



**CENTRALIZED RADIOLOGY SCHEDULING: HOW IMPROVING ITS  
EFFICIENCY CAN IMPROVE PATIENT ACCESS TO IMAGING AND  
SATISFACTION: A CLOSE EXAMINATION OF KEY PROCESS STEPS  
AND PROCESS METRICS**

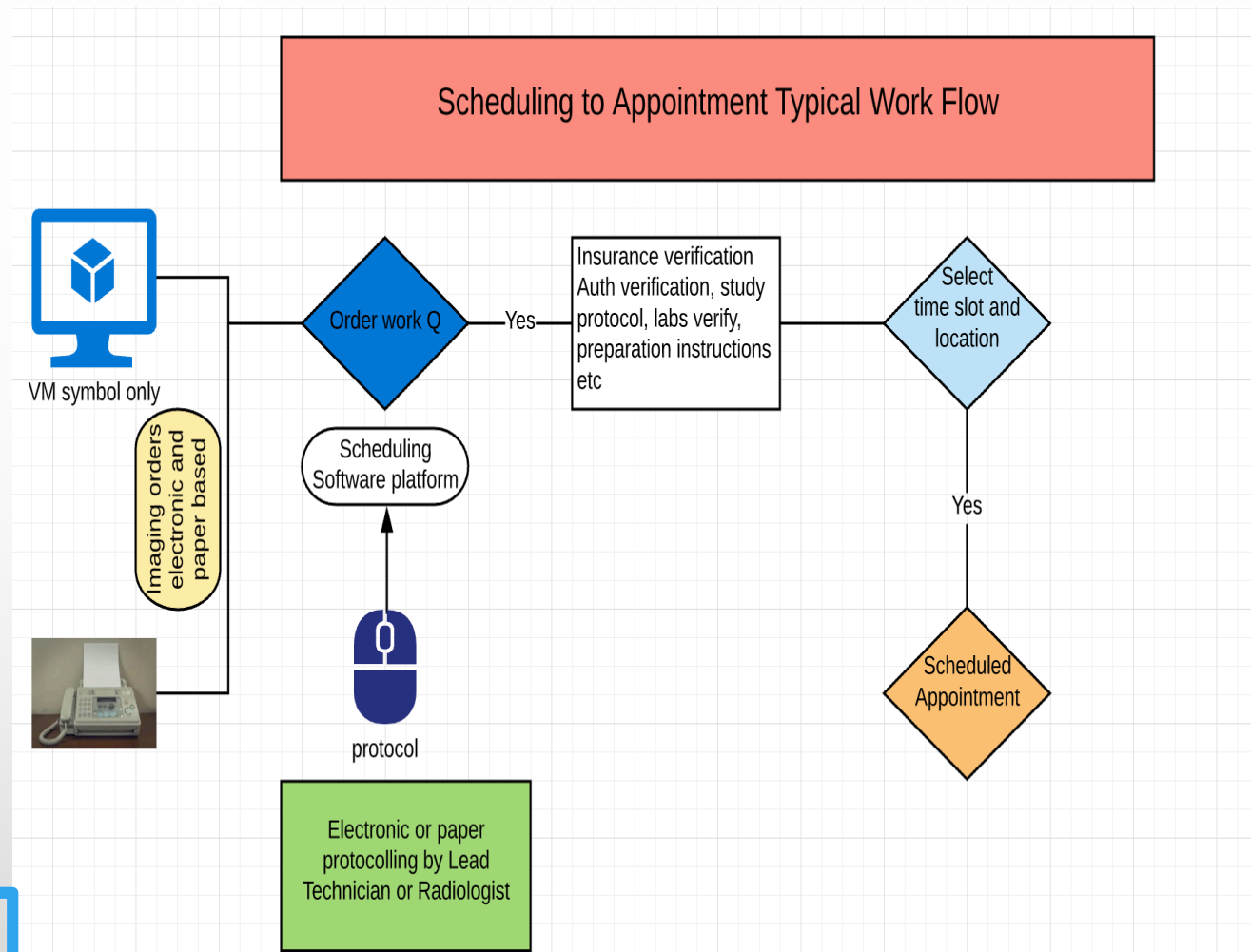
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# OUTLINE:

