Revenue Cycle Management:  
* A Life Cycle Approach for Performance Measurement and System Justification  

2009-2010 HIMSS Financial Systems Revenue Cycle Task Force  

May 2010
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Introduction

One of the biggest challenges facing healthcare providers today is justifying information technology systems. Competition is stiff to obtain capital dollars for information technology systems that are not the focus of ARRA efforts or that do not support a provider’s targeted service offering(s).

Revenue cycle management (RCM) has a key role in addressing shifting industry practices in response to three major trends: real-time processing, consumer-driven healthcare and changes in regulations and reimbursement structures. Health information technology (IT) is critical to the successful management of the revenue cycle. In addition to those just listed, there are many other focus areas and industry trends that impact this discussion.

Justifying RCM information system investments can often be easier than justifying larger clinical systems because the “one-to-one” ROI (return on investment) relationship is much clearer. Today’s best practice revenue cycle management systems, however, are not just billing systems. These systems typically cover pre-service “financial clearance” through post-service “financial settlement” functions, including registration, bill estimation, case management, discharge billing and post-service billing reconciliation, among many other functions.

The purpose of this paper is to provide a single-source overview of the revenue cycle IT lifecycle and begin exploration of the use of technology to support reporting of best practice metrics. These metrics can be leveraged for both benchmarking as well as system purchase justifications throughout the revenue cycle. This paper focuses on the use of technology to support identified best practices in three major areas: pre-service, service delivery and post-service billing/customer service. The narrative highlights the best practices envisioned to optimize the revenue cycle within a health system.

Revenue Cycle Overview

“Difficulties are but opportunities in disguise” --Shakespeare

Organizational performance is achieved in a delicate four-part balance of people, processes, technologies used to support the processes and the environment in which the processes are carried out. Changes in any one of these four domains may result in sub-optimal organizational performance.

Revenue cycle performance in healthcare is particularly challenging due to:

- The complex nature of services to be billed;
- the complex specifications for billing practices;
- the number of varied employees that contribute to the process;
- the systems and tools used to capture and process billing information; and
- the unending variation that occurs in each of these dimensions.
Performance improvement is sustained when coupled with objective performance measurement. Revenue cycle management in healthcare is complex. To identify performance issues, a simple measure of overall outcome is interesting, but is not actionable information. For actionable information on revenue cycle performance, the measure of performance must be made at the level of specific action reflective of specific daily operational accountabilities.

This paper reviews identified performance measures at an actionable level of detail and those required for strategic analysis. Also identified are specific IT tools and processes known to contribute to optimal performance. Given the complexity of the overall process, and the varied employees that contribute to the process, the measures and discussion are divided into major categories with further sub-categorization.

The major categories are:

- **“Upstream”** (financial clearance):
  - Scheduling
  - Patient access
  - Pre-authorization and insurance verification
  - Financial counseling

- **“Midstream”** (financial clearance):
  - Case management
  - Charge capture and clinical documentation
  - Charge Description Master (CDM) maintenance
  - Health Information Management (HIM)

- **“Downstream”** (financial settlement):
  - Billing and claim submission
  - Cashiering, refunds and adjustment posting
  - Third party and guarantor follow up, processing and payment posting
  - Customer service
  - Collections and outsourcing

Metrics selected for this analysis are based upon existing best practice standards, executive preference and organizational priorities. A metric should be consistently measured, and the data should provide sufficient information to drive operational improvement, monitor performance and/or quality, or demonstrate progress toward an organizational objective. The metrics identified in this paper are frequently reported in operational and executive dashboards, including decision support systems. Operational dashboards typically include real time, daily, weekly and monthly performance metrics needed for structure management decision making. Decision support systems include summaries from the operational dashboards and additional analysis tools for unstructured “What If” (pro-forma) decision making.
Strategic metrics, which are those that appear on executive dashboards, encompass financial, operational, and customer service or quality measures at a high level. Their purpose is to give executives an overview of each at a glance. These metrics can change based on an organization’s priorities and objectives. Dashboards often include trending, whether the metric is up or down as compared to last month, and the same month last year. Dashboards also include cumulative data for the current fiscal year. A detailed list of revenue cycle performance metrics and industry best practice benchmarks can be found here.

The information presented herein should be useful to any healthcare provider organization. For high-performing organizations, there may be some new measures or processes presented that, if implemented, will further enhance day-to-day operations, improve the patient experience with the revenue cycle process, and facilitate positive change to the executive dashboard for key performance measures. For organizations looking to make major changes in RCM performance management and/or information technology systems, this paper will provide a blueprint for baseline measurements and system justifications. Measuring department and task level performance, productivity, the patient experience and customer demand for services, is critical to an organization’s continuous performance improvement strategy for the revenue cycle. These metrics provide the data which justify investment in information technology to facilitate organizational improvement and enhance revenue cycle effectiveness.

**Upstream RCM: Scheduling, Patient Access, Insurance Verification and Financial Counseling**

Metrics selected for upstream operational and executive dashboards are determined based upon best practice standards, executive preference and organizational priorities. A selected metric should be consistently measured, and the data should provide sufficient information to drive operational improvement, monitor performance and/or quality, or demonstrate progress toward an organizational objective. Financial, operational and customer service metrics for upstream functions can be measured at daily, weekly and monthly intervals. High level strategic metrics, which typically appear on the executive dashboard, are measured on a monthly basis, and includes trending from prior month and prior year.

**Upstream: Scheduling**

**Revenue Cycle Objectives**

The healthcare revenue cycle begins at the time of scheduling. Consequently, we recommend that scheduling areas should be organizationally aligned with the chief revenue officer or the employee with this level of responsibility. While scheduling is a critical step in revenue cycle, it is also important to create a positive first impression for the hospital and provide quality service for the clinical departments. In consideration of these factors, the key objectives for scheduling include:

- To verify the patient’s demographic information and source of payment.
• To validate that medical necessity requirements have been met.
• To accurately and efficiently schedule the requested service from a written order.
• To provide excellent physician and patient satisfaction with the process.

Customers of the scheduling department are physicians and patients, as well as the clinical departments of the organization. It is critical to monitor both physician and patient demand for services in a competitive healthcare environment. Optimal access to care would provide online appointment scheduling and pre-registration around the clock. Highlights of the systems tools, key performance indicators, and processes that optimize performance are included in the lists that follow. For more specific details please see the Scheduling worksheet here.

