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C.A.R.E. System - Imaging Services Medical Processing Automation Example

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Abstract

Inefficient processes are among the top contributors to lost revenue for most hospitals. Healthcare providers are seeking ways to leverage their existing multi-million dollar investments in image technology by avoiding equipment downtime and therefore missed revenue. Investments, initially made to remain competitive in a tight marketplace, have resulted in scheduling challenges, difficulties maximizing a good rate of return on investment and inefficient document workflow.

Healthcare providers understand that inefficient processes compromise the quality of service, impact provider relationships and can effect patient satisfaction. Healthcare providers are choosing to challenge redundant, inefficient, paper-driven processes that drive excessive healthcare administration cost opting for faster, easier and more accurate ways to streamline processes, capture lost revenue and remain in compliance with HIPAA regulations.

Imaging Services is one of the largest revenue centers in most hospitals. The capital investment is significant. Skilled technicians are expensive and hard to find. A solution that maximizes the return on investment is vital. When this solution pays for itself in just a few months, and begins increasing profit, it can be considered mission-critical.

Overview

In order to maximize imaging service revenues, Rockview Hospital has agreed to provide specialized services to several local clinics and small hospitals. These clinics and hospitals have contracted for over 100 specialized tests, grouped into six major modalities including U/S, CT Scans, MRI, Mamography, Nuclear Medicine and Specialty procedures. The largest referring modality is Nuclear Medicine with over 30 clinics that schedule orders through a web based application and then fax the signed orders to Rockview Hospital.

Overall, the clinics order between 1,000 and 2,000 tests per month. Staffing includes four FTEs responsible for scheduling procedures, with plans to add an additional FTE to handle the added patient load. Maintaining optimum scheduling for equipment such as CT Scan, Bone Densitometer, Ultrasound and RAD X-Ray Systems in a challenge. When fully utilized these modalities generate average revenues of $867 per procedure.

Each day approximately 50 orders are scheduled through the web-based application with no corresponding faxed signed order. The loophole forces the scheduler at Rockview Hospital to compensate the downtime and customer dissatisfaction by scheduling fewer patients each day. This has become a comfortable practice for the hospital, but ultimately means a loss in revenue to the hospital.

Current Solution

The process begins with an order for a specific test generated through their web-based application. Once generated, this order is then signed by the physician and faxed to Rockview Hospital. Upon receipt, the scheduler manually matches it with the order and forwards the paperwork to pre-registration, patient billing, radiology and admissions.

Currently, Rockview Hospital has several manual fax machines located in admitting. Each fax machine functions as part of a rotary hunt group where inbound faxes automatically “roll-over” to the next available machine. The hospital receives over 400 pages of fax per day including spam faxes. These fax pages are often reshuffled out of order and pages are sent to the wrong department.

The signed medical orders for are picked up from the fax machines, sorted by modality and distributed to the scheduling clerks several times an hour. The scheduling clerks sort the faxes into contiguous medical orders so that they can match with procedures scheduled via the web-based scheduling application. Too often pages are missing or illegible and the clerk must call the clinic to ask them to resend the paperwork. Many times medical orders, not for their modality, are shuffled in with their orders and need to be sent to the corresponding department.

Each day, the scheduling clerk reconciles the scheduling calendar and if no medical order can be found for a scheduled procedure, that procedure can not take place. Once that medical order is matched to a scheduled procedure admitting must be notified, a room must be reserved and technicians need to be scheduled.

Several times a day, patients arrive at Rockview Hospital for a procedure only to find that the procedure has not been confirmed by a signed medical order. The admissions department must track down that ordering physician or a member of their staff to request a new copy of the signed medical order. Although the appropriate equipment and technician many be available, the process of locating the appropriate medical order can delay the scheduled procedure. Therefore, the machine remains idle during prime working time and overtime is often incurred on account of these delays.

Desired Solution

In order to maximize the utilization of the equipment, Rockview Hospital must assure these machines are in use for as many hours as possible during a normal working day. The radiology department is currently capturing 67% of the available radiology referrals. When a procedure is scheduled and the corresponding signed medical order is transmitted to Rockview Hospital, the solution should ensure a high probability that the procedure will take place when scheduled without delay.

If Rockview Hospital can raise utilization to 72%, they expect to capture an additional $160,000 in Net income for the corresponding period. To capture this revenue, Rockview Hospital needs an accurate, repeatable process to ensure that every patient, clinic and modality that requests a test can take advantage of their services during normal business hours. The desired solution should automate previously manual processes and allow highly specialized and trained professionals to do their jobs and stop being document couriers. The ideal solution should increase the rate of delivery for documents critical to patient care.

For example, when a clinic accesses the web-based application to schedule a procedure, the program should generate a fax cover sheet pre-populated with their clinic identification. The remote clinic simply adds the patient identification, chooses the modality from a drop down menu and chooses a procedure from a second drop down menu.

The fax cover sheet would have a specific barcode printed on it according to the procedure being scheduled. The bar-coded cover sheet and the signed medical order are faxed to Rockview Hospital. There should be one cover sheet per procedure being scheduled. The clinic can then fax as many signed medical orders at one time as they would like. The cover sheets will act as separators. Ultimately, the solution should be compatible with current legacy systems requiring no new investment to tie the solution in place rather than purchasing new equipment.

Once the medical order is received, the medical order is routed to the appropriate modality. The scheduling clerk sees the medical order on a Windows-based client rendered as an image. Using a split-screen application, they can open the scheduling application to verify that a procedure has been scheduled. Once the procedure schedule has been verified, facilities and technicians can be scheduled.

After all of the steps have been completed in the scheduling process, it is released to be indexed by patient name, date and procedure and archived for future needs. If there is a question on the documentation required, the technician call pulls up the exact medical order by searching on one or more of the index values.

Inbound medical orders are queued electronically on a ‘first-in – first-out’ basis. Orders stay neatly in queue until accessed by a scheduling clerk. Orders are not lost, misrouted or out of sequence. If a clinic calls to verify scheduling before the medical order has been queued up for review, the scheduling clerk can access the order directly through a thin client interface to see all medical orders sitting in queue.

This application has the ability to log transaction times as medical orders make their way through the scheduling process. The Director of Imaging can view the data on the timeliness of order processing. They can even look at information on an individual-by-individual basis or medical order-by-medical order basis.

Image Services Solution

This workflow solution (Figure 1) was implemented with the **Metabolyst C.A.R.E. System**. Metabolyst's **C.A.R.E. System** requires a minimum of custom programming, yet solves this pervasive scheduling issue faced by hospitals and healthcare facilities.

Conclusion

Metabolyst streamlines the process of scheduling patients for imaging services and leverages existing multi-million dollar investments in technology. This solution prevents equipment downtime and captures lost revenue. Along with streamlining the process, it also provides valuable information required to measure and manage the ongoing workload. Metabolyst helps healthcare facilities remain competitive and obtain a quick rate of return on investment, usually within twelve months.

Figure 1 :Example of Imaging Services Workflow