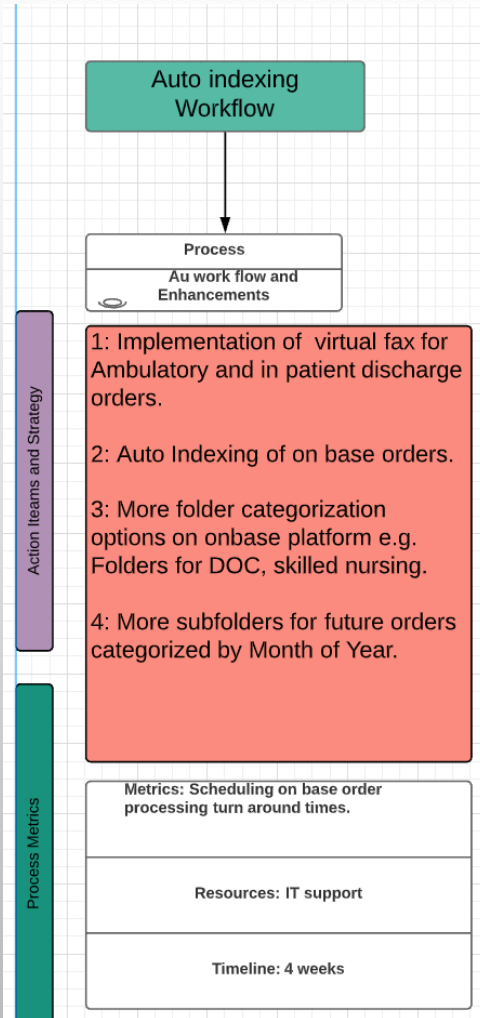
- Describe workflows in scheduling departments of high volume Academic Centers.
- Discuss the processes and bottlenecks in such workflows.
- Highlight process metrics to track scheduling department performance.
- Propose new integrated scheduling models using lean methodology to improve Imaging Access.

- Every process step has lot of variability.
- Call centers induce additional process step.
- Order errors or changes add to delays.
- Modality capacity and availability is critical for scheduling room built.



Flow Diagram: order to scheduled appointment

# PROCESS IMPROVEMENT FOR NON ELECTRONIC ORDERS



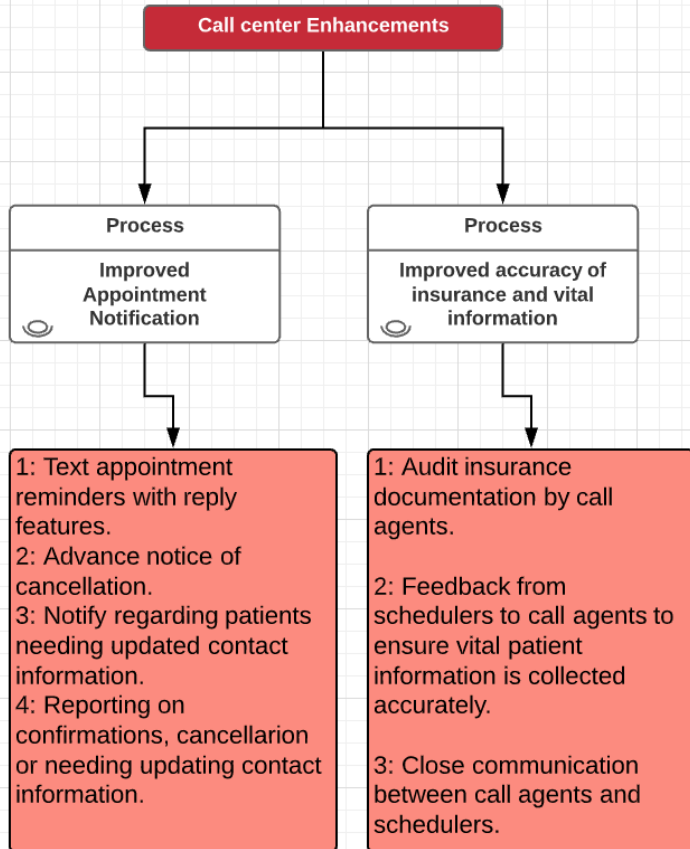
Metrics to measure performance.

