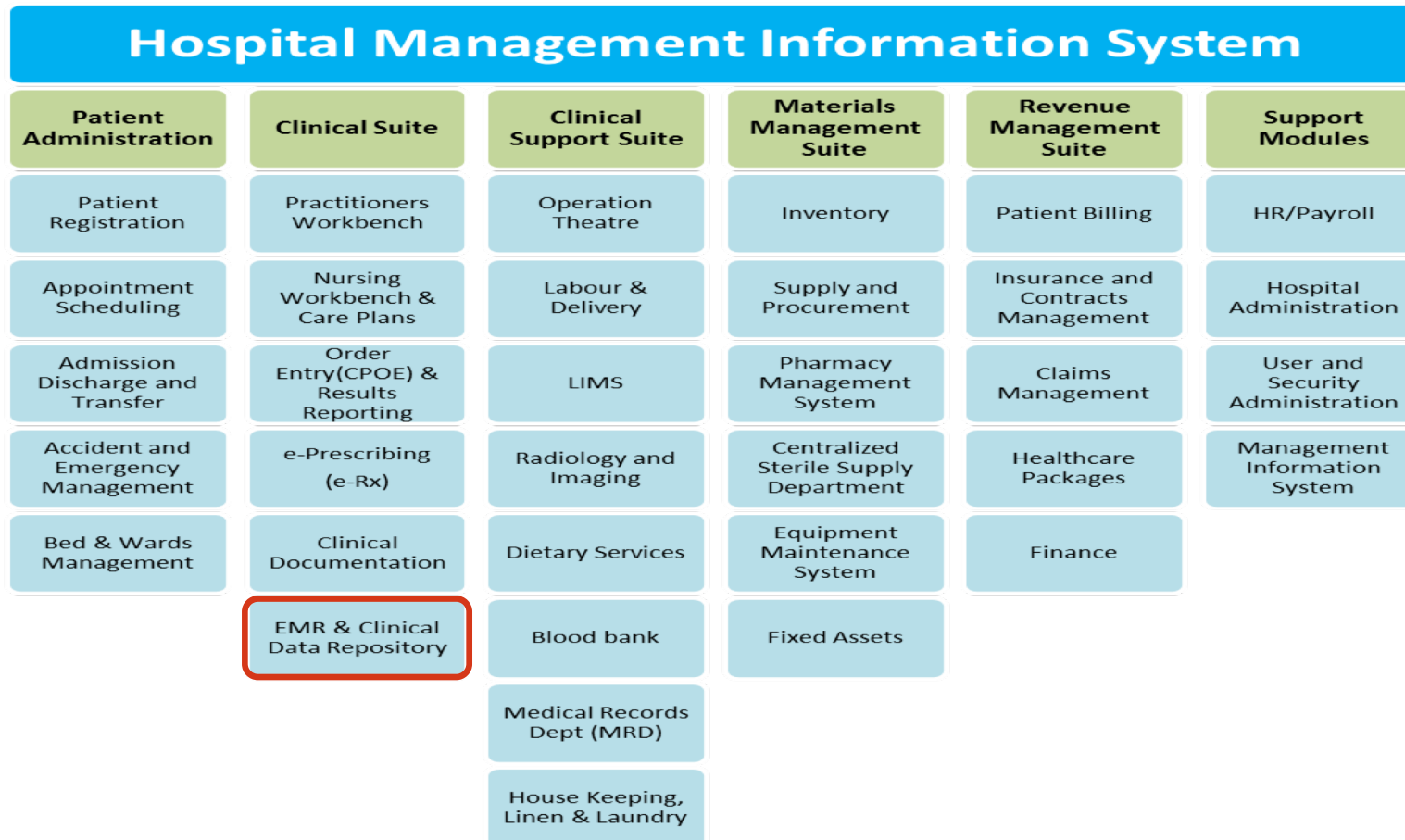


Healthcare Provider - EMR Use and Cases

10/29/2018

Hospital Information Management Systems

EMRs are one of many health information systems containing patient clinical information that is not integrated or interfaced with other clinical systems.



Why EMRs are Vital to Healthcare

The potential benefits of EMRs remain valid, but results to date have too often fallen short.

Current EMR Value

- Quick access to accurate, up-to-date, and complete patient information
- Securely share information electronically
- Providers diagnose patients more effectively
- Complete documentation and accurate, streamlined coding and billing
- Reduced costs for paperwork and duplication of testing

EMR Value Augmented with RPA

- Information from patient portals, wearables, lab results, and health apps integrated with EMR
- Data gathered from EHRs, warehouses, and other systems to gain insights for providers to a diagnosis and best practice for care
- Expedited insurance approvals and automatic determinations of patient eligibility. Relevant data pulled from a EHRs to provide evidence for care processes and potential costs
- Expedited patient registration, admissions and discharges, as missing information is found in other systems

EMR Value Augmented with AI

- EMRs will move from 'systems of records' to 'systems of engagement'
- A transition from EMR-centric improvement to strategic improvement
- EMRs will be leveraged to analyze their data to drive strategic decisions, improve patient care and control costs
- Data-driven approaches will provide organizations with the ability to diagnose and correct problems by measuring and evaluating performance across specific metrics

