Application Note:

**AeroScout® Patient Flow for the OR**

Real-Time Visibility and Analytics Streamline Surgical Patient Throughput for Better Operational Efficiency and Higher Revenue

**Challenges**

Inpatient or outpatient surgical services departments represent an important revenue source for healthcare organizations. In light of new payment models that demand efficient care delivery, exceptional patient experience and positive surgical outcomes, it becomes imperative to improve operating room (OR) performance. To address these critical goals, hospitals must tackle these and other complex questions:

- What's causing bottlenecks that lead to delays in surgery start times and care transitions?
- How can communication be automated within and between stages of care to improve patient flow?
- What are the opportunities to improve OR capacity and room utilization?
- And, what data is required for staff to make more effective in-the-moment decisions—as well as to support continuous improvement?

Historically, many hospitals have monitored surgical patient throughput with high-level metrics, such as "OR in to OR out" times from an operating room information system (ORIS). But while OR processes may appear to be highly standardized, even strict protocols leave room for variation. What's more, legacy processes for Surgical Services documentation and communication can lead to errors, extended wait times and unnecessary labor costs. Lack of standardization and inefficient communication can affect patient experience and outcomes, as well as financial stability and staff satisfaction.

**Solution**

STANLEY Healthcare’s AeroScout® Patient Flow solution for OR provides visibility across all surgical phases of care to streamline patient throughput, improve operational efficiency and increase revenue. By monitoring the status, location and interactions of people and resources, it provides data for real-time enterprise awareness coupled with powerful visual analytics to streamline communication, improve immediate decision making and understand underlying trends for process improvement to optimize clinical performance—all critical to ensuring effective care delivery in a timely manner. As a part of STANLEY Healthcare's Wi-Fi RTLS platform, the Patient

**Benefits**

- Increases revenue opportunities by improving on-time surgery starts and patient throughput
- Strengthens operational decision-making and workflow optimization through powerful visual analytics
- Improves patient experience and family satisfaction by reducing wait times and improving communication
- Enhances staff productivity by reducing manual processes and delivering real-time visual data for streamlining communications and transitions throughout the surgical patient journey
- Reduces costs by improving capacity and maximizing room utilization
Flow Solution for the OR offers several options and integrations to support efficient workflow, increase patient safety and expand security.

How It Works

With every surgical patient wearing an RTLS badge, the system monitors location, status, interactions and timestamps of patients, as well as rooms and staff throughout the Surgical Services department and nursing units—from OR waiting room and Pre-Op to Intra-Op, PACU and acute care units.

Nurses, surgeons, transporters, environmental services and other staff may carry a Wi-Fi badge to enable rapid location of colleagues, association of caregivers to patients and rooms, and workflow optimization based on historical data. What’s more, by leveraging the facility-wide Wi-Fi network, patients and staff can be quickly located outside of the surgical unit when required.

In addition, tags are placed in rooms to automate room status changes for faster turnaround times. And can be mounted on medical devices and equipment to increase their availability to improve patient care. Above all, the solution enhances visibility and communication—driving reduced wait times, phase of care transitions and phone calls that support improved overall process efficiency and staff satisfaction.

Visual Controls

STANLEY Healthcare MobileView® is a web browser-based application that provides an intuitive and easy to use at-a-glance view of key information to manage patient flow:

• Floor map or list view of specific departments and the entire facility
• Status dashboard overview of current Surgical Services patients and rooms
• Real-time location of patients, staff and assets
• Status of rooms based on color codes (e.g., available, occupied, soiled, being cleaned)
• Alerts on outstanding events (e.g., patient waiting too long or room ready for cleaning)
• Patient status information may also be shared with family members
• User friendly search tool enables sophisticated queries

The Patient Flow Solution for the OR offers a wide variety of automated, real-time alerts—from instant alerts on workstations and smartphone or tablet devices to e-mails, text pages or messages and VoIP phone alerts. Examples of Patient Flow alerts include:

• Long patient wait times (e.g., in waiting area prior to pre-op)
• Calls for environmental services to clean a room and indications when a room is clean

The solution comes with a variety of compact Wi-Fi and ultrasound patient and staff badges. Key badge options include rechargeable battery, bi-directional functionality, programmable call/alert button, and low-profile, waterproof design for easy sterilization.

