Beyond Technology:
Defining the NICU of the Future

National Survey Insights on Workforce, Visibility, Family Readiness, and Meaningful Innovation



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Executive Summary

The neonatal intensive care unit (NICU) is under growing pressure to care for increasingly complex infants while also addressing workforce strain, documentation burden, fragmented communication, family experience, discharge readiness, and demands for measurable value from new investments. In this context, the NICU of the future cannot be defined simply by adopting more technology. It must be defined by whether innovation addresses the problems that matter most to clinicians, patients, and families.

This white paper draws on findings from two related NICU surveys examining operational pain points, modernization priorities, and clinicians' perspectives on the role of technology in neonatal care. The surveys collected data from 180 frontline staff and neonatal leaders from across the US in early 2026.

Across combined and survey-specific analyses, respondents consistently emphasized that the future of neonatal care should be shaped by practical, interoperable, and human-centered solutions rather than disconnected tools or technology adopted for its own sake.

Several findings were especially notable:

- Workforce strain emerged as the dominant operational concern, with staffing, retention, and experience mix identified as a top current pain point by 69.0% (100) of respondents.
- 49.0% (71) said this is the single area they would modernize first for the greatest impact in the next 12 months.

Documentation burden also remains substantial:

- Nearly half of the respondents reported that 35% or more of a typical shift is spent in the electronic health record.
- Discharge readiness remains difficult to see clearly and act on consistently.
- Only 14.4% (18) of respondents said the full care team can easily see the infant's progress toward discharge.
- Only 9.6% (12) said the team can easily see family discharge readiness.

These visibility gaps appear to have practical consequences. More than four in five clinicians (81.6%) report that families go home feeling unprepared at least sometimes, often, or very often. Respondents identified standardized discharge roadmaps with readiness scoring, structured family education with personalized planning, and virtual nurse or navigator support as promising ways to strengthen NICU-to-home transitions.

Taken together, the surveys suggest that the NICU of the future should be understood not as a more digital version of the current state, but as a more coordinated, visible, family-integrated, and operationally sustainable care environment. Technology will remain essential, but only insofar as it reduces burden, enhances safety, supports family partnership, and improves continuity of care from hospitalization to home.

AngelEye HEALTH

Why the NICU of the Future Must Be Defined by More Than Technology

The NICU has long been defined by clinical expertise, quality care, vigilance, and deep commitment to medically fragile infants and their families. It is also an increasingly complex care environment. Teams are caring for highly vulnerable patients while navigating workforce shortages, uneven experience mix, expanding data demands, growing expectations for family-centered care, and sustained pressure to improve quality, reduce preventable harm, and support safer transitions home.

Against this backdrop, conversations about the NICU of the future are often framed in terms of innovation and digital transformation. Yet a more important question remains: **what kind of innovation is actually needed?** The future of neonatal care will not be defined by how many tools a unit adopts, but by whether those tools solve the right problems. In practice, this means asking whether innovation reduces cognitive and operational burden, improves shared visibility into patient progress and family readiness, strengthens safety and consistency, and supports care delivery in ways that align with workflow.

To better understand these issues, two related NICU surveys were developed to examine current operational pain points, future priorities, barriers to implementation, and clinician expectations for industry contribution. The goal was not simply to measure enthusiasm for technology, but to clarify what NICU professionals believe matters most if neonatal care is to become more effective, coordinated, and sustainable.

The findings point to a clear conclusion: NICUs are not asking for isolated tools or technology adopted for novelty. They are asking for practical, interoperable, workflow-aware solutions that address workforce burden, improve communication, support family readiness, and create a stronger bridge from the inpatient stay to home.

Survey Overview and Respondent Profile

This analysis draws on two related NICU surveys, conducted from January through March 2026, that examine operational pain points, modernization priorities, and perspectives on the role of technology in neonatal care. Questions developed by clinical leadership were combined only when the wording and response options matched exactly. Non-matching items were retained as survey-specific findings and interpreted directionally where appropriate.

Respondents were recruited via email and social media groups and reflected a cross-functional NICU audience, with the strongest representation among bedside nurses, nurse leaders, and advanced practice clinicians. Most respondents practiced in higher-acuity settings, including Level III and IV NICUs, and represented a broad range of experience levels, with especially strong participation from clinicians with 6 to 20 years of NICU experience.

National NICU of the Future Overview

The results presented in this paper are based on feedback from 180 frontline clinicians and leaders across two surveys.

