

A Look at Equity for Neonatologists Who Identify as Underrepresented in Medicine

Eric Horowitz¹, Anisha Bhatia², Patrick Myers³, Holly Ruch-Ross⁴, Lauren Barone⁴, Mark L. Hudak⁵

¹Newborn Medicine, Boston Children's Hospital, Boston, MA; ²Northeast Ohio Medical University, Rootstown, OH;

³Northwestern University, Chicago, IL; ⁴American Academy of Pediatrics, Itasca, IL; ⁵University of Florida College of Medicine, Jacksonville, FL

BACKGROUND

- A smaller 2018 survey suggested inequities among those neonatologists with respect to NIH funding and total cash compensation who by virtue of self-identification of race and/or ethnicity are underrepresented in medicine (URiM).
- Confirmation and further exploration of these differences in a more current and more robust survey would demand greater future efforts to define root causes, redress inequities, and expand diversity.

OBJECTIVE

- To assess whether full-time URiM physicians board-eligible or board-certified in neonatology experience inequities in the workplace.

METHODS

- The AAP conducted a voluntary anonymous survey of all board-eligible and board-certified neonatologists from July through November 2021.
- 2113, or 30%, of surveyed individuals responded.
- The survey included questions about professional duties, social factors, and compensation.
- We used the subset of respondents who were board-eligible or board-certified, held a full-time position, and replied to the racial and ethnic identity questions for this analysis.
- We defined URiM as respondents who self-identified as Native Hawaiian or Pacific Islander, Black or African American, Hispanic, American Indian or Alaska Native.
- Statistical analyses, including t-test of means, Wilcoxon test of medians, and chi-square analysis of proportions, as appropriate, were performed using JMP 16.1.0 by SAS (Cary, NC).

URiM neonatologists are truly underrepresented in our workforce.

Strategies should focus on increasing the diversity of the workforce pathway.

In this sample, we found that URiM neonatologists:

- Comprised only 12% of this national sample
- Differed in the location of medical school training and in the geographic distribution of their workplaces
- Reported working fewer weekdays and weekend days, but more weeknight shifts

Compared to non-URiM physicians:

URiM neonatologists did not have statistically different distributions in patient clinical acuity, scholarly productivity, administrative duties, type of employer, cash compensation, and benefits

Although this study did not identify differences in professional duties or compensation, it highlights an important need to develop proactive strategies to expand diversity among the neonatologist workforce.

