Reducing MRI cancellations at a major US health system added over $1 million to annual revenue, increased patient throughput and improved patient experience.

Increased Revenue and Teamwork through Collaborative Change

The Case

This case study examines a transformation within two departments whose members were challenged with patient care process breakdowns. Within just 3 months two teams, initially unwilling to sit next to each other in a room, shifted to a collective view of the patient care process and a self-sustaining program of innovation and improvement through collaborative change.

Outcome Summary

MRI cancellations decreased by 51% while increasing inpatient throughput by 40% and adding more than $1 million to annual revenues. Results have been sustained for more than five years. A collaborative culture emerged between inpatient nursing and radiology technicians.

Magnetic Resonance Imaging

The value and diagnostic versatility of magnetic resonance imaging (MRI) has been growing since it was introduced to medicine in the early 1970s. It has advanced from being a novel, exciting technology to one that is essential to accurate diagnosis and treatment of patient diseases. The three-dimensional imagery is sensitive and detailed, and many believe its full potential has yet to be reached.

TEAM IMPACT

"By the end of that [collaborative session], everybody was on board, everybody was excited; everybody knew what they had to do. And they were ready to move forward." … RN

"Radiology was on one side and Nursing was on the other, and we sat there with our arms folded. [Now, the MRI Technician] will say, "Let me find out for you." We never would have been able to do that before" … CNS ICU

"And for the patient sake it's … safer, it's quicker and they get the diagnostic scan they need in a timely fashion. Their physician can make a diagnosis quicker and their stay in the hospital is shortened." …RN

"I think every step of the [FasTrac™] process is important and it is needed." …Radiology Technician

140 MRI appointments cancelled each month.
Loss of $400,000 in monthly revenue.

CASE BACKGROUND

A major US health system conducted 23,000 MRI scans per year, an average of 1,920 per month. The ever-accelerating demand for MRI images had strained the scheduling process due to its popularity in diagnosing a variety of diseases. The healthcare professionals that operated within these processes were challenged with disrupted scheduling, misunderstandings, delayed diagnoses, and a growing acrimony that was negatively affecting the work environment and everyone involved.

For example, an already exceedingly tight schedule would be pushed daily toward chaos when unscheduled patients (known as add-ons) arrived needing immediate diagnostic imaging. To address this, an attempt to alleviate the pressure was made by scheduling in-house patients for evening MRIs. However, an examination of the records showed that many of these patients had to be returned to their beds because they had pacemakers, pulmonary artery catheters, and other hardware that prohibited MRI imaging. Much of this particular issue was attributed to a lack of effective communication between Nursing, who cared for the patient on the unit floor, and the specialists in the Imaging Department, who scheduled and arranged for transport of the patient.

The result was that 130 to 140 scheduled MRIs were cancelled each month. The impact included negative patient experience, which caused hospital evaluation scores to drop, and a considerable loss of revenue associated with cancellations, as MRI reimbursements can top $4,000 per scan.

Often, when cancellations occurred, Imaging Department technicians would call inpatient nurses; inform them of openings, and request that a patient scheduled for later that day or evening be brought down immediately. This disrupted the pace and rhythm of nursing care. It also made the patient experience unpredictable when a hurried nurse might inform them that the MRI scheduled for later in the day now was to be conducted as soon as possible.

THE CHALLENGE

Angry accusations between technicians and inpatient nursing

The MRI Cancellations team exceeded their stated project goal of reducing MRI cancellations by 50%.

abounded, with ill feelings throughout the entire multidisciplinary process. It was clear that efficiency needed to be increased, cancellations and downtime had to be reduced and previously identified clinical risks associated with transport had to be eliminated.

Leadership knew that the supporting processes needed to change drastically, including protocols that would prevent the scheduling and eventual cancellation of imaging by patients whose clinical circumstances contraindicated the procedure. Unclear, however, was exactly what needed to be done to change the processes to achieve these goals.

The Team

The director of Imaging, strongly invested in achieving the stated goals, partnered with the Director of Nursing to address the challenges. The leaders chose to engage Orion Advisory to implement a FasTrac™ collaborative problem-solving session. FasTrac™ enables a sponsor and team to define a problem and its scope, and through a process of basic collaborative analysis, identify ideas for improvement. The team is then responsible for completing the implementation of the solutions. The FasTrac™ approach was used to identify problems and solutions, utilizing the valuable insights of the people most likely to understand the problem in the greatest detail.