43.3%
(78) bedside RNs

17%
(31) providers (NNPs and MDs)

50.9%
(83) Level III NICUs

37.4%
(61) Level IV NICUs

Strongest experience representation:
6-20 years

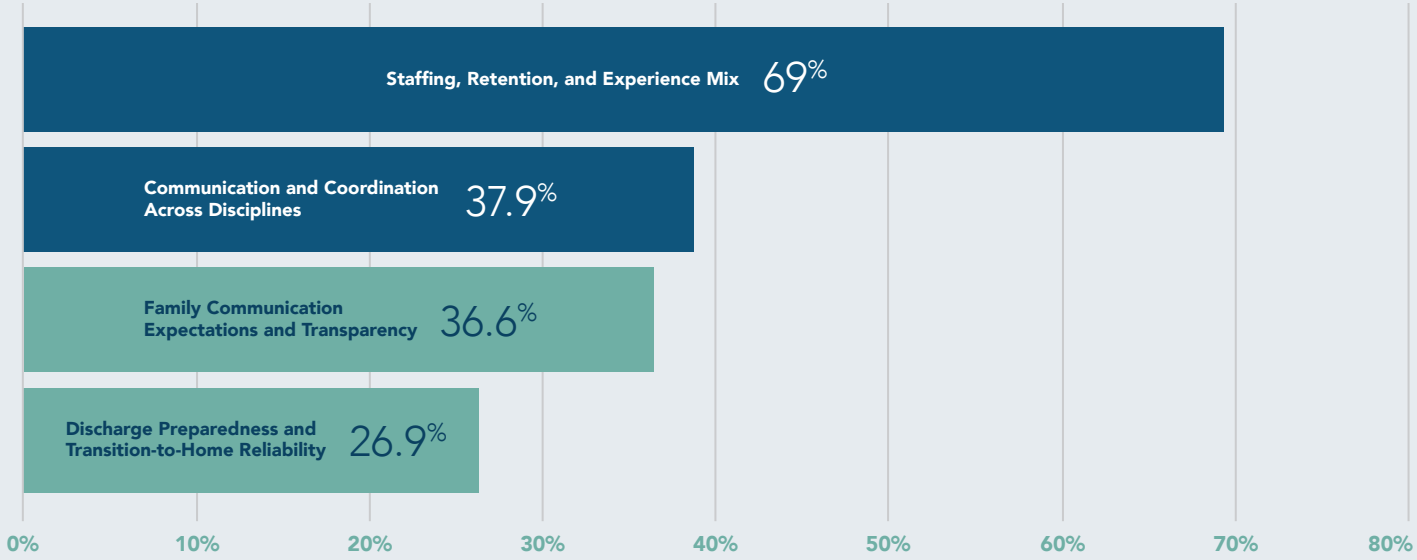
What the Survey Revealed About the Current NICU Reality

Key Findings at a Glance

Workforce Strain	Documentation Burden	Infant Discharge Visibility	Family Readiness Visibility	Families Go Home Unprepared
69.0%	36%	14.4%	9.6%	81.6%
top operational pain point	spend greater than 35% of shift in EHR	very/extremely easy for team to see	easy for team to see	sometimes, often, very often

The survey leaves little ambiguity about the pressure shaping NICU operations today: workforce strain is dominating the modernization agenda. Staffing, retention, and experience mix were selected by 69.0% (100) of respondents as a top operational pain point. Communication and coordination across disciplines followed at 37.9% (55), family communication expectations and transparency at 36.6% (53), and discharge preparedness and transition-to-home reliability at 26.9% (39).

Figure 1. Top Operational Pain Points in NICUs Today



Percentages exceed 100% because this was a multi-select question.

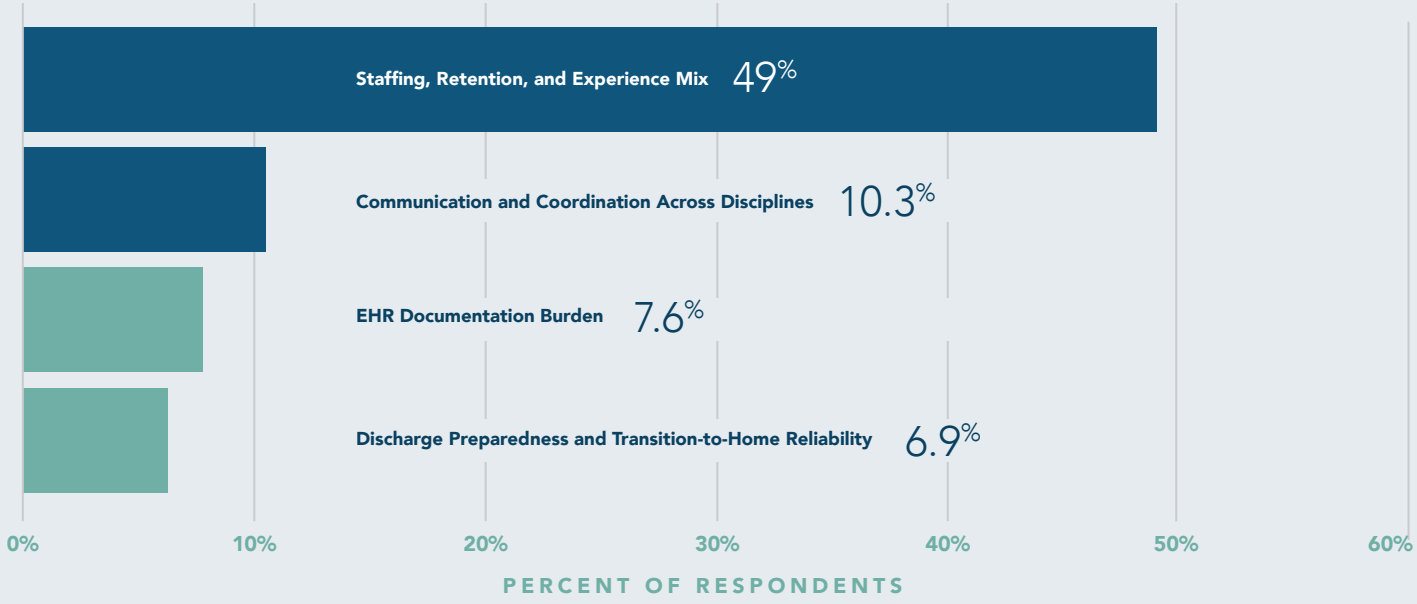
> ***"Communication to parents...we are all giving different feedback to parents. We need to be on the same page."***
>
> *– Nurse Leader*

