Lean healthcare philosophy has begun to be viewed as a vital, integral part of mainstream hospital management. Time after time, HPP’s clients have discovered that the more vigorous and sincere the adoption of Lean principles from top leadership across the entire organization, the more successful are system improvements, employee engagement, and patient safety and satisfaction.

The curve indeed bends. Everyone wins.

The typical five-day rapid improvement event or Kaizen is a big investment in teamwork and time. But the advantages of meticulously mapping out current and future processes almost always lead to better systems of care, and create a climate for continuous, self-sustaining improvement. Supplies are easier to find. Nurses and physicians spend less time on non-value-added work. Patients benefit from care that’s a little safer, or a smooth discharge with clear instructions. These are the intended outcomes.

But because Lean focuses on process, not outcome, the results can sometimes surprise everyone. And occasionally, the unintended consequences have greater significance than the intended ones.

The Challenge

When the staff at a women and children’s hospital looked at streamlining their admissions process, they never expected for that single rapid improvement event to ultimately lead to a dramatic clinical improvement in an area that had long eluded them: non-medically necessary inductions and cesarean section births. But that’s what happened.

In a separate building across the street from the more-than-300-bed main hospital serving central Louisiana is its dedicated women’s and children’s hospital. When it came to admitting patients, the improvement team soon discovered, the two facilities operated quite differently.

“’The value stream maps showed us that the main hospital had a system for admitting new patients,’” said the administrative director, “’but Women’s and Children’s had more of a hodge-podge approach. There were almost as many ways to admit a patient as there were physicians and staff members.’”

When a woman needed admission to the obstetrical (OB) unit, a physician would call the nurse’s station directly and speak to whoever answered the phone—nurse, technician or clerk. Was a bed available, or would one be available in the next hour or two? Were physician orders clear? Vital questions went unanswered, and information readily fell through the cracks.

Patients were dissatisfied with wait times. Physicians were frustrated with the bottlenecks. Frontline nurses felt the stress of what seemed like a chronic staffing shortage. When no beds were available in the OB unit, physicians would insist that the hospital open the overflow unit, eight licensed beds on another floor. However, staffing for those beds could not always be guaranteed on such short notice.
Sometimes, staff would accept or schedule more admissions than could be accommodated, either because they lacked the information on bed availability, or because they did not feel they had the authority to ask physicians to reschedule elective events. When describing processes, words like “sometimes” and “usually” can flag areas of variation, where standard work has yet to be established, and where forks, loops, and workarounds lurk. This was the case in admitting at the women’s and children’s hospital (see Figure 1, below).

The improvement team looked for data to determine how long the processes were actually taking. For example, what were the average times from patient arrival to admission, and from admission to a bed? Data were lacking. The team set about to collect it themselves, and set up a system for collecting it in the future.

The data led the team to discover that some conditions previously deemed “unpredictable,” were actually fairly predictable after all. For example, the specialized Emergency Department received any OB patients at 20 weeks or more. With improved utilization data, the team learned to forecast how many beds are available now, and will be available within the next hour, and which beds can be used for less acute problems. Even more important, staffing needs became more predictable.

These discoveries led the team to work on developing easy-to-use standardized forms, and to begin collecting data for measurement and review. Managers moved from “chronic reaction mode” to the role of forecasters, load levelers and problem-solvers. Staffing became more manageable, not an endless puzzle. Physicians now know when a bed will be available.

**Solutions: Anticipated and unanticipated**

Part of untangling processes had to do with the way the request was made for a bed. The team knew that they would see improvements if there were one standardized way to request a bed and fulfill that request. The new system involved one call to one phone number, to a dedicated Admissions Nurse. The new system would work one way during business hours, and on weekends, the house supervisor carries the phone. Either way, the process is always the same for the person requesting a bed: one phone number.

The Admissions Nurse handles each call in a consistent way, with a checklist that specifies which department, the patient’s admitting diagnosis, and valid physician orders. The nurse makes sure the unit is aware of the new admission.

The improvement team, using the data they had collected and A3’s they had produced, were able to persuade leaders to add an Admissions Nurse to the staff. The addition, they believed, would be more than offset in cost by improved bed management, and patient and physician satisfaction.

Resistance occurred at first. Says the administrative director, “We had nurses and doctors operating in the ad hoc system for decades. At first, they didn’t believe the new system could work better.”
After about nine months of training throughout the hospital, the new system became “the” system. Staff began to feel the difference, as the process worked well. Because the Admissions Nurse had the authority to require things like valid admitting orders, complete charts, and up-to-date, centralized prenatal records, soon those things occurred 100 percent of the time. The nurse also had the authority to ask a physician to reschedule an elective admission when the unit was full, averting crisis after crisis on the unit.

The Admissions Nurse was polite but firm. “No” was part of her lexicon. It took a year, but because she was such a respected team member to begin with, her judgments became accepted.

But giving authority to the Admissions Nurse had another crucial, unintended effect: the women’s and children’s hospital eliminated non-medically indicated, elective inductions and cesareans. The hospital had been a national outlier in this area before the Admissions rapid improvement event, with 78 percent of early inductions lacking appropriate documentation of medical indications, and similar numbers for elective cesareans before 39 weeks. Among system hospitals in 2010, this hospital had the highest incidence.

Once the Admissions Nurse required full prenatal records and other appropriate documentation, she also began to require a stated medical indication for the procedure.

“After about six months, the physicians got used to having the Admissions Nurse ask them, ‘What is the medical indication for this induction?’” said the administrative director. “It made everyone stop and think. The number of early elective inductions and cesareans plummeted.”

**Results**

In fact, the women’s and children’s hospital has gone from “worst to first” among system hospitals in early elective deliveries. The hospital has been recognized with numerous awards for their work in this area.

Meanwhile, across the street at the main hospital where an admissions process had been established, teams there began to eye the new system at the women’s and children’s hospital. Before long, the main hospital created a single number, “one call- that’s all”, process as well, and has improved access to beds and reduced wait times and confusion.

When a rapid improvement event intended to streamline admissions ends up reducing early elective deliveries to zero, benefits are as obvious as they are unexpected. Focusing on processes and systems, rather than outcomes and the bottom line, leads to breakthroughs in the way work is done. It also creates the enthusiasm and creativity among staff to sustain and build on the gains.