System tools to optimize Scheduling/Pre-Registration

• Computerized physician/authorized provider order entry (CPOE).
• Order tracking and management system.
• Online patient and physician appointment requests (portals).
• Online patient pre-registration (portal).
• Medical necessity checking integrated into scheduling system.
• Enterprise-wide scheduling software.
• Scheduling software includes clinical rules.
• Integration between scheduling system and pre-registration systems.
• Sophisticated telephone system with consumer-focused reporting, productivity monitoring, and consumer-friendly automatic call distribution system (ACD).
• Dialer management systems for reminder calls and outbound pre-registration.
• Listening in, call monitoring or recording capabilities in phone system.

<table>
<thead>
<tr>
<th>Key Performance Indicators for Scheduling</th>
<th>Best Practice Standards</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-registration rate for scheduled patients</td>
<td>&gt;98 percent</td>
</tr>
<tr>
<td>Percent tests scheduled in system</td>
<td>100 percent</td>
</tr>
<tr>
<td>Medical necessity checking at time of scheduling</td>
<td>100 percent</td>
</tr>
<tr>
<td>Legible order with all required elements at time of scheduling</td>
<td>&gt;95 percent</td>
</tr>
<tr>
<td>Reminder calls for scheduled services</td>
<td>100 percent</td>
</tr>
<tr>
<td>Number of calls per test scheduled$^1$</td>
<td>individual</td>
</tr>
<tr>
<td>Average speed of answer</td>
<td>&lt;30 seconds</td>
</tr>
<tr>
<td>Percent inbound call abandonment rate</td>
<td>&lt;2 percent</td>
</tr>
<tr>
<td>Percent of patients rescheduled, cancelled, no show$^2$</td>
<td>individual</td>
</tr>
</tbody>
</table>

Percent of patients postponed for lack of pre-certification

<table>
<thead>
<tr>
<th>Performance Indicator Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. The number of calls per test scheduled is dependent upon the hospital’s operational practices. Monitoring the number of calls per test scheduled measures the efficiency of the scheduling and pre-registration departments.</td>
</tr>
<tr>
<td>2. Monitoring the percent of patients rescheduled, cancelled, or no shows can provide insight to the effectiveness and communication skills between the patient and the schedulers, and with the physician office.</td>
</tr>
<tr>
<td>3. Re-schedules due to lack of pre-certification should be tracked in order to identify opportunity for continuous improvement. In addition, tracking postponements by physician office provides valuable information to improve communications and scheduling for each physician.</td>
</tr>
</tbody>
</table>

**Processes to Optimize Scheduling/Pre-Registration**

- Integration between IT systems for scheduling and pre-registration functions.
- All tests are entered into the online scheduling system.
- Physician order is available to the scheduler at time of scheduling.
- Hospital policy for documentation required at registration is explained to each patient.
- Reminder calls are placed to all patients and include discussion regarding patient balances and point-of-service collections policies, confirmation of third-party coverage and restates proper clinical preparation for the service.
- Uninsured patients are instructed to meet with financial counselors to complete applications for financial assistance, and income documentation requirements are explained and requested when patient presents for the service.

**Discussion and Other Considerations**

Predictive-dialer systems, which have been historically used for downstream revenue cycle functions, are now being used in scheduling and pre-registration areas to improve employee productivity while making outbound pre-registration and appointment reminder calls. In addition, telephone systems should provide flexible reporting options. Sophisticated automated call distribution (ACD) options are in high demand to effectively monitor in-bound and out-bound calls for each department, unit or scheduler. These systems can be effective in a centralized scheduling unit, or in a decentralized scheduling model. Call monitoring and/or call recording are also recommended features for call center telephone systems.

Computerized physician order entry (CPOE) systems ensure that a legible order is available to the scheduler. In addition, many of these systems provide medical necessity checking for the physician office, and logic to identify tests which need pre-certification or pre-authorization when insurance data is available. These systems may provide
feedback to the physician office when the test has been scheduled for the patient, and the status of the request. At the time of patient check-in, these systems provide ease in locating the correct order for the patient for that date of service.

**Upstream: Patient Access**

**Revenue Cycle Objectives**
With increased pressure to identify patient financial status prior to or directly upon admission (financial clearance), it is important to capture patient information when initial services are sought at the health system. The revenue cycle objectives for patient access include:

- To confirm patient identity (for patient care and compliance with “Red Flags Rules”¹)
- To accurately and efficiently obtain patient demographic and financial information.
- To check for medical necessity for unscheduled outpatient services.
- To conduct initial financial conversations with uninsured and underinsured patients, with referrals to financial counseling.
- To accurately as possible identify any potential non-covered or patient residual amounts that will be due after services are rendered and payment is provided by insurance.
- To identify any patient prior balances past due for payment.
- To request applicable patient deposits including copayment, deductible, co-insurance, and prior balances.
- To ensure that the order is on the patient’s medical record and that it is complete and legible.
- To ensure all payor requirements are in place or being met prior to service, including notifications, pre-certification, authorizations and/or referrals.

Customers for the patient access function include physicians and referring-physician office managers, health insurance companies and patients. Highlights of the IT tools, key performance indicators, and processes that optimize performance are included in the lists that follow. For more specific details please see the Pre-Reg +Pre-Auth and Patient Access +Registration worksheets here.

**System tools to optimize Patient Access**

- Order tracking and management system.
- Online patient registration.

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¹ The Federal Trade Commission (FTC), the federal bank regulatory agencies, and the National Credit Union Administration (NCUA) have issued regulations (the Red Flags Rules) requiring financial institutions and creditors to develop and implement written identity theft prevention programs, as part of the Fair and Accurate Credit Transactions (FACT) Act of 2003.
- Online/integrated insurance verification with real time responses.
- Online document imaging system.
- Kiosk self check-in.
- Registration quality assurance tools or quality assurance (QA) logic in registration system.
- Identity checking and address verification.
- Real time editing to identify any missing or inaccurate information required for billing.
- Estimation tools for patient out-of-pocket responsibility; pricing transparency.

