

# State of the Neonatologist Workforce

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April 28<sup>th</sup>, 2022

# Disclosures

I have no financial disclosures or conflicts of interest to discuss

# Today's Topics for Review

- **2021 AAP Section on Neonatal Perinatal Medicine Workforce Survey**
  - A Look at Five Self-Identified Career Paths Among Neonatologists
  - A Gender Effect: Comparison of Gender Across Three Career Phases of a Neonatologist
  - Assessment of the 2020 COVID-19 Pandemic: Impact on the United States Neonatologist Workforce
- **2020 AAP Trainees and Early Career Neonatologists Survey**
- **New AAP SoNPM Special Interest Groups**

# AAP Survey of Sections

- The mission of the Survey on Sections is to define the broad dimensions of the pediatric workforce to achieve equity and access to care for infants, children, and adolescents
- This mission is attained through periodic data collection that informs the Committee on Pediatric Workforce and other AAP Sections, Councils, and Committees

# Purpose

- The ideal framework for neonatologist work hours remains unclear
- Recent literature demonstrates high work hour and productivity expectations of neonatologists disproportionate to other pediatric subspecialists<sup>1, 2, 3, 4</sup>
- Elucidating underlying factors and facilitating professional advocacy for neonatologists is the primary purpose of this work

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3. Machut KZ, Kushnir A, Oji-Mmuo CN, et al. The Effect of COVID-19 on the Workload of Neonatologists. *J Pediatr*. 2021

4. Horowitz E, Feldman HA, Savich R. Neonatologist salary: factors, equity and gender. *J Perinatol*. 2019;39(3):359-365.

# 2021 AAP Section on Neonatal- Perinatal Medicine Workforce Survey

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A Look at Five Self-Identified Career  
Paths Among Neonatologists

# Objective #1:

- The objective of this analysis was to characterize self-identified career paths among neonatologists
- Five different career path definitions and associated professional duties were assessed:
  - **Clinician** – Direct patient care
  - **Administrator/leader** – Practice leadership role/service role within an organization
  - **Clinician-Educator** – Clinical education of trainees or colleagues
  - **Clinical Expert** – Protocol development, publishing of book chapters/area of expertise
  - **Physician-Scientist** – Basic scientist/clinical trialist, health outcomes/services, or public health researcher

# Hypothesis

- Career types within neonatology have distinctly different profiles of relative effort in the domains of clinical work, scholarly effort, administrative responsibilities, total time effort, and compensation



# Methods

- The AAP conducted a voluntary anonymous survey of all board-certified and board eligible United States neonatologists from July to November 2021.
- 2113 of surveyed neonatologists responded
  - Response rate: 30%
- Bivariate cross-sectional comparisons were performed using t-test of means and Wilcoxon test of medians, using JMP 16.1.0 by SAS (Cary, NC)
- We analyzed responses from the subset of 1204 neonatologists who self-identified with one of five career paths
- **Clinician** was used as the reference for all comparisons

# Results: Respondent Characteristics

**Table 1: Respondent Characteristics**

<b>Sample Size</b>	<b>1204</b>
Clinician:	711 (59%)
Administrative/Leadership:	205 (17%)
Clinical Educator:	89 (7%)
Clinical Expert:	64 (5%)
Physician Scientist:	135 (11%)
On Academic Track (Yes)	835 (69%)
Gender Identity	
Male	486 (41%)
Female	671 (57%)
Ethnic and Racial Identity	
Hispanic/Latinx	92 (8%)
Asian	193 (16%)
Native Hawaiian/Pacific Islander	3 (0%)
Black/African American	47 (4%)
Middle Eastern/North African	23 (2%)
American Indian/Alaska Native	3 (0%)
White	838 (72%)
Other	31 (3%)
Declined to respond	61 (5%)

Age		
	31-35	81 (7%)
	36-40	181 (16%)
	41-45	184 (16%)
	46-50	166 (14%)
	51-55	131 (11%)
	56-60	128 (11%)
	61-65	119 (10%)
	66-70	96 (8%)
	71 years or older	65 (6%)
Medical School		
	United States	920 (78%)
	Canada	8 (1%)
	Caribbean	34 (3%)
	Other	214 (18%)

AAP Membership		
	AAP only	106 (9%)
	Both AAP and SONPM	968 (81%)
	Neither the AAP nor SONPM	128 (11%)
AAP District Location		
	District I	79 (7%)
	District II	79 (7%)
	District III	122 (10%)
	District IV	118 (10%)
	District V	95 (8%)
	District VI	162 (14%)
	District VII	146 (13%)
	District VIII	130 (11%)
	District IX	116 (10%)
	District X	117 (10%)

# Results: Clinical Work Across Career Pathways

**Clinicians** reported the highest calculated clinical hours: 1728 hrs (IQR 1072-2304 hrs,  $p < 0.001$ ) and highest call numbers ( $p < 0.001$ )

**Clinical Educators & Clinical Experts** reported the highest median outpatient days (30 days;  $p = 0.012$ ;  $p = 0.01$ , respectively)

		Clinician	Administrative	p-value	Clinical Educator	p-value	Clinical Expert	p-value	Physician Scientist	p-value
		n = 711	n = 205		n = 89		n = 64		n = 135	
Clinical Work	Weekday	90 (50 - 120)	65 (40 - 95.75)	<0.001	80 (58.75 - 100)	NS	75 (52.5 - 100)	NS	50 (35 - 70)	<0.001
	Weeknight	32.5 (19.5 - 52)	24 (10 - 33)	<0.001	25 (15 - 36)	NS	24 (19 - 37)	NS	20 (10.75 - 30)	<0.001
	Weekend day	24 (15 - 34)	18 (12 - 26)	<0.001	21 (12 - 26)	NS	24 (13.75 - 30.5)	NS	16 (12 - 24)	<0.001
	Weekend nights	15 (10 - 24)	12 (6 - 15)	<0.001	12 (8 - 15)	0.037	12 (8 - 16)	NS	12 (7 - 13)	<0.001
	Clinical Hours	1728 (1072 - 2304)	1134 (653.5 - 1652)	<0.001	1298.5 (915 - 1874.75)	0.007	1394 (968 - 1772.5)	NS	1031.5 (602.5 - 1412)	<0.001
	Home Call Coverage	60 (30 - 120)	45 (24 - 79)	0.001	45 (27.25 - 66)	NS	50 (28.5 - 63)	NS	30 (24 - 50)	<0.001
	Average Daily Census									
	Critical Care	5 (3 - 10)	10 (5 - 12)	<0.001	10 (5 - 15)	<0.001	10 (4.75 - 10)	NS	10 (6 - 14)	<0.001
	Intensive Care	9 (5 - 12)	10 (5 - 12)	NS	10 (5 - 15)	NS	8 (5 - 10.25)	NS	10 (5 - 10.5)	NS
	Non-Critical Care	0 (0 - 4)	0 (0 - 4)	NS	0 (0 - 5)	NS	0 (0 - 4)	NS	0 (0 - 4)	NS
	Normal Newborn	0 (0 - 5)	0 (0 - 0)	<0.001	0 (0 - 0)	<0.001	0 (0 - 0)	0.009	0 (0 - 0)	<0.001
	Total Rounding Census	20 (15 - 28)	20 (16 - 25)	NS	22 (17 - 30)	NS	20 (16 - 25)	NS	20 (18 - 25)	NS
	Level of Principal Nursery									
	Level 4	212 (30%)	116 (58%)	<0.001	62 (70%)	<0.001	43 (69%)	<0.001	101 (78%)	<0.001
	Level 3	415 (59%)	73 (37%)	<0.001	23 (26%)	<0.001	13 (21%)	<0.001	27 (21%)	<0.001
	Level 2	74 (10%)	10 (5%)	0.018	0 (0%)	<0.001	3 (5%)	NS	2 (2%)	<0.001
	Level 1	7 (1%)	1 (1%)	NS	3 (3%)	NS	3 (5%)	0.04	0 (0%)	NS
Have Outpatient Duties (Yes)	117 (17%)	39 (19%)	NS	23 (26%)	NS	15 (24%)	NS	23 (17%)	NS	
Outpatient Days	12 (6 - 27)	20 (10 - 40)	NS	30 (15 - 60)	0.012	30 (12 - 100)	0.01	16.5 (9.5 - 29.25)	NS	