Table 1: Respondent Characteristics

| | All n = 1234 | Not URiM 1091 (88%) | URiM 143 (12%) | p-value |
|---|-----------------|------------------------|-------------------|---------|
| Gender Identity* | | | | |
| Male | 543 (44%) | 492 (45%) | 51 (36%) | 0.039 |
| Female | 685 (56%) | 594 (55%) | 91 (64%) | |
| Ethnic and Racial Identity | | | | |
| Hispanic/Latinx | 86 (7%) | 0 (0%) | 86 (60%) | NA |
| Asian | 206 (17%) | 204 (19%) | 2 (1%) | |
| Native Hawaiian/Pacific Islander | 3 (0%) | 0 (0%) | 3 (2%) | |
| Black/African American | 54 (4%) | 0 (0%) | 54 (38%) | |
| Middle Eastern/North African | 32 (3%) | 31 (3%) | 1 (1%) | |
| American Indian/Alaska Native | 5 (0%) | 0 (0%) | 5 (4%) | |
| White | 919 (75%) | 843 (77%) | 76 (54%) | |
| Other | 37 (3%) | 28 (3%) | 9 (6%) | |
| Declined | 3 (0%) | 1 (0%) | 2 (1%) | |
| Sexual Identity** | | | | |
| Lesbian or gay | 31 (3%) | 24 (2%) | 7 (5%) | NS |
| Straight, that is, not lesbian or gay | 1146 (94%) | 1015 (94%) | 131 (92%) | |
| Bisexual | 10 (1%) | 9 (1%) | 1 (1%) | |
| Something else | 3 (0%) | 2 (0%) | 1 (1%) | |
| I don't know | 2 (0%) | 2 (0%) | 0 (0%) | |
| Decline to respond | 29 (2%) | 27 (3%) | 2 (1%) | |
| Age** | | | | |
| 31-35 | 98 (8%) | 85 (8%) | 13 (9%) | NS |
| 36-40 | 160 (13%) | 142 (13%) | 18 (13%) | |
| 41-45 | 173 (14%) | 154 (14%) | 19 (14%) | |
| 46-50 | 149 (12%) | 134 (12%) | 15 (11%) | |
| 51-55 | 110 (9%) | 98 (9%) | 12 (9%) | |
| 56-60 | 113 (9%) | 99 (9%) | 14 (10%) | |
| 61-65 | 129 (11%) | 108 (10%) | 21 (15%) | |
| 66-70 | 135 (11%) | 118 (11%) | 17 (12%) | |
| 71 years or older | 144 (12%) | 134 (12%) | 10 (7%) | |
| Medical School** | | | | |
| United States | 967 (79%) | 879 (81%) | 88 (62%) | <0.001 |
| Canada | 6 (0%) | 6 (1%) | 0 (0%) | |
| Caribbean | 30 (2%) | 15 (1%) | 15 (10%) | |
| Other | 223 (18%) | 183 (17%) | 40 (28%) | |
| AAP Membership** | | | | |
| AAP only | 99 (10%) | 89 (10%) | 10 (8%) | NS |
| Both AAP and SONPM | 830 (80%) | 729 (80%) | 101 (83%) | |
| Neither the AAP nor SONPM | 104 (10%) | 94 (10%) | 10 (8%) | |
| AAP District Location** | | | | |
| District I (CT, ME, MA, NH, RI, VT) | 67 (7%) | 62 (7%) | 5 (4%) | <0.001 |
| District II (NY) | 64 (6%) | 60 (7%) | 4 (3%) | |
| District III (DE, DC, MD, NJ, PA, WV) | 110 (11%) | 98 (11%) | 12 (10%) | |
| District IV (KY, NC, SC, TN, VA) | 104 (10%) | 99 (11%) | 5 (4%) | |
| District V (IN, MI, OH) | 101 (10%) | 91 (10%) | 10 (9%) | |
| District VI (IL, IA, KA, MN, MO, NE, ND, SD, WI) | 78 (8%) | 71 (8%) | 7 (6%) | |
| District VII (AR, LA, MS, OK, TX) | 149 (15%) | 137 (15%) | 12 (10%) | |
| District VIII (AK, AZ, CO, HI, ID, MN, NV, NM, OR, UT, WA, WY) | 112 (11%) | 87 (10%) | 25 (22%) | |
| District IX (CA) | 119 (12%) | 108 (12%) | 11 (10%) | |
| District X (AL, FL, GA, PR) | 96 (10%) | 72 (8%) | 24 (21%) | |

We used *t-tests to compare means of normally distributed data and **chi-square analysis for categorical data