At-a-glance views enable department-wide visibility of room status, patient wait times, and patient, staff and equipment location in real-time.

The RoomCheck™ application is a digital corridor room sign that provides real-time patient and room status.
• Absence of clinician required for surgery or transport
• Patient moving within (e.g., from OR to PACU) and between departments (e.g., acute care to ICU)
• Call buttons used to notify staff when a patient is ready for transfer or discharge
• Patient call for assistance

**MobileView Analytics**

The Patient Flow Solution for the OR provides powerful visual analytics to help Surgical Services automate communications, improve immediate operational decision making and drive performance. With enhanced business intelligence capabilities, hospitals can better understand patient flow patterns, procedure length, actual recovery time, throughput delays and room utilization—all which affect patient throughput, patient experience and revenue.

Built using best-of-breed business intelligence software from industry leader Tableau Software, MobileView Analytics transforms complex data into easily understood visual information on key performance measures to:

• Understand patient flow, on-time surgery starts, closing times, recovery times, unnecessary waiting times and room turnovers
• Automate staff communication and improve immediate decision making to reduce phone calls, and streamline the patient flow through surgery milestones
• Improve care transitions and patient transportation
• Empower staff to promptly identify and address problems to proactively improve the outcome for the day.
• Increase the number of on-time surgery starts
• Improve communication to family members and overall experience

**Real-Time Dashboards**

The Patient Flow Solution for the OR includes a series of real-time dashboards. By visually displaying more granular metrics, these dashboards reveal new levels of operational awareness within and beyond the OR. Surgical Services staff can look “upstream” and “downstream” to improve communication and immediate decision making to streamline case preparation, advance patient throughput and expedite room turnover. What’s more, hospitals can capture patient flow insights and track real-time performance against KPIs via standard dashboards in the Waiting Area, Pre-Op, OR, Recovery, and in-patient units.

**Historical Dashboards**

The solution also features retrospective dashboards to help visualize and interpret historical data. Rich, evidence-based performance information can drive a deeper understanding of underlying trends for critical process improvement. Analyze key performance indicators, such as wait times, procedure length variance, room

Tags can be mounted in-room to trigger room events, such as ready for surgeon, patient closing and room availability.

MobileView Analytics provide visual dashboards to drive better decision-making, identify process improvement opportunities and apply predictive analytics to optimize clinical performance.
Solution Highlights

- Visibility displays and digital room signage for improved real-time decision making: department map, status dashboards and list views with the location, status and condition of patients, staff, equipment and rooms
- Automated workflow alerts delivered to specific caregivers using a wide variety of communication devices, such as tablets, VoIP phones, smartphones and Vocera® devices
- Department-specific location accuracy (e.g., room and bay level) that also leverages existing Wi-Fi network to provide hospital-wide awareness
- Powerful analytics for real-time and historical visualizations for improved communication, workflow analysis and optimization—improving business intelligence around wait times, on-time surgery starts, contact times, cycle times, staff workflow and room and resource utilization
- HL7 open architecture and flexible API allow for synergistic integrations to existing systems such as EMR, ORIS, ADT, nurse call and capacity management solutions
- MobileView, a unified enterprise platform, provides a broad range of advantages, such as visual analytics, interoperability, scalability, lowest cost of ownership and more
- Additional MobileView applications for Asset Management, Environmental Monitoring, Infant Protection and Staff Security/Safety

Integrations

Using the HL7 protocol, the MobileView software easily integrates with a variety of other hospital information systems, including ADT, ORIS and EMR systems. Real-time location data can be displayed in these systems to drive clinical process, and MobileView can pull patient demographics and staff records automatically, eliminating double data entry and reducing likelihood of errors. To further utilize patient and staff location data, additional standard integrations to communication devices, alert management solutions and nurse call systems can streamline processes and enhance the Patient Flow Solution for the OR.

turnaround times or patient experience, and then apply predictive analytics to anticipate patient loads and staffing and resource needs. With historical analytics, managers can see what happened yesterday, identify failure points and determine action steps to improve outcomes today. They also can direct frontline workers to “tweak” decisions and behaviors, and then monitor for improvement over time.

Visit Time and Phase of Care

Room Utilization

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