**Clinicians** were more likely to work within level 3 NICUs ( $p < 0.001$ ) compared to all other career pathways

**Physician Scientists** reported the lowest clinical work hours: 1031.5 (IQR 602.5-1412 hrs;  $p < 0.001$ )

# Results: Scholarly Work Across Career Pathways

**Administrators engaged in more research and were more likely to hold full professorship (p<0.001)**

		Clinician n = 711	Administrative n = 205	p-value	Clinical Educator n = 89	p-value	Clinical Expert n = 64	p-value	Physician Scientist n = 135	p-value
Scholarly Achievements	Engage in Research (Yes)	203 (29%)	121 (60%)	<0.001	59 (67%)	<0.001	48 (75%)	<0.001	131 (98%)	<0.001
	Annual Funding	\$0 (\$0 - \$10,000)	\$22,500 (\$0 - \$200,000)	<0.001	\$11,500 (\$0 - \$46,250)	0.012	\$10,000 (\$0 - \$75,000)	0.028	\$150,000 (\$50,000 - \$437,500)	<0.001
	Applied for Grants this past year (Yes)	28 (13%)	33 (27%)	0.022	16 (28%)	NS	19 (40%)	<0.001	93 (71%)	<0.001
	Number of Applications	2 (1 - 2)	2 (1 - 3.25)	NS	1 (1 - 4.5)	NS	2 (1 - 3)	NS	2 (2 - 4)	0.015
	Scholarly Productivity									
	Total Principal Authorship	2 (1 - 5)	8 (2 - 25)	<0.001	3 (2 - 10)	0.004	6 (2 - 15)	<0.001	13 (6 - 39)	<0.001
	Presentations	3 (2 - 6)	5 (2 - 10)	0.002	6 (3 - 12)	<0.001	4 (2 - 10)	NS	5 (3 - 8.25)	<0.001
	Active in Medical Education (Yes)	446 (63%)	164 (80%)	<0.001	83 (94%)	<0.001	52 (81%)	0.008	93 (69%)	NS
	Fellowship Program Director (Yes)	20 (4%)	25 (15%)	<0.001	29 (35%)	<0.001	4 (8%)	NS	12 (13%)	NS
	Education (weeks)	4 (1 - 12)	7.5 (2 - 15)	0.017	11 (4 - 20)	<0.001	8 (4 - 11)	NS	4 (2 - 12)	NS
	Academic Appointment									
	No	295 (41%)	28 (14%)	<0.001	6 (7%)	<0.001	6 (9%)	<0.001	2 (1%)	<0.001
	Yes (not tenure)	367 (52%)	123 (60%)	0.039	68 (76%)	<0.001	54 (84%)	<0.001	71 (53%)	NS
	Yes (tenure track)	28 (4%)	50 (24%)	<0.001	12 (13%)	<0.001	4 (6%)	NS	58 (43%)	<0.001
	Academic Rank									
	Instructor	36 (9%)	5 (3%)	0.008	2 (3%)	0.044	1 (2%)	NS	10 (8%)	NS
	Assistant professor	196 (50%)	32 (19%)	<0.001	37 (46%)	NS	20 (34%)	0.035	39 (30%)	<0.001
Associate professor	91 (23%)	44 (25%)	NS	23 (29%)	NS	20 (34%)	NS	36 (28%)	NS	
Full professor	34 (9%)	83 (48%)	<0.001	17 (21%)	0.002	15 (26%)	<0.001	41 (32%)	<0.001	
Adjunct	24 (6%)	5 (3%)	NS	0 (0%)	0.021	2 (3%)	NS	1 (1%)	0.015	

**Clinical Educators & Experts engaged in more research and held higher academic rank (p<0.001)**

**Physician Scientists held the highest intramural funding, principal authorships, and were more likely to be on tenure track with higher academic rank (p<0.001)**

# Results: Administrative Duties Across Career Pathways

**Clinicians** were least likely to hold leadership roles. For those engaged in leadership, **medical/program directors** was the most common role ( $p < 0.001$ )

**Physician Scientists** who were engaged in leadership were more likely to serve as **medical/program directors** ( $p < 0.001$ )

		Clinician	Administrative	p-value	Clinical Educator	p-value	Clinical Expert	p-value	Physician Scientist	p-value	
		n = 711	n = 205		n = 89		n = 64		n = 135		
Administrative Roles	Administrative Time (Weeks)	6 (2 - 12)	24 (10 - 40)	<0.001	8 (3.5 - 15.5)	NS	10 (4 - 20)	NS	5 (3 - 17.5)	NS	
	Internal Leadership Roles										
	Chair, Institutional Committee	40 (6%)	34 (17%)	<0.001	4 (5%)	NS	1 (2%)	NS	7 (6%)	NS	
	Medical/Program Director	234 (34%)	101 (50%)	<0.001	35 (41%)	NS	26 (43%)	NS	17 (13%)	<0.001	
	Division Chief	36 (5%)	48 (24%)	<0.001	3 (3%)	NS	7 (11%)	NS	16 (13%)	<0.001	
	Department Chair	25 (4%)	15 (7%)	NS	1 (1%)	NS	0 (0%)	NS	2 (2%)	NS	
	None	301 (43%)	9 (4%)	<0.001	21 (24%)	NS	20 (33%)	0.001	49 (39%)	NS	
	External Leadership Roles										
	State Committee Chair	10 (1%)	9 (5%)	NS	1 (1%)	NS	5 (8%)	0.009	4 (3%)	NS	
	National Committee Chair	10 (1%)	18 (9%)	<0.001	6 (7%)	NS	5 (8%)	NS	17 (13%)	<0.001	
	Inter-Institutional Collab Director	7 (1%)	5 (3%)	NS	1 (1%)	NS	3 (5%)	NS	3 (2%)	NS	
	International Collab Chair	0 (0%)	4 (2%)	0.005	0 (0%)	NS	1 (2%)	NS	2 (2%)	NS	
	None	502 (74%)	67 (34%)	<0.001	40 (48%)	<0.001	32 (51%)	<0.001	56 (43%)	<0.001	

**Administrators** had more protected time and were more likely to serve in leadership as division chief or chair of a national committee ( $p < 0.001$ )

# Results: Compensation Across Career Pathways

**Administrators** reported the highest median base salary (NS), administrative stipend ( $p < 0.001$ ), and total calculated cash compensation ( $p < 0.005$ )

**Clinical Experts** received lower total calculated compensation ( $p = 0.043$ )

		Clinician	Administrative	p-value	Clinical Educator	p-value	Clinical Expert	p-value	Physician Scientist	p-value
		n = 711	n = 205		n = 89		n = 64		n = 135	
Compensation	Employment Status									
	Employee	583 (82%)	184 (90%)	0.012	84 (94%)	0.006	61 (95%)	0.013	131 (98%)	<0.001
	Full/Part owner	51 (7%)	9 (4%)	NS	2 (2%)	NS	2 (3%)	NS	1 (1%)	0.013
	Contractor	78 (11%)	12 (6%)	NS	2 (2%)	0.017	1 (2%)	0.032	0 (0%)	<0.001
	Other Employment Type	17 (2%)	2 (1%)	NS	1 (1%)	NS	1 (2%)	NS	2 (1%)	NS
	Work Part-Time (Yes)	87 (12%)	24 (12%)	NS	9 (10%)	NS	6 (9%)	NS	11 (8%)	NS
	Cash Compensation									
	Base Compensation	\$250,000 (\$215,000 - \$310,000)	\$270,000 (\$220,000 - \$326,250)	NS	\$217,000 (\$180,000 - \$258,750)	<0.001	\$235,000 (\$214,500 - \$275,000)	NS	\$230,000 (\$188,171 - \$277,500)	<0.001
	Administrative stipend	\$15,000 (\$5,000 - \$30,000)	\$30,000 (\$14,700 - \$55,000)	<0.001	\$5,000 (\$2,000 - \$12,500)	0.042	\$3,000 (\$1,750 - \$22,500)	NS	\$7,500 (\$2,375 - \$27,750)	NS
	Extra duty earnings	\$20,000 (\$10,000 - \$50,000)	\$25,000 (\$10,050 - \$50,000)	NS	\$25,000 (\$8,000 - \$40,000)	NS	\$12,000 (\$6,000 - \$40,000)	NS	\$16,500 (\$5,000 - \$36,000)	NS
Productivity incentive	\$30,000 (\$10,000 - \$86,250)	\$21,000 (\$10,000 - \$66,500)	NS	\$10,000 (\$4,500 - \$20,000)	<0.001	\$7,000 (\$3,500 - \$21,500)	0.007	\$10,000 (\$7,000 - \$30,000)	0.011	
Quality incentive	\$14,000 (\$5,250 - \$25,000)	\$10,000 (\$5,000 - \$36,250)	NS	\$7,000 (\$4,250 - \$10,000)	NS	\$4,500 (\$2,625 - \$9,750)	NS	\$10,000 (\$3,500 - \$25,500)	NS	
Research incentive	\$15,000 (\$10,000 - \$20,000)	\$2,000 (\$1,850 - \$19,298)	NS	\$2,500 (\$76 - \$21,250)	NS	\$3,245 (\$500 - \$5,000)	NS	\$9,500 (\$5,000 - \$32,500)	NS	
Total Cash Compensation (summed)	\$295,000 (\$224,500 - \$360,000)	\$311,850 (\$252,625 - \$425,500)	0.005	\$240,000 (\$198,000 - \$274,000)	<0.001	\$245,500 (\$226,000 - \$290,000)	0.043	\$252,000 (\$202,500 - \$301,250)	<0.001	

