



Evolving Nurse Call: **Strategic Information for Managing Performance**

The Hidden Power Inside Nurse Call

Every individual's journey includes personal and professional experiences that can lead to opportunity.

I have spent years in the design, installation and configuration of nurse call and other automated systems for the healthcare industry. That experience garnered an appreciation for the complexity of managing patient needs and requests within the resources allocated on the clinical unit. However, it wasn't real to me until a week long stay with one of my children in the hospital. Relying on the button as my only contact to those with the power to help became so much more critical than it ever did when looking at a paper or a program.

As a result, I came to view the quality of a relationship between the patient and the caregiver as essential, and worth evaluation and constant improvement. It became very clear that three conditions were at play in achieving success:

- 1) Hospitals are under significant pressure to reduce costs and, ultimately, that pressure translates into staff reductions within clinical units. However, the patient's needs and safety are at risk if Lean strategies of staffing impact the ability of the team to manage needs.
- 2) Patients are more demanding than ever before. Their needs can and must be managed more efficiently through improved technology design. Hospitals are at a disadvantage as vendors have overwhelming mind share of technology capabilities. Vendors are at a disadvantage as hospitals have greater mindshare of patient and caregiver needs. The cross section of information, if applied and managed correctly, is the winning solution.
- 3) The status quo treats "nurse call" system as a required-by-code technology and not as something that can provide a strategic advantage.

A decade of working with nurse call, along with experience as a patient and patient advocate has allowed me to observe a stream of data from both perspectives.

If conditions imposing risk can be identified and managed on a daily basis, nurse call moves from a tactical tool, managing communication, to a strategic system managing performance. Few people can see the nurse call and associated systems for more than they are today. However, my dad taught me during my formative years of work experience to always strive for change.

"When customers know what they need, the world of technology
transforms itself to offer up solutions."
~ Gary Venable

There is so much more that can be done. A great number of problems can be solved if these steadfast, traditional systems are viewed with strategic value. Change must begin with the customer. It starts by expecting more.

Sincerely,

Kourtney Govro
CEO, Sphere 3



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Introduction

Nurse call and other clinical alarm systems are at play every day, in every unit of the hospital. However, the term nurse call is an over-simplification for all the technology integrations that establish a patient-caregiver relationship by simply pressing a button.

A Brief History

There was a time when a hospital was no more than beds lining long dormitory walls with no barriers between patients. Nurses served patients by walking along the line of beds with great efficiency. There was value in having no physical barriers between patients and their caregivers. A nurse had complete visual and audible access to patients. Needs could be assessed with both verbal and non-verbal queues to caregivers.

For obvious reasons, hospitals began to move people into rooms and limit the risk of exposure to other patients. Nurses were assigned to rooms with, very reasonable patient ratios and patients were given bells. This invoked a response from the industry for new technology. The initial nurse call products were simple and targeted to meet a basic need of requesting help from your nurse who may be sitting right outside your room. The device had two buttons. One button allowed the patient to initiate a request by turning on a light at the nurse station just outside his/her room. A second button on the unit cancelled the light when nurse reached the bedside.



As financial conditions of the 70's and nursing shortages in the 80's required clinical staff to serve more patients and cover more square footage within a clinical unit. The ability to invoke assistance efficiently, and only when needed, became a challenge. Nurse call became highly desired within hospitals as the need to be more efficient and effective increased. Technology filled the need of achieving efficiencies while not allowing patient care to become compromised. Nurse call is a code required technology that is planned and budgeted for.

Although the basic need met by nurse call is the same, fully integrated nurse call and associated systems have evolved significantly. Today's nurse call is integrated with multiple points of request, multiple methods of initiation (buttons, pull cords, biometric and environmental sensors), sophisticated communication management methodology for assignments, routing and escalation, and various devices for response (phones, pagers, text messaging, etc).

Understanding Nurse Call

Basic Expectations

Nurse call, at its very core, serves a primary and very basic need: the patient is in his/her room and needs help, and it assures patients are not isolated. The press of a button, the patient initiates a request for help, and nurse call communicates and routes the request to the appropriate caregiving staff.

Caregivers are able to respond more appropriately to needs and manage physical exertion. The request is received and a choice for re-routing or response is at a caregiver's fingertips. Although caregivers no longer have immediate visual or audible assessment of patients, nurse call assures the caregiver is made aware of a patient in need of help. Nurse call provides key safety features that can be leveraged to reduce falls and infections.

