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TODAY'S HOSPITAL:

CHALLENGES BEYOND CARE

Using the Power of Data to Drive Efficiency at Health First

Hospital care today makes up a significant portion of healthcare spending—around \$750 billion annually. And while providing care is still the top priority, facilities are facing an array of pressures, including:

- A shift to bundled payments, which means providing better care at lower cost
- The rising costs of pharmaceuticals, supplies, medical technology and personnel
- Operational issues related to capacity management, especially emergency

department overcrowding, diverting inbound ambulances and private providers sending elective admissions to other facilities

- An aging population, the growing prevalence of chronic diseases and expanded coverage with less generous reimbursements

The bottom line is that to thrive in this new environment, hospitals will need to operate more efficiently, while maintaining or improving the quality of care and patient outcomes. That's what Health First, in Brevard County, FL achieved by using Lean thinking enabled

by information technology support from TeleTracking.


HEALTH FIRST – A SNAPSHOT

- The only not-for-profit, fully-integrated health system in central Florida
- More than 8,000 employees distributed across four hospitals, a medical group, a health plan and a number of outpatient services
- A combined total of over 900 beds across the four hospitals



19%

DECREASE IN MEAN PATIENT LENGTH OF STAY



27%

INCREASE IN TOTAL ANNUAL ADMISSIONS



ZERO

INPATIENT BEDS ADDED

- The central flagship institution is Health First's Holmes Regional Medical Center, a multispecialty hospital with 550 beds and a Level II Trauma Center. It also has three smaller community hospitals: Cape Canaveral, Palm Bay and Viera.

- Holmes accepts transfers not only from in-system community hospitals but also from external facilities.

- The payer mix is 60 percent public insurance (Medicare and Medicaid), with the remainder coming from private insurance.

HEALTH FIRST 2012 – THE CHALLENGES AND THE STRATEGY

HEALTH FIRST WAS FACED WITH THREE MAJOR CHALLENGES:

- Financial problems
- Low quality scores
- Low patient satisfaction ratings

Under the guidance of president and chief executive officer Steven Johnson and chief operations officer James Stuart Mitchell, Health First charted a new course utilizing a three-pronged strategy that matched up with these three key challenges.

Both Johnson and Mitchell had come from health systems that had used Lean process improvement methodology and had seen firsthand the impact on overall efficiency. Their first action was hiring Bill Griffith, an expert in Lean and Six Sigma,

as Health First's executive director of operational excellence.

Griffith quickly identified patient flow processes as a key opportunity for improvement. Individual hospitals within the Health First system operated as separate units, often transferring patients outside the system. Within each of the four hospitals, nurses had to manually find and assign beds and were not always motivated to take new patients. Busy times, such as shift changes, resulted in bottlenecks—and prolonged wait times for inpatient beds for patients admitted from the emergency department. And when there was a lack of clean beds and delays in patient flow, Health First sometimes lost transfers to external hospitals outside its system, negatively impacting financials.

It was also difficult to pinpoint inefficiencies because operational performance data was not attainable and most metrics had to be pulled manually.

CENTRALIZING THE PATIENT FLOW PROCESS

Centralizing operations was the first step. The heart of Health First's patient flow process is the Centralized Patient Logistics (CPL) center. The CPL is staffed by non-clinical personnel, with nurse oversight as needed, and is responsible for managing bed assignments. CPL associates have a bird's-eye view of hospital resources and processes across all four hospitals,

including available beds, incoming transfers and admissions, and the performance of key individuals and groups that are essential to patient flow.

At each workstation in the CPL, monitors display the unit-by-unit status of the health system's beds. The color-coded bedboard indicates if a bed is occupied, "dirty" (vacated and available for cleaning) or available for the next admission. On the walls of CPL and on units, flat-panel monitors display the health system's "dashboards"—summary statistics of performance in real time.