### Key Performance Indicators for Patient Access

<table>
<thead>
<tr>
<th></th>
<th>Best Practice Standards</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percentage of claims on hold for registration errors¹</td>
<td>&lt;1/16 Day of Revenue</td>
</tr>
<tr>
<td>Number of statements in returned mail weekly²</td>
<td>&lt;5 percent</td>
</tr>
<tr>
<td>Percentage of patients waiting greater than 10 minutes for a registrar</td>
<td>&lt;10.0 percent</td>
</tr>
<tr>
<td>Average face to face registration duration</td>
<td>10.0 minutes</td>
</tr>
<tr>
<td>Average Registration throughput</td>
<td>35 IP, 40 OP</td>
</tr>
<tr>
<td>ABN’s/MSPQ’s obtained when required</td>
<td>100 percent</td>
</tr>
<tr>
<td>Data entry quality compared to established department standards</td>
<td>98 percent</td>
</tr>
<tr>
<td>Master Patient Index (MPI) duplication rate as percent of total registrations</td>
<td>&lt;1.0 percent</td>
</tr>
</tbody>
</table>

**Performance Indicator Notes:**
1. Each facility should monitor the percentage or number of claims on hold for registration errors on a daily basis. By collecting this information, and providing feedback, the organization will continuously improve upstream quality.
2. Each facility should record the number of pieces of returned mail for their population. Returned mail costs the organization in staff time to correct, and in delayed and potentially lost revenue.

### Processes to optimize Patient Access

- Online documentation systems to facilitate the management of the copies of patient insurance cards, driver’s license, financial assistance applications, income documentation requirements for those applications, and other written communications.
- Integration of the financial counseling function with the registration process.
- Integration between the registration system and the patient financial services system.
- Discussion regarding patient payment obligations and options for payment is conducted with every patient.
- Technology for the registration process, including logic to identify common registration errors and facilitates immediate correction by the registrar.
• Assurance that verification is performed with each registration.

• “Red flag” systems that identify potential identity theft situations for further investigation with ability to track events for the required reporting under the “Red Flags Rule.”

• IT systems and/or reports that identify multiple medical records for the same patients, and help ensure those duplications are corrected daily.

• IT systems that identify claims on hold for registration errors, and help ensure the registrars are required to correct those errors. This process ensures that the team learns from their mistakes, and reduces the number of those mistakes in the future.

• Kiosks integrated with the scheduling system and financial systems, able to request patient balances and obtain electronic patient signatures.

• Improvement of accuracy in estimating patient out-of-pocket, pricing transparency.

**Discussion and Other Considerations**

In today’s competitive market, it is important for employees to create a positive first impression. Efficient patient management also is important for hospitals’ clinical areas to ensure patient appointments are kept on time. Continuous evaluation of the quality of registrations also is important for the patient’s overall impression of the organization’s billing process. The availability of kiosks for self check-in reduces the patient’s time spent in registration, and the kiosk has the ability to verify the patient’s identity and collect any patient out of pocket. Electronic signatures can be used to sign consents and other required forms, so face-to-face contact with registrars may no longer be required.

**Upstream: Insurance Verification**

**Revenue Cycle Objectives**

Insurance verification is tasked with ensuring third-party coverage for scheduled/received clinical services. Coverage limitations and patient benefits should be verified directly with the payer, in either a telephonic or electronic exchange of information. The information collected should verify coverage for the patient, the approved length of stay, coverage terms, and patient out of pocket, and any coverage limitations and maximum benefits.

In addition, the insurance verification functions and responsible employees are now becoming more involved in financial counseling for both uninsured and underinsured patients. Highlights of the systems tools, key performance indicators, and processes that optimize performance are included in the lists that immediately follow. For more specific details please see the Insurance Verification and Denials worksheets [here](#).

**System tools to optimize insurance verification**

• Online verification of coverage and level of benefits directly with the payor.

- Electronic eligibility system for patient level and batch eligibility inquiries.
- Workflow management tool for financial clearance functions.
- Estimation tools for patient out-of-pocket and pricing transparency.
- Online precertification/pre-authorization tools.

### Key Performance Indicators

<table>
<thead>
<tr>
<th>Category</th>
<th>Best Practice Standards</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eligibility is verified with the payor for scheduled services</td>
<td>98 percent</td>
</tr>
<tr>
<td>Denial rate for lack of pre-certification¹</td>
<td>Individual</td>
</tr>
<tr>
<td>Number of appeals, including those overturned and lost²</td>
<td>Individual</td>
</tr>
<tr>
<td>Data quality as compared to pre-established standards</td>
<td>98 percent</td>
</tr>
<tr>
<td>Verification rate of inpatients (IP) within one business day</td>
<td>98 percent</td>
</tr>
<tr>
<td>Verification rate of high dollar outpatient (OP) in one business day</td>
<td>98 percent</td>
</tr>
</tbody>
</table>

**Performance Indicator Notes:**

1. The denial rate for lack of pre-certification should be tracked for each organization. The rate is dependent upon the organization’s patient mix, and the number of tests requiring pre-certification is based on the third-party payor requirements. Each organization should measure this and monitor for continuous improvement.

2. The number of appeals, including those overturned and lost, also is dependent upon the hospital payor mix and requirements of the third-party payor. Those appeals that successfully overturn denials should be evaluated for upstream process improvements to eliminate the initial denial going forward.

### Processes to optimize insurance verification

- Dedicated insurance-verification team within the organization.
- IT systems integration with insurance verification, patient access and case management systems.
- Online insurance verification and eligibility system.
- Batch eligibility system for self-pay patients, and patients registered as Medicare only.
- Exception work-listing system available to ensure accounts with discrepancies are corrected.
- Patient out-of-pocket estimation systems in place to calculate patient deposits.
- Financial counseling discussions are initiated, and point-of-service collections policies are explained to all patients.

### Discussion and Other Considerations

In today’s consumer-driven and high deductible environment, the amount of a patient’s out-of-pocket financial responsibility is increasingly important because patients consider financial implications when choosing a healthcare provider. Verification teams are now involved in providing patient estimates which include the co-payment, deductible, co-

insurance and any prior balances. These financial conversations are driving the verification team to provide more financial counseling functions in the department. Patients who could be eligible for Medicaid programs, or who are underinsured should be identified by the verification team, and the financial assistance application process should begin prior to service. Patients should then be instructed to bring in supporting income documentation at the time of service.