Finally, for administration, nurse call assures patients have a method of asking for help, caregivers have a method of responding to requests. If a request is rejected, further routing and escalation occurs until the patient receives a response, assuring management that patients have a connection to the very institution they are lying in.

All of this occurs via a button, cord, or a sensor installed in the patient room that is capable of activating a request. The ring, ding or buzz created by the request occurs at a nursing unit secretary desk or at the caregiver's hip.

In recent years, technology advancements have created rich features in managing a basic set of expectations. Wireless devices have allowed greater flexibility in the handset and units available for receipt of data by the clinician.

Communication methodology plays an important role, too. Contemporary design allows for patient needs/requests to be centralized and routed to a single nurse station, relying on human judgment in designated assignment, triage and escalation. Requests can be decentralized using automated routing rules, based on type of need to move requests among available staff on the unit. Or, a hybrid of human judgment and automated routing can be employed with even greater categorization of request type and design of workflow configured within the systems.

In short, the environment of nurse call has become much more sophisticated. It offers a rich set of opportunities and minimizes significant numbers of constraints in the very basic, tactical communication process between patients and caregivers. However, the hospital around nurse call has equally become more sophisticated. Arguably, the basic expectations of nurse call must move from tactical support of patient-caregiver communication to strategic management of performance within the hospital.

Fundamentals and Common Language

One might ask, how can nurse call become a system for strategic management of performance? The answer to this question first requires a common understanding of the fundamentals of nurse call and a common language related to the data. Without either, managers are not able to visualize the power hidden within the data stream transacted by the basic nurse call system.

Initiating Action: This is the beginning of the call. It can be manual, such as a patient pressing a button or physiological, such as a telemetry alert. The initiating action can also be a system trigger such as an occlusion or a system creating an alert based on a malfunction or necessary service request. The easy way to remember an Initiating Action is “it’s gotta start somewhere”.

Example:

Patient Presses a “Normal Call” button on their nurse call system. Patient’s heart beat indicates a “V-Tach.”

Notification Action: A Notification Action is the ring, ding, buzz, text, etc. This is the way in which a caregiver knows that an initiating action has occurred, just as they know the patient is in need. There are generally multiple Notification Actions for every Initiating Action. Every Notification Action is an invitation for the caregiver to interact with the patient or their device.

Example:

Initiating Action = Patient Presses the “Normal Call Button.”

Notification Action 1 = The Dome Light is white.

Notification Action 2 = The Patient Care Technician’s wireless device buzzes.

Notification Action 3 = The PCT receives a text message “Normal Call Room #” with the option to “dial back” to the patient room.

Acceptance OR Rejection Actions: If the Notification Action is the caregiver’s invitation to interact with the patients need it forces an acceptance of that request or a rejection. Accepting the alert requires an interaction with the patient or technology. A Rejection is a “delay of response.” While it could indicate that the call is being ignored, it mostly indicates that the capacity of the caregiver to interact with the workload is challenged.

Example:

Notification Action 3: The PCT receives a text message “Normal Call Room #” with the option to “dial back” to the patient room.

Acceptance Action 1: The PCT presses “accept,” it “dials back” into the patient’s room. They communicate with the patient.

Rejection Action 1: The PCT is unable to answer the call due to being engaged with another patient.

Escalation Action: A patient communication platform (aka nurse call) has a feature called “always an answer” where it will bounce a call if it is not handled within a set time frame. Anytime a call is rejected, it bounces either automatically, based on timeframe, or physically, based on a button push.

That being said, anytime a call is “rejected” technology should be programmed to create an automatic Escalation Action. Similar to an Initiating Action the Escalation Action is the technology’s methodology of moving the call to the next person or place in line.

Example:

Rejection Action 1: The PCT is unable to answer the call due to being engaged with another patient.

Escalation Action 1: Since the call has been “ignored” the technology’s internal timer has allowed for a wait time of two minutes; after which the call is sent to the Registered Nurse’s wireless device with a message “Normal Call Rm 320”.

Escalation drives additional Acceptance and Rejection Actions, based on time frame. Again, a Rejection Action will create an additional Escalation. The hospital has to decide when the patient request (physiological or physical) has gone on too long, and at what point a failure to respond will generate the final Mandatory Action.

