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Advancing NICU Environments through AngelEye Health's Family Engagement Platform: Addressing Nurse Turnover and Burnout

Jaylee Hilliard, MSN, RN, NEA-BC, CPXP and Nicole Nyberg, MSN, APRN, NNP-BC

Introduction

This paper explores the critical issues of nurse turnover and burnout within Neonatal Intensive Care Units (NICUs) and evaluates the transformative role of technology in addressing these challenges, focusing on the application of AngelEye Health's Family Engagement Platform.

Despite significant growth in healthcare fields, nurses remain a critical and large group of healthcare professionals.¹ The COVID-19 pandemic exposed hidden issues like high dissatisfaction, burnout, and moral distress among nurses. Studies indicate that nurses suffer from higher burnout rates than other healthcare workers.²

Nurse Turnover and Burnout in NICUs

Many nurses have exhibited moderate to high burnout over the past decade.³ This burnout and moral distress contribute to high turnover rates and a global nurse shortage.⁴ These factors form a vicious cycle where fewer nurses lead to unsafe ratios, worsening burnout, and additional turnover. The remaining nurses face increased workloads, causing significant emotional and physical strain. Shortages of neonatal nurses, though less studied, mirror these trends in other specialties, with the intense nature of neonatal care adding unique challenges.⁵ This observation has been seen in both bedside nurse roles, as well as leadership roles.

Challenges in NICU Environments

An analysis of NICU challenges reveals factors like workload, emotional exhaustion, and inadequate support systems. Technological advances in neonatal care have expanded treatment capabilities for critically ill infants, but they also raise moral and ethical concerns among families and

clinicians. Differences in care opinions often lead to moral distress among neonatal clinicians, who face dilemmas in balancing clinical decisions with family wishes, affecting infants' perceived quality of life.^{6,7}

NICU nurses dealing with critically ill infants often face traumatic experiences and high burnout levels due to the intense nature of their work and exposure to frequent infant deaths.⁸ This trauma, combined with ethical complexities and the stress of understaffing, leads to physical and moral exhaustion among NICU staff.

Furthermore, neonatal nurses are crucial in supporting parents during stressful experiences in NICUs. Factors contributing to parental stress include the NICU's technological environment and the altered/limited parental role. Parental distress, if unaddressed, can negatively impact their bonding with the infant, affecting the child's long-term development and the parent's mental health.⁹⁻¹³

Impact on Patient Care and Outcomes

High nurse turnover and burnout significantly impact patient care in NICUs, with a direct correlation between staff well-being and care quality. Post-COVID 19, the nursing shortage has escalated into a global healthcare crisis. Nurses in understaffed units, frustrated by their inability to deliver quality care, often leave for other positions or exit the profession.⁵ This turnover leads to moral distress, affecting patient care and nurse retention.⁶

The widespread effects of this crisis compromise patient care and team dynamics. Neonatal nurses facing burnout often become disengaged and less compassionate, adversely impacting patient outcomes, including more extended hospital stays and increased pain.^{6,14} Additionally, the shortage increases medical errors, unplanned extubations, and infections.^{5,15-16}

The financial implications of nurse turnover are substantial. According to the 2023 NSI National Health Care Retention & RN Staffing Report, the average cost of turnover for a bedside RN is \$52,350, leading to average annual losses of \$6.6-\$10.5 million per hospital. Each percentage change in nurse turnover can cost or save an average hospital an additional \$380,600 annually.¹⁷ Replacing or avoiding the use of 20 travel nurses with permanent staff can save a hospital about \$3,140,000 yearly.¹⁷

Jaylee Hilliard is the Senior Director of Clinical Strategy at AngelEye Health, revolutionizing patient and family support through advanced technology. With extensive experience in nursing leadership and NICU parenting, Jaylee drives product innovation, supports healthcare leaders, and empowers hospitals to achieve the quadruple aim.

Nicole Nyberg is a Neonatal Nurse Practitioner with Cone Health, CEO and Founder of Empowering NICU Parents, and the host of the Empowering NICU Parents' Podcast. After her son's NICU experience, she is devoted to supporting, educating, and empowering NICU parents and clinicians with a particular focus on the positive effects parental engagement and family-integrated care have on the infant's long-term trajectory and the family's overall well-being.

Family-Centered Models in NICUs

Family-centered care models in NICUs mitigate parental trauma and enhance parent-infant attachment, improving overall outcomes. Fundamental principles include dignity, respect, effective communication, and partnership.¹⁸ Healthcare providers can tailor interventions to improve parental well-being and family outcomes by addressing specific parental stressors.

Parents prioritize enhanced communication and honest information from staff to reduce stress.⁹ Clear and accessible communication is crucial in meeting these needs. However, parental dissatisfaction in NICUs often stems from unmet needs due to inadequate nurse-parent communication.¹⁹⁻²⁰ NICU nurses play a vital role in fostering parent-infant bonding and trust through consistent communication and rapport-building.²¹⁻²³

Nurse burnout and high nurse-to-patient ratios hinder the provision of optimal, individualized parental support. Nurses value family-centered principles but face challenges in engaging effectively with parents due to their workload.^{19,24-25} Technological resources support nurses in enhancing parent-infant attachment and communication, fostering trust, and reducing parental distress.

The Role of AngelEye Health's Family Engagement Platform in NICUs

This overview examines the impact of technology in healthcare, particularly its role in enhancing patient and family engagement in NICUs. AngelEye Health's family engagement solutions are developed to integrate parents effectively into the care team, improving family experience, patient outcomes, and care delivery efficiency.

AngelEye offers a suite of family engagement solutions, including bedside cameras for live-streaming and secure messaging, facilitating parent-child bonding and team integration. The MilkTracker system improves feeding management, enhancing patient safety and staff efficiency while enriching the family experience with access to lactation support and inventory of milk in the hospital. Additionally, the EmpowerPathway delivers automated, journey-based education from birth to six months post-discharge, providing timely and relevant information supporting the families' transition from NICU to home.

AngelEye Health prioritizes family-centered care, focusing on consistent communication to strengthen the patient-provider relationship. These tools, developed with feedback from clinicians and parents, support staff in delivering safe, efficient, and precise care, alleviating mental and emotional burdens.

NICU staff using AngelEye's solutions report enhanced parental experience and improved workflow efficiency. The system streamlines parent updates, reducing communication-related complaints and facilitating regular parent-staff interaction. This approach optimizes time management and minimizes workflow interruptions for nurses.

Research demonstrates the positive impact of these technologies in NICUs. A 2023 Australian study showed that implementing a camera system was well-received by parents and staff, reducing parental stress and enhancing parent-infant bonding.²⁶ A UK study found that asynchronous video messaging significantly improved parental experience, promoting emotional closeness and supportive family-staff relationships.²⁷

“[Messaging] makes it easy and fun to send updates to parents. Parents don't always have to call in to get a quick update, decreasing interruptions in nurse workflow.”

— NICU Nurse

In summary, AngelEye Health's Family Engagement Platform is pivotal in tackling nurse turnover and burnout in NICUs. This technology markedly improves staff well-being and workflow efficiency by enhancing communication, fostering family involvement, and easing administrative tasks. For optimal patient and family outcomes, clinicians require support with resources that bolster patient engagement and connection. Embracing these innovative technological solutions is essential in creating a supportive NICU environment addressing staff workload, emotional distress, and burnout challenges.

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