Metric	Importance
Indexing Turn around Time	Time taken to index out of network fax based orders.
Manual Indexing error rate	Total number manual indexing errors ex: wrong DOB

## Solution Pathways:

- Effort should be made to upgrade to electronic auto indexing/document management pathway, this will not only decrease TAT from order to scheduled appointment but save costs.

# PROCESS IMPROVEMENT: CALL CENTER

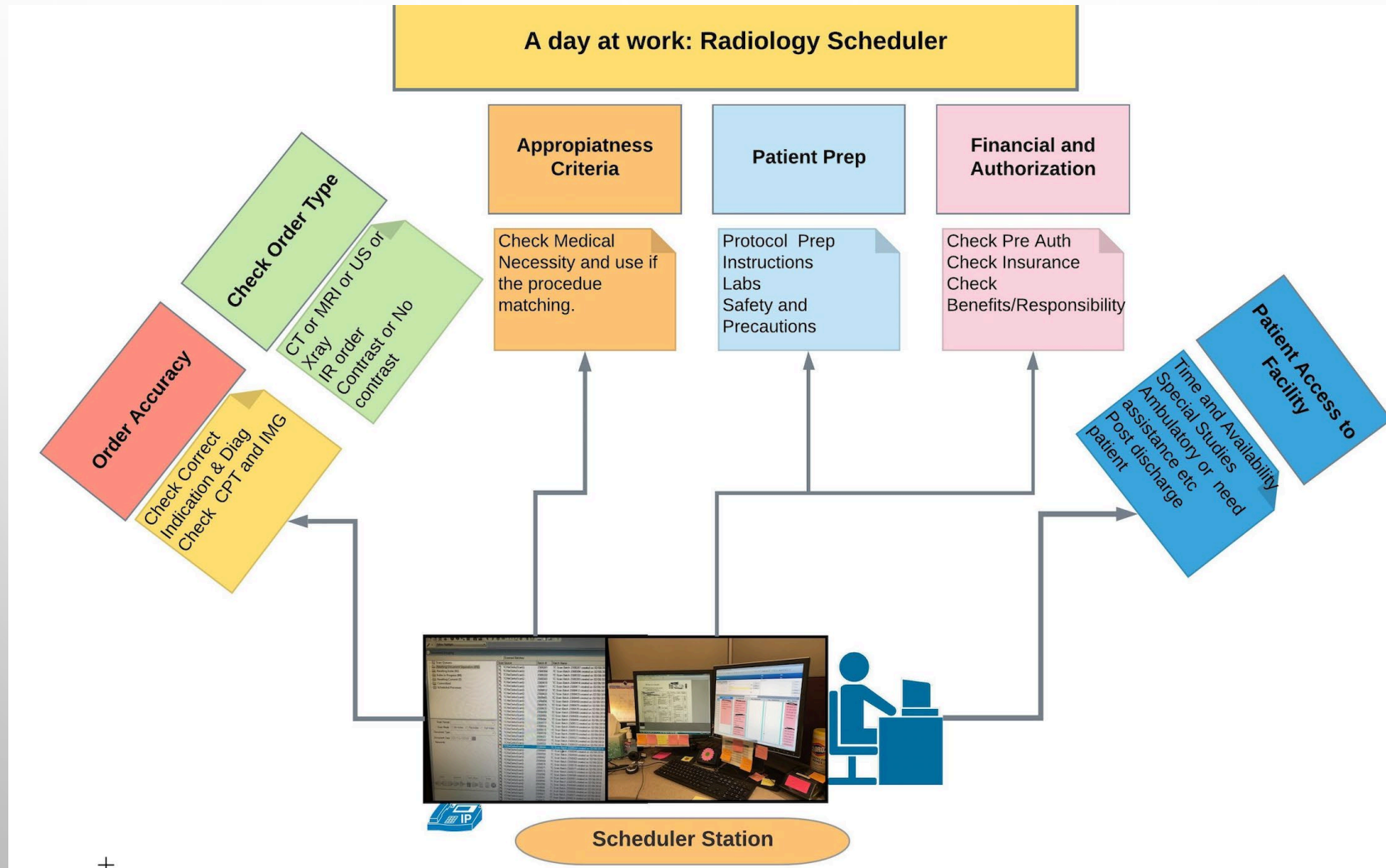


Metric	Importance
% Accepted call volume	High acceptance rate will result in more call capture.