**Clinician Educators** received lower base compensation ( $p < 0.001$ )

**Physician Scientists** also received lower base compensation ( $p < 0.001$ )

# Results: Breakdown of Time Across Career Pathways

**Clinicians** were less likely to receive protected time ( $p < 0.001$ ); median calculated work hours/year: 2112 hrs (IQR: 1287-2990;  $p < 0.001$ )

**Clinician Educators** engaged in more teaching and research ( $p < 0.001$ )

**Clinical Experts** engaged in more teaching and research ( $p < 0.001$ )

**Physician Scientists** reported the highest research effort ( $p < 0.001$ )

		Clinician n = 711	Administrative n = 205	p-value	Clinical Educator n = 89	p-value	Clinical Expert n = 64	p-value	Physician Scientist n = 135	p-value
Time	Reported Percent Time									
	% Clinical	74%	43%	<0.001	55%	<0.001	51%	<0.001	31%	<0.001
	% Admin	10%	33%	<0.001	13%	NS	14%	NS	9%	NS
	% Teaching	6%	8%	NS	17%	<0.001	11%	0.001	7%	NS
	% Research	3%	8%	<0.001	9%	<0.001	15%	<0.001	48%	<0.001
	% Clinical	3%	6%	0.007	8%	<0.001	12%	<0.001	23%	<0.001
	% Bench	0%	1%	NS	0%	NS	0%	NS	19%	<0.001
	% Health Service	0%	1%	NS	1%	NS	3%	0.004	6%	<0.001
	% Other Med Activities	3%	5%	0.013	4%	NS	7%	0.001	3%	NS
	% Other Activities	1%	2%	NS	1%	NS	2%	NS	0%	NS
	Estimated Professional Hours									
	Clinical Time	1728 (1072 - 2304)	1134 (654 - 1652)	<0.001	1299 (915 - 1875)	0.007	1394 (968 - 1773)	NS	1032 (603 - 1412)	<0.001
	Research Time	0 (0 - 70)	105 (0 - 303)	<0.001	89 (0 - 276)	<0.001	174 (0 - 326)	<0.001	1492 (771 - 2447)	<0.001
Administrative Time	320 (140 - 800)	1200 (600 - 2080)	<0.001	420 (190 - 850)	NS	540 (245 - 1200)	NS	320 (125 - 800)	NS	
Teaching Time	240 (60 - 600)	386 (120 - 934)	0.004	600 (240 - 1080)	<0.001	450 (180 - 710)	NS	230 (110 - 758)	NS	
Total Professional Time	2112 (1287 - 2990)	2780 (1878 - 3820)	<0.001	2382 (1600 - 3467)	NS	2455 (1674 - 3756)	NS	3031 (2109 - 4251)	<0.001	

**Administrators** reported more protected time; median calculated work hours/year: 2780 hrs (IQR: 1878-3820;  $p < 0.001$ )

...and highest median calculated work hours/year: 3031 hrs (IQR: 2109-4521;  $p < 0.001$ )

# Conclusions

Compared to neonatologists who identified as **Clinicians**:

- **Administrators/Leaders** had fewer clinical obligations, engaged in more research, held higher academic rank, had more administrative time, and received the highest compensation.
- **Clinical Educators** and **Clinical Experts** participated in more research and medical education, held higher academic rank, and received lower compensation.
- **Physician-Scientists** had the lowest clinical time commitment, expended the greatest effort in research, held higher academic rank, and received lower compensation.



# Conclusions

- Neonatologists can embrace several career paths focused on different missions
- Institutions and organizations should understand the value that each career path brings and seek to support optimal professional development for all

## A Gender Effect:

Comparison of Gender Across  
Three Career Phases of a Neonatologist

### Objective #2:

- The objective of this analysis was to evaluate for gender inequity among neonatologists across 3 career phases:
  - Early Career:  $\leq 10$  years from fellowship
  - Mid-Career: 11-20 years from fellowship
  - Later Career:  $> 20$  years from fellowship

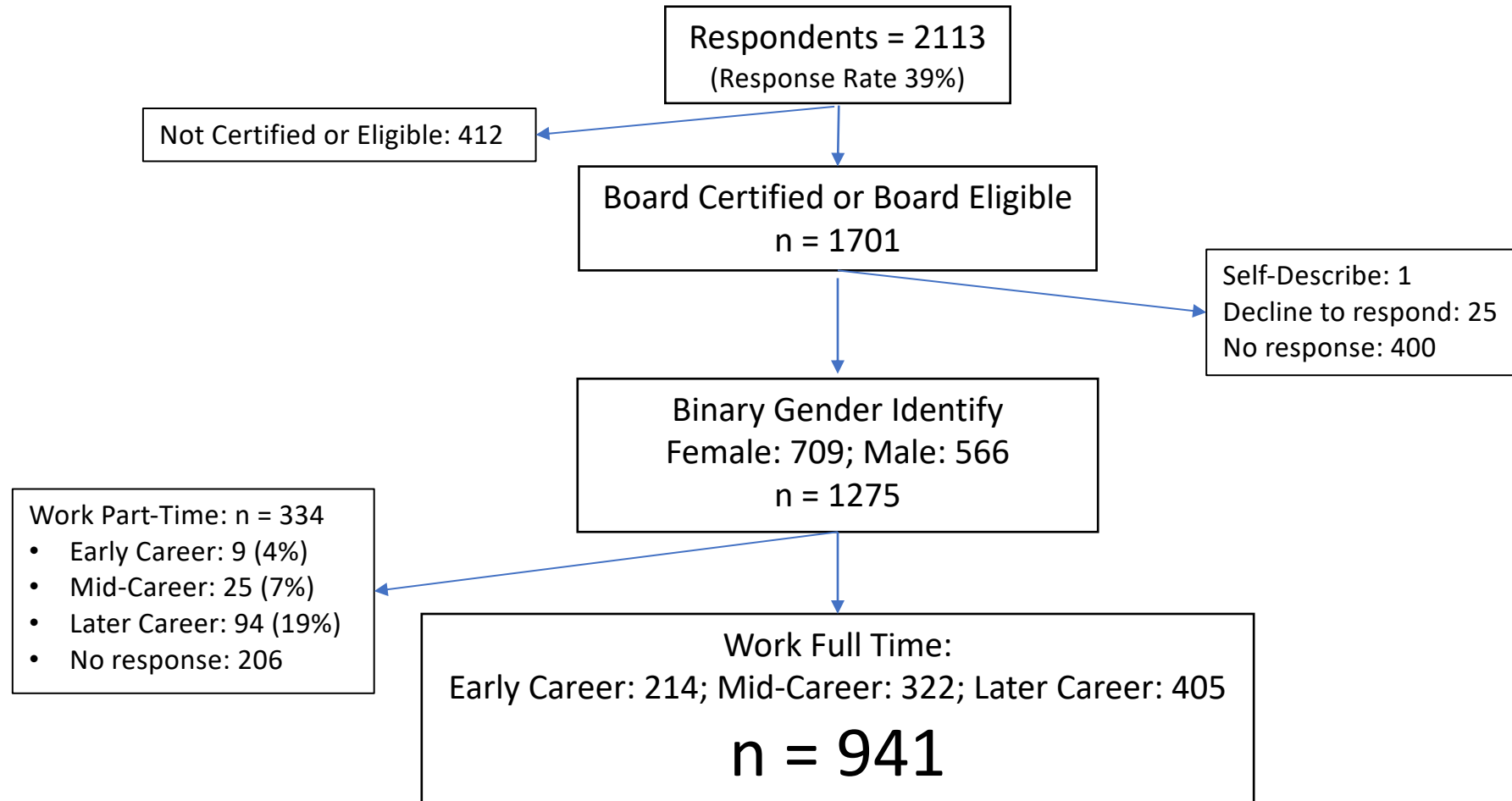
# Hypothesis

- Female gender identity may be associated with fewer publications, fewer key leadership roles, and decreased cash compensation