In addition, insurance verification teams are responsible for ensuring that all financial functions are completed prior to the scheduled patient’s arrival, and as soon as possible for unscheduled patients. This includes ensuring the order is available to the registrar, providing pre-notification requests to third parties, ensuring pre-authorization or pre-certification numbers are obtained, and the pre-registration function is completed. In addition, it is important that they communicate the coverage status with other providers such as physicians and surgeons. In addition, the insurance verification function and employees should be integrated with the hospital’s case management team.

**Upstream: Financial Counseling**

**Revenue Cycle Objectives**
The revenue cycle objectives for financial counseling are becoming more important with today’s increasing number of patients who are struggling to pay for healthcare. Financial counselors are challenged to hold financial conversations with all un-insured and under-insured patients to determine the source of payment for each episode of care. This conversation should occur before scheduled services and prior to discharge for unscheduled services, including in-patients and emergency department patients.

The conversations should focus on identifying eligibility for third-party sponsorship, and/or eligibility for charity care under state, local or hospital programs. Financial counselors are called on to provide estimates for patient out-of-pocket expenses, collect patient out of pocket and negotiate payment plans for the remaining patient balances. Highlights of the system’s tools, key performance indicators and processes that optimize performance are included in the lists that follow. For more specific details please see the Financial Counseling worksheet [here](#).

**System tools to optimize Financial Counseling**
- Online third-party eligibility and coverage limitations.
- Estimation tools for determining patient out of pocket.
- Electronic Medicaid application form with electronic signature.
- Electronic financial assistance application with electronic signature.
- Workflow management tool for application processing.
- Document imaging system.
<table>
<thead>
<tr>
<th>Key Performance Indicators</th>
<th>Best Practice Standards</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medicaid eligibility screening for all uninsured patients</td>
<td>100 percent</td>
</tr>
<tr>
<td>Medicaid eligibility screening for all Medicare-only patients</td>
<td>100 percent</td>
</tr>
<tr>
<td>% uninsured IP’s screened for financial assistance</td>
<td>95 percent</td>
</tr>
<tr>
<td>% uninsured OP’s screened for financial assistance</td>
<td>Individual</td>
</tr>
<tr>
<td>% uninsured Emergency Department (ED) patients screened for financial assistance</td>
<td>80 percent</td>
</tr>
<tr>
<td>Collects deposits for elective services prior to service</td>
<td>100 percent</td>
</tr>
<tr>
<td>Collects IP patient-pay balances prior to discharge</td>
<td>65 percent</td>
</tr>
<tr>
<td>Discusses options for account resolution with IPs</td>
<td>100 percent</td>
</tr>
<tr>
<td>Financial assistance approved within 10 days</td>
<td>100 percent</td>
</tr>
<tr>
<td>Medicaid approvals obtained within 30 days</td>
<td>100 percent</td>
</tr>
</tbody>
</table>

Performance Indicator Notes:
1. The percentage of uninsured outpatients who are screened for financial assistance is depends upon the organization’s ability to identify and initiate conversations with these patients system wide. Many times, these patients present directly to the clinical areas, which may not be staffed with financial counselors. The goal would be to work to continuously improve the organization’s performance, with ongoing process improvement in order to have more financial conversations with patients pre-service, and no later than the time of service.

Processes to optimize Financial Counseling
- All uninsured patients and patients registered as Medicare only are screened for active Medicaid eligibility and/or eligibility for state, local or hospital financial assistance programs.
- Patients are screened for workers’ compensation, victims of crime, grants or other options for third-party payment.
- Online technology solutions for Medicaid and financial assistance applications are used.
- All in-patients are screened by financial counseling prior to discharge.
- Emergency department discharge areas are staffed with financial counselors, who collect financial assistance applications, collect co-pays and deductibles and discuss payment options.
- Charity care policies are in compliance with federal, state, and local regulations, and have reasonable requirements for income documentation, and have a streamlined process for determining eligibility in a timely and efficient manner.

Discussion and Other Considerations
Financial counseling has evolved into an integral function for today’s healthcare organizations, given the continued rise in uncompensated care. A higher priority has been placed on ensuring financial counseling services are provided to all patients to reduce uncompensated care and bad debt. More underinsured patients with high deductibles are unable to pay their out-of-pocket costs, and these patients should also be
educated on the availability of financial assistance programs which are applicable for their situation.

In addition, streamlining financial assistance application processing is essential in order to accommodate the growing volumes of patients who are applying. IT systems which offer online applications and exception work-listing can facilitate process improvement in what has historically been a manual, paper-based process. Further, many financial counselors are being placed in emergency room discharge areas to collect more financial applications and payments for services.

Midstream RCM: Case Management, Charge Capture and Clinical Documentation, Charge Description Master (CDM) Maintenance and Health Information Management (HIM)

The midstream section of the healthcare revenue cycle represents the intersection of clinical practice and billing. The key objectives are to manage the clinical practice within accepted guidelines to ensure reimbursement, to document services completely and accurately and to ensure the codification of documented services is complete and accurate.

Participants in the midstream section of revenue cycle process include physicians, nurses, other clinical providers, case managers, coders, and clerical employees in the clinical environment or support areas. Each must have timely access to record or review information on patient care and specific services or supplies used in the delivery of that care.

Historically, paper charts were maintained in the care setting for use by providers, forms were completed to document charges at the point of care, and all documentation was then forwarded to various support areas for review, coding and entry into the billing system. These manual processes are subject to errors and delays, and are difficult to measure. By contrast, optimal performance in revenue cycle is dependent on efficiency, speed and accuracy. Elimination of manual tasks, automation of edits and data controls and shared access are best achieved with well-implemented systems.

Today, more and more care settings are making use of technology, either with comprehensive electronic medical records systems (EMR) or department-specific clinical applications that may share data with a comprehensive EMR. Some EMRs are wholly integrated with hospital and/or professional billing systems, and some share data with these revenue cycle systems electronically.

Performance issues may arise in the midstream section during or after technology projects. Technology projects are best supported when approached with multidisciplinary perspectives. In the midstream section of the revenue cycle, a balance must be struck between information systems and technology, clinical operations, administrative operations and billing regulation. An integrated team approach will aid in providing a multidisciplinary perspective when planning changes in this area.
Maintaining or improving performance is often a primary goal of technology projects. Performance reporting, however, may be a secondary effort where the primary focus is on delivery of clinical or operational functionality. To ensure the success of technology projects in functional areas, performance, productivity and operational baseline reporting should be completed prior to implementing new systems.

