

Solution Brief

Human Wellness Monitoring
Artificial Intelligence

Improving Patient Care and the Hospital Experience



HOOBOX's Neonpass Room solution leverages Intel® technology to address hospital care inefficiencies and allow patients to communicate their needs while reducing nurse workload via AI prioritization and management of in-hospital care requests.



About HOOBOX

HOOBOX is a healthtech organization that aims to improve the quality of patient care and the efficiency of hospitals, using technology to automate processes and improve communication. Their mission is to enable artificial intelligence and data analysis technologies for hospitals to improve their processes and help avoid failures that put human lives at risk. To decrease wait times and increase hospital NPS, HOOBOX offers intelligent interaction modules explicitly designed with the patient and healthcare professionals' journey in mind.

Maximizing Patient Care While Minimizing Nursing Demands

Today, more than ever, nurses and hospital staff are juggling increasing patient expectations alongside challenges such as burn out from longer hours and greater workloads. One major concern is the staffing shortage seen throughout the healthcare industry, with roughly 94% of nurses surveyed by AMN Healthcare agreeing there is a moderate or severe shortage of nurses in their area¹. With limited resources, often exacerbated by siloed departments, nursing teams are being tasked to play multiple roles. Their primary function remains providing quality patient care but nurses are finding themselves inundated with patient requests without sufficient hospital support to accommodate them. These requests vary from time-sensitive health concerns to less urgent requests for a bottle of water or food from the cafeteria. As nurses are being asked to do more with less, prioritizing and addressing inpatient requests can be incredibly challenging and puts patient care at risk.

Nursing challenges



The Registered Nurse (RN) turnover rate was 22.5% in 2022 for the United States²



87% of Nurses said they felt burnt out in the last year (2022)³

Surprisingly, many inpatient requests are not related to nursing care. An influx of requests can place an excessive burden on the nursing team and potentially hinder their ability to respond promptly to critical requests. When there are insufficient nurses to meet the expectations of inpatient requests, it can decrease job satisfaction, consume additional hospital resources, and impact patient care. To address these concerns, there has been a growing demand for solutions that optimize nursing operations and reduce workloads and stress, all while upholding hospital safety and excellence. HOOBOX and Intel are helping healthcare professionals unlock their best performance, maximize hospital efficiency, enable better patient outcomes, and improve patient care.

HOOBOX Neonpass Room Solution

HOOBOX is a healthtech organization that specializes in AI to optimize hospital journeys by eliminating bottlenecks, inefficiency, and lost revenue. HOOBOX's Neonpass Room solution is a digital platform designed to fill the communication gap between inpatients and nursing teams.

Neonpass Room allows patients to move beyond traditional nurse call buttons, communicating their needs seamlessly through mobile devices, mirroring the convenience they experience with ride and food delivery apps outside the hospital. Patients enjoy the convenience of using a tablet or smartphone to access Neonpass Apps and request any item or service offered by the hospital.

The request is sent via API to the cloud and processed by the solution to determine which department and staff is the most suitable to receive that request. The algorithms run calculations according to more than 10 variables such as: competence, department operating hours, inventory, demand, patient-professional relationship, claims, and others.

When nursing intervention is needed, the AI algorithm assesses and prioritizes requests that indicate pain or emotional distress, promptly sending staff alerts. The Neonpass Room's cloud backend then notifies the relevant department of applicable requests and priority alerts. Once the request is in the system, managers can track progress in real-time from the nursing station dashboard.

By integrating artificial intelligence, Neonpass Room streamlines the process of directing orders to the relevant departments, thereby enhancing efficiency, and reducing the time spent on mediating requests by up to 85%⁴. This empowers nursing teams to focus more on providing quality care by being at the bedside, spending more dedicated time taking care of the patient, and less on mediating requests from other departments. For patients this means more consistent and tailored care, a more satisfactory stay, and the potential for improved health outcomes. In fact, hospitals using Neonpass Room have recorded an average satisfaction rate of 4.5/5.0 from patients when asked about their hospitalization experience⁴.

Key Features



Digital Internal Communication:

Neonpass Room extends beyond patient communication to include inter-departmental interactions, allowing nursing teams to communicate digitally with the Pharmacy, Nutrition, and other departments without relying on telephones, thus reducing communication errors and operational failures.



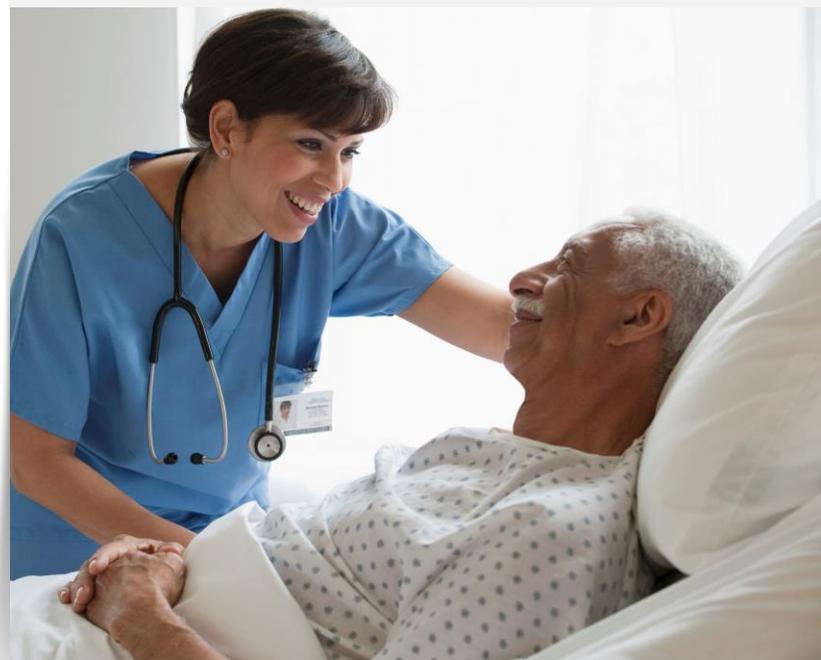
AI Interaction Module: The AI module scans for relevant subjects such as pain, urgent requests, concerns about family members, or any other issues that may affect patients during their stay and that require sending an alert to the nursing staff and answering important questions about health status, billing, and discharge procedures.