# Methods

- The survey included questions about professional duties, social factors, and compensation.
- Bivariate cross-sectional comparisons were performed using JMP 16.1.0 by SAS (Cary, NC) and included:
  - T-test of means of normally distributed data;
  - Wilcoxon test of medians of data with skewed distribution;
  - Chi-square analysis for categorical data
- This analysis included a subset of 941 full-time respondents reporting gender identity and fellowship year

# Consort Diagram



# Respondent Characteristics

<b>Table 1: Respondent Characteristics</b>		<b>Survey of Sections</b>
<b>Sample Size</b>	<b>941</b>	
On Academic Track (Yes)	669 (71%)	
Gender Identity		
Male	387	(41%)
Female	554	(59%)
Ethnic and Racial Identity		
Hispanic/Latinx	66	(7%)
Asian	165	(18%)
Native Hawaiian/Pacific Islander	1	(0%)
Black/African American	40	(4%)
Middle Eastern/North African	22	(2%)
American Indian/Alaska Native	2	(0%)
White	664	(71%)
Other	24	(3%)
Declined	31	(3%)
Age		
31-35	63	(7%)
36-40	149	(16%)
41-45	166	(18%)
46-50	140	(15%)
51-55	103	(11%)
56-60	102	(11%)
61-65	102	(11%)
66-70	64	(7%)
71 years or older	28	(3%)

<b>Table 1: Respondent Characteristics</b>		<b>Survey of Sections</b>
Medical School		
United States	722	(77%)
Canada	7	(1%)
Caribbean	25	(3%)
Other	180	(19%)
AAP Membership		
AAP only	95	(10%)
Both AAP and SONPM	754	(80%)
Neither the AAP nor SONPM	91	(10%)
AAP District Location		
District I	61	(7%)
District II	62	(7%)
District III	109	(12%)
District IV	96	(11%)
District V	79	(9%)
District VI	69	(8%)
District VII	138	(15%)
District VIII	109	(12%)
District IX	100	(11%)
District X	89	(10%)



Link to PDF of Tables

# Results: Comparison of Clinical Duties

Minimal differences were seen in clinical duties across gender and career phases of neonatologists

	Early Career			Mid-Career			Later Career		
	Male	Female	p-value	Male	Female	p-value	Male	Female	p-value
	n = 51 (24%)	n = 163 (76%)		n = 100 (31%)	n = 222 (69%)		n = 236 (58%)	n = 169 (42%)	
Weekday (Monday through Friday)	75 (50 - 106)	90 (50 - 120)	NS	70 (28 - 110)	75 (50 - 100)	NS	70 (38.5 - 107.5)	75 (47.5 - 120)	NS
Weeknight (night of Monday through Friday)	24 (20 - 40)	28 (16 - 40)	NS	25 (12 - 45)	25 (15 - 48)	NS	27 (10 - 50)	30 (15 - 52.25)	NS
Weekend day (Saturday or Sunday)	24 (17 - 30)	24 (14.75 - 34)	NS	19 (12 - 34.25)	20 (12 - 26)	NS	21.5 (12 - 30)	24 (14 - 30)	NS
Weekend nights† (night of Saturday or Sunday)	12 (10 - 20)	12 (10 - 20)	NS	12.5 (8 - 20)	12 (8 - 24)	NS	12 (4 - 23.5)	14 (10 - 25)	0.011
Clinical Hours	1602 (988.5 - 2010)	1582 (1144 - 2304)	NS	1594 (754 - 2110)	1564 (989 - 2098.5)	NS	1325 (656 - 2037)	1376 (832 - 2163)	NS
Average Daily Census									
Critical Care	9 (5.5 - 10)	9.5 (5 - 12)	NS	8 (4.25 - 10)	8 (5 - 12)	NS	5 (3 - 10)	6 (4 - 10)	NS
Intensive Care	10 (6 - 12)	10 (5 - 11)	NS	9 (5 - 12)	10 (5.25 - 12)	NS	9 (5 - 10)	10 (5 - 14.75)	NS
Non-Critical Care	0 (0 - 5)	0 (0 - 3)	NS	0 (0 - 2)	0 (0 - 3)	NS	1 (0 - 5)	0 (0 - 5)	NS
Normal Newborn	0 (0 - 0)	0 (0 - 1)	NS	0 (0 - 3)	0 (0 - 0)	NS	0 (0 - 4)	0 (0 - 3)	NS
Total Rounding Census	20 (17.75 - 25)	20 (16 - 25)	NS	20 (15.75 - 28.25)	20 (16 - 25)	NS	20 (14 - 26)	20 (15 - 28.25)	NS
Level nursery where most time spent									
Level 4	25 (50%)	80 (50%)	NS	51 (51%)	104 (47%)	NS	100 (43%)	67 (41%)	NS
Level 3	24 (48%)	72 (45%)	NS	43 (43%)	108 (49%)	NS	106 (46%)	78 (47%)	NS
Level 2	1 (2%)	9 (6%)	NS	6 (6%)	8 (4%)	NS	23 (10%)	17 (10%)	NS
Level 1	0 (0%)	0 (0%)	NS	0 (0%)	0 (0%)	NS	3 (1%)	3 (2%)	NS
Have Outpatient Duties									
Yes	12 (24%)	25 (16%)	NS	20 (21%)	46 (21%)	NS	41 (18%)	29 (18%)	NS
Outpatient Days	15.5 (10 - 27.75)	22 (10 - 44.75)	NS	11 (5 - 23.75)	15.5 (6 - 37)	NS	12 (7 - 35)	29 (7.25 - 50)	NS



Link to PDF of Tables

# Results: Administrative and Leadership Duties

No significant gender differences were seen in administrative or leadership duties for neonatologists across career phases

		Early Career			Mid-Career			Later Career		
		Male n = 51 (24%)	Female n = 163 (76%)	p-value	Male n = 100 (31%)	Female n = 222 (69%)	p-value	Male n = 236 (58%)	Female n = 169 (42%)	p-value
Administration and Leadership	Administrative Time									
	Weeks	6 (2 - 15)	5 (2 - 12)	NS	8 (4 - 23.75)	7.5 (3.25 - 20)	NS	12 (5 - 30)	12 (5 - 25)	NS
	Internal Roles									
	Chair, Institutional Committee	1 (2%)	2 (1%)	NS	5 (5%)	8 (4%)	NS	32 (14%)	24 (14%)	NS
	Medical/Program Director	8 (16%)	29 (20%)	NS	43 (44%)	88 (41%)	NS	96 (41%)	75 (45%)	NS
	Division Chief	2 (4%)	0 (0%)	NS	8 (8%)	12 (6%)	NS	47 (20%)	24 (14%)	NS
	Department Chair	2 (4%)	4 (3%)	NS	1 (1%)	3 (1%)	NS	14 (6%)	13 (8%)	NS
	None	26 (52%)	80 (55%)	NS	31 (32%)	56 (26%)	NS	47 (20%)	39 (23%)	NS
	External Roles									
	State Committee Chair	0 (0%)	2 (1%)	NS	6 (6%)	3 (1%)	NS	9 (4%)	3 (2%)	NS
	National Committee Chair	5 (10%)	2 (1%)	NS	3 (3%)	14 (7%)	NS	10 (4%)	8 (5%)	NS
	Inter-Institutional Collab Director	0 (0%)	0 (0%)	NS	1 (1%)	1 (0%)	NS	7 (3%)	5 (3%)	NS
	Internatioanal Collab Chair	0 (0%)	0 (0%)	NS	1 (1%)	0 (0%)	NS	2 (1%)	0 (0%)	NS
	None	34 (71%)	105 (71%)	NS	53 (56%)	127 (60%)	NS	129 (57%)	89 (56%)	NS