When performance issues do arise, the inherent complexity of processes and accountabilities will create difficulties in identifying the root cause. Thus, the establishment of objective performance measures and reporting tools at a granular level of detail are essential to identify issues as they occur, mitigate risk and promote optimal revenue-cycle performance.

The midstream section can be sub-categorized into the following:

- Case Management.
- Charge Capture and Clinical Documentation.
- Charge Description Master (CDM) Maintenance.
- Health Information Management (HIM).

Accountability for each of these functions may be assigned to multiple unique job classes, each of which typically requires a unique skill set to perform well. Thus, there are multiple diverse measures of performance required to monitor these functions. A review of organizational practices was employed to distill a comprehensive set of performance metrics for each function. Additionally, the review has identified key operational practices which are correlated with higher levels of performance.

A general discussion of activities by sub-section is presented below, along with applicable performance metrics and processes to support optimal performance. The information provided herein is comprehensive, yet the inherent complexity of these tasks allows for a wide variation in how these tasks may be conducted and measured. Thus, there may be additional practices or measures not identified here that may or may not be applicable to the practices in a specific entity.

**Midstream: Case Management**

**Revenue Cycle Objectives**

Case management is a vital function for hospitals. Typically, professional nurses are assigned the task of monitoring admissions within established clinical guidelines, and intervening to provide coordination of care when needed. The role of the case manager has become increasingly important given the complexity of the hospital care environment, pressures to control cost of care and the trend to withhold reimbursement for inappropriate admissions and extensions of inpatient stays beyond that which is medically necessary.
The case manager role carries inherent conflict. There is accountability to the patient and providers to coordinate optimal quality care. There also is accountability to the chief financial officer and the clinical senior management to ensure that care is rendered efficiently and not in excess of what is required. When conflict arises, it is essential that the case manager have a means of escalation within the hierarchy of both clinical practice and administration.

Highlights of the system’s tools, key performance indicators and processes that optimize performance are included in this section of the report. For more specific details, see the Case Management worksheet here.

Objectives of Case Management include
- Admissions: To ensure that the admission is appropriate and within the parameters of clinical practice that may be reimbursed. The outcome should be minimum denials due to inappropriate admission.
- Care Planning/Coordination and Discharges: To ensure that the discharge is not delayed due to preventable causes. Resources consumed during an inappropriate or avoidable extension of stay may not be reimbursed.

System Considerations for Case Management
Case management activities are dependent on access to significant real-time clinical data on each admission, plus access to rules and guidelines governing the definition of what admission parameters are within the realm of reimbursable care. Admission and clinical data are required on each admission, including real-time information on elapsed time from admission, expected duration of admission and clinical parameters of the admission. Systems tools may include a mix of health information systems (HIS) applications or a case manager specific application that integrates data from several applications, including Admission/Discharge/Transfer (ADT), orders and results; and also contains the current guidelines for appropriate admissions.

In the absence of a robust EMR and/or a case manager-specific application, access to clinical data may require access to the paper chart and/or multiple systems with the most current information on physician orders, clinical documentation and diagnostic results from multiple areas. Rules and guidelines governing reimbursable care are complex and subject to periodic revisions. Case managers may rely on printed text purchased from a third party, or online access to soft copy of the printed text.

Due to complexity of admission guidelines, few of the parameters are automated as rules within EMRs. Full automation of the rules with automated alerts to clinical providers may be ideal, but this has typically been achieved only in applications specific to case managers.

One of the common parameters readily supported with automatic alerts is the rule governing observation cases with a set allowance for less than 24 hours of care. These cases should either be stabilized and discharged to home or an alternative care environment, or identified to have reasonable clinical cause (diagnosis) to justify
admission as an inpatient. Even this function for automated alerts on elapsed time from admission as an observation case, however, may not be supported in every hospital’s computing environment.

The case manager role is one that will benefit immensely from consolidation of data, whether through systems integration of a robust case manager application, or a wholly integrated hospital information system (HIS) with an electronic medical record (EMR). The case manager role should be included when planning case-manager applications or new ADT and inpatient clinical systems that would facilitate their information gathering.

**Performance Measurement of the case manager’s functions fall within three categories**
- Operational controls (tools and alerts at the encounter-specific level of detail).
- Outcomes measurement.
- Workload/productivity (department and specific individual).

<table>
<thead>
<tr>
<th>Key Performance Indicators</th>
<th>Best Practice Standards</th>
</tr>
</thead>
<tbody>
<tr>
<td>Observation cases w/ LOS &gt; 24 hours (or other limit depending on case type)</td>
<td>0 percent</td>
</tr>
<tr>
<td>Cases denied reimbursement due to 'inappropriate admission*'</td>
<td>0 percent</td>
</tr>
<tr>
<td>Cases w/ Discharge Delays (by reason for delay)</td>
<td>0 percent</td>
</tr>
<tr>
<td>Ratio of the Length of Stay Actual Average over Expected Average</td>
<td>1:1 percent</td>
</tr>
<tr>
<td>Current admission population on SNF Wait list</td>
<td>0 percent</td>
</tr>
</tbody>
</table>

*Note: this may vary based on the local availability of Skilled Nursing Facility (SNF) beds. Where availability is less than demand, an assessment of the carrying cost of these cases should be weighed against the conversion of a portion of the entities own beds to SNF. A second measure should also be instituted to measure the average amount of time that cases are on a wait list.*

Workload and productivity measures for case managers should be reported on a regular basis. Performance goals will vary based on how processes are organized, the provider’s case mix experience and other environmental factors. Highlights of these measures include:

**Measure**
- Number of admissions/case manager (with outcome measure of % appropriate).
- Number of discharges/case manager (with outcome measure of % delayed).
- Number of patient days managed and % of total patient days.

Accurate assessment of workload should include a measure of complexity of cases managed. This will vary based on data available for reporting purposes, but may be
based on a case mix index, and/or a measure of percentages of cases requiring special interventions such as planning Dural Medical Equipment (DME), SNF transfer, or other metric(s).