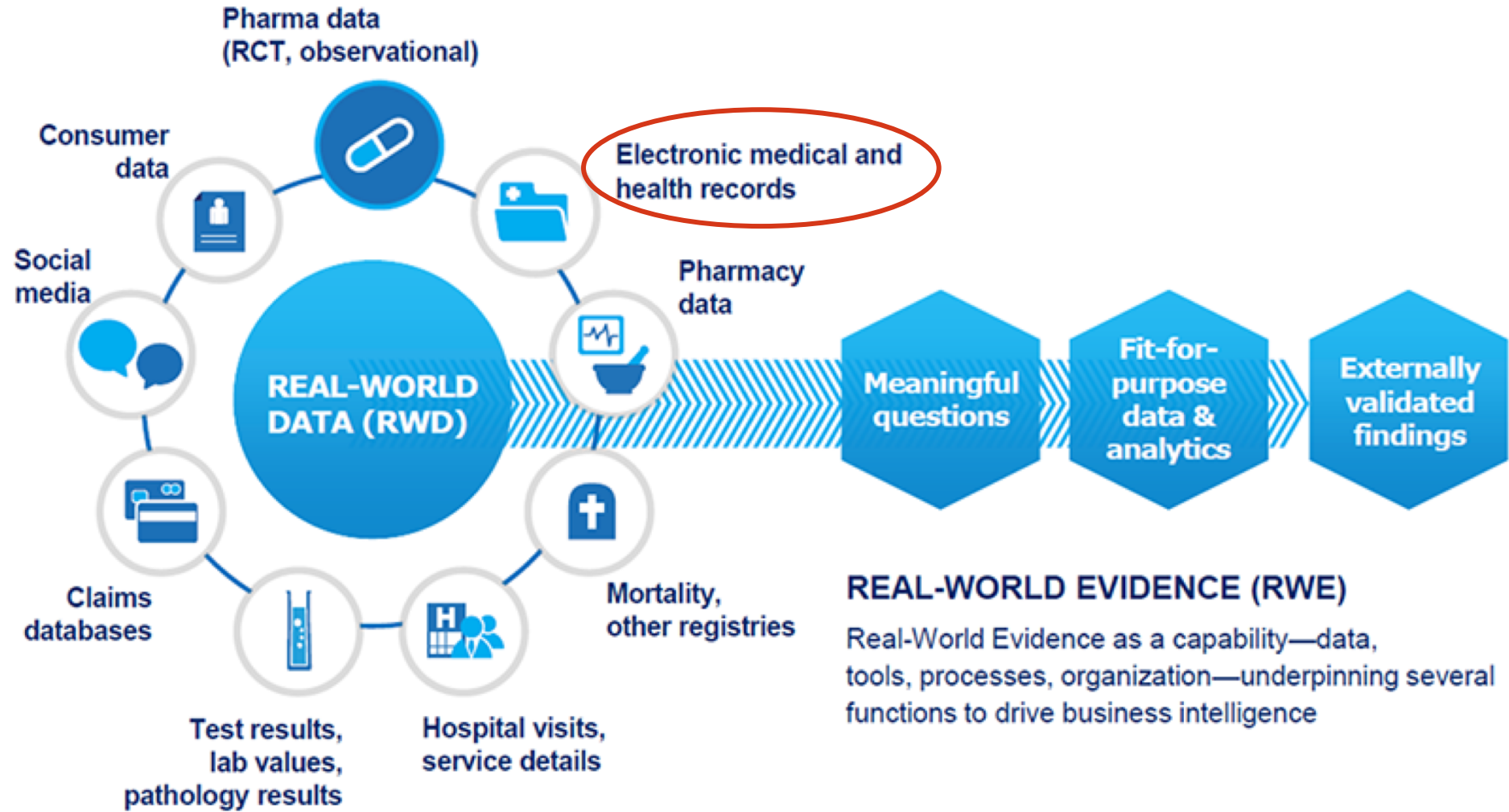
EMR Capabilities

Numerous EMRs exist across the landscape with the differentiators narrowing.

TOP 20 EMRs																				
	eClinicalWorks	McKesson	CureMD	PracticeFusion	Allscripts	Cerner	Greenway	iPatientCare	Epic	athenahealth	NextGen	e-MDs	NueMD	Kareo	Praxis	SOAPware	Amazing Charts	CareCloud	Meditab	ADP AdvanceMD
Appointment Mngmt	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Charting	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
E-Prescribing	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
E/M Coding	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Handwriting Recognition	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
HIPAA Compliant	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Meaningful Use Certified	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
NC-ATCB Certified	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Patient Portal	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Voice Recognition	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

For illustration purposes only

EMRs Only Are Not the Answer



Health Integration Standards for Healthcare





EMR Use Cases

- Insurance Refunds
- Finance Automation
- Backup, Planned Downtime and Disaster Mitigation
- Mass Data Upload
- System to System Data Migration / Conversions
- Reports Generation
- Third Party Reliance Elimination or Integration
- Coding – ER Nursing Assessments
- Quality Enhancements and Data Correction at Time of Entry
- Bad Debt Collections
- Online Payment Posting
- Third Party Lab Vendor Billing Integration
- Medicare Denial Tracking
- Automated Discharge of Inactive Patients



Process: Insurance Refunds

+ Customer(s): Hospitals, Clinics, Healthcare Facilities

THE CHALLENGE

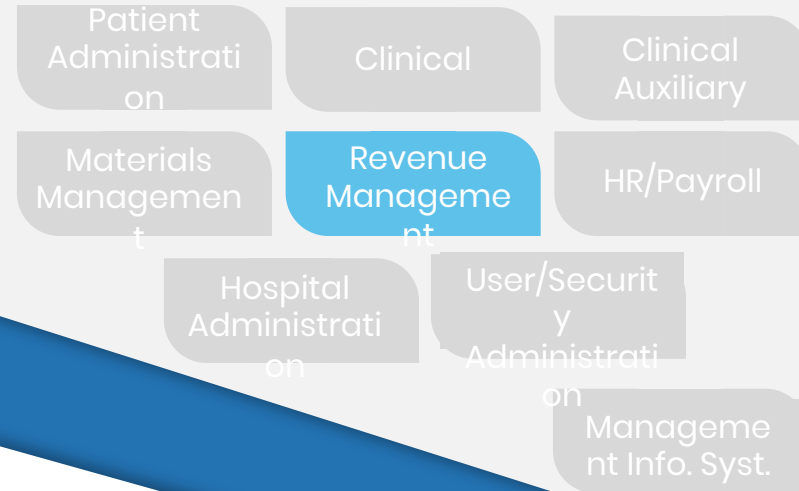
The inflow of insurance refunds needing to be processed was outpacing by the ability to process a refund. The challenge was to efficiently and effectively process insurance refunds without hiring additional staff.

