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Study: RTLS Can Help Alleviate Nurse Burnout Rate

- **A Georgia State University study, funded by Vizzia Technologies, examined how RTLS technology can benefit hospital workers.**

- **Findings indicate technology that workers can easily work with, and that offer a phased deployment approach, may be most successful.**

The average healthcare worker spends up to 60 minutes of each shift searching for equipment. They are serving a growing number of patients with fewer fellow staff members, and challenged with feeling safe in what can be a volatile workplace.

These conditions that today's nurses and other clinical staff face could be improved by using real-time locating system (RTLS), according to a recent white paper authored by Georgia State University and funded by RTLS technology company Vizzia Technologies.

The study—Leveraging Real-Time Location Systems to Enhance Nursing Efficiency and Elevate Patient Care—was released in April. It investigated how RTLS technology can be beneficial in today's healthcare climate.

Overall, the study found that visibility from an RTLS system can help workers be more efficient, spend more time in patient care, and enjoy a safer workplace.

Vizzia Launched the RTLS Study

However, to accomplish the benefits it is intended for, the technology needs to be customized with the hospital's needs in mind, said Marci Bennafield, MPH, clinical instructor of Health Informatics, GSU Lewis College of Nursing and Health Professions. Those needs will vary from one hospital to another.

The GSU led-study is a first-of-its-kind academic research, said Jim Forbes, Vizzia Technologies' chief strategy officer, one he sees validating the full impact of nurses wasting approximately one-hour per shift looking for equipment.

“The nearly \$14 billion per year in lost productivity is alarming for U.S. healthcare organizations, as they are attempting to regain financial footing and retain their workforce after the global pandemic,” Forbes said.

The RTLS industry was known initially for its ability to provide asset tracking tools. Now, healthcare leaders are discovering multiple financial and clinical benefits, enterprise wide, including reduced expenses, streamlined workflows, staff safety and improved patient care.

Today’s Nursing Burnout

The paper noted that nursing experienced a “Great Resignation” from 2020 to 2022 in which 20 percent of healthcare workforce was lost, including 30 percent of nurses. Job burnout was the key reason cited by those who exited.

Now, a new generation of nurses and clinicians are coming onboard to support the industry. Technology is poised to help them ensure a better workplace, so that they do not experience that same burnout.

The study focused on the direct impact on patient care from a clinical perspective. “I’m most interested in the measurable impact computations, specifically on patients,” Bennafield pointed out.

One of the paper’s case studies—Southeastern Regional Medical Center in North Carolina—detailed how nurses using a center’s RTLS system saved an overall average of one hour of unnecessary labor each day. This demonstrates the potential of RTLS in improving nursing efficiency and overall hospital productivity, Bennafield said.

Streamlining Tasks for Greater Efficiency

RTLS technology offers a comprehensive solution to optimize nursing efficiency by streamlining processes such as equipment location and availability, according to the paper’s authors.

Hospitals have traditionally employed more manual inventory tracking systems for medications, supplies and documents. RTLS is particularly effective in tracking high-cost and limited-quantity equipment.

However, RTLS can be used not only to improve efficiency, but as a tool to measure efficiency. An example cited by the report is a study that used RTLS to find that clinicians only spent 12 percent of their time in patient rooms.

Additionally, the report indicated that RTLS is an effective method for assessing workflow, productivity and asset management. That assessment was based on a systematic review of 42 peer-reviewed research projects examining the application of RTLS, explained Bennafield.

Safety and Staff Duress

One of the key priorities for healthcare workers today is safety, and the GSU researchers measured RTLS for its ability to offer security to those working in hospitals.

“Some of the biggest challenges that we’re hearing about is definitely nursing and staff safety,” said Bennafield.

According to a report by Midmark, workplace violence against caregivers increased 115 percent since 2021. One out of four nurses are assaulted, yet 20 to 60 percent of those incidents go unreported. Additionally, the number of violent injuries is five times higher in healthcare than other workplaces.

RTLS offers a solution as long as its connectivity can cover a hospital’s entire campus, stated Bennafield.

With a typical RTLS solution, when a beacon or sensor is worn by each worker, response time for an emergency can be relatively fast. When a staff duress alarm is activated, a discreet alert is triggered. Smart beacons (such as those using Bluetooth Low Energy) report the zone—if not the exact

room–location to designated security personnel, enabling them to provide immediate help.

Vizzia’s Staff Duress Solution

Vizzia offers an RTLS-enabled Staff Duress Solution which equips healthcare workers with wearable mobile panic buttons, allowing them to quickly summon assistance. The technology company is issuing thousands of new staff badges so that nurses can activate a silent alarm.

“Our RTLS platform immediately notifies security and supervisors the exact location of where help is needed, with room level accuracy,” Forbes said.

Bennafield added “there are RTLS solutions that have been impactful in that way, so that’s a definite focus of [senior executives].”

Asset Management

Another use for RTLS is that it can help address challenges related to moving patients in and out of operating or patient rooms that needs to be prepped for the next patient.

Bennafield pointed to the administrative workload in many hospitals when it comes to paperwork to discharge a patient “and all the activities that have to happen in order to discharge and make the room available for the next patient.”

RTLS is being used by some hospitals to help alleviate that administrative burden by identifying the movement of the patient equipment used to treat and transport patients.

By knowing in real time, where things are, users can better strategize their patient care, and ensure that equipment and rooms are ready for use by patients, fast, when needed, officials said.

Including Clinicians in the Deployment

Deployment of RTLS successfully requires some strategy as well, Bennafield said.

“Healthcare is obviously embracing the technology that’s out there, but the technologies that will be the most successful are the ones that include consideration of the clinicians,” she stated as these are the people who are going to actually use the technology.

If new technology is introduced, it has to work seamlessly with a clinician’s existing practices. She added that pilots are intended to test technology, and should be embraced with that goal in mind.

“It’s OK for a solution to fail because the hospital will learn from that failure and do better next time,” Bennafield said. “I think the challenge is that we’re trying to help nurses by using technology but trying not to overwhelm them with one more interface.”

Vizzia continues RTLS Development

With that approach in mind, Vizzia continues to expand its customer base. “By conducting interviews of all stakeholders and making an on-site survey of the facilities, we’re able to recommend the appropriate solution,” Forbes said.

As part of that effort, the company leverages its two-decades of R&D in its IoT Lab at the University of New Mexico.

Vizzia is now deploying its InVIEW platform at Children’s Healthcare of Atlanta’s new \$2 billion pediatric hospital that opens in September.

“We have closely collaborated with Children’s on innovative software applications that integrate our RTLS with Epic and Microsoft,” said Forbes. “These integrations provide benefits to med techs and clinicians, including saving

significant time by automating patient information data entry.”

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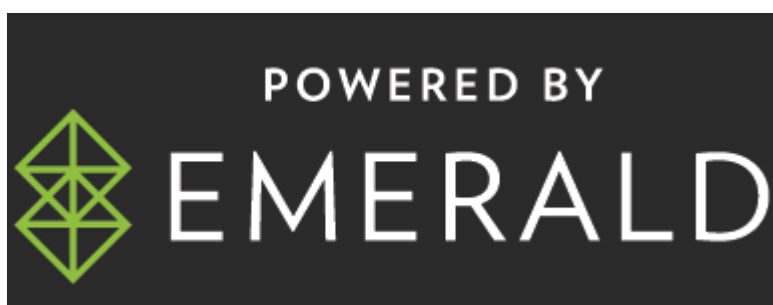
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