                   | Endocrinologists, survey of departments via the Association of Endocrine Chiefs and Directors within the Endocrine Society | Multivariable analysis not performed—compensation compared by academic rank, academic track, leadership position (presented separately) | N/N | N/N | N/N |
| Chunn (2020)     | 4,830                    | Cardiologists in the MedAxiom Annual Survey 2010–2014 | Age category, clinical productivity, ownership model, year of survey, compensation method, subspecialty, employment status, days worked, geographic area | N/N | N/N | N/N |
| Eltorai (2018)   | Not given                | Mean data from 37 specialties, data from the American Medical Colleges Careers in Medicine website | Specialty, hours worked | N/N | N/N | N/N |
| Mrak (2018)      | 168                      | Academic pathologists from 43 departments, survey sent through the Association of Pathology Chairs | Terminal degree(s) with academic rank presented separately from subspecialty with work RVUs | N/N | N/N | N/N |
In this review, the pay disparities were often tens of thousands of dollars less annually, which can translate into millions of dollars in lost income and investments throughout one's career.3 Less is known about compensation disparities for physicians who identify with racial or ethnic minority groups; however, large surveys such as Medscape4 suggest that disparities exist for people who identify with these groups. In this report, we analyzed physician compensation studies published in medical journals to determine what is known about pay disparities as they relate to gender, race, and ethnicity.

Methods
We searched PubMed on July 1, 2020, for studies on physician compensation published between January 1, 2013, and June 30, 2020. We included studies if they used terms in the title or abstract: “salary” or “compensation” or “wage” or “payment” or “research support” and the term(s) “physician” or “faculty.” We excluded studies that did not include U.S. physician compensation, were not in English, were secondary sources (e.g., reviews, perspectives) that did not present novel data, and studies that focused on Medicare payments only or supplementary income (e.g., industry payments, grant awards). IRB approval was not required as all data collected were publicly available.

In a second round of review, we excluded studies that presented data reported as a percentage (percent funding or percent effort) or a partial component of compensation (not total compensation/salary) or billing metrics (e.g., relative value units).

Two authors (A.R.L. and M.J.E.) independently reviewed the 4,563 articles for inclusion and came to consensus on 62 studies that met the initial criteria. Next, two authors (A.R.L. and Q.R.Y.) independently verified the initial inclusion criteria as well as checked for numeric data on total salary/compensation and came to consensus on 46 studies that met the full inclusion criteria, which included an analysis of 47 data sets in total (one study analyzed two data sets separately). We further evaluated each of the 47 data sets to determine specifics of the analyses and findings of disparities by gender, race, and ethnicity.

Results
Twelve data sets conducted a multivariable analysis considering at least gender and race and, in some instances, ethnicity. Three of these studies included race/ethnicity in their multivariable model, but did not consider the impact of these terms on compensation separately. These 12 are reported in the first section of Table 1. One study considered the impact of
gender and race on compensation individually (non-multivariable model). Three studies analyzed ethnicity and race, but not gender, and, of these, two used multivariable models adjusting for covariates. Twenty-three studies collected and analyzed data on gender, but not race or ethnicity. Eight studies did not analyze physician compensation data by gender or race or ethnicity (Table 1 and Fig. 1).

Some studies reported gender, race, or ethnicity within general demographic information on participants or used these data as a confounding variable for adjustment in the analysis. Only those studies that reported the impact of each variable on compensation are listed in Table 1 as having analyzed/studied that variable. Table 2 lists the gender, racial, and ethnic breakdown for each study. For studies that reported these categories as percentages, the numbers are noted to be approximate.

Of the 36 data sets for which compensation was analyzed by gender, 32 found gender-based compensation disparities (Table 1 and Fig. 2). In contrast, 13 data sets were analyzed by race and 4 found race-based compensation disparities. For ethnicity, zero out of eight data sets showed differences between ethnic groups (Fig. 2). The median sample size for the data sets that were analyzed by race and ethnicity was 1,012 and 987.5. The four data sets that revealed differences in compensation by race had four of the five largest sample sizes in the group of 13 at 61,327, 41,396, 17,583, and 2,075.

Discussion

In this report, we found that the majority of data sets on physician compensation focus on women and most of these (88.9%) had documented disparities. A smaller number of data sets considered race and/or ethnicity, and of these, four (30.8%) had documented disparities by race.