THE SOLUTION

UiPath bots were implemented to automate the insurance refunds process.

One bot can process 15 times the number of refunds as one person per day and reduces processing time by 77%.

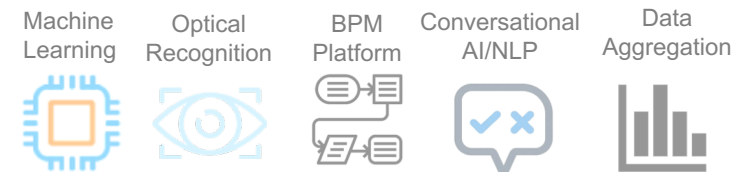
Healthcare Information Systems Area



THE BENEFITS

- Degree of robotization: 100%
- Manual effort reduction: 1 FTE
- Error rate: 0%
- Elimination of backlogged payments

Integrated Technologies



Process: Finance Automations

+ Customer(s): Hospitals, Clinics, Healthcare Facilities

THE CHALLENGE

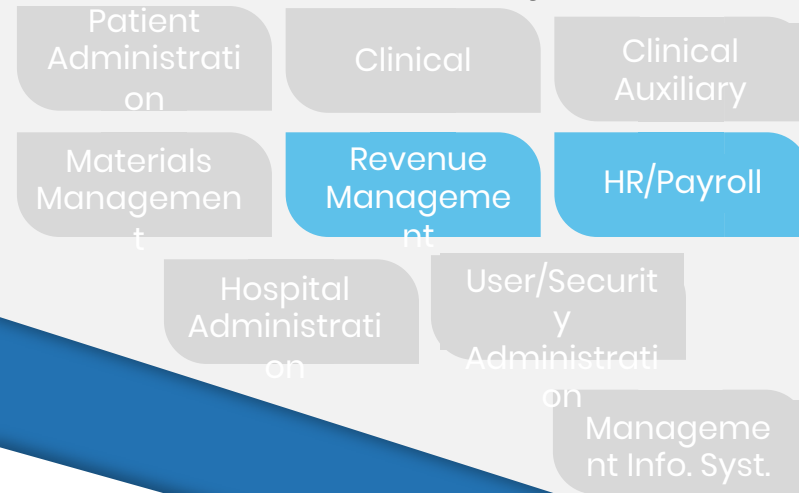
Improve cash flow, reduce days in A/R and bad debt write-offs and reducing dedicated manhours.

THE SOLUTION

RPA is used in a variety of healthcare settings and at points of service to enhance revenue cycle.

- Payment posting: banks send files on a daily basis of payments received. RPA runs through the file and posts the payments.
- Expense reimbursements: RPA automatically reads the email content, and posts the content into the required payment systems fields.
- Insurance over- and underpayments: RPA matches the insurance company's contracted amount to the actual amount received and will prompt a user to take action.
- Bad debt reduction: RPA used to identify and send accounts that show no payment within 45 days to the bad debt category for immediate processing and transfer to a third party.

Healthcare Information Systems Area



THE BENEFITS

- Degree of robotization: 100%
- Manual effort reduction: 80% - 90%
- Error rate: 0%
- Decreased days in A/R
- Improved Collection Percentage
- Enhanced Cash Flow

Integrated Technologies

Machine Learning



Optical Recognition



BPM Platform



Conversational AI/NLP



Data Aggregation





Process: Backup, Planned Downtime and Disaster Mitigation

⊕ Customer(s): Hospitals, Clinics, Healthcare Facilities

THE CHALLENGE

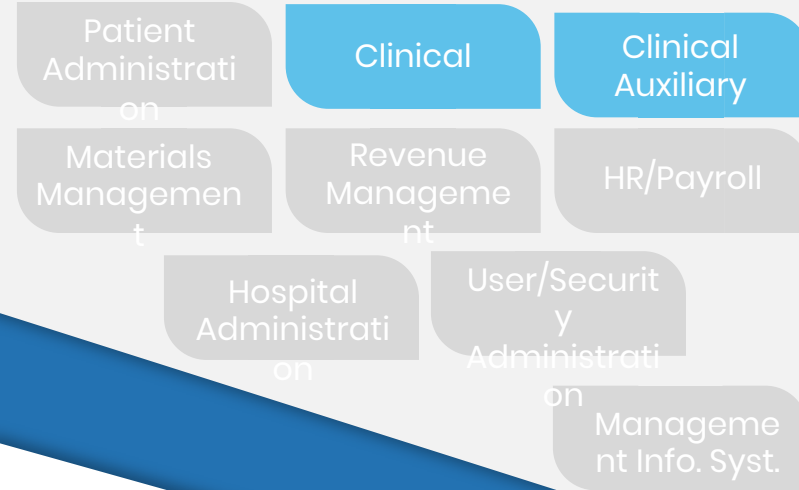
Making available current patient medical information to providers during times of hardware or software issues or natural disasters in a timely manner.

THE SOLUTION

RPA is used in the event systems are being maintained and as a precaution for unforeseen circumstances.

- Planned or unplanned downtime: The RPA workflow gathers and delivers critical patient data hourly to a dedicated hard drive. The reports be accessed in case of a system failure.
- Disaster Recovery: Critical patient data downloaded every 15 minutes. IT can make reports available during power outages, etc.