Key to a successful FasTrac™ is the identification of the appropriate cross functional team. The MRI Cancellations team consisted of:

- MRI technicians
- Imaging Department administrator
- MRI Department manager
- A pediatric nurse practitioner for imaging
- A clinical manager for computed axial tomography scans
- Clinical nurse specialists in the coronary intensive care unit

The assembly of such a team was, in itself, a substantial step in the right direction, for no one could recall previous collaboration on a project between these departments.

Solutions

As a result of participation in the FasTrac™ process, the team identified 15 (Most Wanted Improvements (MWIs) to be implemented during the next 15 weeks. Solutions included:

Solution 1

Ownership and accountability: The team was made responsible in its entirety, for the improvement work, from validating its parameters to finally implementing its solutions. Problems long since believed to be necessary irritants were no longer accepted as given.

Solution 2

Communication and education: An MRI screening tool was created to prevent patients with contraindications from being scheduled until their issues were resolved. This form also resolved. This form also served to educate doctors and nurses about clinical circumstances considered to be contraindications.

Solution 3

Patient anxiety: A patient education video, You're Having an MRI, was developed that explained how the technology worked and what steps needed to be taken to prepare for the imaging procedure. This greatly reduced patient anxieties, and had a substantial impact on reducing patient-initiated cancellations.

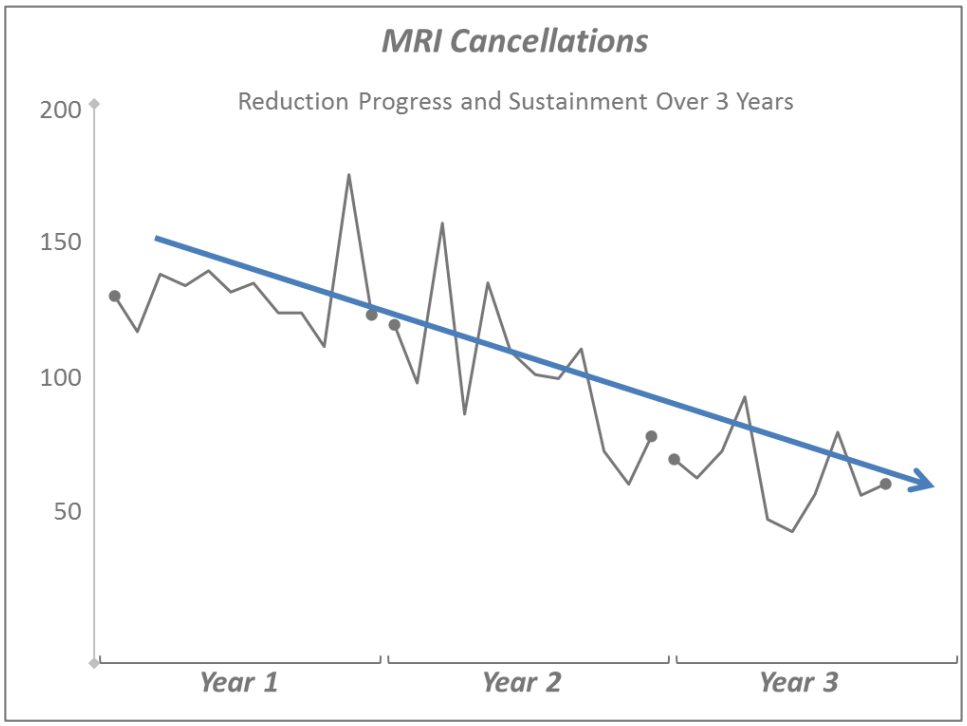
Solution 4

Patient transport: The frontline team partnered with the Intensive Care Unit (ICU) team to create a protocol enabling the safe transport of critically ill patients for MRI exams. Additionally, the team generated an on-line safety module to communicate safe practices and emergency procedures to the clinical staff while in the suite. Self assessment tests were also used to reinforce the importance of patient safety awareness.

RESULTS

The MRI Cancellations team exceeded their stated project goal of reducing MRI cancellations by 50%.

- MRI cancellations were reduced by 51%.
- Scheduling was made more efficient and reliable
- Patient throughput was increased by 40%, adding more than $1 million in revenue in the first year.



- Transportation time was reduced from 55 to 20 minutes, with improved patient safety.
- Importantly, a collaborative culture was established that continues the work of improvement. Communication between nurses and technologists is described as particularly open and effective.

ORION ADVISORY, LLC

Orion Advisory LLC has extensive experience working on cross-departmental processes to enable great transformation, while also solving immediate problems. We specialize in partnering with healthcare administrative and clinical leaders and their teams to create local ownership and accountability that empowers them to get things done. We equip our clients with the tools and capability to deliver on their goals and align the culture of the organization around common purpose..