# Training Background and Demographic Characteristics of Primary Care Team Physicians in Professional Sports

Emily A. Schultz,* BS, Maxwell S. Durtschi,* BA, Kylie G. Oakes,* Andrea Kussman,† MD, and Calvin E. Hwang,*‡ MD
*Investigation performed at the Department of Orthopaedic Surgery, Stanford University School of Medicine, Stanford, California, USA*

**Background:** Previous studies have shown that most professional head and orthopaedic team physicians are men, and most orthopaedic team physicians are fellowship-trained. It is unknown whether this holds true for primary care team physicians.

**Purpose:** To evaluate the residency and fellowship training background as well as the demographic characteristics of primary care team physicians in professional sports.

**Study Design:** Cross-sectional study.

**Methods:** Publicly available information was used to determine the lead and supporting primary care team physicians for every US–based team in Major League Baseball, Major League Soccer, National Basketball Association, National Football League, National Hockey League, National Women's Soccer League, and Women's National Basketball Association. Data regarding training background and sex were obtained using internet-based sources.

**Results:** We identified 310 primary care team physicians from all 165 US-based teams in the 7 leagues included in the study. Female physicians comprised 11.5% (19/165) of the lead primary care team physicians and 14.2% (44/310) of all primary care team physicians. Overall, 66.7% (110/165) of lead primary care team physicians and 75.5% (234/310) of all primary care team physicians were sports medicine fellowship–trained. There was a higher proportion of female (37.5%) and fellowship-trained (93.8%) physicians in women's professional sports leagues. Most primary care team physicians (244/310 [78.7%]) were trained in family medicine or internal medicine.

**Conclusion:** Women constituted a small minority of primary care team physicians in professional sports. Most primary care team physicians were residency trained in family medicine or internal medicine and were sports medicine fellowship–trained. The proportion of female and fellowship-trained primary care team physicians was highest in the National Women's Soccer League and the Women's National Basketball Association.

**Keywords:** fellowship; representation; residency; sex; training

The role of the team physician in the United States extends beyond medical knowledge; it includes preventing and treating athletic injuries, developing medical and emergency contingency plans, and coordinating medical logistics within the organization.[2] Team physicians may be primary care physicians or orthopaedic surgeons, although the composition of a team's medical staff varies between teams and sports organizations. Primary care team physicians come from a range of residency training backgrounds—including family medicine, emergency medicine, internal medicine, pediatrics, and physical medicine and rehabilitation (PM&R), with the number who complete a sports medicine fellowship remaining variable. Because team physicians come from a diverse range of residencies, variation in clinical experience and exposure to different patient populations exists within the field. Backgrounds in athletic training and nursing may also provide future team physicians with hands-on clinical exposure to athletes as well as training and certification in sports medicine. The sports medicine fellowship results in board certification and provides sports-specific training to ensure that team physicians have the baseline level of knowledge

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necessary to effectively care for their athletes. The current distribution of residency and fellowship training among primary care professional team physicians is unknown.

Several studies have examined the sex-specific breakdown of team physicians at the collegiate and professional levels. Wiggins et al[12] surveyed head team physicians in 5 professional leagues in the United States—Major League Baseball (MLB), Major League Soccer (MLS), National Basketball Association (NBA), National Football League (NFL), and National Hockey League (NHL)—and found that only 3.9% of head team physicians were women. Young et al[13] performed a similar study on sex and fellowship training data specifically regarding head orthopaedic and head primary care team physicians in the MLB, NBA, and NFL. They found that 6% of primary care head team physicians in these leagues were women, and 67% of primary care head team physicians were fellowship-trained. O'Reilly et al[8] surveyed collegiate and professional team physicians and reported that 12.7% of all team physicians were women—18.1% at the collegiate level and 6.7% at the professional level. Finally, Hinkle et al[1] focused solely on the NBA and the Women's National Basketball Association (WNBA) and found that 2.4% of NBA team physicians and 28.6% of WNBA team physicians were women. These studies demonstrate an underrepresentation of female team physicians compared with the makeup of sports medicine physicians as a whole, particularly at the professional level. However, none of these studies have examined the primary care team physician and the diversity of training backgrounds across multiple professional sports leagues.

This study aimed to report the demographic characteristics of primary care sports medicine team physicians working in US professional sports as well as their residency training background and sports medicine fellowship training status.

