

CORRESPONDENCE



Neonatologist staffing models: urgent change is needed

© The Author(s), under exclusive licence to Springer Nature America, Inc. 2022

Journal of Perinatology (2022) 42:1556–1557; <https://doi.org/10.1038/s41372-022-01527-x>

TO THE EDITOR:

Many current neonatologist staffing models do not support the needs of the evolving neonatology workforce, administrative obligations, and patient population. Decades ago, NICU coverage involved daily rounds by a neonatologist followed by night coverage using a home-call model [1]. Due to increasing patient volume and acuity, adequate NICU coverage now often requires 24-hour in-house neonatologists [2] in both private practice and academic settings. Since the same neonatologist may round before and after an overnight shift, shifts may last up to 36 h [3]. Weekends have always been expected, but are now compounded by frequency, in-hospital requirements, weekend conferences, and not balanced by commensurate days off. Meanwhile, expectations of academic productivity, teaching, quality improvement work, and administrative obligations are unchanged or increased, and must be done during increasingly scarce “non-clinical” time.

These factors tend to affect hospital-based practices, pediatricians in intensive care subspecialties, and women most frequently [4, 5]. Lack of standardized staffing models further contributes to workforce dissatisfaction and difficulty advocating for changes with institutional leadership and payors. Additionally, staffing models often do not have sufficient reserve for the inevitable needs that arise for medical, personal, and family leave that all neonatologists encounter at multiple points during their career. This, coupled with medical and academic cultures that discourage taking leave due to effects on career advancement or causing extra work for colleagues, has progressively contributed to workforce burnout and attrition [6]. The COVID-19 pandemic has amplified these issues, increased burnout in health care providers [7–10] and widened the workforce gender gap [11]. These collective issues are particularly concerning as the neonatology workforce is both aging and majority female [12–14].

Staffing models based on clinical productivity have also proven problematic in their ability to translate work productivity measures, including scholarly achievements, into meaningful staffing and compensation data [15]. The clinical productivity of neonatology divisions is often measured as relative value units (RVUs) produced per clinical full-time equivalent physicians (cFTEs) [1, 16]. This definition of productivity not only fails to consider the value of quality of care, it incentivizes decreased physician time per patient. High work RVU (wRVU) to cFTE ratios have played a key role in expanding institutional and departmental revenue, but are not sustainable due to the global daily codes and payor expectations [16]. The Leapfrog Group, a national nonprofit healthcare watchdog organization, incentivizes quality practices and safety standards due to potential cost containment and improved clinical outcomes [17, 18]. One such regulatory guideline relevant to neonatologists is

the intensive care unit physician staffing (IPS) standard. The IPS standard codifies the responsibility to maintain adequate in-house and on-call staffing by intensivists, even if it decreases the wRVU:cFTE ratio, to support quality of care [18].

While compensation benchmarks for neonatologists and pediatric intensivists are similar, productivity benchmarks for neonatologists are nearly double those of pediatric intensivists [1]. In a recent publication in the *Journal of Perinatology*, Lakshminrusimha, et al. suggest an alternative method of staffing academic pediatric departments using a time- or point-based staffing model to more accurately capture physician effort in domains additional to clinical care, such as research [19]. This model is coupled with a reduction in clinical productivity (wRVU) benchmarks for academic neonatologists, thereby promoting physicians’ other professional contributions and wellness with transparency and respect for physician time [1]. In the current COVID-19 era where understaffing seems to be the new normal in all areas of patient care, addressing these issues and determining how to appropriately finance them may seem insurmountable but is even more critical because the health of the workforce is key to the health of our patients. Without a commitment to change the culture around staffing and advance supportive benefits such as pay equity, paid family leave, and childcare, the neonatology workforce will suffer to the detriment of our patients and scientific innovations. If the economic, environmental, and social factors influencing staffing are not addressed, recruiting and retaining neonatologists will become more difficult as work models become unsustainable [20].

The AAP Leadership Conference selected a resolution to promote sustainable staffing models for pediatric physicians and their healthcare teams as one of the top 10 areas of focus in 2022–2023 [21]. This resolution advocates for a repository of research, education, and ongoing advocacy for innovative and humane staffing models, scheduling flexibility, development of best practices, and transparency to attract and retain the future workforce [22]. We must build on this momentum, work with leadership in the AAP, our field, institutions, and payors to drive change now, and foster a safe and healthier environment for our patients and ourselves.