**Processes to optimize Case Management**

- Alerts on new admissions with indication of date, time, provider, diagnosis and admission type.
- Alerts on observation cases where length of stay (LOS) is approaching the 24-hour limit.
- Inpatient census with admission and clinical data. Preferably this is sorted based on the individual case manager assigned to that case.
- Alerts on any case that is approaching a previously defined limit on inpatient days of care, whether defined by a pre-certification of care by the patient’s insurance, or an established limit based on an expected length of stay for the patient’s clinical condition (working diagnosis related groups, or DRGs).
- Alerts on cases where the discharge will require continued care, i.e., home care with medical equipment, or transfer to another facility for skilled nursing (skilled nursing facility or SNF) or other long-term care. This is essential to ensure timely coordination of these subsequent services so as to prevent delay in the discharge.
- Operational reports of delayed discharges with aging, reason for delay and associated costs of delay.

A review of hospital entities with high performance reveals certain processes and tools that may be closely correlated with their superior level of performance. These include:

- Adequate staffing of the case management function with professional nurses trained on the case manager functions and responsibilities. Full time equivalent (FTE) needs will vary based on the complexity of cases encountered in a specific hospital.
- Availability of real-time automated alerts as described in the section on operational controls.
- Real-time access to admission data and reference materials.
- Identification and tracking of high-risk cases (high dollars, long LOS, complex care needs, etc.)
- Escalation process for discharge delays with physician oversight.
- Identification of expected length of stay (LOS) on admission.
- Tracking of expected LOS with discharge; monitoring for discharge delays.
- Integration of admission with LOS authorization with case management function.
**Discussion and Other Considerations**

The case management function is complex, requires access to a wide array of data and can have a significant impact on revenue cycle performance. Effective case management can have a very positive impact on hospital revenue cycle performance. Case management effectiveness is dependent on the appropriate use of information in practice. Systems strategy should account for case managers’ access to information and the reporting of case management efficiency and effectiveness.

**Midstream: Charge Capture and Clinical Documentation**

**Revenue Cycle Objectives**

Charge capture and clinical documentation are two essential tasks to ensure that the resources and supporting documentation provided in the delivery of care are documented for the clinical record and for use in billing.

What may seem simple and straightforward may be extremely complex, and subject to a wide degree of variation. Different types of care have different documentation requirements; different areas of clinical specialization (or even individual providers) may have unique processes and tools for completing these tasks; and multiple steps may be involved.

Each variation and subsequent step in a process introduces some risk in completing the process correctly and in a proscribed timeframe. Highlights of the system’s tools, key performance indicators and processes that optimize performance are included in this section of the report. For more specific details please see the Charge Capture and Clin Doc worksheet [here](#).

Revenue cycle improvement projects will typically look for opportunities to standardize and streamline the processes for charge entry, and when called for, look at means to improve the timeliness and accessibility of clinical documentation.

Given that only documented services may be billed, it is important to ensure that the record is as complete and accurate with appropriate clinical detail. For example, documenting that a hip fracture patient has some general symptoms of pneumonia (not otherwise specified) could result in lower reimbursement than the same case if the type and extent of pneumonia were fully documented (assuming the clinician had this information and appropriate treatment was provided).

In this instance, however, the primary clinician may have been an orthopedic specialist, who provided the appropriate care for the pneumonia, but did not take the time to fully document this since the primary focus was on the hip fracture. This is another example of how the midstream section of the revenue cycle process truly is the intersection of clinical care and financial performance.

Revenue cycle objectives for charge capture and clinical documentation include:
• Complete, accurate and timely identification of charges associated with supplies and services rendered, and input of the charges into the billing system (or a system that is integrated with the billing system).

• Complete, accurate and timely documentation of patient history, assessment, procedure notes, clinical plan and progress notes. Documentation should be readily available for use by coders and/or entered into a system that is integrated with billing.

System Considerations for Charge Capture and Clinical Documentation
As stated previously, the midstream section of the healthcare revenue cycle represents the intersection of clinical practice and billing. This is most true in the specific transactions to capture and integrate clinical and charge data into the claim record. The processes to support this integration of data may be automated, and thus, controlled by system and record configurations. In many cases, much of these processes may remain manual or a hybrid mix of forms and systems, and may vary among specialties.

Charge capture can be very streamlined, where a clinician enters the charge code for a service or supply item directly into the EMR as part of their documentation of clinical care, and the EMR is wholly integrated with health information management (HIM) and billing applications. The EMR contains rules for the Correct Coding Initiative (CCI) and Local Medical Review Policy (LMRP)/National Coverage Determination (NCD) edits, and warns the clinician when documented procedures and diagnoses indicate probable non-covered services. The HIM review of charges and documentation may proceed without delay and the subsequent generation of a claim requires not further transactions to be entered.

At the other extreme, clinicians may render care over the course of a day, then chart on each case seen at the end of the day. Charges are noted on a charge ticket. Tickets are then manually transferred to another department. Charge tickets received are then keyed into a charge entry application. The charge entry application then uploads the charge records to the HIM and/ or billing system. HIM may review the charges and find that the charges may not be supported by the clinical documentation. The charts are requested to review the documentation against what is recorded in their system. Notes may be sent back to providers along with the charts requesting validation of some entries and so on. In this second example it is easy to understand the difficulty in addressing (let alone identifying) specific causes of delay, other than the multitude of manual steps required.

IT variation in clinical documentation will have similar impacts. In some cases, clinicians may type or dictate their clinical notes directly into an EMR and finalize these as they complete the care for each patient. At the other extreme, dictation may be completed at a later time, transferred to a third party for transcription, sent back in hard copy to the provider for edits, cycle through one or two rounds of refinements, and then be posted to a paper chart, scanned as an unsearchable image to an rudimentary EMR, or uploaded as soft copy into the EMR. When both charges and documentation are available for HIM coding and review, coders may find issues needing to be addressed. Ultimately, clinical documentation must result in codified procedures and diagnoses to
support billing. Availability of coded diagnoses, procedures and charges are essential to apply the rules for re-imbursable services.

To ensure coding accuracy and that clinical practice is within re-imbursable guidelines, the CCI and LMRP/NCD edits should be applied at the time of the original transaction (entry of a charge). These edits require coded diagnosis and procedures (charges).

In an EHR, the clinician or other user should be alerted to any edit issue when posting the transaction. If information is keyed later from documentation, the edits should be applied at the earliest point in the process where the data is available and there is a party accountable for intervention when appropriate. Thus, the transaction is identified and addressed prior to entry into the claim cycle.

