Positively impacting patient care by
empowering nurses with mobility solutions

A recent survey conducted by Nursing Solutions Inc. (NSI) in 2023 revealed that over 3,000 hospitals were asked to participate in a comprehensive study on healthcare turnover. The survey reported an alarming 22.5% turnover rate of Registered Nurses, with the higher acuity care areas seeing a greater vacancy rate of up to 30%. And an even more distressing statistic shows that 38.9% of RNs are leaving within the first year.

The report published by NSI concluded that the high vacancy rate coupled with difficulty recruiting RNs indicates that this labor shortage will continue to challenge hospitals. 75.4% of hospitals reported a vacancy rate greater than 10%, this demand will increase as more nurses move away from the bedside and more experienced nurses reach retirement age. There are no magic solutions to this problem, but technology can help make nursing staff more effective by reducing unnecessary activities such as needing to physically check on every patient in every location. Providing the nurses with the right information at the right time, enables them to respond to priority issues while confidently postponing other non-critical activities.[1]

Introducing Mobile First technologies

Philips Healthcare has developed **Mobile First** technologies and solutions that provide care givers, especially nurses, with near real-time actional information and insights in the palm of their hands. Philips' Mobile First technology refers to the design and development of solutions that can be used anywhere in the hospital. The aim is to improve the user experience by creating applications that optimize the way care is provided on the go and prioritize the mobile experience over other platforms such as desktops or tablets.

The Philips suite of mobile applications and devices include **responsive design**, a user interface and layout that adapts dynamically to different mobile screen sizes and resolutions. This makes the application usable and visually appealing to the care giver. This design also includes **performance optimization** as well as **touch-optimized interactions**, incorporating intuitive touch interfaces and gestures.

Alarm awareness on the go

Along with **contextual awareness**, the 4th generation of our Patient Information Center (PIC iX) enables on-the-go accessibility with **Distributed Alarm System with Operator Acknowledgment** (CDAS). A CDAS system, when configured with the appropriate IntelliVue bedside software and **Care Assist** mobile app, ensures successful alarm delivery from alarm source to a handheld Mobile First device. If a step in the alarm pathway fails to forward an alarm, a technical notification will be generated on the intended clinician's handheld Mobile First device, informing the clinician that alarming is not working. At the same time the alarm is escalated to an appropriate delegate.

Successfully delivered alarms can be responded to by a clinician on their handheld Mobile First device. The response can be an accept or escalate response, as appropriate. An accept response means the clinician will take action to address the alarm. An escalate response indicates an inability of the clinician to actively respond and results in the alarm being appropriately delegated. If the clinician is busy and unable to respond in a timely manner, the alarm is automatically delegated.

The Mobile First CDAS system meets IEC 60601-1-8 medical device standards that address alarm delivery, security and risk management. As a result, users can access patient information including streaming wave forms, retrospective data, and numeric trends when away from the bedside.

Take action from anywhere within the hospital

Accessibility to patient information is on-the-go with the Philips Mobile First application and includes Philips' proprietary **Act Anywhere** capabilities. This technology allows the care giver to start a measurement or acknowledge an alarm from the Mobile First device. Our mobile application supports both IOS and Android operating system software*, which connects through Wi-Fi, enabling real-time communication and secured text messaging.

* (CDAS) is currently only available on Android Operating System.

Supporting accessibility, efficient workflows and patient safety

Using Mobile First devices and applications for viewing critical patient data may help in addressing many identified current challenges, such as staff shortages or the nursing experience complexity gap. Here are several ways in which mobile devices can contribute to solving these challenges:

- Near real-time access to relevant patient data, crucial for making informed decisions and for providing timely care. This immediate, user-friendly access can bridge the gap with the more complex patients by providing nurses with this information at their fingertips and allowing them to Act Anywhere within the hospital.
- Nurses can use mobile devices to facilitate communication and collaboration among care teams. These devices allow them to securely share patient information, communicate with other nurses and physicians and seek advice. This strengthens care coordination and should optimize the time and efficiency of both the experienced and novice RNs to help reduce complexity in care delivery.

- Philips Act Anywhere capability allows nurses to act at the point-of-care. Starting or stopping a measurement or acknowledging alarms. This enhances accuracy and saves time.
- The Care Assist application can display many of the world class clinical decision support tools found on our central monitoring platform (PIC iX). Nurses can leverage these tools on-the-go and receive near real-time recommendations, alerts, and reminders, helping them to make complex clinical decisions and to help reduce medical errors.
- Mobile First solutions streamline communication and patient workflow, which results in a reduction in length of stay and an improvement in bed utilization.[2] It also provides the structure needed for novice care givers in every complex care environment. This technology enables the most efficient division of labor, i.e., the most experienced RNs with the ability to interact as needed across a range of patients, regardless of their location within the hospital. Concurrently, the more novice RNs can continue to focus on providing optimal patient care with direct access to the more experienced RNs, independent of their location.

In summary, hospitals that adopt a Mobile First strategy can improve accessibility, optimize efficient workflow and support patient safety through a cost-effective solution. This is a tool to address the challenges of too few novice and experienced RNs. Leveraging mobile devices empowers nurses with information, improves communication and collaboration, provides clinical decisions support at the point-of-care, and allows for Act Anywhere capability. These benefits will contribute to bridging the experience complexity gap and allow hospitals to provide better patient outcomes with higher quality of care, while reducing the workload burden and burnout.

PHILIPS

1. NSI_National_Health_Care_Retention_Report.pdf (nsinursingsolutions.com)
2. Patient Workflow in a Hospital (hipaajournal.com)