Milenka Cuevas Guaman ¹✉, Emily R. Miller ²,
Christiane E. L. Dammann ³, Christine E. Bishop⁴ and
Kerri Z. Machut⁵

¹Department of Pediatrics, Division of Neonatology, Texas Children’s Hospital, Baylor College of Medicine, Houston, TX, USA. ²Cincinnati Children’s Hospital Medical Center, Division of Neonatology, Perinatal Institute, and Department of Pediatrics, University of Cincinnati College of Medicine, Cincinnati, OH, USA. ³Department of Pediatrics, Tufts Medical Center, Boston, MA, USA. ⁴Department of Pediatrics, University of Pittsburgh School of Medicine, Pittsburgh, PA, USA. ⁵Department of Pediatrics, Feinberg School of Medicine, Northwestern University, Chicago, IL, USA.
✉email: mxcuevas@texaschildrens.org

Received: 30 August 2022 Revised: 19 September 2022 Accepted: 22 September 2022
Published online: 7 October 2022

REFERENCES

- Lakshminrusimha S, Olsen SL, Lubarsky DA. Behavioral economics in neonatology—balancing provider wellness and departmental finances. *J Perinatol*. 2022;42:683–8.
- Kourembanas S, Steinhorn R. In-House Neonatology. *Am J respiratory Crit Care Med*. 2010;182:728–9.
- Mercurio MR, Peterec SM. Attending physician work hours: ethical considerations and the last doctor standing. *Pediatrics*. 2009;124:758–62.
- Spector ND, Overholser B. COVID-19 and the slide backward for women in academic medicine. *JAMA Netw Open*. 2020;3:e2021061–061.
- Gausman J, Langer A. Sex and gender disparities in the COVID-19 Pandemic. *J Women's Health (Larchmt)*. 2020;29:465–6.
- Murthy VH. Confronting Health Worker Burnout and Well-Being. *N Engl J Med*. 2022;387:577–9.
- Dillon EC, Tai-Seale M, Meehan A, Martin V, Nordgren R, Lee T, et al. Frontline perspectives on Physician burnout and strategies to improve well-being: interviews with Physicians and Health System Leaders. *J Gen Intern Med*. 2020;35:261–7.
- Dyrbye LN, Shanafelt TD, Balch CM, Satele D, Sloan J, Freischlag J. Relationship between work-home conflicts and burnout among American surgeons: a comparison by sex. *Arch Surg*. 2011;146:211–7.
- Nassar AK, Reid S, Kahn moui K, Tuma F, Waheed A, McConnell M. Burnout among Academic Clinicians as It Correlates with Workload and Demographic Variables. *Behav Sci (Basel)*. 2020;10:94.
- Rotenstein LS, Torre M, Ramos MA, Rosales RC, Guille C, Sen S, et al. Prevalence of burnout among Physicians: a systematic review. *Jama*. 2018;320:1131–50.
- Machut KZ, Bhombal S, Escobedo M, Kataria-Hale J, Kushnir A, Lingappan K, et al. Call to action: gender equity in neonatology. *J Perinatol: Off J Calif Perinat Assoc*. 2022;42:982–3.
- Certification Management System - general information on all certified diplomates 2021. AAP. American Board of Pediatrics; 2021.
- Chumpitazi CE, Camp EA, Cuevas-Guaman M, Doughty C, Kancherla B, Lingappan K, et al. Vision 2020: How caregiving and work productivity outlook shifted for Academic Pediatric Faculty. *J Women's Health (Larchmt)*. 2022;31:631–9.
- Jolly S, Griffith KA, DeCastro R, Stewart A, Ubel P, Jagsi R. Gender differences in time spent on parenting and domestic responsibilities by high-achieving young physician-researchers. *Ann Intern Med*. 2014;160:344–53.
- Olsen S, Gautham K, Kilbride H, Artman M, Lakshminrusimha S. Defining clinical effort for Hospital-Based Pediatricians. *J Pediatrics*. 2022;246:4–7.e3.
- Mercurio MR. Neonatology's race to the bottom: RVUs, cFTEs, and physician time. *J Perinatol: Off J Calif Perinat Assoc*. 2021;41:2561–3.
- Milstein A, Galvin RS, Delbanco SF, Salber P, Buck CR Jr. Improving the safety of health care: the leapfrog initiative. *Eff Clin Pr*. 2000;3:313–6.
- Gasperino J. The Leapfrog initiative for intensive care unit physician staffing and its impact on intensive care unit performance: a narrative review. *Health Policy*. 2011;102:223–8.
- Lakshminrusimha S, Murin S, Kirk JD, Mustafa Z, Maurice TR, Sousa N, et al. "Funds Flow" Implementation at Academic Health Centers: Unique Challenges to Pediatric Departments. *J Pediatr*. 2022. <https://doi.org/10.1016/j.jpeds.2022.01.058>. [Epub ahead of print].
- Jarvie, Michelle E. "Brundtland Report". Encyclopedia Britannica, 20 May. 2016, <https://www.britannica.com/topic/Brundtland-Report>. Accessed 5 October 2022.
- Steve Schering SW. Leadership Conference: Top resolution calls for support of pediatricians experiencing stress, public attacks. AAP News 2022.
- Wallace JE, Lemaire JB, Ghali WA. Physician wellness: a missing quality indicator. *Lancet*. 2009;374:1714–21.

AUTHOR CONTRIBUTIONS

MCG conceptualized and drafted the initial manuscript. ERM, CELD, CEB and KZM reviewed and revised the manuscript. All authors approved the final manuscript as submitted and agree to be accountable for all aspects of the work.

COMPETING INTERESTS

The authors declare no competing interests.

ADDITIONAL INFORMATION

Correspondence and requests for materials should be addressed to Milenka Cuevas Guaman.

Reprints and permission information is available at <http://www.nature.com/reprints>

Publisher's note Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.