A diversity of processes and tools for charge capture and clinical documentation can add complexity to the revenue cycle process. Where possible, direct entry at the time of service supports optimum revenue cycle performance. Direct entry enables real-time edit checking and circumvents possible delays or errors in processing. Wherever possible, processes should be standardized and streamlined given available system tools and clinical acceptance / ability to use automated tools.

**Operational controls for Charge Capture and Clinical Documentation**

To guard against omissions, operational controls, checks and balances should be established for each charge capture and documentation mechanism and site where used, regardless of the type of mechanism used. Each completed clinical encounter should result in charges and clinical documentation. The accountable party should be alerted in real-time when these items are not completed within an expected timeframe.

Performance measurement of the charge capture and clinical documentation functions falls within three categories:

- Operational controls (tools and alerts at the encounter specific level of detail).
- Outcomes measurement.
- Workload and productivity (department and specific individual).

Essential operational controls for charge capture and clinical documentation should be automated, and reported at the task and user or performer level of detail. If multiple systems and processes are used for clinical documentation and charge capture, then each should have the appropriate operational controls established to monitor performance.

Key operational controls for charge capture and clinical documentation include:

- Notification to clinicians on cases where charges have not been entered.
- Notification to clinicians on cases where documentation is incomplete.
- Escalation of notification when charges/and or documentation remains incomplete after 24 hours.
• For circumstances where the entry of charges and/or documentation is not direct into an integrated EMR, additional notifications should be executed for each task/role involved in placing coded charges and clinical documentation into the billing system (this can get very complex where there is lack of automation).
• Where a transcription service is used, there should be active monitoring and aging of the transcription backlog with alerts if this exceeds one (1) workday.

Outcomes measures for charge capture and clinical documentation performance assessment should be reported at the task/user performer level of detail. These measures include:

<table>
<thead>
<tr>
<th><strong>Key Performance Indicators</strong></th>
<th><strong>Best Practice Standards</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Professional / Ambulatory Charges entered &lt; 1 business day &lt;br&gt;(w/ exception for diagnostics charged on results posting, if expected results turnaround &gt; 1 day)</td>
<td>100 percent</td>
</tr>
<tr>
<td>Late charge hold period (“suspense days”) (2 – 4 days)</td>
<td>2.0 days</td>
</tr>
<tr>
<td>Charges entered for admission encounters &gt; 7 days &lt;br&gt;(w/ exception for diagnostics charged on results posting, if expected results turnaround &gt; 7 day)</td>
<td>0 percent</td>
</tr>
<tr>
<td>Late charges as a % of total charges</td>
<td>2.0%</td>
</tr>
<tr>
<td>Lost charges as a % of total charges</td>
<td>1.0%</td>
</tr>
<tr>
<td>Clinical Procedure/ Visit Documentation entered &lt; 1 business day</td>
<td>100.0%</td>
</tr>
<tr>
<td>Final Clinical Procedure/ Visit Documentation signed &lt; 3 business days</td>
<td>100.0%</td>
</tr>
<tr>
<td>Accounts/Claims w/ Charge Coding Errors (per Scrubber)</td>
<td>1.0%</td>
</tr>
<tr>
<td>Accounts/Claims w/ Missing Charges (per Scrubber, coder review, etc)</td>
<td>1.0%</td>
</tr>
</tbody>
</table>

Workload/productivity measures for charge capture and clinical documentation are relevant when parties other than the clinician are involved in these processes. The specific measures reported are dependent on the specific tasks performed. Logical examples include:

**Measure**

- Number of charges entered (with measures of speed and accuracy)
- Number of notes transcribed and number of lines of text transcribed (with measures for speed and accuracy)

**Processes to Optimize Charge Capture and Clinical Documentation**
Depending on available system tools, charge capture and clinical documentation may be very streamlined and automated, or very complex and manual processes. Delays or inaccuracies have a significant impact on revenue cycle performance. A review of
hospital entities with high performance reveals certain processes and tools that may be closely correlated with their level of performance. These include:

- Minimizing the number of tasks and parties involved in the completion of clinical documentation and the entry of coded values into the billing system for charges, procedures and diagnoses.
- Encounters identified with the billing and performing provider(s) at time of completion (a necessary pre-requisite for operational controls on clinical documentation (and charge capture if direct entry by clinicians).
- Use of automated reports to identify missing documentation by the accountable party for all encounters.
- Use of automated reports to identify missing charges by the accountable party for all encounters.
- Performance standards for charge capture (and clinical documentation) established within department managers’ job descriptions.
- Use of an escalation process with defined consequences for missing documentation and charges.
- If the clinical documentation is not directly entered by clinicians, the transcription services are either online and/or a voice-recognition system. Processes that rely on manual transfer of tapes and creation of hardcopy for review are subject to significant issues.
- Clinicians have the ability to view and/or e-sign records outside the hospital. This enables time savings in the review and finalization process.
- Denials associated with coding, clinical documentation (and clinical practice) are categorized and reviewed with providers on a regular basis, with instruction on guidelines as needed.
- Parties accountable for charge entry are supported with ongoing continuing education on charge criteria, coding and compliance guidelines:
  - Some entities have switched from charge forms to online charge entry by clinicians.
  - In doing so, the coding knowledge of a charge entry clerk was overlooked, and this knowledge was not given to providers as part of the training.
  - As a result, many coding errors ensued until the issue was identified and additional coding training was provided to the clinicians.

**Discussion and Other Considerations**

Effective charge capture and clinical documentation can have a very positive impact on hospital revenue cycle performance. The efficiency and effectiveness of these processes may be boosted with the appropriate use of technology to standardize and streamline these processes. Systems strategy should account for minimizing steps without adverse impact to efficient and effective clinical practice. Systems strategy should also account for measurement of performance within these processes to identify issues (and accountable parties) as they occur.
Midstream: Charge Description Master (CDM) Maintenance

Revenue Cycle Objectives
The charge description master (CDM) is one of the most complex master files in any RCM system, and is subject to continuous updates. Proper maintenance is essential to ensure proper charging for services and supplies within financial and regulatory parameters. Given the critical nature of the data in this file, there is merit in monitoring performance of employees responsible for file maintenance. Poor performance in maintenance of this file will put the organization in financial risk and may introduce risk of regulatory non-compliance. Thus, monitoring the performance of file maintenance will aid in risk mitigation.