Mandatory Action: When a Mandatory Action occurs, the technology should force a physical face-to-face interaction with the patient. Mandatory Action is a new Initiating Action with a required interaction from staff.

Example:

Normal Call has not been answered in four minutes.

Mandatory Action: Due to escalation past allotted time frame, the technology changes the alert verbiage to “Overtime Room 320” and tones at the main console and duty stations in all caregiver work areas on the unit. Additionally, the PCT and RN’s wireless phone receives a text message “Overtime Room 320” with no capability to cancel the call at the phone. The call can only be cancelled at the patient’s bedside.

Strategic Opportunities

The Hidden Power of Nurse Call

There is a significant amount of information that understanding the fundamentals and common language can offer to management. In the simplest form, the above transaction sets offer immediate access to one important aspect in Lean Staffing management.

How can that be? Let us consider what Lean Staffing is really all about. Contrary to what it often ends up becoming in the hospital (performing more work with less people), Lean Staffing strategies are really all about having staff available when necessary.

A key word “necessary” can be defined from the information offered in nurse call systems. There are three forms of “necessary”:

1) Patient requests exceeding current capacity ratios to respond

- 2) Patient request types exceeding current staffing types available to respond
- 3) Patient wait times for assistance exceeding limits of acceptable response

An experienced nursing manager knows that any one of these three conditions introduces safety risks for the patients, caregivers, and the hospital. Historically, these conditions have only been determined by human judgment and experience in evaluating the dynamics on a floor. A natural tension exists for management to trust such subjective methods of determining staffing needs.

Additionally, without objective measures of need on intra-shift units of time, staffing levels can only be assigned based on 2, 4 or 8 hour periods. Some nursing managers have been able to manually gather reports that provide some trend data that gives better information for periodic shift increases, but this is based on historical conditions on the floor. A current and real picture of clinical unit conditions allow for more immediate and pertinent staffing decisions.

The only way to offer significant Lean Staffing and for more fluid movement across the hospital to occur is to have a clear picture of the Patient Demand State of the clinical unit.

What is Patient Demand State? It is a picture of the patient requests flowing through nurse call, quantification of an open queue of unmet patient requests, and mean and mode for wait times associated with the queue. These simple metrics will allow a nursing manager to better understand the rising need for additional nursing support, OR the declining need for staffing currently on the floor.

If applied across the hospital, staffing can become more fluid. Nurses can be moved based upon the peaks and valleys of the Patient Demand State among all clinical units.

This is only one example of taking a very common and tactical system working throughout the hospital in every clinical unit and making it part of the strategy for managing costs in the hospital. There are many other examples of measurable metrics of strategic information that can allow better performance management.

Sphere3 Solutions - Aligning Mission With Daily Activities

Sphere3 offers a significant element of software that becomes a part of the overall nurse call solution for your hospital. High Impact Aperum™ provides the ability to draw information from the data created within nurse call transactions. The Business Intelligence model constructs a clear picture of key metrics associated with patient requests and caregiver response.

High Impact Aperum™ data adapters segment, categorize, calculate, and more broadly associate key data elements. The information is stored and made available for immediate recall and retrieval for management purposes or more in-depth evaluation via published reports to management.

Sphere3 has proven the value in the following management situations:

- Lean Staffing Decision Support
- Mission to Performance Gap Analysis
- Fall and Never Event Patterns
- Trend and Root Cause Analysis
- Specific Incident Analysis

Conclusion

It becomes more clear every day that nurse call systems have a new strategic place within hospital management. The data to support the proposition continues to strengthen as Sphere3 works with its clients in establishing an even broader footprint for tracking metrics drawn from nurse call.

Equally apparent is the amount of work necessary and current barriers associated with moving nurse call from a tactical state of use to strategic. In some cases, there are players in the industry that cannot fully see the advantages of that movement.

First, a broad understanding of how nurse call systems CAN BE strategic must occur within management.

Second, a common language for creating expectations and requesting key metrics of performance must be established.

Third, current systems in place must improve in design, implementation and configuration in order for the data to be readily apparent.

Finally, a more readily open environment for data exchange within and among vendors playing the field of nurse call and automated alarms and devices must advance forward.