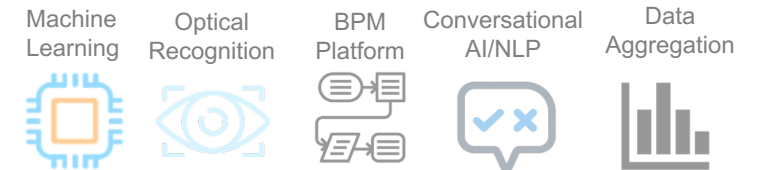
Healthcare Information Systems Area



THE BENEFITS

- Access to current critical data during adverse events
- Ability to recreate patient charts
- Increased Provider satisfaction with EMR
- Degree of robotization: 100%
- Manual effort reduction: 80% - 90%
- Error rate: 0%

Integrated Technologies



Process: Mass Data Upload

+ Customer(s): Hospitals, Clinics, Healthcare Facilities

THE CHALLENGE

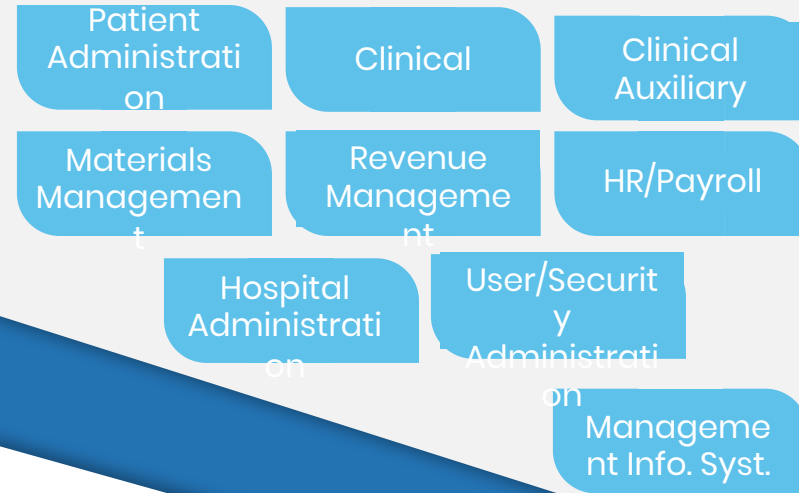
Eliminate errors, significantly reduce dedicated manhours, and speed up the process for manually keying in data for thousands of entries or more.

THE SOLUTION

RPA was used to perform the following mass data upload tasks and was able to produce considerable ROI for the customers.

- Annual tasks for updating charge description masters, employee raises,
- Data dictionary standardization and rebuilding (lab, human resources, materials management systems, etc.)
- Patient Access Standardization (visit names and lengths, procedure names and lengths)
- Importing mass data into systems, i.e., importing contracts, physician NPIs, etc.

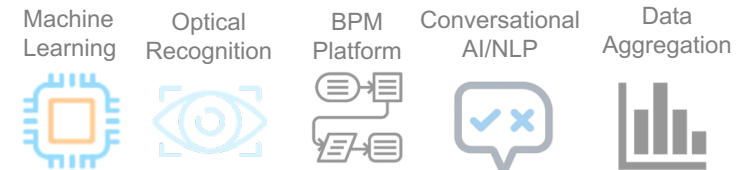
Healthcare Information Systems Area



THE BENEFITS

- Degree of robotization: 100%
- Manual effort reduction: 80% - 90%
- Error rate: 0%
- Process Standardization
- Faster processing time
- Overtime or temporary staff avoided

Integrated Technologies



Process: System to System Data Migration / Conversions

+ Customer(s): Hospitals, Clinics, Healthcare Facilities

THE CHALLENGE

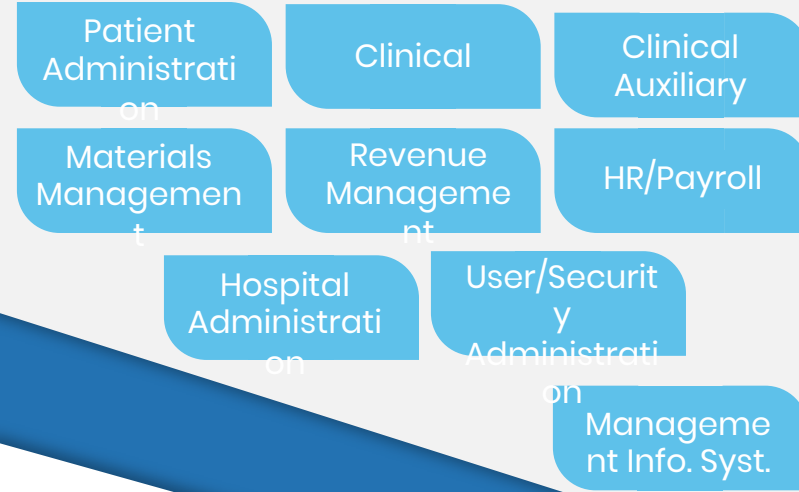
Eliminate errors and need for manual data re-entry between systems, expedite the transfer of patient information and clinical testing results to improve provider decision making and care quality.

THE SOLUTION

RPA is used to improve the operational efficiencies between several departments.

- Patient registration and insurance information: Ambulatory medical offices use different systems than the hospital.
- Connecting hospital departments: Billing insurance for a patient stay requires the information from the Emergency, Nursing and Lab departments. RPA is utilized to migrate the data from the three different IT systems and eliminated the manual data entry.
- System conversion: Replacing a current EMR system with a new one can be performed stress free by utilizing RPA to transfer the data.
- Specimen tracking: Patient information of specimens going from clinics and physician offices to hospital labs was paper or handwritten. RPA integrated the lab registration with the hospitals.

