Improving Operational Efficiency Using Artificial Intelligence In Outpatient Radiology

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Disclosures: None

- Rajendra Kedar, MD, FACR - None
- Kiran Sailagundla, M.D – None
- Douglas Ivancsits, M.D - None
Background

- Lowering reimbursements rates & increase in wages has created a margin pressure in diagnostic imaging.
- COVID-19 pandemic has accelerated digitization in all industries.
- Healthcare is far behind in technology adoption compared to other industries.
Purpose

**Increase** Appointment slot utilization

- Third of appointments slots for MRI, CT, Mammogram and Ultrasound goes unused every day due to:
  - No Shows
  - Last minute Cancellations and Reschedules
  - Auth issues and abandoned exams

**Decrease** Prior Authorization department workload

- Manual workflows for prior authorizations contribute to administrative expenditure and delays in patient care
  - Manual work cause errors that result in denials
  - Employee turnover result in retraining expense
Solution: Automated Rescheduling

Deep Artificial Neural Network
Predicts schedule gaps within the next 48 hours
For a given resource in an imaging center

Automated call outreach with conversational AI
that “Nudges” the appointment to an earlier slot that would have gone unused
Results

7% increase

In completed exam volumes
for MRI, CT, MG

$1.62 Million

In increased gross profit
$2.32 Million in additional revenue

71% decrease

In patient wait time
for all nudged exams

Before

After

Exams per week

Nudged

Base

Labor Day

Thanksgiving

Christmas

New Years
Solution: Automated Prior Authorization

- Relevant patient exam information handed off to Automation Engine using RPA
- Appropriate workflow gets executed by automation engine
- Resulting prior authorization details are returned to RPA for ingestion in the RIS

- RPA bot executes workflow on payor portal to:
  - Submit request for prior authorization
  - Retrieving prior authorization status

- Automated transmission of fax request for clinicals
- Automated receiving of fax
  - Automated document classification
Results

- **50%** of workload fully automated
- **62%** reduction in backlog of visits to be processed for prior authorization
- **3%** increase in exam volume from faster prior authorizations

1,719 Visits processed by human resources

880 Visits processed by human resources

3,749 Visits in queue

1,443 Visits in queue
Conclusion

- **Artificial Intelligence can transform administrative operations**
  Not just to read scans

- **Advancements in AI has now made possible to automated the manual workflows**
  While maximizing efficiency in outpatient imaging centers

- **Everybody wins**
  - Shorter wait times for patients & faster turnaround times
  - Maximizing utilization of most critical resources & increase volumes
  - Reducing cost of administrative burden
Let's make

Just in time care

a reality

thank you