These findings show that the current NICU environment is shaped by overlapping pressures rather than isolated problems. Staffing remains the dominant constraint, but communication, family engagement, and transitions are also difficult to manage consistently. In practice, these issues are closely linked. The same staffing conditions that affect assignment safety also limit the time available for family teaching, interdisciplinary coordination, proactive discharge preparation, and consistent communication.

In open-text responses, practitioners described staffing not simply as a labor issue, but as a condition that shapes the quality and completeness of care. One clinician wrote, ***"Staff for safer work assignments and to allow nurses time to actually care for the babies and their families."*** Another noted, ***"Safer assignments/better staffing to be able to provide education to families and resources to families. With difficult staffing the nurses overlook this in order to get all their work completed."***

When respondents were asked which single area they would modernize first to achieve the greatest impact over the next 12 months, nearly half 49.0% (71) selected staffing, retention, and experience mix. Communication and coordination across disciplines ranked next at 10.3% (15), followed by EHR documentation burden at 7.6% (11) and discharge preparedness and transition-to-home reliability at 6.9% (10).

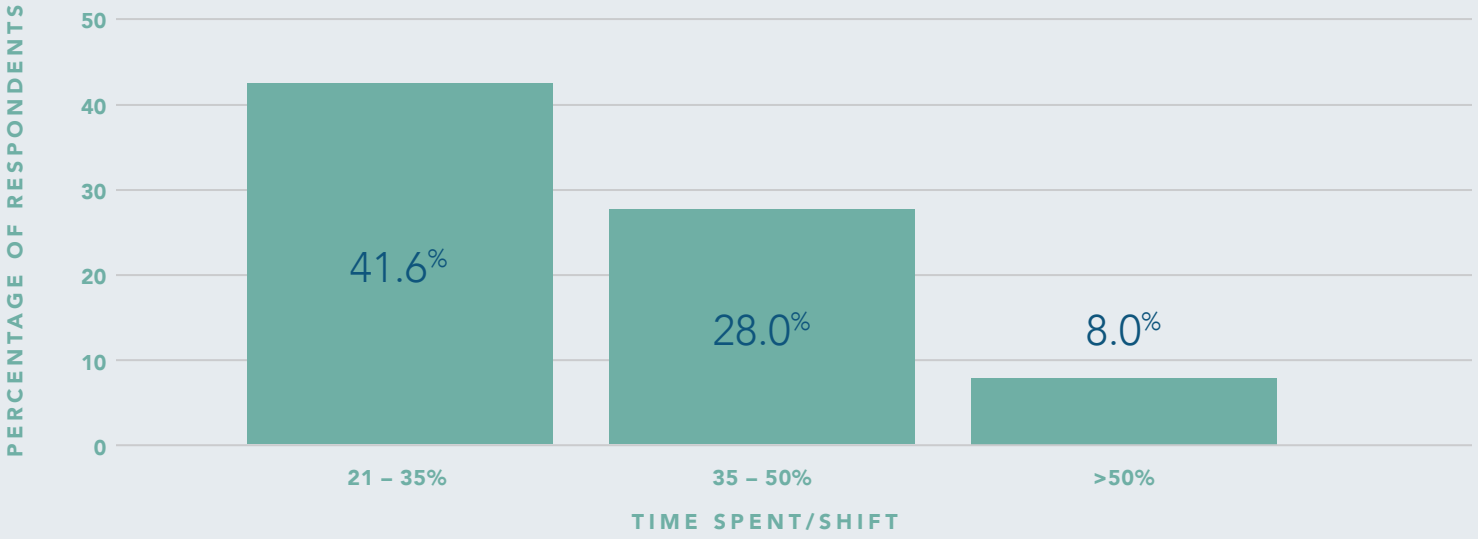
Figure 2. Where NICUs Would Invest First in the Next 12 Months



