Comparing Professional Profiles of Neonatologist Clinicians With and Without an Academic Appointment

Eric Horowitz¹, Anisha Bhatia², Holly Ruch-Ross³, Lauren Barone³, Mark L. Hudak⁴

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

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

BACKGROUND

- Previous attempts to define a clinical full-time equivalent (FTE) have employed institutional data and data from other commercial organizations.
- These data have not allowed comparison of neonatologists with and without an academic appointment nor have they provided granular information about the individual components of professional assignments (e.g., clinical, educational, administrative, research)
- The granular data from our survey may help guide institutional strategic planning and facilitate individual benchmarking.

OBJECTIVE

 To compare the professional work profiles of neonatologists with and without academic appointments who self-identified their primary care path as a clinical neonatologist.

METHODS

- The AAP conducted a voluntary anonymous survey of all board-eligible and board-certified United States 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 analyzed the subset of 520 respondents who were board-eligible or board-certified, held a full-time position, and self-identified as clinical neonatologists to compare neonatologists with and without an academic appointment. We used t-test of means, Wilcoxon test of medians, and chi-square analysis of proportions, as appropriate, using JMP 16.1.0 by SAS (Cary, NC).

We found differences between clinical neonatologists with and without academic appointments

Those with Academic Appointments:

- Covered higher level units
- Generated more wRVUs
- Engaged more in research activities
- Attested to a greater output of scholarly work
- Received more generous fringe benefits

Those without Academic Appointments:

- Received higher cash compensation
- Reported a higher likelihood of owning a group or working as a contractor

However, clinical neonatologists with and without academic appointment did not differ with respect to:

- Age distribution
- Gender, racial or ethnic, and sexual identities
- Medical training; AAP affiliation; or administrative duties

Table 1: Respondent Characteristics

	All	Clinical Neonatologist Academic Status			
		Without Appointment	With Appointment	p-value	
Sample Size	n = 520	212 (41%)	308 (59%)		
Gender Identity*		,			
Male	201 (39%)	88 (42%)	113 (37%)	NC	
Female	303 (59%)	120 (57%)	183 (60%)	NS	
Ethnic and Racial Identity*					
Hispanic/Latinx	40 (8%)	16 (8%)	24 (8%)	NS	
Asian	97 (19%)	38 (18%)	59 (20%)	NS	
Native Hawaiian/Pacific Islander	1 (0%)	1 (0%)	0 (0%)	NS	
Black/African American	20 (4%)	9 (4%)	11 (4%)	NS	
Middle Eastern/North African	13 (3%)	7 (3%)	6 (2%)	NS	
American Indian/Alaska Native	1 (0%)	0 (0%)	1 (0%)	NS	
White	345 (68%)	143 (68%)	202 (67%)	NS	
Other	14 (3%)	1 (0%)	13 (4%)	0.003	
Declined	27 (5%)	11 (5%)	16 (5%)	NS	
Sexual Identity**	12 (22()	7 (20 ()	5 (20()		
Lesbian or gay	12 (2%)	7 (3%)	5 (2%)		
Straight, that is, not lesbian or gay	466 (91%)	194 (93%)	272 (90%)	NG	
Bisexual Samathing also	6 (1%)	1 (0%)	5 (2%)	NS	
Something else	1 (0%)	0 (0%)	1 (0%)		
Decline to respond	0 (0%)	0 (0%)	0 (0%)		
Age** 31-35	32 (6%)	10 (5%)	22 (7%)		
36-40	87 (17%)	31 (15%)	56 (19%)		
41-45	85 (17%)	34 (16%)	51 (17%)		
46-50	73 (15%)	28 (14%)	45 (15%)		
51-55	62 (12%)	30 (14%)	32 (11%)	NS	
56-60	65 (13%)	31 (15%)	34 (12%)		
61-65	53 (11%)	24 (12%)	29 (10%)		
66-70	31 (6%)	13 (6%)	18 (6%)		
71 years or older	14 (3%)	6 (3%)	8 (3%)		
Medical School**					
United States	380 (74%)	155 (74%)	225 (74%)		
Canada	2 (0%)	0 (0%)	2 (1%)	NS	
Caribbean	14 (3%)	9 (4%)	5 (2%)	INS	
Other	117 (23%)	46 (22%)	71 (23%)		
AAP Membership**					
AAP only	65 (13%)	25 (12%)	40 (13%)		
Both AAP and SONPM	389 (75%)	158 (75%)	231 (75%)	NS	
Neither the AAP nor SONPM	65 (13%)	29 (14%)	36 (12%)		
AAP District Location**				,	
District I (CT, ME, MA, NH, RI, VT)	23 (5%)	3 (1%)	20 (7%)		
District II (NY)	31 (6%)	2 (1%)	29 (10%)		
District III (DE, DC, MD, NJ, PA, WV)	58 (12%)	20 (10%)	38 (13%)		
District IV (KY, NC, SC, TN, VA)	49 (10%)	25 (12%)	24 (8%)		
District V (IN, MI, OH)	39 (8%)	21 (10%)	18 (6%)	<0.001	
District VI (IL, IA, KA, MN, MO, NE, ND, SD, WI)	35 (7%)	13 (6%)	22 (7%)	5.001	
District VII (AR, LA, MS, OK, TX)	78 (15%)	32 (16%)	46 (15%)		
District VIII (AK, AZ, CO, HI, ID, MN, NV, NM, OR, UT, WA, WY)	77 (15%)	33 (16%)	44 (15%)		
District IX (CA)	56 (11%)	31 (15%)	25 (8%)		
District X (AL, FL, GA, PR)	58 (12%)	25 (12%)	33 (11%)		
We used *t-tests to compare mean	s of norma	lly distributed	data and **chi	-square	

