

faculty compared to the total number of faculty were available in 88 programs (94%). We analyzed the data using simple statistics.

**Results:** Women constitute 30.5% and 32.5% of the current PGY2 and PGY5 Radiation Oncology Residents respectively in the United States, with no significant changes over the years. Ten (11%) programs did not have any female residents, and 11 (12%) programs had women accounting for at least half of their residency positions. The trend in Radiation Oncology applicants in 2018 was also similar with females constituted 28.2% of all the applicants. Female physicians accounted for 30% of all the attending physicians in the academic programs, but four programs (4%) did not have any female attending physicians. Female physicians constituted half of the academic faculty positions in seven (7 %) of programs. Forty-five (48%) institutions have more than 25% of their faculty as females. There was no significant correlation between the number of female faculty with the number of female residents in the programs. Female Radiation Oncologists held the department chair position in 11 of 93 (12%) and program director position in 19 of 94 (20%) academic Radiation Oncology departments currently.

**Conclusion:** A significant gender disparity exists among the residents and physicians in the academic Radiation Oncology departments in the United States. This disparity is more pronounced in the leadership positions. The results of this study could be used as a tool to create the awareness in the Radiation Oncology community about gender disparity and as a baseline for future efforts to improve the disparity. The gender disparity could be improved in the future, with better awareness of importance of work place diversity and increased availability of mentorship programs.

**Author Disclosure:** T.V. Vengaloor Thomas: National resident committee member; American College of Radiation Oncology (ACRO). T. Perekattu Kuruvilla: None. E. Bhanat: None. A.A. Albert: None. A. Abraham: None. A. Parr: None. S. Vijayakumar: None.

## 132

### Assessment of the Medical Schools Radiation Oncology Residents Come from Suggests A Reasonable Approach for Diversifying the Workforce



L. Bugarski,<sup>1</sup> S. Wen,<sup>2</sup> and M.D. Mattes<sup>2</sup>; <sup>1</sup>West Virginia University School of Medicine, Morgantown, WV, <sup>2</sup>West Virginia University, Morgantown, WV

**Purpose/Objective(s):** The US radiation oncology (RO) workforce has significant underrepresentation of women, African Americans, and Latinos compared to the US population and medical school (MS) graduates. Our hypothesis is that this reflects inadequate RO exposure and mentoring for these students. Our objective was to better understand how MS and RO department demographics correlate with MS-specific residency match rates in RO.

**Materials/Methods:** The ASTRO directory was used to search all RO physicians that self-identified as a "resident" and listed their MS. This included 507 residents, of which 36 who attended osteopathic or international schools were excluded. Demographic information for all 147 allopathic US medical schools and any on-site affiliated RO department and residency program was also collected from other freely accessible web resources. Spearman's rank-order and Wilcoxon signed-rank tests were used for correlative analyses.

**Results:** A total of 100 schools (68%) had an affiliated RO department and 81 (55%) had a RO residency program. There was a median of 9 faculty members (interquartile range (IQR) 5 - 15) per RO department, with a median of 2 female faculty (IQR 1 - 5) and 0 African American or Latino faculty per department (IQR 0 - 1). In total, 26.5% of all US RO academic faculty were women and 4.4% African American or Latino. The median percentage of students per MS that matched in a RO residency was 0.4% (IQR 0.2 - 0.7%), and the median percentage of all US RO residents that came from each MS was 0.6% (IQR 0.2 - 1.1%). Both of these percentages were significantly higher when there was an affiliated RO department ( $p < 0.01$ ) or RO residency program ( $p < 0.01$ ), and for RO departments with more faculty members ( $r_s = 0.45$  and  $0.43$ ,  $p < 0.01$ ), but there was no significant association with any MS factors assessed (percentages of women or underrepresented minority students, or average matriculating student MCAT scores or GPA). RO residents' ethnicity could not be determined for analysis, however, the number of female RO faculty in a department predicted for significantly

more female RO residents graduating from that MS ( $r_s = 0.35$ ,  $p < 0.01$ ), and the top quartile of RO departments with the most female faculty were affiliated with schools that graduated 49% of all female RO residents. Only 57 US RO residents (12%) graduated from the 47 schools without an affiliated RO department, whereas the 25 schools that graduated the highest percentage of US RO residents accounted for 46% of all RO residents.