This pattern suggests that while discussions of modernization often focus on tools and platforms, clinicians remain most concerned with the human and workflow realities of care delivery. Respondents are not describing a future in which technology substitutes for staffing. **Rather, they are describing a future in which technology helps teams use their time more effectively, reduces waste, and improves reliability in areas currently vulnerable to fragmentation.**

Documentation burden is part of that broader operational strain with 36% (45) reporting that documentation accounts for at least 35% of a typical shift. Respondents were clear that documentation itself is not the problem; rather, the issue is fragmented, duplicative, and poorly integrated documentation that pulls clinicians away from patient care, family support, education, and discharge preparation. When asked where industry partners should contribute most, respondents most frequently selected interoperability and documentation relief.

Figure 3. Estimated Percent of Shift Spent on EHR Documentation (n=125)



> ***"I would fix how much time we have to sit behind a computer."***
> *– Neonatal NP/PA*

Together, these findings suggest that the future NICU must do more than support complex care; it must return clinicians to the bedside more often and reduce the operational friction that currently competes with clinical and family-centered work.

The Visibility and Readiness Gap

One of the strongest themes in the survey is that discharge readiness remains difficult to see clearly and act on consistently. Only 14.4% (18) of respondents reported that the whole care team can see the infant's progress toward discharge very or extremely easily. Visibility into family discharge readiness was even weaker: only 9.6% (12) reported that the team can see family discharge readiness very or extremely easily; no respondents selected extremely easily.

The Visibility Gap

Discharge progress and family readiness remain difficult for teams to see clearly.

14.4% (18)
Care team can see infant progress toward discharge very or extremely easily

9.6% (12)
Care team can see family discharge readiness very easily

81.6% (102)
Reported that families go home feeling unprepared sometimes, often, or very often

These findings suggest that in many NICUs, discharge readiness remains only partially visible, is inconsistently represented, or depends on manual synthesis. This matters because NICU discharge is shaped by multiple factors, including feeding readiness, physiologic stability, caregiver capability, education completion, follow-up planning, and social needs. Without a shared, reliable view of progress, it becomes harder to align disciplines, plan early, set expectations, and respond consistently when readiness changes.

Figure 4. Ease of Seeing Infant Progress Toward Discharge (n=125)