analysis for categorical data

Table 2: Professional Duties and Expectations – Clinical Neonatologists by Academic Affiliation

Weedendy Monthly Trongs Findays** 59 (50 - 20) 59 (48 - 130) 19 (157 - 120) No Weedend part Statutes or Sundays** 24145 - 381 24146 - 381 24144 - 301 No Weedend parts from the Sundays** 24145 - 381 24146 - 381 24144 - 301 No Weedend parts from the Sundays** 24145 - 381 24146 - 381 24144 - 301 No Weedend parts from the Sundays** 2564 (157 - 2014) 1814 (1500 - 2014) 1		Clinical Neonatolog			
Clinical Trine Parcent of Professional Times (Clinical) 755. 8158 7718 90		All			p-valu
Percent of Frordestools Time (Clinical) 75% 83h 72h 90 90 92 120 90 922 120 90 922 120 90 922 120 90 922 120 90 922 120 90 922 120 90 922 120 90 922 120 90 922 935 120 92 92 93 92 92 92 92 93 92 92		n = 520			p raid
Weekland (plantary image) indepty 90 (40 179)					
Westerd right of Medical processors (1996) 36 (26 - 52) 38 (2 (3.5 - 61) 30 (20 - 48) 0.00 Westerd right set of Settoder of sunsey?* 15 (20 - 20) 18 (20 - 25) 18 (20 - 27) 18 (20					<0.001
Western drays for sharper's expansive,** 2011		·	·	·	0.05
Marca Carrier Stores 1744 11.2 2004 3914 (1000 2576) 1667 (1178 2906) No.		· · ·		· · · · · · · · · · · · · · · · · · ·	NS
New Cupstion Duties		·			NS
Critical Care Color Colo		1764 (1152 - 2304)	1914 (1080 - 2526)	1667 (1178 - 2196)	NS
Normal Revorm Collection	Critical Care		·	· · ·	<0.001
Normal Newborn 1915 28 2914 281 2916 2916 2			,	· · · · · · · · · · · · · · · · · · ·	NS NS
Calculated Sprimate of Annual wPVIP** 20 (18 - 28) 20 (18 - 28) 7.20 930 0.00 0		, ,		, ,	0.007
Carcolated Estimate of Annual WRVIP** Carcolated Estimate of Annual Estimate Es		,	· · · · · · · · · · · · · · · · · · ·	· · ·	NS
Level nursery where most time spent*	Calculated Estimate of Annual wRVU**				0.029
Level 2 310 (10%)	Level nursery where most time spent*	(4280 - 14070)	(3220 - 14200)	(4380 - 14330)	
Level 2 51,1(19%) 22,138/ 24,18% NS		` · · · · · · · · · · · · · · · · · · ·		, ,	<0.001
Level 1 2 (0%)		,		· · ·	0.024
March Dutpatient Duties					NA
Display Disp		(**)			
Images in Research		,			NS
Research Time		12 (6 - 28)	10 (5 - 20)	14.5 (6 - 30)	NS
Research Time		162 /21%\	27 (12%)	125 (45%)	<0.001
Percent of Professional Time* 3% 1% 4% 4% 4% 4% 4% 50 (50 - 510,000) 50 (50 - 50) 50 (50 - 50),000 50 (102 (31/0)	27 (13/0)	133 (43/0)	<u> </u>
Scholarly Productivity*** Paper submissions 2 (1 - 3) 1 (1 - 2) 2 (1 - 3) 0.00 Publications in Past Year 1 (1 - 2) 1 (1 - 2) 2 (1 - 3) 0.00 Principal Authorship 2 (1 - 5) 2 (1 - 4) 3 (1 - 7) 0.00 Teaching Time*	Percent of Professional Time*				<0.001
Paper submissions 2 (1 - 3)		\$0 (\$0 - \$10,000)	\$0 (\$0 - \$0)	\$0 (\$0 - \$10,000)	NS
Publications in Part Wear 1 (1 - 2) 1 (1 - 2) 2 (1 - 3) 0.00		2 (1 . 2)	1 /1 . 2\	2 (1 _ 2)	0.033
