



Case study

Enhancing Operational Performance: Streamlining MRI protocols improves workflows and productivity

Enabled by ActExcell

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Executive summary

Streamlined MRI Protocols Drive Efficiency and Patient Throughput

A regional, USA-based health system wanted to streamline its MRI protocols. The inconsistencies put the health system at risk for confusion, delays and lost revenue opportunities. Already in a Value Partnership with Siemens Healthineers, the health system knew it could count on its partner to help. The Siemens Healthineers ActExcell team quickly became instrumental in driving these improvements. ActExcell helps transform data into actionable insights, enabling health systems to improve imaging equipment utilization, staff productivity and patient care.

The ActExcell team identified several baseline issues, including inconsistent image quality, non-standard MRI workflows, non-standard MRI protocols and underutilized scanners. Radiologists reported varying imaging techniques across locations, further highlighting the need for standardized protocols and system-wide synergy. The team leveraged the ActExcell dashboard to establish metrics and targets for improvement, focusing on standardizing MRI protocols, aligning exam durations with appointment slots and boosting efficiency. With these initiatives, the customer achieved significant improvements in reducing exam length while increasing capacity.

As a result of this MRI Image Quality project, the health system achieved substantial improvements in its radiology department's efficiency and capacity. Streamlined MRI protocols and optimized workflows allowed clinicians to conduct more exams each day, improving patient access and reducing wait times. The collaboration with Siemens Healthineers enhanced imaging quality across all locations, leading to greater consistency and diagnostic accuracy. Overall, the project has strengthened the health system's ability to deliver high-quality care while optimizing operational performance and positioning the system for future growth.

ActExcell

ActExcell is a comprehensive advisory service designed to help health systems and hospitals transform data and analytics into actionable insights. The service supports customers in better understanding the utilization of existing imaging technology, acting promptly and effectively on available data, and improving productivity, access to care and patient experience. Actionable Excellence providing real outcomes.

The challenge

System growth resulted in inconsistencies

Large health systems frequently find that systemic inconsistencies can lead to confusion, delays, mistakes and lost revenue opportunities. The radiology department was feeling some of these growing pains and knew it needed to streamline its MRI protocols.

The health system had been collaborating with Siemens Healthineers in a Value Partnership to drive operational improvements through AI-based tools, new medical technology and enhanced workforce productivity. It was only natural the health system would turn to Siemens Healthineers for assistance in optimizing its radiology department.



Value Partnerships with Siemens

Healthineers are long-term, performance-driven alliances based on a shared vision of the future of healthcare. These strategic partnerships address the industry's top challenges by jointly developing innovative, sustainable solutions that enable providers to transform the system of care, generate value and reach their full potential.



The solution

ActExcell: standardizing MRI protocols to improve efficiency

The ActExcell team became the champion the health system needed to manage the MRI protocol standardization effectively. The team oversaw the tailored deployment of the ActExcell dashboard, powered by teamplay Insights. This dashboard collects and analyzes data from a wide range of relevant sources (EHRs, RIS, etc.) and enables identification of potential areas of improvement.

Establishing the baseline

The team's first step was to understand operational conditions and identify baseline metrics using the ActExcell dashboard:

Baseline Conditions

- Lack of MRI system-wide oversight
- Lack of process for physician delegates to manage change
- Varied exam protocol trees across the system, with nonstandard sequences and exams
- System protocol manual not consistently utilized/updated/managed
- Inconsistent image quality
- Non-standard MRI workflows
- Lack of data transparency