**Conclusion:** The proportion of students at a given MS that match into RO is strongly associated with affiliation to a larger RO department and residency program. As such, the majority of RO residents come from a select number of schools. Targeted education and mentoring outreach initiatives for schools with fewer affiliated RO faculty should be considered in order to help diversify the workforce.

**Author Disclosure:** L. Bugarski: None. S. Wen: None. M.D. Mattes: ASTRO, West Virginia University School of Medicine, West Virginia University, American Board of Radiology, NRG, American College of Radiology, ASTRO.

## 133

### The Cancer in the Under-Privileged, Indigent or Disadvantaged (CUPID) Summer Fellowship: Specialty Outcomes from a Targeted Oncology Summer Research Program



J.A. Holmes,<sup>1</sup> B. Fred,<sup>2</sup> S. Grossman,<sup>2</sup> W. Nelson,<sup>3</sup> S. Kachhap,<sup>2</sup> S. Lee,<sup>2</sup> V. Gail,<sup>4</sup> E. Stotsky-Himelfarb,<sup>2</sup> T. Pawlik,<sup>5</sup> S. Sukumar,<sup>2</sup> and R.C. Zellars<sup>6</sup>; <sup>1</sup>Indiana University Department of Radiation Oncology, Indianapolis, IN, <sup>2</sup>Johns Hopkins University, Baltimore, MD, <sup>3</sup>Department of Oncology, Johns Hopkins University School of Medicine, Baltimore, MD, <sup>4</sup>Johns Hopkins University, Baltimore, MD, <sup>5</sup>Ohio State University, Columbus, OH, <sup>6</sup>Indiana University, Indianapolis, IN

**Purpose/Objective(s):** It is projected that there will be a future oncology workforce shortage, and this may be particularly harmful to minority populations. The workforce shortage is due in part to low interest among medical students (<4.0 % pursue oncology specialties and < 1.0% match in radiation oncology). The potential harm to certain populations may be due in part to the lack of underrepresented minorities (URM) in oncology. We hypothesized that a targeted summer oncology program, which also addresses healthcare disparities, could help alleviate these problems, and thus, created The CUPID Summer Fellowship. We present preliminary results from the first 9 years of CUPID.

**Materials/Methods:** The CUPID summer fellowship is a 7-week program for rising second year medical students. Students, regardless of race or ethnicity, from any medical school, in the U.S. or U.S. territories, could apply. Successful applicants are chosen based on their history of service, volunteer work, recommendations and a writing sample. Students are assigned to basic science oncology labs, shadow medical, surgical and radiation oncologists, and attend daily lectures covering topics in the basic science of cancer, specific cancers, and healthcare disparities. At the conclusion of the summer, the students present their research at a formal cancer center-wide seminar. Our primary endpoint is the student's subsequent specialty choice and current practice population.

**Results:** Between 2005 and 2013, 71 medical students from >20 schools completed CUPID. A total 19 (27%) students are practicing or training in fields associated with oncology. Twelve (17%) are in oncology specific specialties [5 (7%) radiation oncology, 3 (4%) heme/onc, 2 (3%) surgery, 1 urology, 1 gyn-oncology] and 7 (10%) are practicing in other specialties but have a specific focus on cancer patients [2 (3%) pathology, 1 Mohs surgeon, 1 radiologist, 1 palliative care, 1 gastroenterology, 1 infectious diseases]. Among the 19 individuals who chose oncology, 7 (37%) are URM.

**Conclusion:** While CUPID may select students with an established interest in oncology, the program was associated with a >4-fold increase in the proportion of students choosing a career in oncology, as well as a > 10-fold increase in students matching in radiation oncology and a seemingly higher percentage of URMs choosing oncology. Structured programs, like CUPID, that expose students to oncology early in their training could play a crucial role in growing a future diverse oncology workforce. The CUPID program continues and now has chapters at 3 universities.

**Author Disclosure:** J.A. Holmes: None. B. Fred: None. S. Grossman: None. W. Nelson: None. S. Kachhap: None. S. Lee: None. V. Gail: None. E. Stotsky-Himelfarb: None. T. Pawlik: None. S. Sukumar: None. R. Zellars: None.