Communication Systems in the NICU

By Judy Smith, MHA

Introduction

Many NICUs are beginning to investigate and procure more sophisticated communication technology. The drivers of these activities are often to decrease sound, increase confidentiality, and provide quicker and easier access to information among health professionals and between caregivers and families.

This section summarizes some of the benefits and challenges of introducing new communication technology such as wireless phones, locator systems, and computerized charting. Since the topic is broad, this introductory information is merely intended to trigger discussion about specific areas of interest to you. Please note that reference to specific products by participants is not prohibited, but the products are not endorsed by and do not necessarily reflect the opinions of the sponsors or moderators of this site.
What is the minimum amount of space needed to accommodate parents at the bedside?

The best process for requesting, procuring, implementing and evaluating new or improved communication technology is a structured one. If you think of the process as a business decision, here are six of the initial steps to consider before making the purchase:

1. Research and share information about needs and options (eg, web sites, articles, other hospitals/benchmarks, identify and contact vendors, internal benchmarks, internal interviews)

2. Identify and obtain input from key stakeholders who will be affected by the system, such as physicians, nurses, families, administrators, respiratory therapists, other therapists, telecommunications, medical records personnel, unit secretaries, management, architects, and/or engineers

3. Develop vision and goals. Identify quantifiable results, such as the following examples:
   - Measurable decrease in noise, light, and other stimulation to support the goal of providing a more developmentally sensitive environment
   - Decreased number of dropped calls
   - Improved family satisfaction scores
   - Improved staff satisfaction scores
   - Decreased use of paper
   - Error rate reduction in charts

4. Identify the criteria that will be used for making the purchase decision and bring in vendors to demonstrate products if needed

5. Develop a plan to understand and address potential challenges related to the decision

6. Prepare a brief report that summarizes the product recommendation and rationale for the funding/approval sources
When evaluating a new communication system or device, what key challenges should be addressed up front?

Funding
Adapting and integrating with other systems
Security
Acceptance
Shared vision, goals, and expectations about what will and will not be accomplished
One of our focus topics for the Clearwater conference next January will be communication technology - staff-to-staff (wireless phones, staff locator systems), staff-to-medical records (electronic medical records), and monitors-to-staff (wireless alarm-to-beeper systems). We are interested in who is using such technology in their units, the type of equipment being used, and how it's working. For our part, in South Bend we have the CareView electronic medical record for nursing notes, Pediatrix’s RDS system for physician notes, and very limited use of wireless phones (primarily by the ward clerk and charge nurse).

If your unit has any of these forms of communication technology, please post - type of system, manufacturer, and what you like and don’t like about it!

At Evergreen Medical Center, Kirkland, WA we use Spacelabs monitors interfaced with an Executone nurse call/locator system. Monitor alarms are relayed to the nurse via pager system which indicates room location, parameter violation and physiologic data. This system has triple redundancy. It pages the bedside nurse immediately. Alarms not canceled within 20 seconds are relayed to the back up nurse. If after an additional 20 seconds the alarm isn't answered the charge nurse is paged. We are very satisfied with the system.

Steve Chentow

Steve,

What’s the approximate cost for that system, and can it be retrofitted in an existing unit? Do you know if it works with other monitor systems besides SpaceLabs?
At St. Luke’s Hospital in Cedar Rapids, Iowa, we have Agilent monitors which are interfaced with Data Critical pagers. I believe the latter company has since been bought out by GE. We also have a Hill-Rom Composer/locator system. Since we are a completely private room per patient/family design (22 beds in all, split into 5-6 private rooms per 4 pods), all of these communication modes have an important role in our daily functioning. The pagers are programmed to silent alarm to the nurse assigned to the patient for the following parameters: HR < 80, oxygen desaturation < 88, and monitor leads off. If there is no response within 60 seconds of the event all the nurse pagers alarm (we find this doesn't happen very often for obvious reasons). All the physicians, nurse practitioners, nurses and techs in the unit wear an infrared locator badge which interconnects with the composers. There is a composer in each room and pod in order that quick verbal contact can be made if necessary. We have found this to be a very effective system and we don’t feel the need to also use cellular phones/direct connect type systems. The vast majority of our phone calls are directed to the central nursing/monitoring station which is physically external to the NICU. This has made for a very quiet NICU in general. We have now been in the new NICU about 1 year. The biggest problem we had, which turned out to be not such a problem at all, was transitioning from a small, open unit design to a much larger private room design. The staff had to get used to relying on the Data Critical pagers and composer if they needed assistance instead of the direct visual and auditory contact they had been used to. They also had to adjust to the inability to visualize and hear all the infants in the NICU at once. The nurses sometimes complain that the pagers go off too often but I haven't heard anyone say they want to go back to our old unit design; actually, just the opposite. We have not had to increase our nursing staff numbers to accomodate the new design, although we have had to increase our tech support to handle phone calls, lab entry, etc.

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