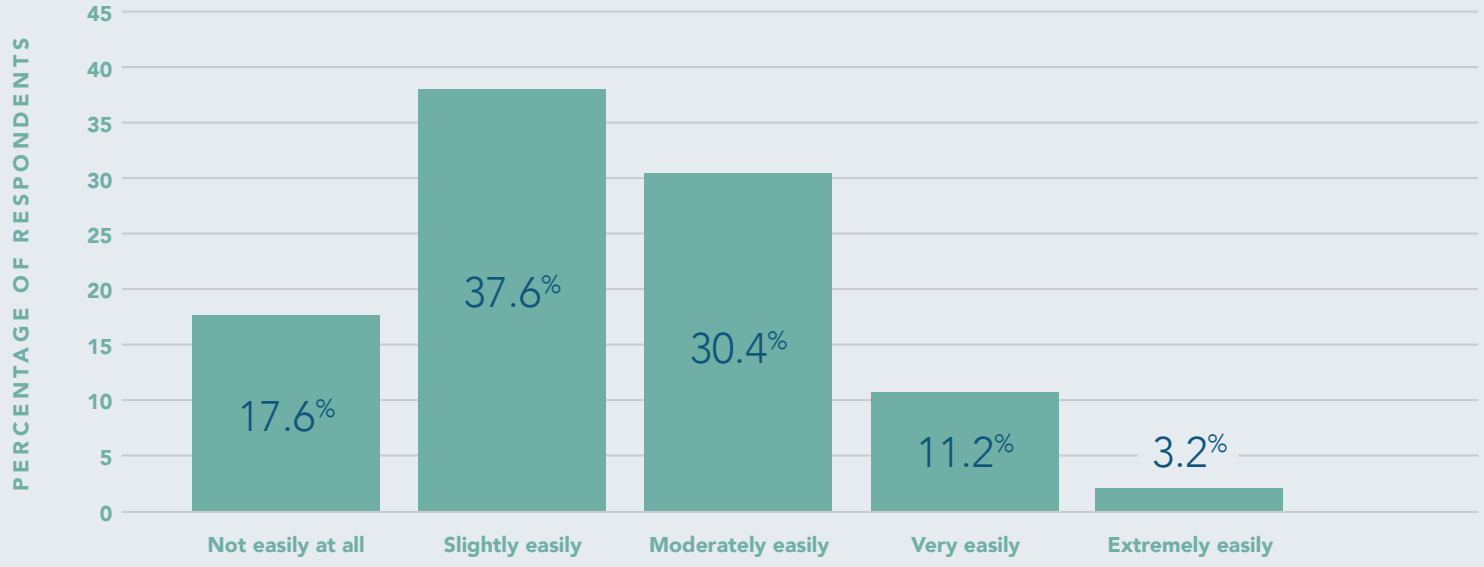
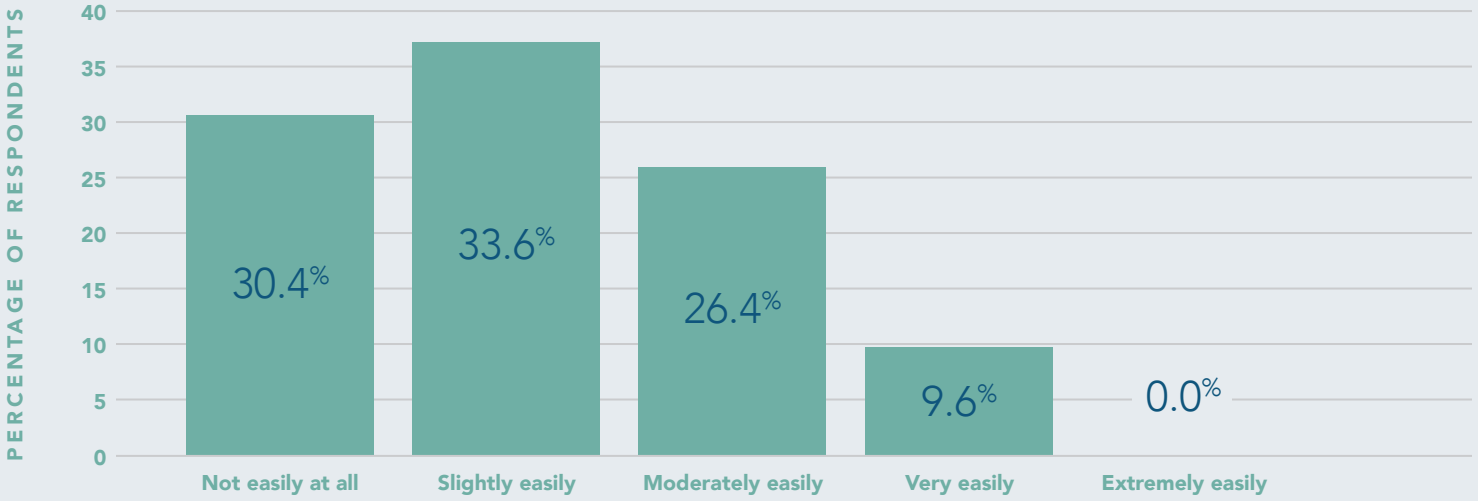


Figure 5. Ease of Seeing Family Discharge Readiness (n=125)



Respondents also identified what they believe would help. **The most frequently selected solutions for improving discharge visibility and transitions were a standardized discharge roadmap with readiness scoring, structured family education with a personalized plan, and virtual nurse or care navigator support.** Family education and readiness tracking integrated with the care team plan also ranked highly, along with a shared view of barriers, next actions, and ownership.

The family readiness findings are especially important because they appear to translate into real-world transition risk. When respondents were asked how often families go home feeling unprepared, only 8.8% (11) selected "rarely." Most selected "sometimes" at 44.8% (56), "often" at 25.6% (32), or "very often" at 11.2% (14). Altogether, 81.6% (102) of respondents believed families leave the NICU feeling unprepared at least sometimes.

Figure 6. How Often Families Go Home Feeling Unprepared (n=125)