Principal Authorship 2(1-5) 2(1-4) 3(1-7) 0.00					0.033
Teaching Time* Percent of Professional Time* Percent of Professional Time* Percent of Professional Time* Server of Se					0.001
Percent of Professional Time		4 (2 - 6)	2.5 (2 - 5)	4 (2 - 6)	0.007
Administrative Time		6%	4%	8%	<0.001
Meeks of Professional Time** 5 (2 - 12)			,,,,		
Internal Roles*					NS
Chair, Institutional Committee 33 (7%) 12 (6%) 21 (7%) NS		5 (2 - 12)	4 (2 - 12)	6 (2.55 - 14.75)	NS
Medical Director		33 (7%)	12 (6%)	21 (7%)	NS
Department Chair		, i		` ,	NS
External Roles* State Committee Chair 10 (2%) 3 (1%) 7 (2%) NS		, ,			NS
State Committee Chair 10 (2%) 3 (1%) 7 (2%) NS				i i	
State Committee Chair 10 (2%) 3 (1%) 7 (2%) NS		199 (39%)	83 (40%)	116 (39%)	INS
Inter-Institutional Collab Director 6 (1%) 0 (0%) 6 (2%) 0.05 International Collab Chair 0 (0%) 0 (0%) 0 (0%) 0.06 None 363 (74%) 160 (80%) 203 (70%) 0.01 September Septe		10 (2%)	3 (1%)	7 (2%)	NS
Internatioant Collab Chair None 363 (74%) 160 (86%) 203 (70%) 0.00	National Committee Chair	6 (1%)	1 (0%)	5 (2%)	NS
None 363 (74%) 160 (80%) 203 (70%) 0.01		, ,	· · · · · ·		0.014
Cash Compensation** Base Compensation \$262,000 (\$225,000 - \$315,000) \$280,000 (\$228,000 - \$327,500) \$250,000 (\$219,500 - \$302,500) 0.00 Administrative stipend \$15,000 (\$5,000 - \$30,000) \$15,000 (\$6,000 - \$30,000) \$15,000 (\$3,500 - \$35,250) NS Extra duty earnings \$20,000 (\$51,000 - \$50,000) \$20,000 (\$51,000 - \$50,000) \$23,250 (\$10,000 - \$51,000 \$19,000 \$19,000 \$20,000 \$19,000 \$0,000 \$13,500 <td></td> <td>` /</td> <td></td> <td></td> <td>0.013</td>		` /			0.013
Sase Compensation (\$225,000 - \$315,000) (\$238,000 - \$327,500) (\$219,500 - \$302,500) (\$15,000 \$15,000 \$15,000 \$23,000 \$23,000 \$23,000 \$23,000 \$23,000 \$23,000 \$23,000 \$23,000 \$23,000 \$23,000 \$23,000 \$23,000 \$23,000 \$23,000 \$23,250 \$25,000 \$23,000 \$		303 (1470)	100 (0070)	203 (7070)	0.013
S225,000	Base Compensation				0.003
Administrative stipend (\$5,000 - \$30,000) (\$6,000 - \$30,000) (\$3,500 - \$35,250) NS	base compensation	(\$225,000 - \$315,000)			0.003
Section	Administrative stipend				NS
Straduty earnings (\$10,000 - \$50,000) (\$10,000 - \$50,000) (\$10,000 - \$41,850) NS		\$20,000			
Productivity incentive (\$10,000 - \$80,000) (\$24,000 - \$120,000) (\$5,000 - \$48,500) (\$8,750 - \$25,000) (\$8,750 - \$25,000) (\$9,500 - \$26,250) (\$8,250 - \$21,500) NS	Extra duty earnings				NS
S10,000 - \$80,000 (\$24,000 - \$120,000 \$13,500 NS	Droductivity inconting	\$25,000	\$75,000	\$19,000	<0.001
Cuality incentive (\$8,750 - \$25,000) (\$9,500 - \$26,250) (\$8,250 - \$21,500) NS	Froductivity incentive	(\$10,000 - \$80,000)			\U.UU1
S15,000 \$10,000 \$20,000 NS	Quality incentive			· ·	NS