Our findings are consistent with other reports on gender-related disparities in compensation for physicians.2,5 Pay gaps begin early in a physician’s career6 and persist into the highest echelons of academia.7 Documented disparities exist even after accounting for confounding variables, such as years of experience, academic rank, and specialty, among others (Table 1).8–12 A recent study showed that research on pay disparities is primarily conducted by women and the majority of this work is unfunded.13 Some of the institutions that did not show pay disparities in our study (Table 1) were based on a regimented/formulaic model of compensation,14,15 which is one possible approach to address this problem.

Larger studies have reported compensation disparities based on race and/or ethnicity. A 2019 study by Larson, et al.; Health Equity 2022, 6.1
http://online.liebertpub.com/doi/10.1089/heq.2021.0098

FIG. 1. Of the 47 data sets, 26 analyzed by gender only, 3 by ethnicity and race, 5 by gender and race, and 5 by gender, race, and ethnicity. Eight analyzed none of these.
| Study references  | No. of participants | Women, n | American Indian or Alaskan Native, n | Asian, n | Black or African American, n | Native Hawaiian or Pacific Islander, n | Two or more races, n | White, n | Unknown race or other, n | URM, n | Other non-URM, n | Hispanic, n |
|------------------|---------------------|----------|-------------------------------------|----------|-------------------------------|----------------------------------------|---------------------|---------|------------------------|--------|------------------|------------|
| Hayes (2020)     | 2,845               | 861      | 11                                  | 469      | 57                           | 22                                    | 2,120               | 3       | 163                   |        |                   |            |
| Lo Sasso (2020)  | 16,047              | 7,005    | ~5,182                              | ~1,103   | ~7,460                       | ~33,241                                | ~3,366               | ~1,199  | ~2,111                |        |                   |            |
| Langer (2019)    | 41,396              | ~8,859   | ~166                                | ~5,299   | ~1,532                       | ~33,241                                | ~3,366               | ~2,111  |                       |        |                   |            |
| Pallant (2019)   | 149                 | 82       | 3                                   | 59       | 9                            | 2                                     | 345                 | 4       | 15                   |        |                   |            |
| Apaydin (2018)   | 439                 | 176      | 3                                   | 59       | 9                            | 2                                     | 345                 | 4       | 15                   |        |                   |            |
| Read (2018)      | 374                 | 120      |                                     |          |                              |                                        |                     |         |                       |        |                   |            |
| Madsen (2017)    | 1,371               | 447      |                                     |          |                              |                                        | 1,066               | 153     | 40                   |        |                   |            |
| Freund (2016)    | 490                 | 239      |                                     |          |                              |                                        | 429                 | 153     | 40                   |        |                   |            |
| Ly (2016)        | 61,327              | 16,416   | 2,950                               | 16,723   | 58,377                       | 1,401                                  | 529                 | 181     |                       |        | 47               | 28          |
| Jagi (2013)      | 1,275               | 419      | 250                                 | 1,401    | 529                          | 1,401                                  | 529                 | 181     |                       |        | 47               | 28          |
| Seabury (2013)   | 6,258               | 1,964    |                                     |          |                              |                                        |                     |         |                       |        |                   |            |
| Rosenthal (2017) | 157                 | 2,075    | 333                                 | 1,401    | 529                          | 1,401                                  | 529                 | 181     |                       |        | 47               | 28          |
| Marcelin (2019)  | 604                 | 309      |                                     |          |                              |                                        |                     |         |                       |        |                   |            |
| Kaplan (2018)    | 26 in 2004, 38 in 2009, 54 in 2014 | 2 in 2004, 11 in 2009, 15 in 2014 | Multivariable analysis not performed |         |         |                                        |                     |         |                       |        | 47               | 28          |
| Sangji (2020)    | 461                 | 105      | 0                                   | 29       | 20                           | 10                                    | 383                 | 12      | 7                    |        |                   |            |
| Shah (2020)      | 366                 | 129      | 5                                   | 93       | 10                           | 197                                   | 197                 | 32      | 29                   |        |                   |            |
| Winkelman (2020) | 89                  | 53       |                                     |          |                              |                                        |                     |         |                       |        |                   |            |
| Dermody (2019)   | 260                 | 63       |                                     |          |                              |                                        |                     |         |                       |        |                   |            |
| Horowitz (2019)  | 366                 | 168      | 59                                  | 15       | 252                          | 12                                    | 252                 | 12      | 19                   |        |                   |            |
| Willet (2019)    | 7,102               | 2,412    |                                     | ~284     | ~283                         | ~5,912                                 | ~5,912              | ~200    |                       |        |                   |            |
| Burns (2018)     | 97                  | 37       |                                     |          |                              |                                        |                     |         |                       |        |                   |            |
| Hoops (2018)     | 86                  | 24       |                                     |          |                              |                                        |                     |         |                       |        |                   |            |
| Morris (2018)    | 44                  | 11       |                                     |          |                              |                                        |                     |         |                       |        |                   |            |
| Trotman (2018)   | 2,504               | ~1,002   | ~351                                | ~75      | ~1,502                       | ~200                                   | ~200                | ~200    |                       |        |                   |            |
| Kapoor (2017)    | 573                 | 171      |                                     |          |                              |                                        |                     |         |                       |        |                   |            |
| Nguyen Le (2017) | 29,856              | 6,210    |                                     | ~922     | ~25,439                      | ~3,466                                 | ~3,466              | ~3,466  |                       |        |                   |            |
| 36,368 in 2000   | 9,689               | 2,412    |                                     | ~1,565   | ~28,402                      | ~6,403                                 | ~6,403              | ~6,403  |                       |        |                   |            |
| 47,362 in 2010   | 15,551              | 2,412    |                                     | ~1,962   | ~35,820                      | ~9,581                                 | ~9,581              | ~9,581  |                       |        |                   |            |
| Jagi (2016)      | 2,579               | 229      |                                     | 1        | 75                           | 31                                    | 1,036               | 40      | 73                   |        |                   |            |
| Jena (2016)      | 10,241              | 3,549    |                                     |          |                              |                                        |                     |         |                       |        |                   |            |
| Ritter (2016)    | 1,878               | ~751     |                                     |          |                              |                                        |                     |         |                       |        |                   |            |
| Manahan (2015)   | 843                 | 542      |                                     |          |                              |                                        |                     |         |                       |        |                   |            |
| Spencer (2015)   | 848                 | 73       |                                     |          |                              |                                        |                     |         |                       |        |                   |            |
| Weaver (2015)    | 776                 | 263      |                                     |          |                              |                                        |                     |         |                       |        |                   |            |
| Willett (2015)   | 241                 | 72       |                                     |          |                              |                                        |                     |         |                       |        |                   |            |
| Henderson (2014) | 433                 | 98       |                                     |          |                              |                                        |                     |         |                       |        |                   |            |
| Mead (2020)      | 1,958               |          |                                     |          |                              |                                        |                     |         |                       |        |                   |            |
| Ringel (2019)    | 358                 |          |                                     |          |                              |                                        |                     |         |                       |        |                   |            |
| Chun (2018)      | 4,830               |          |                                     |          |                              |                                        |                     |         |                       |        |                   |            |
| Eltorai (2018)   | 168                 |          |                                     |          |                              |                                        |                     |         |                       |        |                   |            |
| Mrak (2018)      | 433                 |          |                                     |          |                              |                                        |                     |         |                       |        |                   |            |
| Prakash (2017)   | Not given           |          |                                     |          |                              |                                        |                     |         |                       |        |                   |            |
| Fijalkowski (2013)| 433               |          |                                     |          |                              |                                        |                     |         |                       |        |                   |            |
| Slakey (2013)    | 72                  |          |                                     |          |                              |                                        |                     |         |                       |        |                   |            |