Table 2: Professional Duties and Expectations – URiM and non-URiM Neonatologist

| | All n = 1234 | Not URiM 1091 (88%) | URiM 143 (12%) | p-value |
|--|--------------------------------------|--------------------------------------|--------------------------------------|---------|
| Clinical Work | | | | |
| Weekday (Monday through Friday)* | 75 (40 - 105.25) | 75 (40 - 110) | 60 (30 - 100) | 0.042 |
| Weeknight (night of Monday through Friday)* | 26 (12.5 - 45) | 25 (12 - 43) | 35.5 (18 - 50) | 0.036 |
| Weekend day (Saturday or Sunday)* | 21 (12 - 30) | 22 (13 - 30) | 20 (12 - 24.25) | 0.023 |
| Weekend nights* (night of Saturday or Sunday)* | 12 (8 - 22) | 12 (8 - 21) | 12 (10 - 24) | NS |
| Clinical Hours* | 1440 (864 - 2063) | 1440 (876.5 - 2042) | 1524 (672 - 2304) | NS |
| Average Daily Census* | | | | |
| Critical Care | 7 (4 - 10) | 8 (4 - 10) | 5 (3 - 10) | NS |
| Intensive Care | 10 (5 - 12) | 10 (5 - 12) | 8 (5 - 12) | NS |
| Non-Critical Care | 0 (0 - 4) | 0 (0 - 3) | 0 (0 - 5) | NS |
| Normal Newborn | 0 (0 - 2.25) | 0 (0 - 2) | 0 (0 - 5) | 0.016 |
| Total Rounding Census | 20 (15 - 25) | 20 (16 - 25) | 20 (15 - 30) | NS |
| Level nursery where most time spent*** | | | | |
| Level 4 | 448 (44%) | 396 (44%) | 52 (43%) | NS |
| Level 3 | 481 (48%) | 424 (48%) | 57 (48%) | |
| Level 2 | 76 (8%) | 65 (7%) | 11 (9%) | |
| Level 1 | 6 (1%) | 6 (1%) | 0 (0%) | |
| Have Outpatient Duties | | | | |
| Yes** | 187 (18%) | 162 (18%) | 25 (21%) | NS |
| Outpatient Days* | 16 (8 - 38) | 15 (8 - 36) | 22 (6.25 - 48) | NS |
| Scholarly Work | | | | |
| Engage in Research | | | | |
| Yes** | 491 (48%) | 440 (49%) | 51 (43%) | NS |
| Annual Funding* | \$16,500 (\$0 - \$131,250) | \$15,000 (\$0 - \$125,000) | \$30,000 (\$0 - \$180,000) | NS |
| Scholarly Productivity* | | | | |
| Paper submissions | 3 (1 - 5) | 3 (1 - 5) | 3 (1.5 - 5) | NS |
| Publications in Past Year | 2 (1 - 5) | 2 (1 - 5) | 2 (1 - 4) | NS |
| Principal Authorship | 4 (2 - 13) | 5 (2 - 13) | 3 (2 - 6.5) | NS |
| Presentations | 4 (2 - 7) | 4 (2 - 7) | 4 (2 - 6) | NS |
| Academic Appointment*** | | | | |
| No | 289 (28%) | 253 (28%) | 36 (30%) | NS |
| Yes (not tenure) | 588 (57%) | 521 (57%) | 67 (55%) | |
| Yes (tenure track) | 128 (12%) | 114 (12%) | 14 (12%) | |
| Academic Rank*** | | | | |
| Instructor | 46 (6%) | 39 (6%) | 7 (9%) | NS |
| Assistant professor | 277 (39%) | 249 (39%) | 28 (35%) | |
| Associate professor | 188 (26%) | 167 (26%) | 21 (26%) | |
| Full professor | 160 (22%) | 140 (22%) | 20 (25%) | |
| Adjunct | 27 (4%) | 23 (4%) | 4 (5%) | |
| Administrative Time* | | | | |
| Weeks | 10 (4 - 23) | 10 (4 - 24) | 10 (4 - 20) | NS |
| Internal Roles** | | | | |
| Chair, Institutional Committee | 77 (8%) | 70 (8%) | 7 (6%) | NS |
| Medical Director | 351 (35%) | 310 (35%) | 41 (34%) | NS |
| Division Chief | 93 (9%) | 79 (9%) | 14 (12%) | NS |
| Department Chair | 41 (4%) | 38 (4%) | 3 (3%) | NS |
| None | 333 (34%) | 288 (33%) | 45 (38%) | NS |
| External Roles** | | | | |
| State Committee Chair | 24 (2%) | 23 (3%) | 1 (1%) | NS |
| National Committee Chair | 49 (5%) | 46 (5%) | 3 (3%) | NS |
| Inter-Institutional Collab Director | 14 (1%) | 10 (1%) | 4 (3%) | NS |
| International Collab Chair | 5 (1%) | 4 (0%) | 1 (1%) | NS |
| None | 590 (61%) | 514 (60%) | 76 (64%) | NS |
| Compensation | | | | |
| Cash Compensation* | | | | |
| Base Compensation | \$250,000 (\$210,000 - \$300,000) | \$250,000 (\$210,000 - \$300,000) | \$250,000 (\$203,000 - \$300,000) | NS |
| Administrative stipend | \$15,778 (\$5,000 - \$37,000) | \$18,000 (\$5,000 - \$40,000) | \$14,700 (\$4,250 - \$26,500) | NS |
| Extra duty earnings | \$20,000 (\$10,000 - \$47,250) | \$20,000 (\$10,000 - \$48,000) | \$20,000 (\$5,500 - \$47,500) | NS |
| Productivity incentive | \$20,000 (\$7,300 - \$70,000) | \$20,000 (\$8,000 - \$70,000) | \$16,000 (\$3,500 - \$75,000) | NS |
| Quality incentive | \$10,000 (\$5,000 - \$25,000) | \$10,000 (\$5,000 - \$25,000) | \$15,000 (\$4,500 - \$32,000) | NS |
| Research incentive | \$6,000 (\$3,184 - \$20,000) | \$6,000 (\$2,875 - \$17,575) | \$25,000 (\$8,684 - \$36,250) | NS |
| Calculated Total Cash Compensation | \$280,000 (\$230,000 - \$350,000) | \$285,000 (\$230,000 - \$354,250) | \$274,000 (\$219,625 - \$340,000) | NS |

We used *Wilcoxon test for medians of data with skewed distribution, **t-tests to compare means of normally distributed data, and ***chi-square analysis for categorical data.