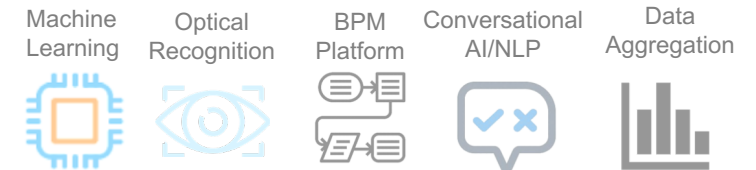
Healthcare Information Systems Area



THE BENEFITS

- Improved, faster information flow, no lag time
- Improved HIPPA compliance
- Providers gain time to focus on patient
- Degree of robotization: 100%
- Manual effort reduction: 80% - 90%
- Error rate: 0%

Integrated Technologies



Process: Reports Generation

+ Customer(s): Hospitals, Clinics, Healthcare Facilities

THE CHALLENGE

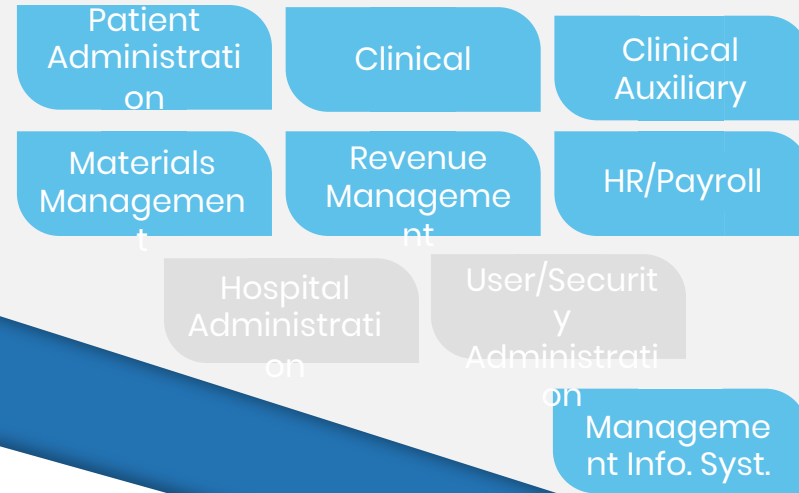
Improve efficiency, accuracy, and timeliness of reports.

THE SOLUTION

RPA can access several different systems to provide consolidated, more robust information for managers and executives to use to make decisions.

- Time dependent reports: Reports were manually run at midnight requiring additional staff and expense. RPA automated this process.
- Day Close and Month End: A third shift was required to perform the daily close which included the reading and posting in external journals, managing patient bills and transmitting insurance claim files from the HIS to a third-party scrubber. Using RPA, the third shift was eliminated.
- Reports distribution: RPA is used to push the reports to appropriate personnel immediately after they are generated.

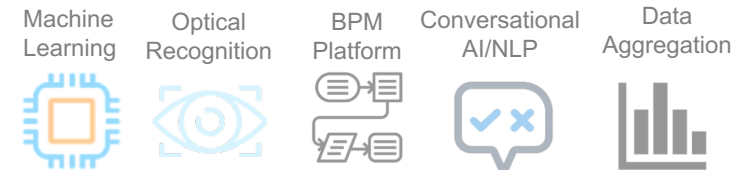
Healthcare Information Systems Area



THE BENEFITS

- Increased Report Accuracy
- Timelier Information
- More effective decision making
- Degree of robotization: 100%
- Manual effort reduction: 80% - 90%
- Error rate: 0%

Integrated Technologies



Process: Third Party Reliance Elimination or Integration

+ Customer(s): Hospitals, Clinics, Healthcare Facilities

THE CHALLENGE

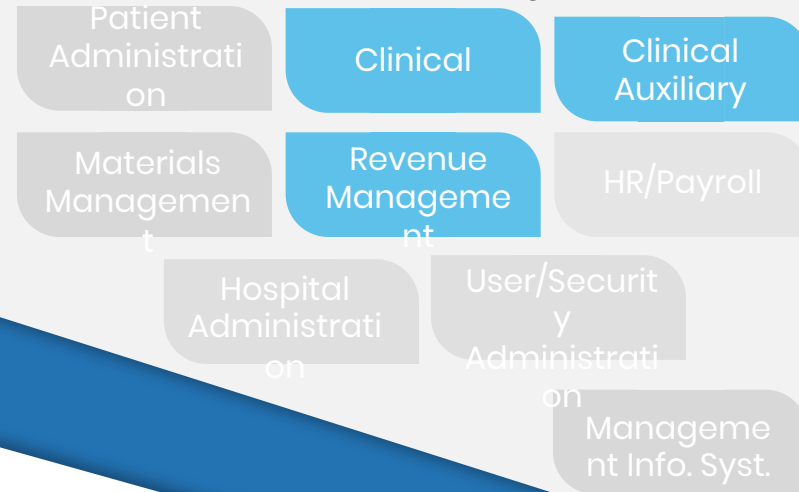
In-sourcing activities for cost and time savings.

THE SOLUTION

RPA was used to perform tasks currently being out-sourced or were integrated.

- Payment posting: The vendor charged \$25,000 per year for denials support and additional fees for every fix and there was a delay in issue resolution. RPA was able to replicate the denials management support.
- Third party: A third-party handled all contract reimbursement calculations, denial tracking and managed care contract modeling, and tracked Clinical Core Measures in real-time. For the vendor to keep they required information from the hospital's Meditech system. To safeguard against problems with Meditech, a vendor representative was on-call 24/7 for support. When paged, the vendor dialed into the system, documented the error, and attempted to diagnose or restart the program. The issue could take days or weeks to resolve. Because relying on vendor support can cause delays in issue resolution and ultimately more overtime and pay-for-support calls, the hospital implemented RPA.