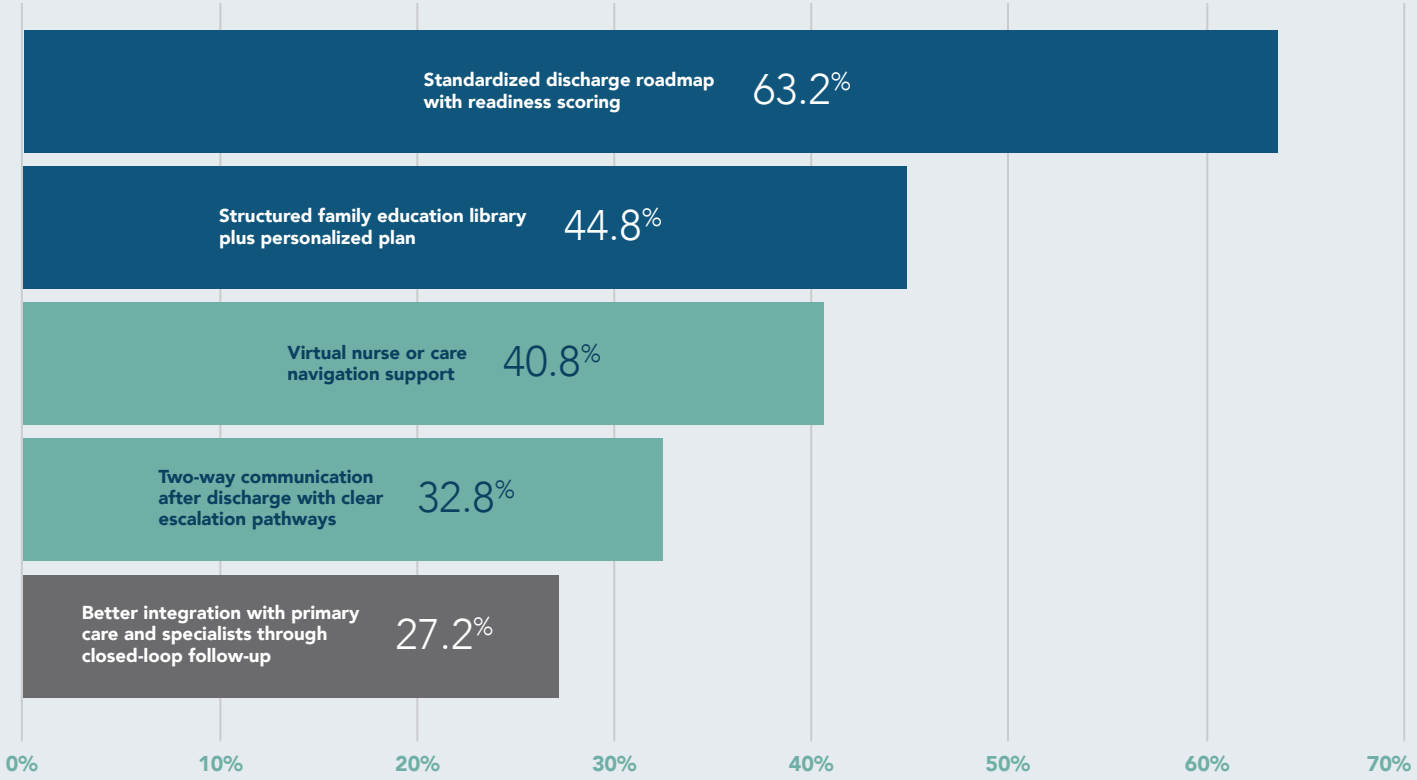


For a care environment that depends on a safe transition to home, this is a significant signal. Preparedness is not simply a matter of completing discharge paperwork or checking education boxes. It reflects whether families understand their infant's needs, feel confident in key caregiving tasks, know what to monitor, know when to seek help, and feel able to navigate follow-up after leaving a highly supported setting.

Open-text responses add weight to the data. Respondents emphasized the need for better teach-back, clearer parent understanding, more consistent communication, and more concrete opportunities for families to participate in care planning, especially when they cannot be physically present at the bedside.

The data support a clear conclusion: family readiness must be treated as a visible, team-based operational priority rather than as an informal byproduct of bedside teaching.

Figure 7. Top Solutions to Strengthen NICU-to-Home Transitions (n=125); Respondents could select more than one answer



Percentages exceed 100% because this was a multi-select question.

What the Future NICU Should Prioritize

When asked about future priorities over the next three to five years, respondents described a broad but coherent vision. Among respondents who answered this survey-specific item (n=41), the most frequently selected priorities were:

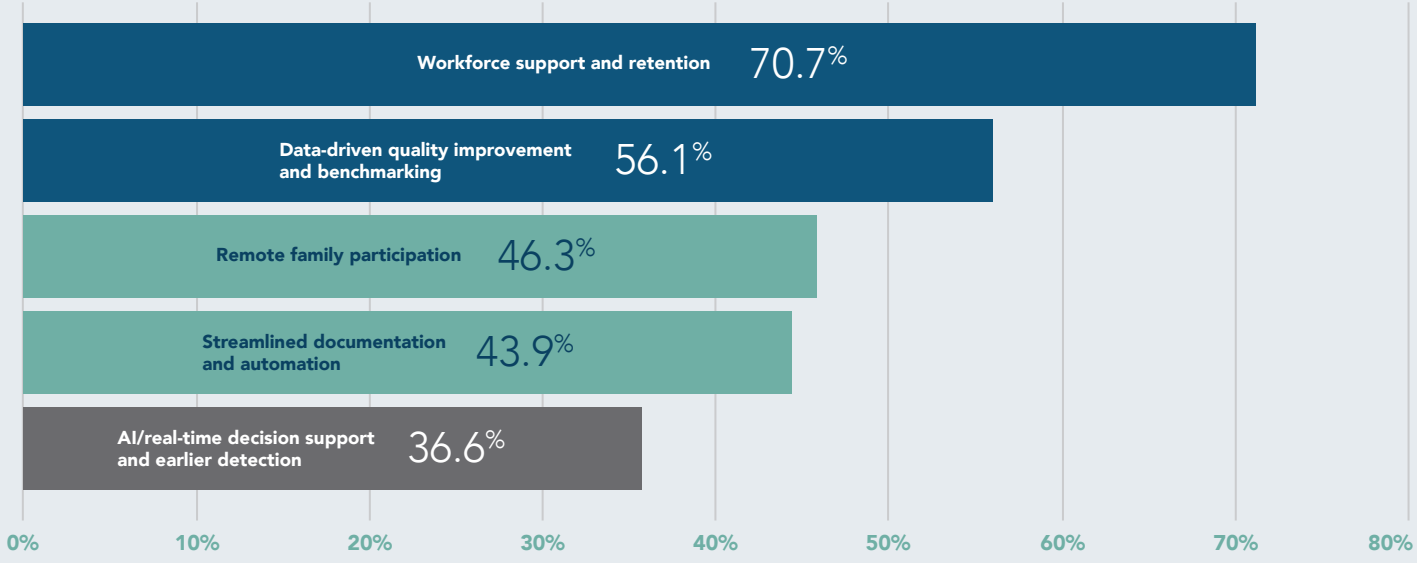
- Workforce support and retention - 70.7% (29)
- Data-driven quality improvement and benchmarking - 56.1% (23)
- Remote family participation - 46.3% (19)
- Streamlined documentation and automation - 43.9% (18)
- AI or real-time decision support and earlier detection - 36.6% (15).

These findings describe a future NICU that is not defined by any single technology category. Instead, respondents envision a care environment that is more sustainable operationally, more connected to families, more informed by data, and better able to identify and respond to risk. Importantly, remote family participation ranked above digital family communication alone, suggesting that clinicians are not simply interested in communicating with families, but in enabling families to participate more meaningfully when in-person presence is limited.

Respondents also expressed interest in predictive and earlier-detection capabilities, especially when such tools could help identify deterioration earlier than current monitoring methods, standardize responses across experience levels, and improve the timeliness of interventions. At the same time, responses suggest that enthusiasm for predictive support is conditional. Clinicians value advanced capabilities that improve actionability, consistency, and workflow – not those that add complexity without practical benefit.

The overall picture is therefore not one of technology expansion for its own sake. It is a vision of more human-centered, actionable, and operationally useful innovation.

Figure 8. Future NICU Priorities Over the Next 3 to 5 Years (n=125); Respondents could select more than one answer



Percentages exceed 100% because this was a multi-select question.

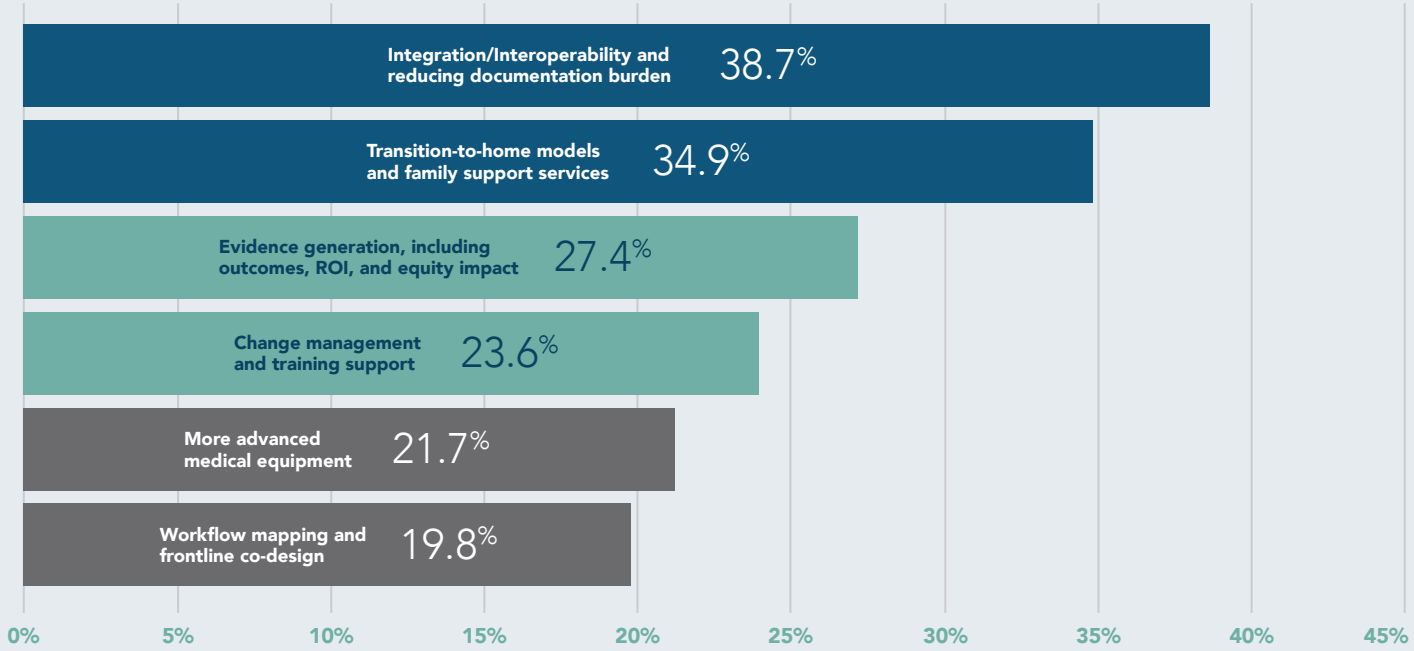
What NICU Leaders Need from Technology Partners

