

Willis-Knighton NICU

Creating an Effective Monitoring System

Executive Summary

Customer Name

Willis-Knighton Neonatal Intensive Care Unit
Sheveport, LA, USA

Industry

Healthcare

Challenge

- Intelligent routing and filtering infant monitoring alarms and telemetry to assigned staff for rapid response

Existing Technology

- SpaceLabs Clinical Event Interface
- Vocera Badges
- Draegar Ventilator & Incubator Alarms
- Executone Carecom II Nurse Call System

ConnexAll® Solution

- Patient Monitoring
- Nurse Call Integration

ABOUT Willis-Knighton Neonatal Intensive Care Unit

The Neonatal Intensive Care Unit (NICU) at Willis-Knighton is one of the most modern in the United States, designed with individual rooms to support developmental goals and parent child bonding. It is staffed with 72 experienced neonatologists and nurses who have special certification in caring for high risk infants. The NICU provides medical services to infants from all Willis-Knighton hospitals and also accepts infants referred from other hospitals.

Work-Flow Design

The 42-bed NICU at Willis-Knighton spans 28,000 square feet, featuring individual private rooms for each family. The facility provides neonatal care levels 1 to 3. There are no traditional nurse stations and the intensive unit care (Level 3) requires a 1:2 nurse to baby ratio.

Individual Private Neonatal Care Rooms demonstrate a family-centered approach to delivering infant and family privacy and provides the flexibility to deliver the entire spectrum of care without moving the baby.

1. The NICU Private Room Configuration

The objective of Willis-Knighton's single-room NICU design is to maximize efficiency by consolidating the delivery of all care procedures in that one room. The setup of this room provides ample space and flexibility for critical care as well as transitional care, which enables parents to prepare for home care of their neonate. The single-room approach also reduces costs related to transporting neonates and increases physician and staff efficiency in delivering this specialized care.

2. Privacy Requirements

In compliance with patient and family privacy requirements under the Health Insurance Portability and Accountability Act (HIPAA), acoustical and speech privacy at Willis-Knighton are highly valued and policies are strictly adhered to. Private rooms also provide parents the freedom to participate in the care of their child on a continual basis while affording a quiet and secure environment as required under HIPAA .

3. Family Contact and Updates

The dominant concern for parents is their baby's condition and caregiver teams at Willis-Knighton receive 100's of calls on a daily basis from parents and family members requesting progress and status updates. Parents are encouraged to phone the NICU for updates; however hospital staff may not reveal medical information to extended family members over the phone without the permission of the baby's parents.





Adhering to strict privacy and visiting rules, caregivers also ensure only parents can spend time with their baby at any time of the day or night. Visitation rules are strictly applied to extended family members who will have access to the NICU at specific hours.

Workflow Challenges

Infants in the NICU require constant monitoring and observation. For Willis-Knighton, room connectivity to nurses and information accessibility are especially important in the NICUs. The information system connecting private NICU rooms has to be exhaustive. Countless monitored alarms need to be factored into the equation, moreover the capture and dissemination all of the information must be accurately recorded.

The ability to relay life events from the following monitors to caregivers is a critical component to ensuring optimal care and increasing infant survival rates:

- Oxygen Saturation Monitor and Sensor
- Temperature Probe
- Patient Records Monitor
- Vital Signs Monitor (Cardio Respiratory Monitor)
- Blood Pressure Cuff
- Transcutaneous Sensor (TCM)

In a private room NICU configuration, monitoring and response become a challenge due to the closed-off nature of the layout. In addition to being able to rapidly respond to critical life events, response times need to be tracked and reported in relation to industry benchmarks and overall performance metrics.

The need for robust management reporting, providing nurses and management teams with data relevant to their functions, allows for the fine tuning of workflow processes. Without the means to consistently measure operational efficiency and manage workload, the NICU cannot provide optimal care.

The ConnexALL Solution

At Willis-Knighton's NICU, the SpaceLabs Clinical Event Interface (CEI) delivers event alarm messages to the notification systems which in turn communicate with Vocera Badges. The CEI sends event data from the vital signs monitor to the ConnexALL messaging and notification client for delivery to the assigned Vocera Badge(s).

Draeger Ventilator and Incubator alarms and alerts are also sent via the Executone Carecom II Nurse Call System to ConnexALL and then to the assigned Vocera Badges.

In doing so, ConnexALL wirelessly connects the entire 3,000 sq foot NICU's telemetry to multiple notification devices. ConnexALL's advanced intelligent routing of event alarms ensures the appropriate and timely responses to all life events. Notifications are acknowledged via the Vocera Badge, and where required, escalated or forwarded to the appropriate caregivers, either automatically or manually.

Mapped directly the NICU's current systems and workflows for very quick adoption by staff

Tracks patient status 24/7 in real-time helping staff keep family members informed with the most recent information

Reduced or eliminated most intrusive overhead paging



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