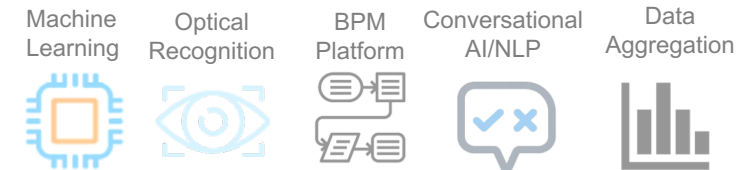
Healthcare Information Systems Area



THE BENEFITS

- Beneficial Cost Savings
- In-house process management and oversight
- Reduced issues resolution time
- Degree of robotization: 100%
- Manual effort reduction: 80% - 90%
- Error rate: 0%

Integrated Technologies



Process: Coding – ER Nursing Assessments

+ Customer(s): Hospitals, Clinics, Healthcare Facilities

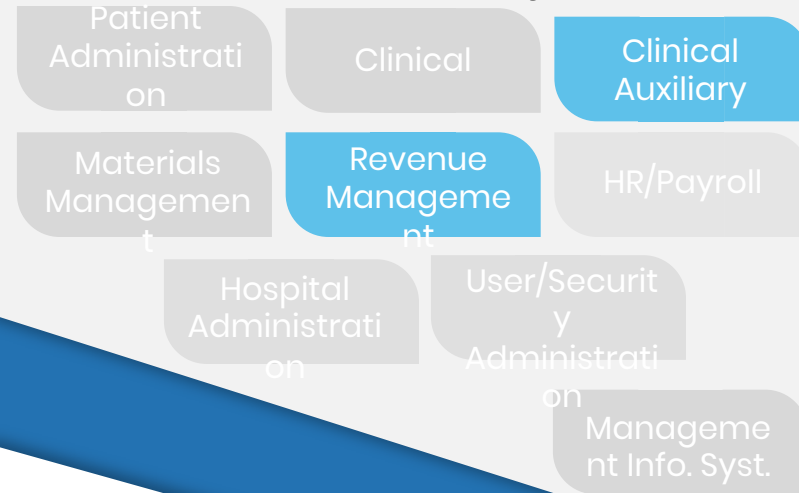
THE CHALLENGE

Eliminate inaccurate coding of nursing assessments that result in lost revenue. Capture and document correct codes into patient record during ER visit.

THE SOLUTION

RPA is used to generate a spreadsheet of the billing codes for the nursing assessments in the emergency department. Every assessment is entered into a batch that is automatically posted each night, and the spreadsheet is time-stamped for validation. In order to be billed correctly, patient charges must be posted on the same day. Automating this process ensures that a complete, accurate batch posts each night, guaranteeing the billing cycle and maintaining a steady and accurate revenue flow. RPA greatly simplifies a process that would have required two full-time employees manually entering billing codes.

Healthcare Information Systems Area



THE BENEFITS

- Decreased days in A/R
- Improved Collection Percentage
- Denials rework reduced
- Improved Charge Capture
- Degree of robotization: 100%
- Manual effort reduction: 80% - 90%
- Error rate: 0%

Integrated Technologies

Machine Learning



Optical Recognition



BPM Platform



Conversational AI/NLP



Data Aggregation





Process: Quality Enhancements and Data Correction at Time of Entry

⊕ Customer(s): Hospitals, Clinics, Healthcare Facilities

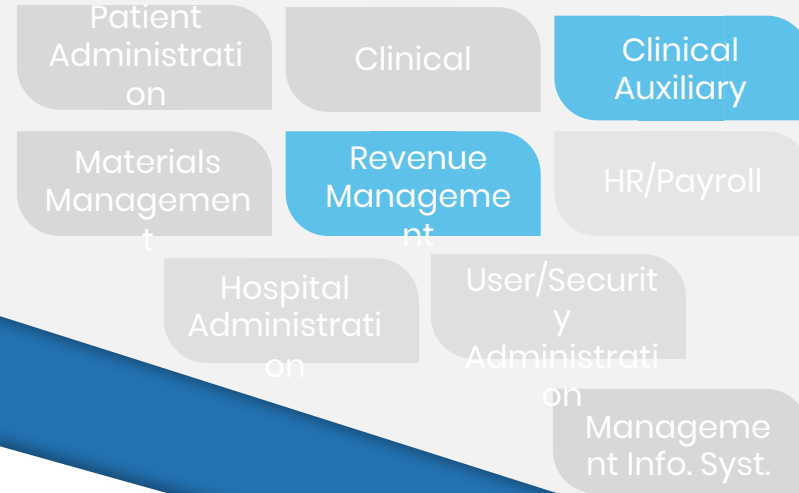
THE CHALLENGE

Improve the quality of data collected at registration.

THE SOLUTION

RPA is used to run in the background on the hospitals EMR system. The RPA application can 'watch' the registration screen and 'see' what the user is keying. If a field is omitted or completed incorrectly, a window opens prompting for a correction. This quickly helps users detect errors, increase address standardization and improve data quality. RPA also verifies patient addresses against a postal database.

Healthcare Information Systems Area



THE BENEFITS

- Cost Savings
- Reduced cycle time
- Degree of robotization: 100%
- Manual effort reduction: 80% - 90%
- Error rate: 0%

Integrated Technologies

Machine Learning



Optical Recognition



BPM Platform



Conversational AI/NLP



Data Aggregation



Process: Bad Debt Collections

+ Customer(s): Hospitals, Clinics, Healthcare Facilities

THE CHALLENGE(S)

Enhance efficiency in the centralized billing office to increase the time staff has to focus on critical revenue issues and to reduce manual transfer of delinquent accounts to a 3rd party for collections.