Call wait times	Time to make contact with call agent.
Call processing times	Time to process call aka "talk time".
Abandonment call rate	Number of calls dropped.

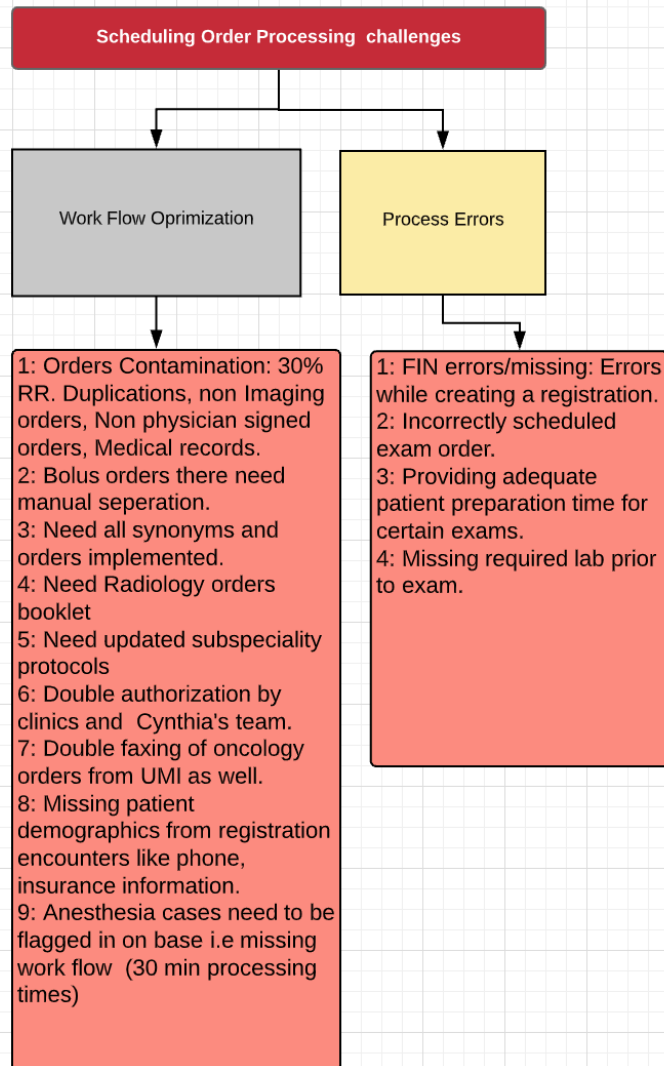
Week of	Total Calls Accepted	Total Calls Answered	% of Calls Answered	Total Calls Abandoned	% of Calls Abandoned	# Calls Answered w/in 30 Seconds	# Calls Answered w/in 60 Seconds	% of Calls Answered w/in 30 Seconds	% of Calls Answered w/in 60 Seconds
October 6, 2019	2,041	2,007	98.33%	34	1.67%	1,701	1,874	84.75%	96.76%

Sample:

# A DAY IN TO THE LIFE OF A RADIOLOGY SCHEDULER



# PROCESS IMPROVEMENT: SCHEDULER WORK FLOW



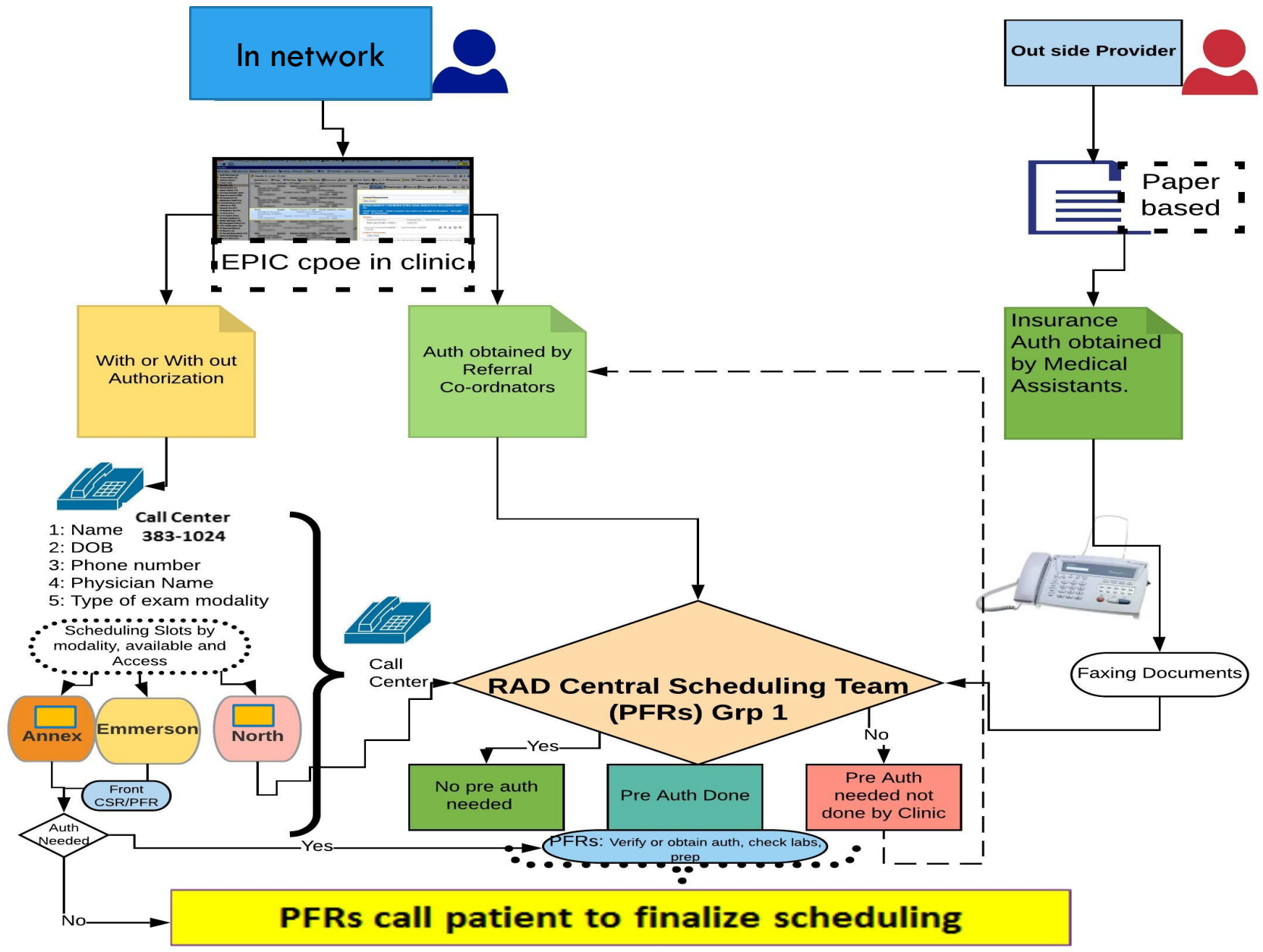
Metric	Importance
Average time to confirm a scheduled appointment (Scheduling TAT).	Time to process an order to confirmation.
Average scheduling errors/month	Errors related wrong location, protocol etc.
Scheduling back log volumes by work Q	Indicator of scheduling efficiency

- Develop service standards for work flow (e.g., to be scheduled, insurance verification, waiting for information)
- Established workflow standards for patient and provider communication.
- Avoid multiple work queues without ownership.