Link to PDF of Tables



# Results: Scholarly Work Across Career Phases

Gender identity was unevenly distributed across career phases

	Early Career			Mid-Career			Later Career		
	Male	Female	p-value	Male	Female	p-value	Male	Female	p-value
	n = 51 (24%)	n = 163 (76%)		n = 100 (31%)	n = 222 (69%)		n = 236 (58%)	n = 169 (42%)	
Annual Funding	31 (61%) \$50,000 (\$0 - \$120,000)	76 (48%) \$0 (\$0 - \$50,000)	NS	50 (50%) \$0 (\$0 - \$150,000)	125 (56%) \$15,000 (\$0 - \$125,000)	NS	105 (45%) \$32,500 (\$0 - \$243,750)	75 (46%) \$20,000 (\$0 - \$300,000)	NS
Scholarly Productivity									
Paper submissions	3 (1 - 5.25)	2 (1 - 3)				NS	3 (2 - 6)	3 (1 - 6)	NS
Publications in Past Year	2 (1 - 4)	2 (1 - 3)				NS	3 (2 - 6)	3 (1 - 5)	NS
Principal Authorship	3.5 (1.75 - 9.25)	2 (1 - 5)				NS	10 (2.75 - 30)	5 (2 - 20)	0.019
Presentations	4 (3 - 8)	4 (2 - 6)				NS	5 (2 - 10)	4 (2 - 8)	NS
Academic Appointment									
No	9 (18%)	42 (26%)					72 (31%)	53 (31%)	
Yes (not tenure)	35 (69%)	103 (63%)	NS	63 (63%)	141 (64%)	NS	121 (51%)	88 (52%)	NS
Yes (tenure track)	6 (12%)	13 (8%)		12 (12%)	26 (12%)		37 (16%)	24 (14%)	
Academic Rank									
Instructor	2 (5%)	11 (9%)	0.048	2 (3%)	9 (5%)	0.04	10 (6%)	6 (5%)	0.003
Assistant professor	30 (73%)	97 (84%)		24 (32%)	69 (41%)		21 (13%)	30 (27%)	
Associate professor	5 (12%)	5 (4%)		30 (40%)	71 (43%)		31 (20%)	35 (31%)	
Full professor	0 (0%)	0 (0%)		10 (13%)	9 (5%)		82 (52%)	38 (34%)	
Adjunct	4 (10%)	2 (2%)		6 (8%)	3 (2%)		10 (6%)	2 (2%)	

Later career males were more likely to hold more principal authorships (p=0.019) and full professor appointments (p=0.003)

Early and mid-career females were more likely to hold assistant & associate professor appointments (p=0,048; p=0.04, respectively)



Link to PDF of Tables

# Results: Comparison of Cash Compensation

**Gender pay gap significantly widens with career phase progress**

Median base compensation for **later career males** is \$30,000 higher than females (p=0.002)

Gender identity was **unevenly distributed** across career phases

Median base compensation for **mid-career males** is \$25,000 higher than females (p=0.001)

Median administrative stipend for **mid-career males** is \$20,000 higher than females (p=0.004)

Calculated total cash compensation for **mid-career males** is \$51,250 higher (\$322,250 vs. \$271,000; p<0.001)

Calculated total cash compensation for **later career males** is \$45,500 higher than females (\$340,000 vs. \$294,500; p<0.001)

Compensation	Early Career			Mid-Career			Later Career		
	Male	Female	p-value	Male	Female	p-value	Male	Female	p-value
	n = 100 (31%)	n = 222 (69%)		n = 236 (58%)	n = 169 (42%)				
Base Compensation	\$25,000 (\$11,250 - \$50,000)	\$23,000 (\$10,000 - \$47,500)	NS	\$275,000 (\$250,000 - \$315,000)	\$250,000 (\$225,000 - \$291,000)	0.001	\$300,000 (\$250,000 - \$350,000)		
Administrative stipend	\$30,000 (\$7,500 - \$50,000)	\$10,000 (\$2,350 - \$25,000)	0.004	\$20,000 (\$15,000 - \$41,250)	\$25,000 (\$10,000 - \$50,000)	NS	\$20,000 (\$10,000 - \$50,000)		
Extra duty earnings	\$24,000 (\$8,800 - \$77,500)	\$22,500 (\$10,000 - \$76,250)	NS	\$18,000 (\$10,000 - \$52,500)	\$15,000 (\$5,000 - \$58,000)	NS	\$22,000 (\$10,000 - \$77,500)	\$18,000 (\$6,000 - \$38,000)	NS
Productivity incentive	\$15,000 (\$5,000 - \$25,000)	\$10,000 (\$5,000 - \$36,000)	NS	\$15,000 (\$7,500 - \$22,000)	\$10,000 (\$3,125 - \$21,500)	NS	\$10,000 (\$5,000 - \$26,000)	\$10,000 (\$5,000 - \$36,000)	NS
Quality incentive	\$5,000 (\$4,125 - \$5,359)	\$12,649 (\$2,686 - \$35,000)	NS	\$5,000 (\$4,125 - \$5,359)	\$12,649 (\$2,686 - \$35,000)	NS	\$9,500 (\$2,338 - \$27,500)	\$9,500 (\$6,000 - \$13,000)	NS
Research incentive									
Calculated Total Cash Compensation	\$322,250 (\$264,500 - \$453,000)	\$271,000 (\$236,500 - \$330,000)	<0.001	\$340,000 (\$277,000 - \$425,000)	\$294,500 (\$235,000 - \$350,000)	<0.001			



Link to PDF of Tables

# Results: Comparison of Employer Benefits

Gender identity was unevenly distributed across career phases

	Early Career			Mid-Career			Later Career			
	Male	Female	n-value	Male	Female	n-value	Male	Female	n-value	
	n = 51 (24%)	n = 163 (76%)		n = 100 (31%)	n = 222 (69%)		n = 236 (58%)	n = 169 (42%)		
Employer Benefits	Employee	46 (90%)	152 (94%)	NS	88 (89%)	198 (89%)	NS	201 (86%)	142 (84%)	NS
	Full/Part owner	3 (6%)	5 (3%)	NS	7 (7%)	10 (5%)	NS	20 (9%)	10 (6%)	NS
	Contractor	2 (4%)	6 (4%)	NS	6 (6%)	10 (5%)	NS	13 (6%)	15 (9%)	NS
	Other Employment Type	0 (0%)	2 (1%)	NS	2 (2%)	2 (1%)	NS	5 (2%)	6 (4%)	NS
	Bonus	34 (67%)	100 (62%)	NS	63 (63%)	146 (66%)	NS	146 (62%)	87 (52%)	0.046
	Health Insurance	47 (92%)	153 (95%)	NS	95 (95%)	225 (100%)	NS	225 (96%)	153 (92%)	NS
	Malpractice	47 (92%)	155 (96%)	NS	94 (94%)	226 (100%)	NS	226 (96%)	159 (95%)	NS
	Loan Repayment			NS	2 (2%)	2 (1%)	NS	2 (1%)	5 (3%)	NS
	Reimburse for Professional Expenses			NS	83 (85%)	197 (89%)	NS	198 (84%)	141 (84%)	NS
	Tuition Reimbursement			NS	12 (12%)	40 (18%)	NS	44 (19%)	33 (20%)	NS
	Paid Family Care Leave			NS	27 (28%)	85 (38%)	NS	74 (31%)	49 (29%)	NS
	Paid Family Medical Leave			NS	35 (36%)	127 (57%)	<0.001	94 (40%)	77 (46%)	NS
	Dependent Care Leave			NS	30 (31%)	99 (45%)	0.015	80 (34%)	60 (36%)	NS
	Life Insurance			NS	76 (78%)	176 (80%)	NS	185 (79%)	128 (77%)	NS
	Long-Term Disability Insurance			NS	69 (70%)	156 (71%)	NS	157 (67%)	112 (67%)	NS
Short-Term Disability Insurance			NS	54 (55%)	147 (67%)	NS	142 (60%)	100 (60%)	NS	
Retirement			NS	78 (80%)	194 (88%)	NS	186 (79%)	124 (74%)	NS	
Other	3 (6%)	0 (0%)	NS	3 (3%)	3 (1%)	NS	8 (3%)	8 (5%)	NS	

Bonus monies were more likely to be reported by later-career males

Paid medical leave and dependent care benefits were more frequently noted by mid-career females (p<0.001; p=0.015, respectively)

Life insurance benefits were more frequently noted by early career females (p=0.015)



Link to PDF of Tables

# Conclusions

- In this bivariate cross-sectional analysis of gender inequity across career phases, we found no meaningful differences in:
  - Clinical duties
  - Administrative roles
- Yet, we did identify meaningful differences in:
  - Academic rank
  - Financial compensation
- Future multivariate analysis will better explore independent influences and co-variates on gender identity across career phases

**Assessment of the 2020  
COVID-19 Pandemic:  
Impact on the United States  
Neonatologist Workforce**

**Objective #3:**

- The objective of this analysis was to evaluate the effect of the COVID-19 pandemic on the professional and personal lives of neonatologists.