One of the clearest messages from the surveys is that NICUs need more from technology partners than products alone. Rather, the leaders of the NICU of the future are looking for collaborative technology partners that understand the unique context of the NICU. For example, when asked where industry should contribute most, respondents prioritized **interoperability and documentation relief; transition-to-home models and family support services; evidence generation; change management and training support; and workflow mapping with frontline co-design.**

These findings have important implications for how NICU innovation should be approached. Respondents are not primarily asking for more advanced equipment or more isolated digital tools. They are asking for help addressing system-level problems: fragmented workflows, burdensome documentation, weak transition support, and limited evidence to justify adoption. They are also signaling that implementation matters. Training, co-design, workflow mapping, and sustained adoption support were not afterthoughts; they were explicit expectations.

This means that future success in NICU innovation will depend not only on technical capability, but also on credibility. Technology partners that focus only on features may struggle to earn trust. By contrast, partners that demonstrate interoperability, workflow awareness, co-design, training support, and a commitment to outcomes and evidence are more likely to be viewed as meaningful contributors to the future of neonatal care.

Figure 9. Where Technology Partners Should Contribute Most (n=125); Respondents could select more than one answer



Percentages exceed 100% because this was a multi-select question.

Discussion and Implications

The data indicate that evolving the NICU is not merely a matter of layering new technology onto existing workflows. Instead, the next generation of neonatal care must be built on a foundation of seamless coordination, heightened clinical visibility, and deep family integration, all while ensuring the model remains operationally resilient over the long term.

Several implications follow. First, workforce strain remains the defining near-term pressure in NICU care and shapes nearly every other challenge respondents described. Second, fragmented communication and documentation burden continue to interfere with the relational and cognitive work required for safe, family-integrated care. Third, discharge readiness remains insufficiently visible for both infants and families, creating risk during one of the most consequential transitions in the care journey. Finally, respondents consistently emphasized that the most valuable forms of innovation are those that strengthen workflow, improve visibility, support continuity, and reduce burden.

These findings also suggest that meaningful NICU innovation cannot be purchased off the shelf without co-development. The future-state capabilities described by respondents span disciplines, workflows, and stakeholders. Successfully introducing them will require partnerships with bedside staff, advanced practice clinicians, physicians, leaders, informatics teams, families, and industry collaborators.

For AngelEye Health, the implications are significant. These findings validate a model of NICU innovation centered not on disconnected technologies, but on integrated infrastructure that improves visibility, reduces friction, strengthens family partnership, and supports continuity of care. They reinforce that family communication, discharge readiness, education, and transition-to-home support are not secondary experience initiatives; they are increasingly central to safety, workflow, and outcomes. They also underscore the opportunity for AngelEye to help lead the development of practical, evidence-informed solutions that align with what clinicians are clearly asking for: tools that fit real workflows, support real decisions, and make care more coordinated for both teams and families.

Methods and Limitations

This white paper is based on two related surveys developed to explore current NICU pain points, future-state priorities, and perspectives on the role of technology in neonatal care. Questions were combined only when wording and answer choices matched exactly. Questions that differed in wording or response structure were not merged and are presented directionally where relevant.

The respondent recruitment was not random and most were recruited via social media and email, therefore the respondent pool may overrepresent individuals with a particular interest in innovation, family-centered care, or operational improvement.

Several limitations should be considered when interpreting the findings. Denominators vary across questions because not every respondent answered every item, and some questions appeared in only one of the two surveys. Multi-select questions exceed 100% by design. Open-text responses add important context but should not be interpreted as representative frequency estimates.

These limitations do not diminish the value of the findings, but they do reinforce the need to interpret the survey as a directional view of frontline priorities and opportunities.

Conclusion

The findings in this survey point to a simple but important truth: the NICU of the future will not be defined by how advanced it looks, but by how well it works for the people within it. The most meaningful innovations will not be those that add complexity, but those that reduce friction, improve continuity, and make care more visible, coordinated, and human.