# Current Scheduling Work Flow Process Map

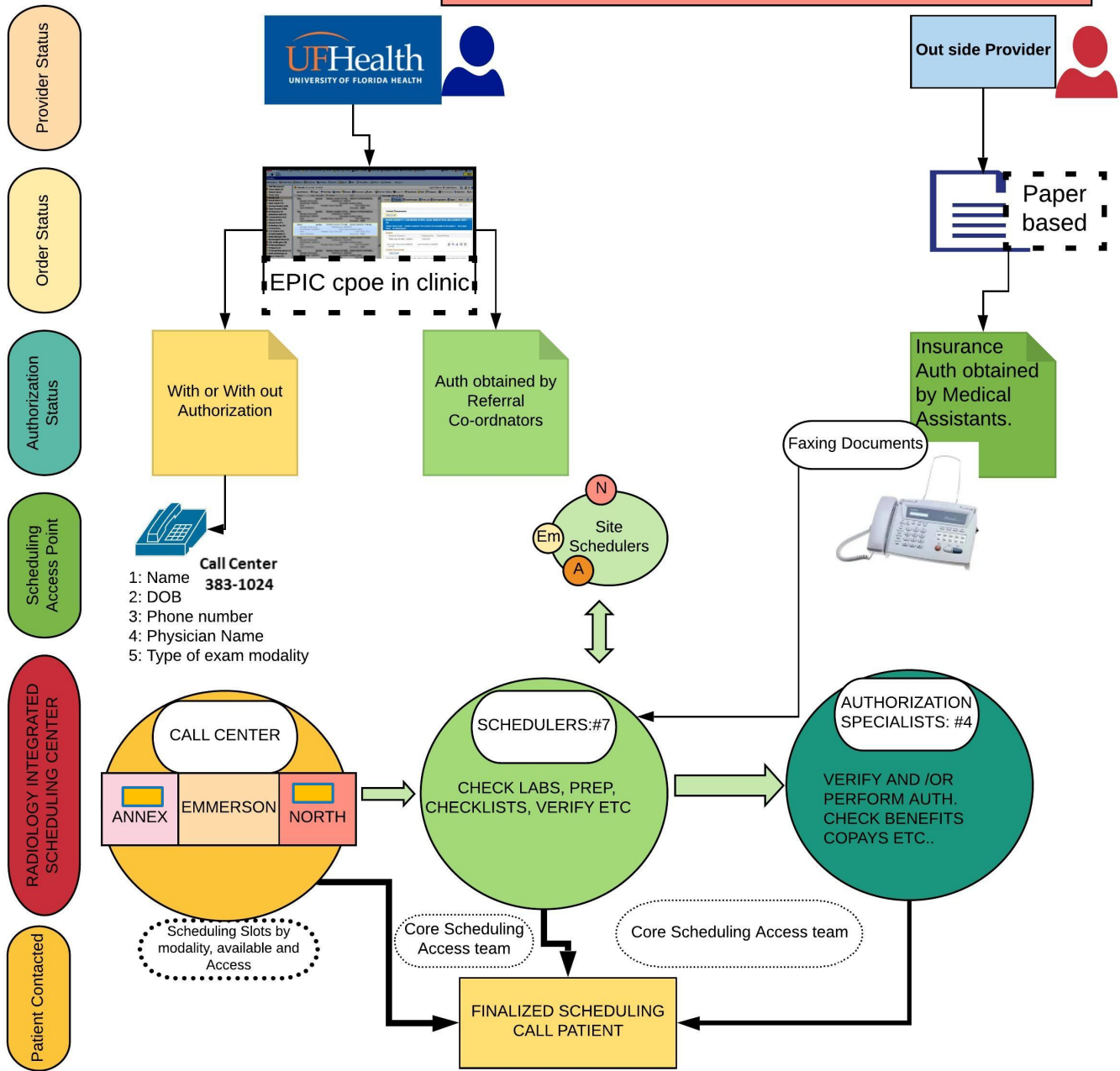
- Provider Status
- Order Status
- Authorization Status
- Scheduling Access Point
- Central Scheduling process and Call center Process
- Patient Contacted