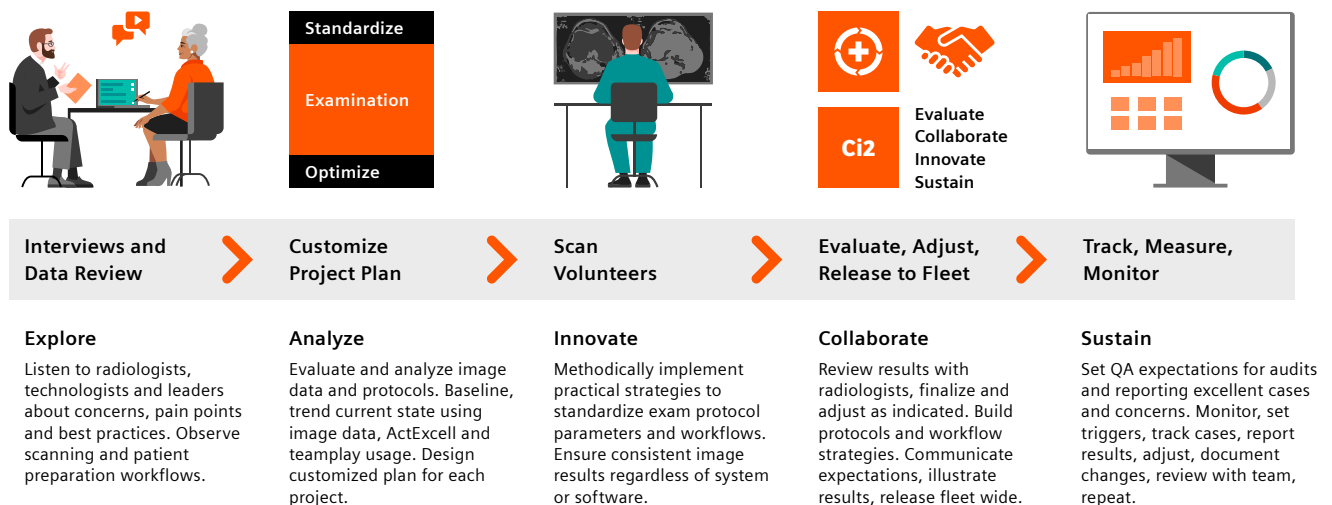
Baseline Metrics

- 239 median exams per weekday across system
- Booking to appointment = 9 days, 2 hours
- Exam duration = 55 minutes, 34 minutes IQR
- Room occupancy = 52%

Standardized MRI protocols and streamlined scanning practices were identified as essential for achieving consistent, high-quality images across all locations. Aligning appointment slots with exam durations was expected to enhance equipment utilization, increase capacity and reduce backlogs. Additionally, shorter exams would free up rooms more quickly, further boosting service efficiency.

The MR Image Quality (MRIQ) project

To support a smooth implementation, two employees from the health system worked in the "Virtual Operation Center" which utilized *syngo* Virtual Cockpit by Siemens Healthineers. This FDA-cleared centralized remote scanning software supports multiple modalities and vendors, enabling experts to remotely assist and train teams across locations while enhancing diagnostic consistency, productivity and patient access to top-quality care. They created a secure, system-wide electronic protocol manual and assisted the team in adjusting appointment slots to optimize exam durations, boosting capacity and reducing backlogs. The team systematically distributed optimized protocols across the scanner fleet using teamplay Protocols, allowing remote support for technologists and enhancing the patient experience.



The results

Boosting exam efficiency and enhancing quality

Through the MRIQ project, the ActExcell team streamlined processes, reduced exam times and significantly increased departmental capacity. Adding 56 more MRI exams per day across the system not only met the growing demand but also contributed to added value, a testament to the efficiency and effectiveness of the new protocols. Appointment booking to appointment time decreased by two days, getting patients seen sooner. Optimization led to the reduction of exam appointment slots from 45-60 minutes to just 30 minutes, boosting capacity and improving patient throughput. Room occupancy jumped from 52% to 72% during the first shift and equipment utilization increased accordingly.

The MRIQ project was a success, with proven, sustainable change across the health system.

The future

Through its Value Partnership with Siemens Healthineers, the customer leverages the ActExcell dashboard to continuously monitor and improve MRI performance, enhancing capacity and access with clear, actionable data. The ongoing monitoring of protocols has already enabled sustained improvements in MRI operations. Given this success, the health system is looking forward to working with Siemens Healthineers on additional operational improvement projects.

As health systems face challenges in balancing increased demand for service with operational challenges, solutions like ActExcell can be essential for supporting improvements in efficiency and delivering high-quality care.

Key results:



+56 MRI exams daily

Median outpatient exams increased by 19%



7 days

Booking to appointment time dropped by 21%



30 mins

Exam appointment slots reduced from 45–60 minutes to 30 minutes



+72%

Room occupancy increased, surpassing the target of 55%

About ActExcell by Siemens Healthineers

ActExcell is a comprehensive advisory service designed to help health systems overcome operational challenges.

The digitally enabled service from Siemens Healthineers combines data-driven insights with experienced healthcare advisors to drive a continuous stream of meaningful improvements. The ActExcell service empowers you to convert data into actionable insights, providing demonstrable and sustainable results like better understanding the utilization of existing imaging technology, acting promptly and effectively on available data, and increasing productivity, access to care, and patient experience constantly. ActExcell powers ongoing value-creation, enabling you to discover previously unseen opportunities.

Actionable Excellence providing real outcomes.

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The outcomes achieved by the Siemens Healthineers customer described herein were achieved in the customer's unique setting. Since there is no "typical" hospital and many variables exist (e.g., hospital size, case mix, level of IT adoption), there can be no guarantee that others will achieve the same results.

The scientific overlay on the title is not that of the individual pictured and is not from a device of Siemens Healthineers. It was modified for better visualization.

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