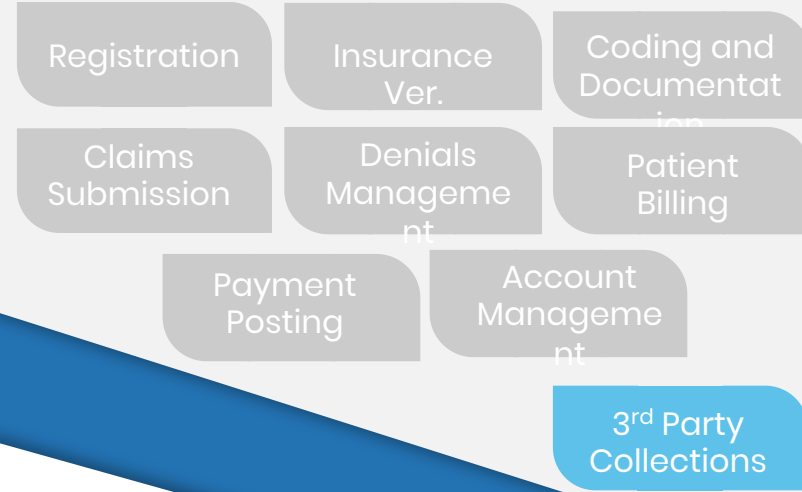
THE SOLUTION

The solution automated the process by extracting accounts from the data that illustrated no payment activity within 45 days. The accounts were scrubbed to exclude those on a payment plan, and the remaining accounts were automatically transferred to a 3rd party collection agency. This solution is run unattended on a weekly basis.

Within the financial system, a note is automatically put on the account indicating its bad debt status. The status indicators are used by the revenue cycle staff so they can assist appropriately.

PR001

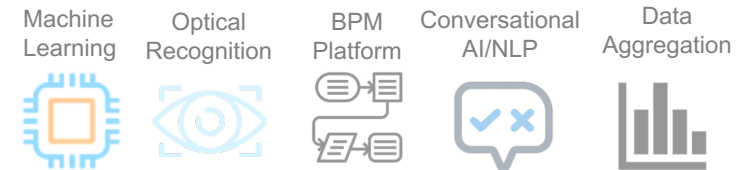
Revenue Cycle Functions



THE BENEFITS

- Degree of robotization: 100% of effort automated
- Higher standardization of process
- Quality improvement to 0% error rate
- Focus on higher value work and analyses
- Faster processing time – reduction 40 hours/week for the one task
- Manual effort reduction to 10%

Integrated Technologies



Process: Online Payment Posting

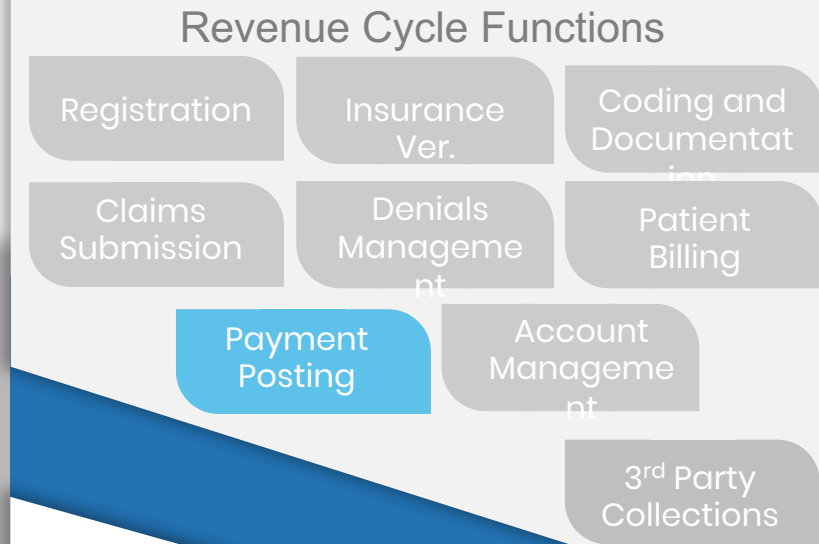
+ Customer(s): Hospitals, Clinics, Healthcare Facilities

THE CHALLENGE(S)

Improve accuracy of online payment posting.

THE SOLUTION

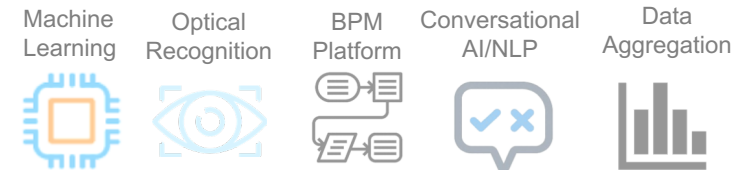
The solution eliminated the need for a designated staff member that would daily check for online transactions, print the transaction, and post the transaction to the practice management system. The automated solution queries the website's database, looks for and finds transactions, which are then posted to the patient's account without manual intervention. Automating this manual activity eliminates errors and expedites payment processes.



THE BENEFITS

- Degree of robotization: 100% of effort automated
- Higher standardization of process
- Quality improvement to 0% error rate
- Faster processing time – reduction of 85%
- Manual effort reduction to 10%

Integrated Technologies



Process: Third Party Lab Vendor Billing Integration

Customer(s): Third Party Vendors

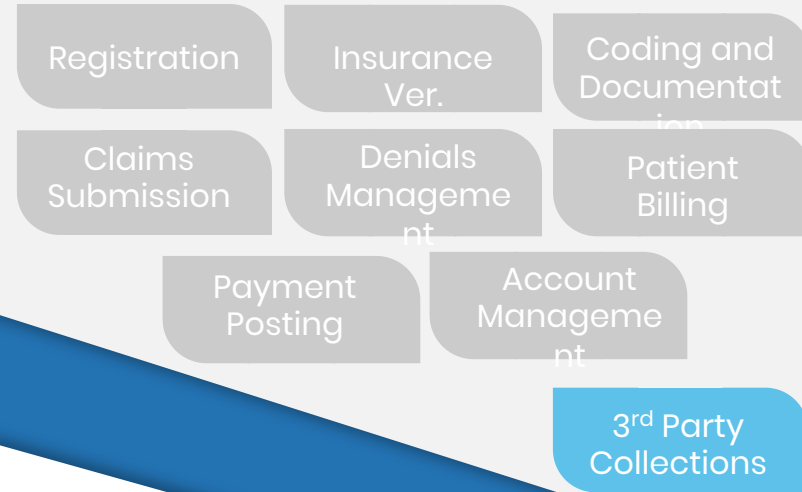
THE CHALLENGE(S)

Improving billing accuracy and speed for lab vendor.