## Key Bottle Necks & opportunities

- 1: Fragmented Scheduling system and lacks integration in Rad
- 2: No well defined routing procedue for call center scheduled procedures.
- 3: Difficlut to measure process metrics like Call processing times, TAT, Abandonment rates etc
- 4: Need a Robust process to capture leakage and reduce no show rates.
- 5: Failure of communication channels among ( Auth, Caller center and Schedulers)

# New Integrated Strategy :Scheduling Work Flow Process Map



## Strategy

- 1: Integrated & streamlined in house Scheduling system.
- 2: Restructured Core scheduling access team: Modelling assembly line process engineering.
- 3: Analytics and process metrics like Call processing times, TAT, Abandonment rates etc can be measured.
- 4: Captures leakage and reduce no show rates as accountability is shared by schedulers.
- 5: Improved reporting and responsibility/accountability of teams therefore reduces attrition of staff. Facilitates tracking productivity.

Provider Status

Order Status

Authorization Status

Scheduling Access Point

RADIOLOGY INTEGRATED SCHEDULING CENTER

Patient Contacted

- Call Center 383-1024**
- 1: Name
  - 2: DOB
  - 3: Phone number
  - 4: Physician Name
  - 5: Type of exam modality

Scheduling Slots by modality, available and Access



# CASE EXAMPLE OF BUILDING MRI MODALITY CAPACITY

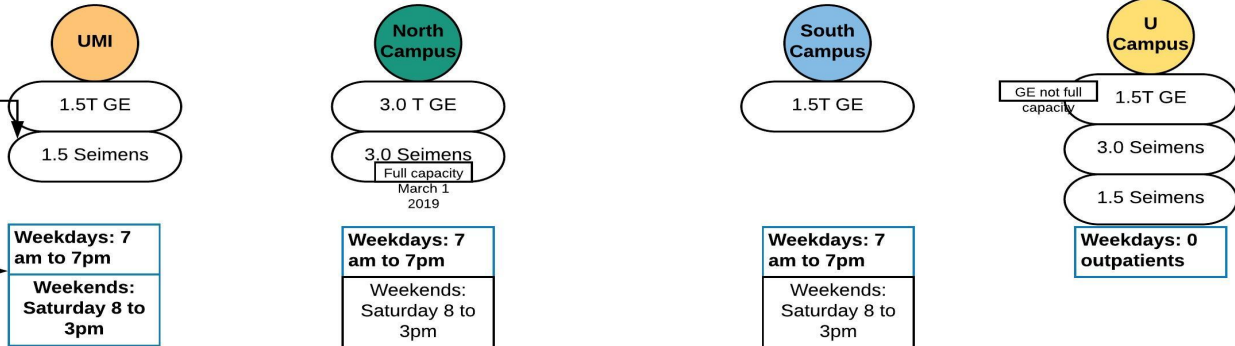
**Goals and Objectives:**  
 1: Divert out patient MRI exams from inpatient scanners.  
 2: Understand the current capacity in out patient MRI scanners.  
 3: Understand current Scan times for top 5 MRI studies.  
 4: Scheduling slot built to 30 min slots across the out patient MRI fleet.