## METHODS

Primary care team physicians in the MLB, MLS, NBA, NFL, NHL, National Women's Soccer League (NWSL), and WNBA were identified via official information published online or provided by representatives of the individual sports teams, the NFL Physician Society (NFLPS), the MLB Team Physician Association (MLBTPA), the NBA Physician Association (NBAPA), and the Professional Soccer Physician Society (PSPS). Information that could not be located using the resources mentioned above was found using the Google search engine. Orthopaedic surgery-trained team physicians were excluded from our analysis. Lead primary care team physicians were determined by designation as head team physicians or voting status within the physician association (NFLPS, MLBTPA, NBAPA, PSPS) when available.

Primary care team physician information for all sports teams in the targeted professional leagues was available, and the data were analyzed separately by the league. Because of the differences in the residency and fellowship training structure in Canada, teams based in Canada were excluded from the analysis.

## RESULTS

Information was obtained on primary care team physicians from all 165 US-based professional sports teams in the targeted leagues. A total of 310 primary care team physicians were identified, with 165 designated as the lead primary care team physician. Female physicians comprised 11.5% (19/165) of the lead primary care team physicians and 14.2% (44/310) of all primary care team physicians. There was no statistically significant difference in the proportion of female primary care team physicians in the lead role versus the group as a whole ($P = .63$).

Regarding residency training, of 165 lead primary care team physicians, 88 (53.3%) were trained in family medicine, 46 (27.9%) in internal medicine, 13 (7.9%) in PM&R, 10 (6.1%) in emergency medicine, 6 (3.6%) in pediatrics, 1 (0.6%) in neurology, and 1 (0.6%) in both internal medicine and pediatrics. When expanded to all primary care team physicians (n = 310), 171 (55.2%) were trained in family medicine, 73 (23.5%) in internal medicine, 26 (8.4%) in emergency medicine, 25 (8.1%) in PM&R, 13 (4.2%) in pediatrics, 1 (0.3%) in neurology, and 1 (0.3%) in both internal medicine and pediatrics. The distribution of specialties was similar between the groups ($P = .44$). Fellowship-trained primary care team physicians represented 66.7% (110/165) of lead team physicians and 75.5% (234/310) of all primary care team physicians. These results are further broken down by individual league in Tables 1 and 2.

## DISCUSSION

We report the descriptive and training data of primary care team physicians for 7 US-based professional sports leagues. This has been reported previously for orthopaedic-trained team physicians, revealing that 94% of all head team physicians were men and only 6% were women.[13] Our results, which focused only on primary care team physicians, revealed similar findings. Across

‡Address correspondence to Calvin E. Hwang, MD, Department of Orthopaedic Surgery, Stanford University School of Medicine, 341 Galvez Street, Lower Level, Stanford, CA 94305, USA (email: highlndr@stanford.edu).

*Department of Orthopaedic Surgery, Stanford University School of Medicine, Stanford, California, USA.

†Department of Family Medicine, Division of Sports Medicine, University of Washington, Seattle, Washington, USA .

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Ethical approval was not sought for the present study.

TABLE 1
Demographic Characteristics of Lead Primary Care Team Physicians[a]

| Characteristic | NFL (n = 32) | MLB (n = 29) | NBA (n = 29) | MLS (n = 26) | NHL (n = 25) | NWSL (n = 12) | WNBA (n = 12) | Total (n = 165) |
|---|---|---|---|---|---|---|---|---|
| Sex | | | | | | | | |
| Men | 31 (96.9) | 25 (86.2) | 27 (93.1) | 25 (96.2) | 23 (92) | 7 (58.3) | 8 (66.7) | 146 (88.5) |
| Women | 1 (3.1) | 4 (13.8) | 2 (6.9) | 1 (3.8) | 2 (8) | 5 (41.7) | 4 (33.3) | 19 (11.5) |
| Sports medicine fellowship training | 22 (68.8) | 19 (62.1) | 18 (62.1) | 22 (84.6) | 15 (60) | 12 (100) | 10 (83.3) | 110 (66.7) |
| Residency training | | | | | | | | |
| Family medicine | 13 (40.6) | 13 (44.8) | 18 (62.1) | 15 (57.7) | 14 (56) | 10 (83.3) | 5 (41.7) | 88 (53.3) |
| IM | 15 (46.9) | 11 (37.9) | 7 (24.1) | 3 (11.5) | 9 (36) | 0 (0) | 1 (8.3) | 46 (27.9) |
| Emergency medicine | 4 (12.5) | 1 (3.5) | 1 (3.4) | 2 (7.7) | 2 (8) | 0 (0) | 0 (0) | 10 (6.1) |
| PM&R | 0 (0) | 3 (10.3) | 2 (6.9) | 4 (15.4) | 0 (0) | 1 (8.3) | 3 (25) | 13 (7.9) |
| Pediatrics | 0 (0) | 1 (3.4) | 0 (0) | 2 (7.7) | 0 (0) | 1 (8.3) | 2 (16.7) | 6 (3.6) |
| Neurology | 0 (0) | 0 (0) | 1 (6.8) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 1 (0.6) |
| IM/Pediatrics | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 1 (8.3) | 1 (0.6) |