Real-time Data Dashboards: The platform provides real-time insights about team performance, delays, staffing issues, and available resources that can be shared or optimized between different floors saving costs reaching an ROI up to 1,200%⁴.



Discharge Checklist: Neonpass Room enables patients to digitally receive a checklist of all their discharge procedures one day in advance, reducing financial costs associated with delays.



Getting Started with Neonpass Room

When it comes to deployment, there are 3 main steps which HOOBOX configures to a hospital's unique needs.

Step 1: Configuration of an item map, departments, and rules. HOOBOX works with the hospital to establish which rules and items patients will have access to and all configurations through the cloud portal.

Step 2: Setup at the bedside. If the patient is going to make requests via tablets, HOOBOX equips each bed with tablets; otherwise, they are equipped with QR codes, so patients can use their own smartphones to submit requests.

Step 3: Setup at nursing stations and departments. The main monitor is equipped with an Intel® Core™ processor-based edge device where requests will be received and viewed. All computers at the stations can receive requests, and the use of edge devices is also recommended at these stations due to limited space.

Intel Partners With HOOBOX to Improve Performance

Hoobox leverages Intel® technology to enhance system performance and enable unique deployments best suited for a hospital's needs. One key technology is the Intel® Distribution of OpenVINO™ Toolkit which accelerates the inference process of the solution's AI models used for detecting emergency signals in messages sent by patients in text-based requests. With OpenVINO, HOOBOX is able to create specific models for each hospital. In this way, the solution is adapted to the hospital, not the other way around. With a customized model, it is possible to quickly consider cultural aspects, dialect, and spelling to further optimize communication and alerts.

The solution is offered as a cloud-based SaaS that runs on Intel® Xeon® Scalable processors with integrated accelerators. This helps to deliver consolidated data, covering information such as performance of services, heat maps, opportunities for optimization of operational processes, resizing and redeployment of staff. In addition to quickly delivering this data, the Intel® Xeon® Scalable processors help bring greater security to the data.

Maintaining Privacy and Upholding Hospital and Local Regulations

The importance of data privacy when handling sensitive personal and medical information cannot be understated. That's why HOOBOX maintains strict privacy and information security policies, catering to hospitals accredited with international certifications. All sensitive data is stored, processed, or transacted under strict privacy and information security procedures in compliance with the LGPD. The LGPD, or General Data Protection Law, is Brazil's comprehensive data protection law. Similar to Europe's GDPR, the LGPD regulates the use and processing of personal data, ensuring the privacy and protection of individuals' information.

Neonpass Room in Action

In a hospital in Brazil, nursing staff were overwhelmed by mediating requests from other departments. The wasted time was affecting the quality of care, diminishing patient satisfaction, and hospital ratings. Communication failures and emergency signals were often overlooked. By deploying Neonpass Room in that hospital they saw almost immediate tangible impacts on their staff and patient satisfaction.

Looking at a single floor with 16 beds over 6 months the hospital saw⁴:

- 63% of requests avoided by the nursing staff
- More than 1200 hours saved by not having to mediate requests anymore
- ROI of 1,200%
- Patient questions and requests prioritized
- Patient satisfaction rating of 4.9 out of 5.0

In Summary

Enhance patient care while optimizing and reducing the workload for nursing staff with HOOBOX's Neonpass Room. The solution helps streamline inpatient requests and simplify communications between departments via AI algorithms which filter and sort patient requests, providing nursing teams with real-time data on requests and available resources.

Hospitals worldwide can benefit from Neonpass Room. Does your hospital:

- Have nursing staff mediate communication between patients and departments?
- Use a nursing call bell as the primary tool of communication?
- Rely on a telephone as the main tool for communication between departments?

If so, reach out to Neonpass today to improve your patient care. Learn more by contacting HOOBOX at welcome@hooBOX.one

Learn More

- [HOOBOX Website](#)
- [HOOBOX Neonpass Room Solution Page](#)
- [Intel® Solutions Marketplace HOOBOX Neonpass Offering Page](#)
- [Intel® Xeon® Scalable Processors Product Page](#)
- [Intel® Core™ Processors Product Page](#)
- [Intel® Distribution of OpenVINO™ Toolkit Product Page](#)



Sources

1. [2023 Survey of Registered Nurses](#), AMN Healthcare, 2023
2. [NSI National Health Care Retention Report](#), NSI Nursing Solutions Inc, 2023
3. [The Nursing Shortage in 2022: Study Reveals Key Causes](#), Kathleen Gaines on Nurse.org, 2022
4. Data from internal tests results of HOOBOX. Intel does not control or audit third-party data. Please review the content, consult other sources, and independently confirm if the data provided is accurate.

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