**Operational Out patient MRI Capacity Strategic Mapping:**

**Key Assumptions for Analysis:**  
 1: Studies that take top 80% of current out patient volume will be studied.  
 2: New 3T at New north up and running from March 1st  
 3: Anesthesia, Sedation, Pacer maker and Cardiac would still be done at Main campus

**MRI Scanner Fleet by locations**

**Future Hours of Operations**

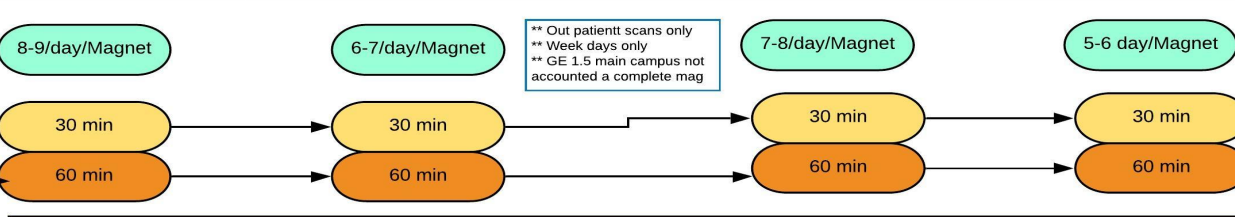


**MRI Scan times by Location for Top 5 studies (80% of volume)**

Type of MRI Study	UMI	North Campus	South Campus	U Campus
MRI Brain w and w/o	40 min	54 min	51 min	63 min
MRI L Spine w/o	30 min	30 min	25 min	56 min
MRI Abdomen Pelvis	45 min	50 min	50 min	66 min
MRI Abdomen w/o	28 min	28 min	28 min	31 min
MRI Upper ext w/o	42 min	65 min	30 min	60 min
MRI Lower ext w/o	30 min	50 min	30 min	54 min

**Average current Studies per day/magnet**

**MRI out patient Scheduling slots for future**



**MRI studies on 30 min**

Examples:  
 MRI Brain w/o contrast (except Seizure, dementia, DBS)  
 MRI L spine w/o  
 MRI C spine w/o  
 MRI Knee w/o, MRI Shoulder w/o  
 MRI Abdomen w/o

**MRI studies on 60 min**

Examples:  
 MRI Brain w/o contrast (Seizure, dementia, DBS), MRI Brain with and w/o  
 MRI ( any body part) with and with out  
 MRI Abdomen pelvis with and with out  
 MRI prostate  
 MRI Long bones, small joints

**Key Action Items**

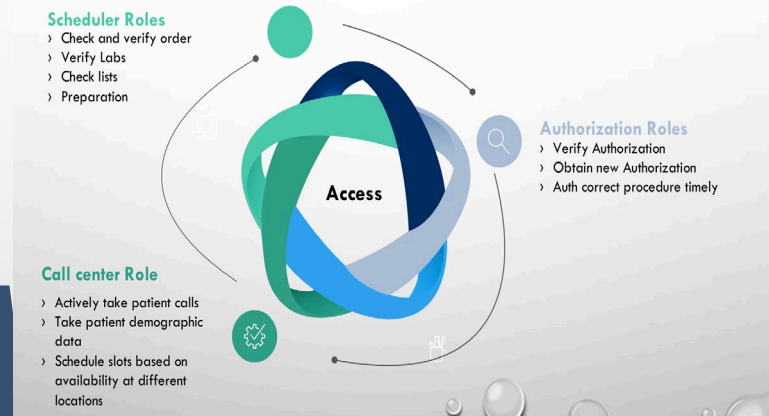
- 1: Build Scheduling blocks of 30 min and 60 min for all out patients.
- 2: Scan times and protocol standardized on all GE and Seimens scanners.
- 3: Optimize Tech and Tech aid for each scanner.
- 4: MRI patient screening preparation done a day before with nursing support.
- 5: Weekday and weekend extension of MRI hours of operations.

# SUMMARY

## 01. Patient Centered Integrated Radiology Scheduling

- Radiology scheduling is complex and need efficient collaborative scheduling teams to improve access.

### CORE SCHEDULING ACCESS TEAM FRAMEWORK: INTEGRATION AS ONE POD



## 02. Integrated POD of Call center, scheduler and Authorization experts.

- Well defined assembly line framework to facilitate communication and accountability.

## 03. IT scheduling infrastructure

- IT workflow enhancements
- Document management system.
- Advanced analytics tools.

## 04. Analytics

- Access metrics can be measured accurately.
- Scheduling process & productivity metrics tracked.