[a]Data are reported as n (%). IM, internal medicine; MLB, Major League Baseball; MLS, Major League Soccer; NBA, National Basketball Association; NFL, National Football League; NHL, National Hockey League; NWSL, National Women's Soccer League; PM&R, physical medicine and rehabilitation; WNBA, Women's National Basketball Association.

TABLE 2
Demographic Characteristics of All Primary Care Team Physicians[a]

| Characteristic | NFL (n = 62) | MLB (n = 62) | NBA (n = 43) | MLS (n = 63) | NHL (n = 48) | NWSL (n = 17) | WNBA (n = 15) | Total (n = 310) |
|---|---|---|---|---|---|---|---|---|
| Sex | | | | | | | | |
| Men | 57 (91.9) | 55 (88.7) | 38 (88.4) | 49 (80.3) | 45 (93.8) | 10 (59) | 10 (66.7) | 264 (85.2) |
| Women | 5 (7.9) | 7 (11.3) | 5 (11.6) | 12 (19.7) | 3 (6.3) | 7 (41) | 5 (33.3) | 44 (14.2) |
| Sports medicine fellowship training | 46 (73) | 46 (74.2) | 23 (53.5) | 56 (91.8) | 33 (68.8) | 17 (100) | 13 (86.7) | 234 (75.5) |
| Residency training | | | | | | | | |
| Family medicine | 32 (50.8) | 35 (56.5) | 24 (52.3) | 35 (57.3) | 25 (52.1) | 15 (88.2) | 5 (33.3) | 171 (55.2) |
| IM | 21 (33.3) | 15 (24.2) | 14 (40.5) | 9 (13.9) | 13 (27.1) | 0 (0) | 1 (6.7) | 73 (23.5) |
| Emergency medicine | 7 (11.1) | 4 (6.5) | 1 (0) | 5 (7.7) | 8 (16.7) | 0 (0) | 1 (6.7) | 26 (8.4) |
| PM&R | 2 (3.2) | 7 (11.3) | 3 (7.1) | 7 (11.4) | 0 (0) | 1 (5.9) | 5 (33.3) | 25 (8.1) |
| Pediatrics | 0 (0) | 1 (1.6) | 0 (0) | 7 (10.7) | 2 (4.2) | 1 (5.9) | 2 (13.3) | 13 (4.2) |
| Neurology | 0 (0) | 0 (0) | 1 (2.3) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 1 (0.3) |
| IM/Pediatrics | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 1 (6.7) | 1 (0.3) |

[a]Data are reported as n (%). IM, internal medicine; MLB, Major League Baseball; MLS, Major League Soccer; NBA, National Basketball Association; NFL, National Football League; NHL, National Hockey League; NWSL, National Women's Soccer League; PM&R, physical medicine and rehabilitation; WNBA, Women's National Basketball Association.

all 7 leagues, there was a mean of 88.5% male lead primary care team physicians, with a similar proportion (85.2%) across all primary care team physicians. Our findings also indicated a discrepancy between the proportion of male primary care team physicians (85.2%) and the proportion of male sports medicine physicians in the United States (72.5%) (Physician specialty data report). These results further reinforce the recent literature demonstrating the strong male predominance in professional sports medicine team physician coverage. Because of limited historical published data on female representation and sports medicine fellowship training in professional sports medicine team coverage, it is difficult to determine long-term trends in both sex and sports medicine fellowship training of primary care team physicians in US-based professional sports leagues. However, in the 2 most recent physician specialty surveys[9] in which sports medicine trainees were reported, 70% of sports medicine fellows were men.

