Streamlining the workflow processes for a high-volume MRI department

Philips Healthcare Transformation Services enabling performance improvement at large academic children’s hospital

A large, nonprofit teaching pediatric hospital which has been named among the top in the US for clinical excellence wanted to enhance their MRI processes. They were caring for pediatric patients efficiently and effectively in a competitive market. Patient volume had been rising steadily and was expected to continue to rise in the future. They had room to support this growth, but were looking to further improve workflow, system utilization, and patient throughput.

They turned to the Philips Healthcare Transformation Services team to help them leverage process improvement methods to streamline their workflow processes and reduce examination delays and operational inefficiencies.

The goal of the consulting engagement was to increase patient throughput and meet the needs of the rising patient volume, while continuing to deliver exceptional pediatric patient care. Our consulting team recommended a 6-week project to include 2 weeks of data collection and analysis, 2 weeks of onsite collaboration, observations, interviews, and further data collection, and 2 weeks to develop root causes and prioritize recommendations. The client team agreed with our approach and appreciated the holistic and collaborative nature of our project recommendation.

Who/where
A premiere pediatric teaching hospital which provides care to over 100,000 children annually.
USA

Challenge
Increase system utilization and patient throughput in their MRI department by streamlining the processes from scheduling through to examination.

Solution
The Philips Healthcare Transformation Services team led a two-month consulting engagement which included in-depth data collection and analysis, onsite observations, and staff interviews, followed by root cause analysis and prioritized change recommendations.

Results
The consulting team identified several performance improvement opportunities which should result in increased MRI room capacity, patient throughput, and improved staff and patient satisfaction without requiring additional operational cost.

Sub-process time distributions (including normal distribution) with a focus on reducing the spread to increase efficiency and reduce delays

anesthesia eval./prep time (N 17 - avg 0:17 - std 0:10)

RN Prep (N 22 - avg 0:18 - std 0:10)

Patient in MR Room (N 54 - avg 1:12 - std 0:36)
Project deliverables
We met with the clinical and management staff to agree to key project goals which included:
• Determine gaps between current-state performance and future state goals.
• Develop a detailed analysis and identifying root causes of efficiency gaps.
• Identify potential solutions then evaluate and prioritize with the clients input.
• Develop a roadmap for change programs implementation.

Improvement recommendations
Our team identified several improvement opportunities, tested our hypothesis, and revised the recommendations based on this testing. We then prioritized the change recommendations to address the project goals and reviewed them the client project team leads to obtain their feedback and any concerns.

Project recommendations focused on mitigating delays while improving patient throughput and the overall patient experience. Change initiatives will improve the efficiency of the MRI patient flow and lessen the exam times with streamlined processes and elimination of wasted effort in terms of scheduling, protocol reviews, fee authorization, transportation, check-in, triage/prep, and the exam itself.

New more systematic processes were recommended with slight variations for in-patient and out-patient processes. Other change considerations included patient environment alterations, new team communication tools and procedures, and other change management programs to further reduce associated staff burden.
• Reduce patient non-compliance
• Reduce lengthy financial authorization
• Assess constraint / rule based scheduling tools
• Streamline patient transport process
• Implement pull and patient tracking system
• Physical redesign enhancements
• Develop Radiology information system enhancements and training

Results
The client has implemented many of the performance improvement recommendations and has achieved progress on their process enhancement results. They have streamlined their MRI patient flow and improved system utilization with additional plans to implement several additional recommendations related to enabling technology and continue to expand their MRI services. The client was pleased with the Philips process and these project results.

Learn more
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