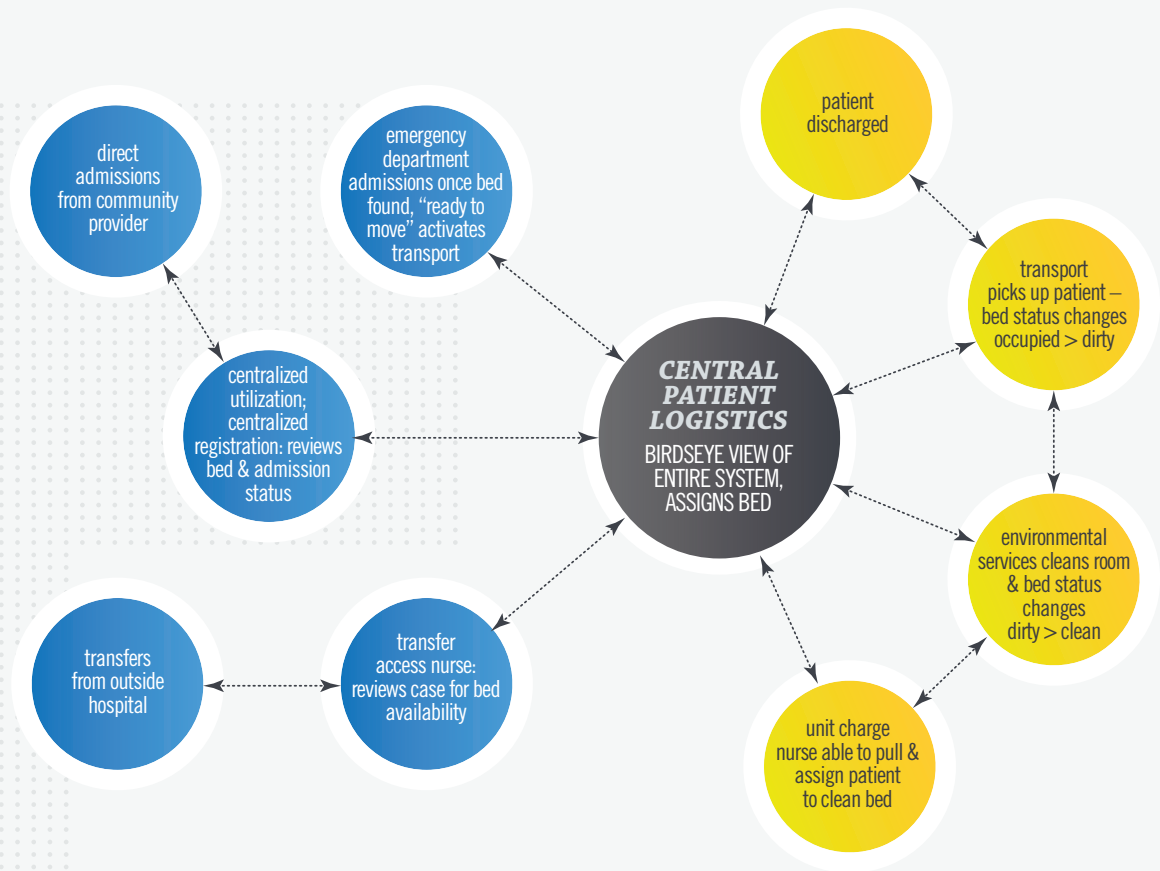
THE ADMISSIONS PROCESS

When a patient has been admitted from the emergency department, CPL is notified through the TeleTracking® software so CPL associates are aware of an upcoming bed assignment request. Emergency department associates have 30 minutes to complete all tasks until the emergency department management team receives a notification and intervenes to complete the process. Once admitting orders are in place (by the floor physician) and all essential tests have been completed in the emergency department, the nurse pushes a "Ready to Move" button, triggering CPL to assign a bed, which then automatically triggers transport to take the patient to the assigned bed.

The TeleTracking system also facilitates direct admissions and transfers. In the case of a direct admission, community

CENTRALIZED PATIENT LOGISTICS IS A BIG UMBRELLA OVER EVERYTHING THAT HAS TO DO WITH PATIENTS COMING IN, AROUND OR OUT OF THE FACILITY, SO WE PRETTY MUCH TOUCH EVERY PATIENT IN THE FACILITY.

