Patient Logistics Center: A New Model for Improving Patient Flow

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**The Vision and Planning**

About North Shore University Hospital

Located in Manhasset, NY, North Shore University Hospital (NSUH) is an 804-bed teaching hospital that is spread across 57 acres. The hospital is one of the cornerstones of North Shore-LIJ Health System and is academically affiliated with the Hofstra North Shore-LIJ School of Medicine, employing a staff of more than 6,000 and partnering with nearly 2,700 physicians. NSUH offers advanced care in all medical specialties, including open-heart surgery, neurosurgery, orthopaedic surgery, urology and maternal-fetal medicine. The Emergency Department at NSUH is a New York State Designated Regional "Level One" Trauma Center that cares for more than 90,000 patients per year.

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**Objective**

- Modelled after the Air Traffic Control model in the airline industry, the hospital opened the Patient Logistics Center, combining personnel and resources from several operational and clinical departments under a single governance to centralize communication. The goal of the Patient Logistics Center is to optimize patient flow and reduce delays through a central hub of activity coordinated by one cohesive team.

**Challenges**

- Overcrowding in the Emergency Department
- Delays in bed turns over & patient transport
- Poor communication between providers and hospital teams
- Information & communication silos
- Late-in-the-day discharges

**Breaking Down Silos**

- Co-locate key staff members (i.e. Bed Management, Transfer Center, Case Management, etc.)
- Prioritize all diagnostic testing through a central "Discharge Hotline"
- Early notification of confirmed discharges
- Enhance interdisciplinary, morning rounds
- 10-min. concise morning bed huddle
- Establish a "pull" process for ED admissions & PACU to floor assignments

**The Model**

**Accountability**

- Nursing, Operations shared oversight
- Defined escalation processes
- Conduct root-cause analyses
- Defined Operations Analyst
- Involve medical staff in planning of initiatives

**Unified Brand**

- Teamwork retreat
- New units/mage
- Hospital-wide marketing campaign
- Tours, meet and greets with Patient Logistics and leaders
- Culture change

**Transparency**

- Monitor metrics in real-time
- Isolate delays and resolve on the spot
- Coordinate to expedite admit & discharge process
- Metrics available and displayed on nursing units
- by hospital leadership

**Collaborative & Data-Driven Physical Environment**

The design of the space evokes collaboration and transparency. From the conference room to the design of the workstations, Patient Logistics team members work together and rely on data and dashboards to make decisions.

**Leveraging Real-Time Data**

Monitoring dashboards and statistics real-time throughout the day allows the Patient Logistics Center to focus on specific delays and partner with the right team to address the issue. Managed much like an Air Traffic Control center, as metrics and delays begin to move in a unfavorable direction, Patient Logistics escalates the issue to the appropriate teams. Providing front-line managers and supervisors daily goals and information about their patient throughput data enables more accountability. Patient Logistics connects individual departments to the hospital-wide throughput state by pushing data to help the departments understand how their work contributes to the whole.

**Results Driven**

**Transferability**

**Breakdown Silos & Barriers to Communication**

- Co-locating staff from key areas
- Unified operational-structure
- Establish a "Discharge Hotline" for clinicians to call for barriers to discharge

**Couple Technological & Communication Infrastructure**

- Real-time dashboards placed across hospital and on nursing units to maintain transparency and accountability
- Develop interface between Hospital EMR & TeleTracking to identify discharge orders in real-time
- Central nerve center for information and proactive communication about throughput to key leaders
- Clear escalation thresholds with support departments based on a mutual expectation

**Medical Leadership Involvement**

- Identified champions and key leaders from hospitalists, cardiology, radiology, ED, etc.
- Involve medical staff leaders in huddles and planning of initiatives
- Communicate back to medical staff teams the status of expedited requests to "close the loop"

**Results**

- **Outpatient Pharmacy Sales Increase** at discharge by 56% vs. 2012
- **38% Reduction** in ED to Unit Assign to Occupy Time
- **Average Length of Stay Decrease**

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**Average Length of Stay**

- **4.40**
- **5.40**
- **5.90**
- **6.40**
- **6.90**

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"Assigns to Occupancy" - ED to Nursing Unit