# Hypothesis

- The COVID-19 pandemic significantly impacted work productivity of neonatologists in both research and clinical domains
- The COVID-19 pandemic negatively affected career advancement, compensation, and work-life integration of neonatologists

# Methods

- The survey included questions about professional duties, the effects of COVID-19, and social factors.
- Bivariate cross-sectional comparisons were performed using JMP 16.1.0 by SAS (Cary, NC) and included:
  - T-test of means of normally distributed data;
  - Wilcoxon test of medians of data with skewed distribution;
  - Chi-square analysis of categorical data
- Analysis included the subset of 1490 full-time neonatologists who responded to the COVID-19 questions

# Results: Respondent Characteristics

Table 1: Respondent Characteristics

<b>Sample Size</b>	<b>1490</b>
<b>On Academic Track (Yes)</b>	<b>1008 (68%)</b>
<b>Gender Identity</b>	
Male	527 (42%)
Female	712 (56%)
Prefer to self-describe	1 (0%)
Decline to respond	24 (2%)
<b>Racial Identity</b>	
Hispanic/Latinx	93 (7%)
Asian	203 (16%)
Native Hawaiian/Pacific Islander	3 (0%)
Black/African American	52 (4%)
Middle Eastern/North African	28 (2%)
American Indian/Alaska Native	4 (0%)
White	890 (71%)
Other	33 (3%)
Declined	73 (5%)
<b>Age</b>	
31-35	83 (7%)
36-40	185 (15%)
41-45	197 (16%)
46-50	172 (14%)
51-55	139 (11%)
56-60	134 (11%)
61-65	130 (11%)
66-70	111 (9%)
71 years or older	76 (6%)

<b>Medical School</b>	
United States	980 (78%)
Canada	8 (1%)
Caribbean	36 (3%)
Other	235 (19%)
<b>AAP Membership</b>	
AAP only	142 (10%)
Both AAP and SONPM	1169 (79%)
Neither the AAP nor SONPM	167 (11%)
<b>AAP District Location</b>	
District I	91 (6%)
District II	93 (7%)
District III	160 (11%)
District IV	144 (10%)
District V	114 (8%)
District VI	194 (14%)
District VII	175 (12%)
District VIII	151 (11%)
District IX	150 (11%)
District X	152 (11%)



Link to PDF of Tables



# Results: Professional Activities Across Career Types

**69% of all neonatologists reported changes in their workflow, workday, & income**

**69% of all researchers suffered delays or setbacks in their projects**

Factors Impacted by COVID-19		Overall	No Appointment	Academic Appointment	p-value
		n = 1490	n = 482	n = 1008	
Workday	No change	465 (31%)	211 (44%)	254 (25%)	<0.001
	Less time on site	567 (38%)	85 (18%)	482 (48%)	<0.001
	More time on site	152 (10%)	48 (10%)	104 (10%)	NS
	Fewer patients	132 (9%)	48 (10%)	84 (8%)	NS
	More patients	117 (8%)	47 (10%)	70 (7%)	NS
	Fewer work hours	63 (4%)	24 (5%)	39 (4%)	NS
	More work hours	332 (22%)	87 (18%)	245 (24%)	0.005
	Reduced compensation	413 (28%)	142 (29%)	271 (27%)	NS
	Increased compensation	13 (1%)	3 (1%)	10 (1%)	NS
	Other	108 (7%)	30 (6%)	78 (8%)	NS
Research	Respondents conducting research	810 (54%)	143 (27%)	667 (65%)	<0.001
	Research impacted	559 (69%)	23 (19%)	56 (9%)	0.024
	Lab shut down	81 (10%)	7 (6%)	74 (12%)	0.017
	Grants affected	63 (8%)	2 (2%)	61 (10%)	<0.001
	Clinical Study shut down	187 (24%)	13 (10%)	174 (27%)	<0.001
	Unable to complete a project	193 (25%)	19 (15%)	174 (27%)	0.002
	Had to restart a project	52 (7%)	5 (4%)	47 (7%)	NS
	Team members unable to continue	144 (19%)	19 (15%)	125 (19%)	NS
	Planned grant missed	76 (10%)	3 (2%)	73 (11%)	<0.001
	Paper significantly delayed	231 (30%)	21 (17%)	210 (33%)	<0.001
	Tenure jeopardized	19 (2%)	1 (1%)	18 (3%)	NS
	Other	79 (10%)	23 (19%)	199 (31%)	0.008



Link to PDF of Tables

# Results: Professional Time and Compensation Across Career Types

Factors Impacted by COVID-19		Overall	No Appointment	Academic Appointment	p-value
		n = 1490	n = 482	n = 1008	
Career	Retired earlier	7 (0%)	2 (0%)	5 (1%)	NS
	Stayed longer	60 (4%)	18 (4%)	42 (4%)	NS
	Changed jobs	61 (4%)	17 (4%)	44 (4%)	NS
	Temporarily left	30 (2%)	13 (3%)	17 (2%)	NS
	Fewer opportunities for promotion	97 (7%)	21 (4%)	76 (8%)	0.011
	Other	89 (6%)	31 (6%)	58 (6%)	NS
	No change	1185 (80%)	390 (82%)	795 (80%)	NS
	Work-Life Integration				
More time with Family	713 (51%)	214 (48%)	499 (53%)	NS	
Less time with Family	254 (18%)	90 (20%)	164 (17%)	NS	
Childcare Struggle	254 (18%)	90 (20%)	164 (17%)	NS	
Eldercare Struggle	303 (22%)	78 (17%)	225 (24%)	0.004	
Increased Stress with Significant Other	429 (31%)	143 (32%)	286 (30%)	NS	
Decreased stress with Significant Other	78 (6%)	19 (4%)	59 (6%)	NS	
Self quarantine	146 (11%)	42 (9%)	104 (11%)	NS	
More Teaching Children	225 (16%)	70 (16%)	155 (17%)	NS	
Other	176 (13%)	65 (15%)	111 (12%)	NS	

20% of all neonatologists experienced career impacts

Eldercare concerns was a significant stressor



Link to PDF of Tables

# Conclusions

The COVID-19 pandemic disrupted the lives of neonatologists on both personal and professional levels within the following domains:

- **Increased work hours and remote work** among academically appointed neonatologists
- **Reduction in compensation and opportunities for promotion** among all respondents
- **Work-life integration** resulting in increased time with family for all respondents, accompanied with increased interspousal, eldercare, and childcare stressors
- **Significant delays in research progression** resulting in delayed paper and grant submissions and delayed initiation of planned projects

# 2020 AAP Trainees and Early Career Neonatologists Workforce Survey

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# Statement of Problem

- Employment characteristics and compensation for early career neonatologists (ECN) within 7 years of fellowship graduation are poorly defined
- Formal education on neonatology career types and expected compensation is lacking in fellowship programs
- Significant knowledge gaps exist in understanding roles traditionally dichotomized as 'academic' and 'non-academic'

**Factors Influencing  
Compensation of Early  
Career Neonatologists**  
Objective:

- The objective of this analysis was to define compensation and related employment characteristics of early career neonatologists

# Methods

- **Study Design:**

- Voluntary anonymous 61-question survey instrument was developed and approved with IRB exemption
- Questions refined using convenience sampling validation & comparison to previous survey studies
- Administered in 2020 via electronic communication over a 4-month period with 2 reminder emails
- Questions addressed clinical service time, NICU level of acuity, protected research time, financial compensation, benefits, availability of advanced degree education (i.e. master's degrees), and promotion requirements of university-affiliated and non-university affiliated practices