HOW *PATIENT FLOW MANAGEMENT* WORKS AT HEALTH FIRST



physicians first call Health First's CPL to initiate the process. A centralized utilization review team of trained nurses evaluates the admission to ensure that the proper bed status and unit are assigned. Orders for pre-admit patients are written by attending physicians through an order software program, which interfaces with TeleTracking so that orders are available to the utilization review team. A centralized registration team manages registration and insurance review of direct admits (as well as transfers). Admitted patients are given printed cards stating that they are direct admits and instructed to show the card to the hospital information desk associates, who will help guide them to their rooms. Transfers within the hospital and from

the ICU are also facilitated through the same process.

Because the CPL assigns beds for all four of Health First's hospitals, when a unit is near capacity at one hospital, the CPL can assign direct admits and transfer patients to beds at other hospitals, thereby allowing Health First to distribute workloads evenly across multiple hospitals.

TRANSPORTS

Transports are automatically assigned based on dispatch logic, which computes the optimal assignment based on priority, proximity and mode of transport (e.g.,

wheelchair versus stretcher). Transport assignments are based on zones, taking into account the proximity of transporters and the most recently completed transport to minimize excess travel time between jobs and maximize efficiency.

Discharges are the number one priority for transporters to allow capacity for future admissions. When an inpatient is discharged, the transporter who arrives to escort the patient enters a numerical code to change the bed's status from "occupied" to "dirty." The moment a member from the EVS team arrives, he or she enters a numerical code on the room's telephone to indicate that cleaning is under way. When the task is finished, a second telephone entry changes the bed's status from "dirty" to "available."

COMMUNICATIONS AND ENGAGEMENT

Using Lean methods, Health First implemented changes in patient flow by identifying key opportunities for improvement and then bringing together everyone who would be impacted by the changes to describe their experiences and provide their feedback on improving the process. Involving everyone was critical to achieving buy-in from the beginning. The biggest challenge was convincing associates that there was a need for improvement in the first place. Many hospital associates were so accustomed to the way things were that they did not even realize the degree of inefficiency they were dealing with on a daily basis.

Health First encountered three additional challenges during implementation of their patient flow improvement efforts:

- Associates needed to learn to use the new system consistently. This was solved with additional training and reminders for associates.
- While there was substantial associate buy-in to shift bed assignment authority to the CPL, some nursing associates didn't want to give up the authority to determine bed assignments because of concerns over receiving admissions for which they were not prepared. However, once the processes were in place and hard data was available showing the benefits, the concerns were resolved.
- Health First hadn't previously incorporated the use of summary metrics and performance measures that would increase accountability and motivate improvements in productivity. Department managers started rewarding associates for productivity and planning activities to increase team morale. When associates did not meet productivity goals, they used tactics like formal training or pairing them with high performers.

KEY SUCCESS FACTORS

- 01. LEADERSHIP SUPPORT** — Executive management articulated clear strategic goals and support for the process improvement initiatives that focused on streamlining patient flow.
- 02. TIMELY AND USABLE DATA** — TeleTracking's software generates actionable, real-time data. This information helped drive operational decisions and allowed system managers to spot bottlenecks, held individual units and employees accountable and tracked the health system's overall performance.
- 03. PROACTIVE FRONT-LINE MANAGERS** — With managers focused on continual process improvement, they listened to suggestions from their associates and created an environment of accountability.

KEY RESULTS

- 01.** Centralized, data-driven management of regional referrals, inpatient admissions and bed turnover streamlined throughput and freed up substantial latent capacity in Health First's network of four hospitals.
- 02.** Health First substantially increased monthly admissions and improved efficiency without investing in a larger physical space or a bigger clinical workforce. For example, overall transfer volume has increased by more than 30%.
- 03.** Health First improved efficiency by employing technology and process improvement methods to streamline hospital operations. For example, hospital-acquired conditions have been reduced and sustained by more than 15%.
- 04.** Despite a 12% increase in emergency department visits, emergency department wait times have decreased by more than 70%, or 33,000 hours.
- 05.** Health First has reduced length of stay from 5.75 to 4.65 days – freeing up more than 80 beds per day.

▶ *Improving Hospital Efficiency Through Data-Driven Management, A Case Study of Health First, FL. For more, visit: <http://go.teletracking.com/pfq-rand>*