*Category specifically indicated as non-Hispanic.
URM, underrepresented minority.
Medscape on 19,328 U.S. physicians found that Caucasian physicians receive the highest compensation and African American physicians the lowest. This racial disparity persisted after adjusting for specialty. Ly et al. compared the income of White and Black physicians within two large data sets and found that White men made significantly higher compensation than Black men and that, while women physicians made significantly lower income than men physicians, there was no statistically significant difference in compensation for White compared with Black women. This finding was the same for both data sets they considered.

Marcelin et al. analyzed unadjusted data from a national society report on compensation and found lower compensation for African American physicians within the society. The authors mentioned that the relatively small number of physicians from underrepresented racial or ethnic groups limited the analysis—a common problem for many compensation studies and databases. Disparities in rates of promotion can compound compensation disparities. Promotional gaps exist for women physicians. These are present after adjusting for age, experience, research productivity, and other factors. Studies have also shown differences in academic rank based on race. Multivariable compensation studies often adjust for academic rank since compensation is expected to be higher with ascending rank. It is therefore important to consider the additive effect promotional disparities can have on differences in compensation.

Limitations
This study is limited to articles published in the English language and reported in PubMed, as well as by the search terms used to discover these articles.

Conclusion
In conclusion, the majority of reports on physician compensation analyzed for and discovered disparities based on gender. A minority of compensation articles considered disparities based on race and/or ethnicity and this analysis was often limited by a small sample size. Disparities in compensation for racial/ethnic minority groups are understudied and further research is needed.

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