Moreover, lead primary care team physicians were less likely (66.7% vs 75.5%) to be sports medicine fellowship–trained compared with the primary care team physician cohort. Both lead primary care team physicians and the primary care team physician cohort demonstrated lower rates of sports medicine fellowship training when compared with sports medicine physicians in the American Medical Society for Sports Medicine[10] (95%). In the women's professional leagues (NWSL and WNBA), there was a higher proportion of female (37.5%) and sports medicine fellowship–trained physicians (93.8%) in team physician roles compared with men's professional leagues. Therefore, there are both more female and more fellowship-trained physicians in the supporting primary care team physician

role as well as in the women's professional leagues compared with the lead primary care team physician role. These higher proportions in women's professional league and supporting team physician roles are promising because this suggests that the proportion of both female and fellowship-trained lead primary care physicians may increase with time. As these newer women's professional leagues require board certification, they are likely to better represent the current demographic characteristics of sports medicine physicians. In addition, there may be a preference for female athletes to be treated by female physicians. Although there may also be a preference for male athletes to be treated by male physicians, there is still a need for greater representation of women among professional sports team physicians, especially in men's professional leagues, and these stark gender gaps provide evidence of the systemic disparities that continue to exist within professional sports.

Our results also indicate a wide variation in residency training background for leading and supporting primary care team physicians at the professional level. Across all leagues, most (78.7%) primary care team physicians have residency training in either family medicine or internal medicine. However, there is a sizable minority of primary care team physicians with training in emergency medicine, PM&R, and pediatrics. Those with different residency training backgrounds may have been exposed to very different clinical cases or patient populations during their training, and this variability may also add challenges to the standardization of sports medicine fellowship training. It is important that sports medicine fellowship programs account for differences in residency training to provide the most comprehensive care possible to professional athletes.

Each league has its own specific requirements, outlined in each league's most recent collective bargaining agreement, with regard to the type of residency training, sports medicine fellowship training, and board certification in sports medicine, which may skew the results of this study. For example, the NBA and NFL require all new primary care team physicians to be boardcertified in either internal medicine, family medicine, or emergency medicine, and sports medicine, and have 3 to 5 years of team physician experience.[5,6] The NHL requires new primary care team physicians to be sports medicine fellowship-trained or to have a sports medicine qualification.[7] The MLS also requires that newly designated primary care team physicians have sports medicine fellowship training and board certification, with 5 years of elite team physician experience, but it does not currently limit residency training beyond those specialties that are eligible to complete sports medicine fellowships.[4] Conversely, the MLB does not require sports medicine fellowship training for its primary care team physicians.[3] While these requirements will eventually result in a higher proportion of physicians with sports medicine fellowship training, many include clauses that grandfather existing primary care team physicians. Sports medicine fellowship training for professional and collegiate team physicians is of increasing importance with the rise of medical malpractice litigation related to sports medicine practice.[11]

Looking forward, further research should investigate whether there are differences in clinical outcomes and patient satisfaction between physicians with sports medicine fellowship training or board certification and those without as well as across different residency training backgrounds. It would also be helpful to evaluate the age and number of years in the position of the professional team physicians, their racial/ethnic composition, and how these numbers compare with the demographic characteristics of the athlete populations they serve. Additionally, further attention and resources should be dedicated to increasing opportunities for female sports medicine physicians to serve as team physicians in male professional sports leagues. Future studies should determine the efficacy of current efforts to improve uniformity in sports medicine training and identify areas for future change.

### Limitations

This study represents only a snapshot of professional team physicians as of June 2023, with yearly turnover that may further change the demographic and training results. Many leagues have a carveout in their collective bargaining agreements that allow for physicians with other sports medicine qualifications to bypass the board certification requirements.[6,7] In addition, many male team physicians across leagues have worked for teams for long periods and have been grandfathered into team physician roles. The proportion of male professional team physicians may become more reflective of sports medicine physicians as a whole as these physicians leave their longstanding roles. Finally, the higher proportion of male team physicians in male professional leagues and female team physicians in female professional leagues may represent a sex preference for primary care team physicians by the athletes.

## CONCLUSION

The study findings indicated that women represented a small minority of primary care team physicians and head team physicians in US-based professional sports leagues. Most primary care team physicians completed a residency in family medicine or internal medicine and a fellowship in sports medicine. The proportion of female and sports medicine fellowship–trained primary care team physicians was highest in the NWSL and the WNBA. Factors such as the demographic characteristics of primary care team physicians and professional league policies regarding medical staff requirements will continue to affect the makeup of primary care team physicians. Future studies can provide further evidence of the development of these trends.

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