# Methods

- **Population:**

- TECaN members within 7 years of completion of fellowship training (2014-2020), a pre-defined time frame specific to Early Career Neonatologists (ECNs)

- **Statistical Analysis:**

- Univariate and multivariate quantile regressions were performed using SAS Software version 9.4
- Multivariate analysis was adjusted for the effect of the following factors:
  - Location of medical training (e.g. United States versus international)
  - Gender identity
  - Fellowship graduation year
  - Academic appointment & rank
  - Geographical region
  - Practice group type
  - Number of neonatologists in practice group
  - Clinical schedule & type of call taken



# Results

## Study population (n=348/1302; 26.7% Response Rate)

Physician Characteristics	n (%)
<b>Graduation Year</b>	
2020	87 (25.0)
2019	63 (18.1)
2018	68 (19.5)
2017	50 (14.4)
2016	28 (8.0)
2015	27 (7.8)
2014	25 (7.2)
<b>Gender Identity</b>	
Female	270 (77.6)
Male	76 (21.8)
No response	2 (0.6)
<b>Medical School Country</b>	
United States	256 (73.6)
Caribbean	19 (5.5)
Canada/Other	73 (20.9)

Physician Characteristics	n (%)
<b>Region of Employment</b>	
Great Lakes (OH, MI, IN, IL, WI, MN)	49 (14.0)
Mid-Atlantic (WV, VA, DE, MD, DC, PA, NJ, NC)	49 (14.0)
Southeast (SC, GA, FL, AL, MS, LA, TN, KY)	35 (10.1)
Northeast (ME, NH, VT, MA, CT, NY, RI)	50 (14.4)
North Central (IA, MO, KS, NE, SD, ND)	24 (6.9)
Southwest (AZ, UT, CO, NM, NV, TX, OK, AR)	27 (7.8)
West (CA, AK, HI, MT, WY, ID, OR, WA)	42 (12.1)
No Response	72 (20.7)
<b>Group Type</b>	
University Affiliated	160 (46.0)
Private Practice	78 (22.4)
Hybrid	61 (17.5)
Hospital Employed	42 (12.1)
Government/Military/Other	7 (2.0)

# Results

## Academics

Physician Characteristics	n (%)
<b>Academic Appointment</b>	
Yes, Non-Tenure Track Appointment	200 (57.5)
Yes, Tenure Track Appointment	33 (9.5)
No Academic Appointment	110 (31.6)
No Response	5 (1.4)
<b>Academic Rank</b>	
Instructor	33 (9.5)
Adjunct Professor	12 (3.4)
Assistant Professor	172 (49.4)
Associate Professor	8 (2.3)

# Results

## Practice Description

Employment Characteristics	Sample, n (%)	University Affiliated, n (%)	Non-University Affiliated, n (%)	P-value
<b>Number of Neonatologists</b>				
1-2	10 (2.9)	0 (0)	10 (100)	.
3-6	58 (16.7)	12 (3.4)	46 (13.2)	<.0001
7-10	71 (20.4)	22 (6.3)	49 (14.1)	0.0014
11-14	57 (16.4)	39 (11.2)	18 (5.2)	0.0054
>14	133 (38.2)	81 (23.3)	52 (14.9)	0.0119
<b>Median Coverage Assignment Defined by NICU Acuity Level (IQR)</b>				
Level 1	1 (0-10)	0 (0-10)	5 (0-20)	0.0751
Level 2	20 (5-32)	10 (0-30)	20 (6-33)	0.1783
Level 3	60 (40-100)	50 (25-75)	80 (50-100)	<.0001
Level 4	50 (20-90)	70 (42-100)	20 (0-62)	<.0001



# Results

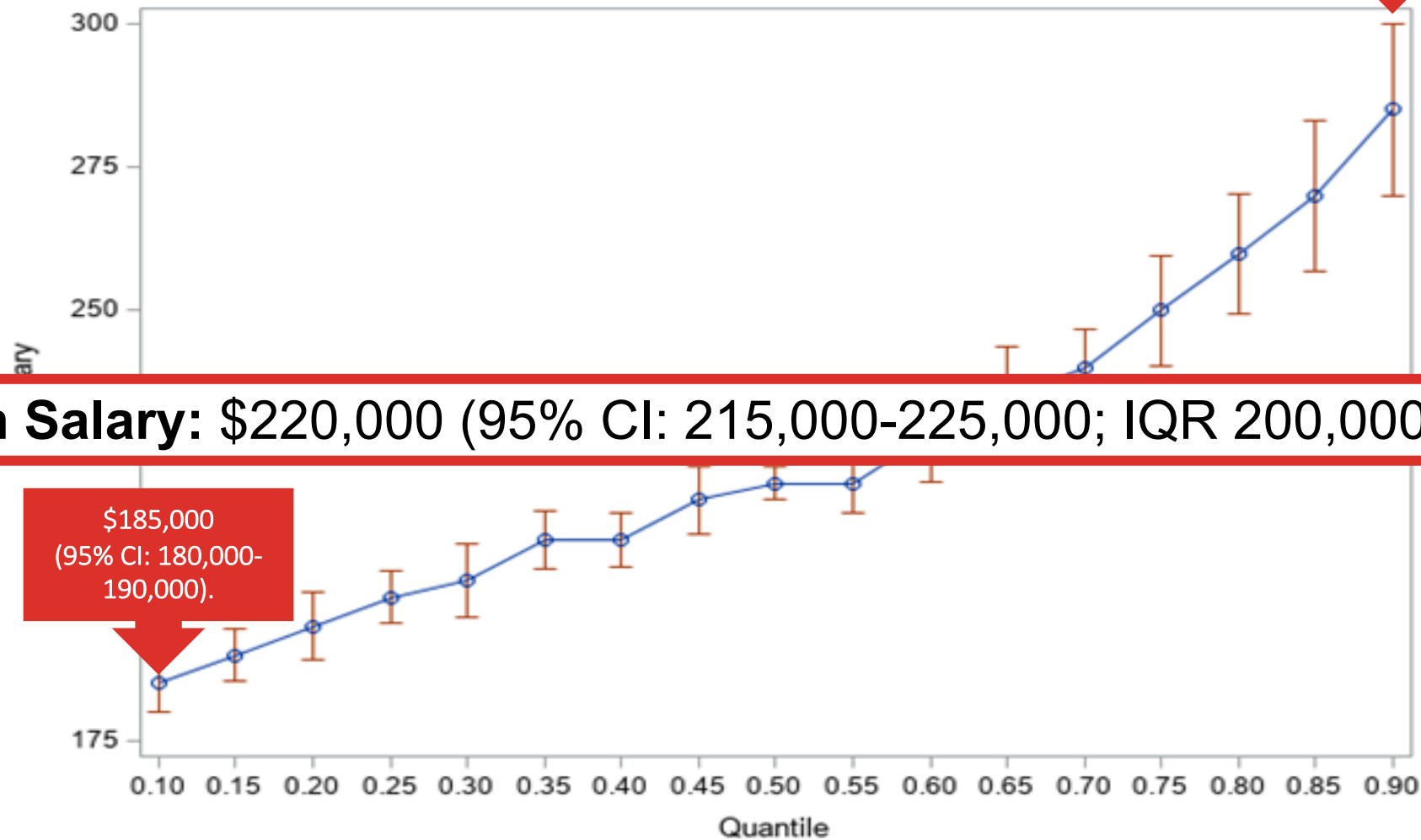
Employment Characteristics	Sample n (%)	University Affiliated n (%)	Non-University Affiliated n (%)	P-value
<b>Structure of Clinical Time</b>				
1 Week Block	80 (23.0)	30 (8.6)	50 (14.4)	0.0253
2 Week Block	126 (36.2)	96 (27.6)	30 (8.6)	<.0001
3 Week Block	17 (4.9)	10 (2.9)	7 (2.0)	0.4669
4 Week Block	10 (2.9)	5 (1.4)	5 (1.4)	1
Some Days On/Off	69 (19.8)	7 (2.0)	62 (17.8)	<.0001
Other	15 (4.3)	2 (0.6)	13 (3.7)	0.0045
I Don't Know	3 (0.9)	2 (0.6)	1 (0.3)	0.5637
<b>Call Type</b>				
In-house Call	144 (41.4)	70 (20.1)	74 (21.3)	0.7389
Both In-house and Home	110 (31.6)	46 (13.2)	64 (18.4)	0.0861
Home Call	70 (20.1)	37 (10.6)	33 (9.5)	0.6326
No Call	5 (1.4)	1 (0.3)	4 (1.1)	0.1797



