



Optimizing the imaging department workflow to prepare for growth

Who/where

Rochester General Hospital, Rochester, New York.

Challenge

Rochester General Hospital asked Philips to conduct an assessment focused on the Invasive Imaging areas of their Radiology Department to optimize operations in support of services expansion and volume growth.

Solution

Philips Healthcare Transformation Services led a consulting engagement which included in-depth data collection and analysis, onsite observations and staff interviews, followed by root cause analysis, market trends, impact of technology, and prioritized change recommendations.

Rochester General Hospital (RGH), as part of Rochester Regional Health, is the leading provider of comprehensive care for Western New York and the Finger Lakes region. With strong Invasive Imaging and Neuroradiology programs in place, RGH planned to expand their services by growing outpatient Invasive Imaging volume and adding an additional Neuro biplane room. They wanted to continue their high quality of care while streamlining workflow, improving patient, staff and physician satisfaction, and leveraging market growth while preparing for this expansion effort.

RGH worked with Philips to achieve a baseline understanding of current operations in order to assess and better design the future workflow with a focus on enhancing patient/staff experience and efficiency, so overall operations could be improved.

Results*

The consulting team provided an objective evaluation and detailed workflow assessment of the Invasive Imaging areas including: Interventional Radiology, Computed Tomography, Ultrasound, and pre/post patient care areas. Recommendations addressed pre-procedure practices,

staffing and resource utilization, governance, policies and procedures, and roles and responsibilities. Rochester General Hospital has begun to implement some of the project recommendations and position itself for future expansion.

The challenge

The Invasive Imaging department at RGH had been experiencing growing volume, which required identifying opportunities for improvement to meet the increasing demand. In addition, a planned Neurointerventional service line expansion called for a comprehensive evaluation of capacity and staffing resources.

Imaging assessment methodology



Assessment

An experienced team of Philips consultants engaged with staff and leadership to determine the current state of operations. Guided by a three-pronged assessment methodology, the team focused on patient and process flow, resource utilization, service, quality and satisfaction, and the Imaging services teams.

Multiple data sources were analyzed to assess current state performance, understand the flow of patients, define the current baseline for analysis, and to support the creation of recommendations. Data sources included procedure reports, staff interviews, scheduled durations, market data, onsite observations and industry best practices. Business rules were built into the process to cleanse the data and adjust for outliers.

The thorough assessment focused on these areas:

Throughput

- Patient scheduling and arrival practices
- Inpatient versus outpatient process flows
- Patient readiness
- Capacity and utilization
- Milestones in the patient experience, i.e. scheduled time to exam begin time
- Scheduled vs actual procedure times according to available data

Structure

- Team roles, coverage and consistency in practice
- Quality metrics and adherence to practice standards
- Understand forecasted service demands
- Alignment of staff coverage with Imaging service demands
- Use of ancillary personnel
- Assessment of storage spaces in and around labs

Culture

- Collaboration and teamwork
- Sense of urgency for throughput
- Willingness and support for transformational change

“Philips provided a comprehensive performance improvement assessment and roadmap that has enabled Rochester General to implement best practices.”

Amy Craib, Vice President of Operations,
Rochester Regional Health

Highlights of current-state challenges

Philips consultants observed live operations and relevant processes to fully understand the current state, compare processes against best practices, and identify root causes for inefficiencies. Upon analysis of all data sources, several areas of concern came to the fore. Interviews and observational findings indicate RGH staff were aware of many of these issues.

Of the first cases of the day, from January, 2017 to September, 2018, only 23% began within 10 minutes of the scheduled room open time. Such variation in practice creates delays in first case starts, causing a bull whip effect that has a downstream impact on throughput and the remaining schedule throughout the day. Several influencing factors included inadequate pre-procedural patient prep, a late physician/resident daily meeting, and an inefficient nurse staffing model. Opportunity to improve first case on-time starts and documentation will positively impact the patient flow and add capacity.

Recommendations

Nursing

- Assign nurses to a specific area for the day (pre, intra, or post-procedure) for maximum efficiency, rather than prep and follow patient.
- Streamline existing FTE usage by tasking the nurse manager to set minimal staffing standards, schedule hours, and reinforce attendance policy.

Invasive Imaging

- Move current physician/resident morning huddle to 7:00 AM to help achieve on-time first case start time.
- Optimize pre-procedural protocol practice (labs, H&P EKG, etc.), so patients arrive better prepared.

Neuroradiology

- Establish an operational steering committee to define and uphold standards to guide room rules/ utilization, staffing, competency, KPI reviews and strategy.
- Assess general diagnostic personnel for IR/Neuro cross training to help meet the additional 3.8–4.5 FTE requirement for second bi-plane room.

A new room was installed that resulted in the pre-procedure/recovery patient bays being too small and too few to accommodate the current and proposed patient volume. Better use of underutilized, adjacent space can add critical capacity.

Staffing issues included an inefficient ‘focused care’ nursing model, a high instance of call-in absenteeism, and lack of definition in roles and responsibilities. Revision and reinforcement of existing policies will help RGH better manage current volume/proposed growth with existing FTEs.

Opportunities for improvement

For Rochester General Hospital to achieve sustainable results and position themselves for future growth, Philips consultants developed a set of recommendations based on analysis, experience and best practices. These recommendations focused on enhancing patient/ staff experience and efficiency through a more seamless operational workflow.

Computed Tomography and Ultrasound

- Assign an additional provider (PA or resident) to CT procedures to help optimize efficiency.
- Validate US procedural protocols with all resources/ providers to assure knowledge of scheduled procedures and mitigate late pages for pathology oversight.

Leadership

- Mentor nursing manager to instill a clear understanding of procedural and imaging best practices.
- Establish one point of contact to drive the daily schedule with authority to hold all modalities accountable. This will help assure successful schedule completion.

Arrival/Reception

- Centralize hospital registration/scheduling, so Imaging Department registration space can be repurposed to help alleviate prep bay congestion.
- Notify patients 48 to 72 hours prior to procedure to promote proper arrival time and assist with completion of pre-procedure criteria, to reduce start time delays.



Results*

As a result of the Philips consulting engagement, Rochester General Hospital is focusing on the following initiatives:

- **Interdepartmental Governance Committee:**

A committee has been established to oversee room utilization rules, staffing needs, competencies, program strategy, KPI's, and a scheduling matrix.

- **KPI Tracking:**

KPIs have been identified to include: on-time starts, OP volume, labs available pre-procedure, room turnover times and high volume procedural times.

- **Room Turnaround Time:**

A standard of work with room turnaround metrics have been defined.

- **Pre-Procedure Workflow:**

Pre-procedural patient calls have been shifted from 24 hours prior to 48 hours prior. This change is dependent upon creating exam "order sets" in Radiant which allows team members to know what type of labs are needed for any given procedure.

- **On-Time Starts:**

A dashboard has been created that captures the time the patient and Radiologist enters the room to determine if goals are being met. It has provided a better understanding of the barriers and enables greater consistency with first case on-time starts.

Learn more

Through collaborative and people-focused engagements, Philips Healthcare Transformation Services can help develop innovative solutions to solve your most complex challenges of care delivery. We can help you achieve meaningful and sustainable improvements in clinical excellence, operational efficiency, care delivery, and financial performance to improve value to your patients.

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