Calculated Total Cash Compensation \$300,000 \$321,000 \$220,000 \$228,550 \$0.00 \$2241,000 - \$365,000 \$321,600 \$2285,000 - \$344,300 \$2241,000 - \$365,000 \$225,000 - \$390,000 \$225,000 - \$344,300 \$225,000 - \$225,000 \$225,000 - \$225,000 \$225,000 - \$225,000 \$225,000 \$225,000 \$225,000 \$225,000 \$225,000 \$225,000 \$225,000 \$225,000 \$225,000 \$225,000 \$225,000 \$225,000 \$225,000 \$225,000 \$225,000 \$225,000 \$225,		\$15,000			
Calculated Total Cash Compensation (\$241,000 - \$365,000) (\$250,000 - \$390,000) (\$235,000 - \$344,300) (\$250,000 - \$390,000) (\$235,000 - \$344,300) (\$250,000 - \$390,000) (\$235,000 - \$344,300) (\$250,000 - \$390,000) (\$235,000 - \$344,300) (\$250,000 - \$390,000) (\$250,000 - \$390,000) (\$250,000 - \$390,000) (\$250,000 - \$344,300) (\$250,000 - \$344,300) (\$250,000 - \$390,000) (\$250,000 - \$344,300) (\$250,000 - \$390,000) (\$250,000 - \$344,300) (\$250,000 - \$34	Research incentive			· ·	NS
Employment Status* 431 (83%) 152 (72%) 279 (91%) <0.00 Full/Part owner 40 (8%) 28 (13%) 12 (4%) <0.00	Calculated Total Cash Compensation				0.003
Employee 431 (83%) 152 (72%) 279 (91%) <0.00 Full/Part owner 40 (8%) 28 (13%) 12 (4%) <0.00	Employment Status*	(\$241,000 - \$303,000)	(\$250,000 - \$590,000)	(\$255,000 - \$544,500)	
Contractor 52 (10%) 33 (16%) 19 (6%) 0.00 Other Employment Type 11 (2%) 7 (3%) 4 (1%) NS Benefits*		431 (83%)	152 (72%)	279 (91%)	<0.001
Other Employment Type 11 (2%) 7 (3%) 4 (1%) NS Benefits* Bonus 316 (61%) 136 (65%) 180 (59%) NS Health Insurance 482 (94%) 196 (94%) 286 (93%) NS Malpractice 493 (96%) 197 (95%) 296 (96%) NS Loan Repayment 5 (1%) 1 (0%) 4 (1%) NS Reimburse for Professional Expenses 444 (86%) 179 (86%) 265 (86%) NS Tuition Reimbursement 62 (12%) 8 (4%) 54 (18%) <0.00			•		<0.001
Bonus 316 (61%) 136 (65%) 180 (59%) NS Health Insurance 482 (94%) 196 (94%) 286 (93%) NS Malpractice 493 (96%) 197 (95%) 296 (96%) NS Loan Repayment 5 (1%) 1 (0%) 4 (1%) NS Reimburse for Professional Expenses 444 (86%) 179 (86%) 265 (86%) NS Tuition Reimbursement 62 (12%) 8 (4%) 54 (18%) <0.0					0.001 NS
Health Insurance 482 (94%) 196 (94%) 286 (93%) NS Malpractice 493 (96%) 197 (95%) 296 (96%) NS Loan Repayment 5 (1%) 1 (0%) 4 (1%) NS Reimburse for Professional Expenses 444 (86%) 179 (86%) 265 (86%) NS Tuition Reimbursement 62 (12%) 8 (4%) 54 (18%) <0.0					
Malpractice 493 (96%) 197 (95%) 296 (96%) NS Loan Repayment 5 (1%) 1 (0%) 4 (1%) NS Reimburse for Professional Expenses 444 (86%) 179 (86%) 265 (86%) NS Tuition Reimbursement 62 (12%) 8 (4%) 54 (18%) <0.00					NS
Loan Repayment 5 (1%) 1 (0%) 4 (1%) NS Reimburse for Professional Expenses 444 (86%) 179 (86%) 265 (86%) NS Tuition Reimbursement 62 (12%) 8 (4%) 54 (18%) <0.0		` '	·		NS NS
Reimburse for Professional Expenses 444 (86%) 179 (86%) 265 (86%) NS Tuition Reimbursement 62 (12%) 8 (4%) 54 (18%) <0.00		, , , , ,			NS