Practice Description

# Results

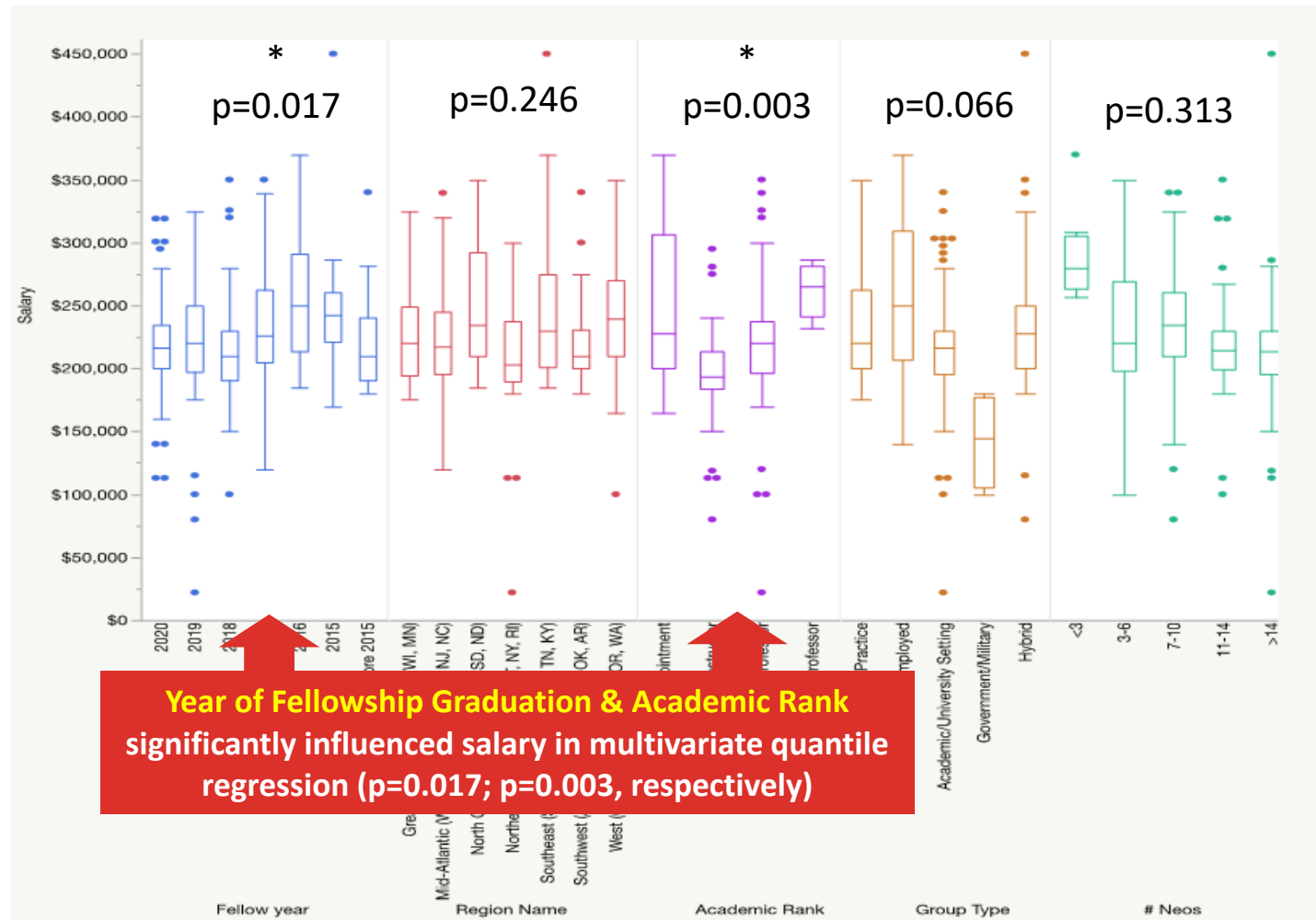
Figure 1: Quantile Distribution of Salary



**Median Salary: \$220,000 (95% CI: 215,000-225,000; IQR 200,000-250,000).**

# Results

Figure 2: Factors Significantly Associated with Compensation of ECNs



# Results

- Key Multivariate Analysis Findings:
  - Highest earning median income were 2016 fellowship graduates (\$250,000; IQR: \$215,000 - \$290,000;  $p=0.017$ ) compared to 2020 graduates (\$216,000; IQR: \$200,000 - \$235,000)
  - Estimated median salary increased by:
    - 12% with promotion from Instructor ( \$196,000; 95% CI: \$178,286 - \$213,714) to Assistant Professor (\$220,000; 95% CI: \$215,470 - \$224,530;  $p<0.001$ )
    - 18% with promotion from Assistant to Associate Professor (\$260,000; 95% CI: \$220,043 - \$299,957;  $p=0.027$ )

# Conclusions

- For early career neonatologists, salary is correlated with years of experience and academic rank
- Increased formalized education is needed on employment models for optimizing career fulfillment of graduating fellows and early career neonatologists
- No significant gender difference was noted in earnings



# Future Directions

- **Professional Advocacy:**

- **Staffing and Workload in Neonatology (SWAN) Taskforce**

- *A new AAP SoNPM workgroup comprised of leaders in clinical staffing and productivity*
    - **Co-Leads:** Drs. De-Ann Pillers and Patrick McNamara
    - **Members:** Drs. Anisha Bhatia, David Burchfield, Scott Duncan, Eric Horowitz, Mark Hudak, Sunny Juul, Satyan Lakshminrushimha, Lily Lou, Mark Mercurio, Steve Olsen, Jean Pallato, Renate Savich, Gautham Suresh, and Trent Tipple
    - **Goals:**
      1. To best define clinical FTE for academic neonatologists.
      2. To better characterize overall FTE and understand underlying driving forces

# Future Directions

- **Professional Advocacy: All Pathways Group**

- *A new AAP SoNPM Working Group focused on understanding the wide variety of pathways for neonatal intensivists and help meet the professional needs of all Section members who desire opportunities that make their career more fulfilling and may not be readily available in a non-academic setting*
- **Co-Leads:** Drs. Clara Song and Lily Lou
- **All Pathways aims to enhance opportunities in the following areas:**
  - Local and national leadership
  - Research/QI/Benchmarking, Teaching
  - Advocacy
  - How to evaluate a practice opportunity
  - Non-conventional practice opportunities (locums, volunteer, etc.)
  - Late career opportunities
  - Global health opportunities
  - Networking

# Future Directions

- **Professional Advocacy: Representation and Equity In Neonatology (REIN)**

*A new AAP SoNPM Interest Group focused on enhancing the workforce diversity of neonatology by creating a community for Underrepresented in Medicine (URiM) neonatologists and allies*

- **Co-Leads:** Drs. Elizabeth Bonachea, Michelle-Marie Peña, & Uchenna Anani
- **Goals:**
  - Foster community among URiM trainees and neonatologists across the country
  - Support the recruitment, retention, and promotion of URiM physicians in neonatology
  - Promote entry of URiM physicians into the NPM pipeline

# Future Directions

- **Professional Advocacy: Clinical Leaders Group**

*A new AAP SoNPM Interest Group focused on addressing gaps in training and resource availability for the clinical leaders*

- **Co-Leads:** Drs. Munish Gupta and Jessica Davidson
- **Goals:**
  - Develop clinical leaders in the domains of quality assurance and improvement, patient safety, and clinical guidelines

# Thank you for your attention!

For more information  
about the neonatologist workforce,  
please visit:

[www.aap.org/DOCISIn](http://www.aap.org/DOCISIn)



## Special thanks for generous support from:

- TECaN Executive Council Collaborators
- AAP Pediatric Workforce Survey of Sections Neonatology Collaborators
- American Academy of Pediatrics Section on Neonatal-Perinatal Medicine
- American Academy of Pediatrics Committee on Pediatric Workforce