THE SOLUTION

The solution provides the lab vendor certain patient information such as demographics and insurance data to decrease the payment cycle time and reduce errors. A report accesses the hospital's registration system and creates a report containing the requested data. The report file is selected, packaged, according to security and encryption requirements, and sent via secure email or FTP to the vendor. The automation operates 24 hours a day, 365 days a week.

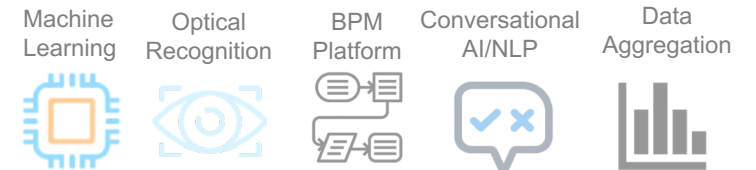
Revenue Cycle Functions



THE BENEFITS

- Degree of robotization: 100% of effort automated
- Higher standardization of process
- Quality improvement to 85% error rate
- Faster processing time – reduction of 85%
- Manual effort reduction to 10%

Integrated Technologies



Process: Medicare Denial Tracking

+ Customer(s): Hospitals, Clinics, Healthcare Facilities

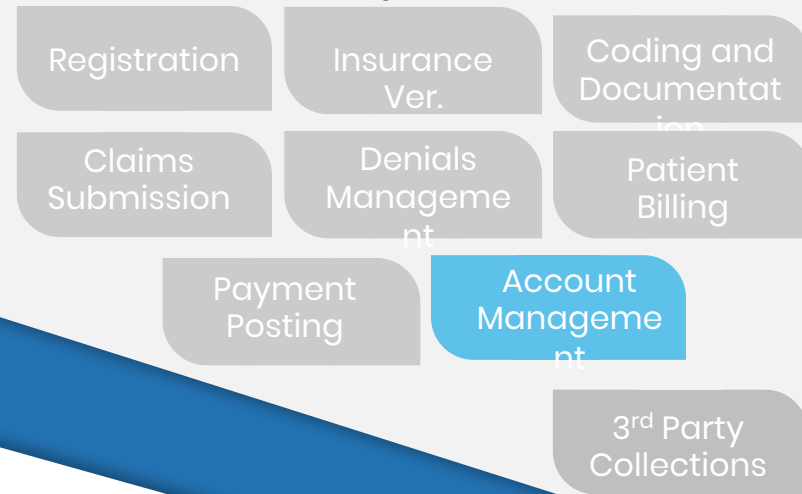
THE CHALLENGE(S)

Reduce Medicare claims review process cycle time to improve payments to the hospital. Staff unable to correct and resubmit all claims with errors. Revenue was being lost.

THE SOLUTION

RPA can be used to mine the failed Medicare claims reports and automatically correct and resubmit claims with missing or incorrect diagnosis codes, NPI numbers, service duplication charges, and modifiers. Claims requiring advanced knowledge are flagged to be approved by the appropriate staff.

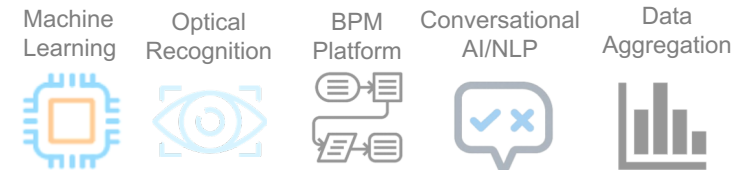
Revenue Cycle Functions



THE BENEFITS

- Degree of robotization: 70% - 80%
- Claims throughput increases from approx. 150/day to approx. 320/hour.
- Quality improvement to 85% error rate
- Revenue capture = >20M
- Manual effort reduced to 20% - 30%.

Integrated Technologies



Process: Automated Discharge of Inactive Patients

+ Customer(s): Hospitals, Clinics, Healthcare Facilities

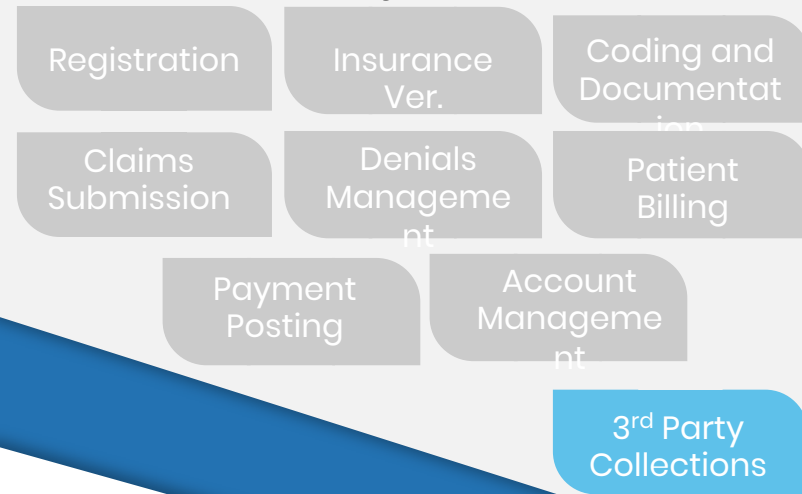
THE CHALLENGE(S)

Remove inactive patient accounts to eliminate erroneous posting of charges. Improve revenue cycle by removing those records so they are not inadvertently billed.

THE SOLUTION

RPA was used to identify and archive inactive patient accounts according to rules set by the health system. The results were a decrease in billing errors and staff time correcting the accounts.

Revenue Cycle Functions



THE BENEFITS

- Degree of robotization: 100%
- Quality improvement to 20% error rate
- Est. staff hours saved = 1560 hours/year
- Revenue increase = >

Integrated Technologies