Paid Family Care Leave 136 (26%) 43 (21%) 93 (30%) 0.01 Paid Family Medical Leave 208 (40%) 71 (34%) 137 (45%) 0.01 Dependent Care Leave 182 (35%) 62 (30%) 120 (39%) 0.02 Life Insurance 394 (77%) 162 (78%) 232 (76%) NS Long-Term Disability Ins 345 (67%) 136 (65%) 209 (68%) NS Short-Term Disability Ins 326 (63%) 123 (59%) 203 (66%) NS Retirement 400 (78%) 152 (73%) 248 (81%) 0.04			· · ·		NS
Paid Family Medical Leave 208 (40%) 71 (34%) 137 (45%) 0.01 Dependent Care Leave 182 (35%) 62 (30%) 120 (39%) 0.02 Life Insurance 394 (77%) 162 (78%) 232 (76%) NS Long-Term Disability Ins 345 (67%) 136 (65%) 209 (68%) NS Short-Term Disability Ins 326 (63%) 123 (59%) 203 (66%) NS Retirement 400 (78%) 152 (73%) 248 (81%) 0.04	Reimburse for Professional Expenses	` ′			<0.001
Dependent Care Leave 182 (35%) 62 (30%) 120 (39%) 0.02 Life Insurance 394 (77%) 162 (78%) 232 (76%) NS Long-Term Disability Ins 345 (67%) 136 (65%) 209 (68%) NS Short-Term Disability Ins 326 (63%) 123 (59%) 203 (66%) NS Retirement 400 (78%) 152 (73%) 248 (81%) 0.04	Reimburse for Professional Expenses Tuition Reimbursement	g		, ,	0.013 0.016
Life Insurance 394 (77%) 162 (78%) 232 (76%) NS Long-Term Disability Ins 345 (67%) 136 (65%) 209 (68%) NS Short-Term Disability Ins 326 (63%) 123 (59%) 203 (66%) NS Retirement 400 (78%) 152 (73%) 248 (81%) 0.04	Reimburse for Professional Expenses Tuition Reimbursement Paid Family Care Leave				0.016
Short-Term Disability Ins 326 (63%) 123 (59%) 203 (66%) NS Retirement 400 (78%) 152 (73%) 248 (81%) 0.04	Reimburse for Professional Expenses Tuition Reimbursement Paid Family Care Leave Paid Family Medical Leave	208 (40%)		120 (39%)	
Retirement 400 (78%) 152 (73%) 248 (81%) 0.04	Reimburse for Professional Expenses Tuition Reimbursement Paid Family Care Leave Paid Family Medical Leave Dependent Care Leave	208 (40%) 182 (35%)	62 (30%)	· · ·	NS
	Reimburse for Professional Expenses Tuition Reimbursement Paid Family Care Leave Paid Family Medical Leave Dependent Care Leave Life Insurance Long-Term Disability Ins	208 (40%) 182 (35%) 394 (77%) 345 (67%)	62 (30%) 162 (78%) 136 (65%)	232 (76%) 209 (68%)	NS
Other 14 (3%) 8 (4%) 6 (2%) NS	Reimburse for Professional Expenses Tuition Reimbursement Paid Family Care Leave Paid Family Medical Leave Dependent Care Leave Life Insurance Long-Term Disability Insurance	208 (40%) 182 (35%) 394 (77%) 345 (67%) 326 (63%)	62 (30%) 162 (78%) 136 (65%) 123 (59%)	232 (76%) 209 (68%) 203 (66%)	NS NS

American Academy of Pediatrics



This AAP study provides a look at the demographics, duties, and compensation of neonatologists with and without academic appointments who identified clinical neonatology as their primary career path. These data will assist current efforts to provide a definition of a clinical FTE within the neonatologist workforce.