Enhancing Radiology Utilization and Efficiency through Digitalized Platform: *Siemens Teamplay*

Medcare Orthopaedics and Spine Hospital

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Background

Siemens Teamplay is a cloud-based software platform which uses data obtained directly from the equipment and applies Analytics to this data to allow the monitoring of the functioning of the Radiology department on a real time basis. As the data is taken directly from the Equipment; the data integrity is assured, and manual data capture errors can be eliminated. The data uploaded to the cloud is completely anonymized, ensuring Patient Privacy.

The Teamplay also tracks the usage of the Radiology equipment and measure the utilization of each connected equipment and modality, the time taken for each study as well as the time for which the equipment was idle between two patients. A dashboard displays this analysis in real time; and the data can be downloaded for in-depth analysis. This analysis permits actionable conclusions for more efficient use of the equipment; minimize the idle time between two patients; and thus minimize the waiting time for the patients.

This technology was utilized by Medcare Orthopaedics and Spine Hospital (MOSH) radiology to streamline the utilization of the MRI in December 2018, which showed utilization was not adequate and patients were waiting for approximately two to three weeks to book the appointment slot.

Measurement

The project entails the use of automated and completely reliable data collection and utilizes Cloud based technology and Analytics for drawing observations which are actionable. Further, the outcomes from the Preventive and Corrective actions is measurable and can be monitored in real time.

The measure of efficiency would be equipment utilization which involve:

- Imaging protocol optimization for standardized time taken for Imaging
- Reduction of the "Change time" – time taken between two patients on a Radiology equipment.
- The net effect of both these will be improvement in the "Table Occupancy" which measures the throughput of patients on an equipment; leading to ability of handling more patients per day, and as a result, reduce the waiting time for the Patients.

Root Cause Analysis

With the availability of Siemens team play utilization matrix, the MOSH team had identified the following bottle necks in the MRI booking process:

- Slots for MRI were blocked in advance even without approval and was not able to accommodate the actual approved patients.
- Many patients were rescheduled at a short notice due to delays in approvals, queries etc. which opened up free slots which were not utilized.
- Patient with rejections were also blocking the slots.
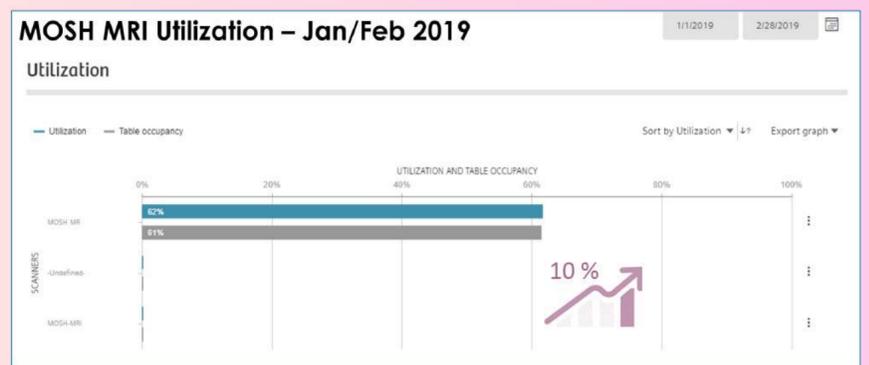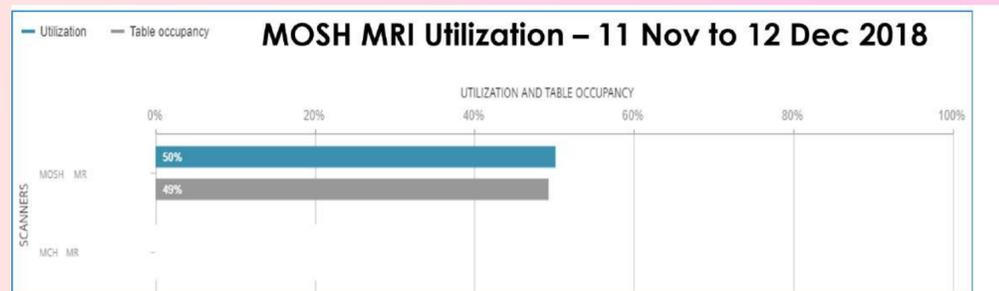- Waiting time for booking MRI slots increased.

Solutions

After studying the whole process following changes are made;

- MRI appointment slots opened for booking only insurance approved patients, cash patients and for patients who do not require approval.
- No shows were identified and called back, also enabled us to identify any missing request.
- Timely follow-up was performed regarding insurance approvals and dealing with all the queries on the daily basis.
- Daily checking and studying the utilization data from the Siemens teamplay were performed.

Results

The project resulted in a significant improvement in MRI utilization. According to the results 79% of the total request converted in to the procedures and improve the MRI utilization by proper monitoring and tracking the team play. The utilization of MRI is increase from 50% in Nov-Dec 2018 to 62% in Feb 2019. Table occupancy was improved from 49% to 61% in Feb 2019 accordingly. The number of patients increased from 600 in November 2018 to 710 in February 2019 which increased to 16.6%. The MRI utilization has sustained throughout April 2019 which shows 60%.

MOSH MRI Utilization – 11 Nov to 12 Dec 2018

MOSH MRI Utilization – Jan/Feb 2019

Closing Argument

Medcare Orthopaedics and Spine Hospital has used digitalization to deliver quality care. We are also proud to be one of the hospital in the Middle East region who has adopted such innovative next generation approach for enhancing patient satisfaction and improving hospital utilization. We are fortunate that Medcare hospital is considered to be one of the healthcare in the region to set the best practice for other healthcare providers regarding the quality assurance and quality improvement.

Media Coverage

How quick are UAE hospitals in adopting the latest innovations?

Siemens Teamplay

Medcare Orthopaedics and Spine Hospital uses digitalisation to deliver quality care. "The hospital is part of Siemens Teamplay, a departmental performance management solution that brings together global levels of expertise," says Andre Daoud, CEO of Medcare Hospitals and Medical Centres.

"Connecting medical institutions and their imaging devices, cloud-based Teamplay applications aim to create the biggest global radiology team with tailored tools to take on big data and the challenges surrounding increasing cost pressure. Teamplay helps to identify improvement potential on all levels, bringing together healthcare professionals to advance medicine and human health as a team effort."