Records in the CDM typically include every single line item for which a charge may be made, including hospital services, all diagnostic and therapeutic procedures, equipment, supplies, drugs and professional services. Each record may have many fields, including an entity-specific charge item code, one or more standard clinical code(s) (HCPCS, ICD-9/10-CM, CPT-4, etc.), modifiers associated with these codes, indicators for use in professional or technical claims and item prices.

Maintenance activities may be driven by internal factors, such as adding or inactivating charge codes for services as the organization’s mix of services evolves over time. Pricing of services also evolves as contracts are refined and operating costs change. External factors also drive changes in the CDM file. The coding schemes for procedures and diagnoses evolve over time and updates must be implemented at specific points during the year.

Given the complexity of the CDM file, some organizations have put tools in place to aid in tracking and management of the individual charge item records in the file. These may be proprietary applications with some degree of external support for CDM maintenance, or custom databases devised by the organization for these purposes. Highlights of the systems tools, key performance indicators and processes that optimize performance are included in this section of the report. For more specific details, please see the Charge Capture Tools worksheet here.

System implications for CDM maintenance
Certain characteristics of charge capture and billing systems that are related to the use of CDM records themselves may also be closely correlated with higher levels of overall revenue cycle performance. These include:

- Order entry items have clinician-interpretable descriptions and accurately map to service codes.
- Charge ticket items (if charge tickets are used) accurately map to service codes.
- The charge generation process works for all manner of workflow sequences. (e.g., orders placed before or after results are posted, such as Stat EKGs).
- Charge data flows reliably from points of service to claims.
- Modifiers are conveyed correctly/reliably to claims.
- CCI edit conflicts are identified in charge entry.
- Physician orders for outpatient procedures are received with requisite CPT–4 code(s).
- Charges are generated for delivered/ resulted (not ordered) services (labs, meds, etc.).
- CDM item descriptions and prices are comprehensive and cannot be edited online.

**Performance Measurement for CDM Maintenance**

Performance measurement of the CDM maintenance function focuses on the timing and accuracy of updates made. The first set of measures may be calculated from a statistical assessment of the records in the CDM. These measures count occurrence rates of known error conditions, including:

<table>
<thead>
<tr>
<th>Key Performance Indicators</th>
<th>Best Practice Standards</th>
</tr>
</thead>
<tbody>
<tr>
<td>CDM duplicate items</td>
<td>0.0</td>
</tr>
<tr>
<td>CDM item price is $0 (other than ‘no-charge’ provider visit)</td>
<td>0.0</td>
</tr>
<tr>
<td>CDM item price less than HOPPS APC rate</td>
<td>0.0</td>
</tr>
<tr>
<td>CDM item description is “Miscellaneous”</td>
<td>0.0</td>
</tr>
<tr>
<td>CDM item has missing modifier, if applicable</td>
<td>0.0</td>
</tr>
<tr>
<td>CDM Item is missing the standard code (HCPCS, CPT-4, NDC, etc.) (type of code is dependent on type of charge the CDM item represents)</td>
<td>0.0</td>
</tr>
</tbody>
</table>

The second set of performance measures for CDM maintenance requires a degree of assessment and analysis. The assessment should be proactive in the form of a periodic review (at least annually). The outcome of the assessment should report:

<table>
<thead>
<tr>
<th>Key Performance Indicators</th>
<th>Best Practice Standards</th>
</tr>
</thead>
<tbody>
<tr>
<td>CDM item is assigned an incorrect / invalid code (HCPCS, CPT-4, ICD-9/10)</td>
<td>0.0</td>
</tr>
<tr>
<td>CDM item is assigned an incorrect / invalid revenue codes</td>
<td>0.0</td>
</tr>
<tr>
<td>CDM item has invalid / incorrect modifier</td>
<td>0.0</td>
</tr>
<tr>
<td>Surgery, lab and radiology charges properly unbundled?</td>
<td>Yes</td>
</tr>
<tr>
<td>CDM items have consumer interpretable descriptions?</td>
<td>Yes</td>
</tr>
</tbody>
</table>

The third set of measures track activities of CDM Maintenance, and identify broad parameters of performance in the maintenance functions. These include:

<table>
<thead>
<tr>
<th>Key Performance Indicators</th>
<th>Best Practice Standards</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of CDM items updated in reporting period</td>
<td>100 percent</td>
</tr>
</tbody>
</table>
Processes to Optimize CDM Maintenance
Depending on operational practices and system tools in place, maintenance of the charge description master may be very well managed, or be overly complex and subject to errors and delays. Delays or inaccuracies can have a significant impact on revenue cycle performance.

A review of hospital entities with high revenue cycle performance reveals certain processes and tools for maintenance of the CDM that may be closely correlated with their level of performance. These include having the following in place:

- A formal CDM change management process.
- A formal annual CDM review process with clinical departments.
- A formal annual charge sheet/ticket review process.
- Clearly defined mechanism for clinical departments to communicate with CDM maintenance when there is a change in service, or have any pertinent issues or questions to address.
- CDM Coordinator and employees reporting to the chief revenue officer.
- A standardized CDM pricing methodology which is defensible for all items and services.

Certain characteristics of the CDM structure and records themselves may be closely correlated with higher levels of overall revenue cycle performance. These include:

- Procedure code modifiers are “static coded” in the CDM where appropriate (and codes with and without modifiers are selected as appropriate in charge capture).
- Nursing procedures (CPR, infusion, etc.) are defined as unique items in the CDM.
- The CDM is comprehensive for all services delivered.
- APC pass-through items are defined in the CDM and captured for reporting.

Discussion and Other Considerations
In summary, the integrity of the charge description master file is pivotal for revenue cycle efficiency and effectiveness. Maintenance of the file is complex because it requires clinical, revenue cycle and IT perspectives. Proactive file maintenance processes and clear accountabilities in the maintenance of this file can have a positive impact on revenue cycle performance. Issues should be clearly identified and communicated to
accountable parties as they occur. The integrity of the file and efforts to sustain this accountability should be reported and tracked over time.

**Midstream: Health Information Management (HIM)**

**Revenue Cycle Objectives**
Management of the clinical record and the codification of diagnoses and procedures are critical to ensure that the delivery of care and supporting documentation is in the clinical record and used in billing. What may seem to be simple and straightforward may be extremely complex, and subject to a wide degree of variation. The HIM functions rely on access to clinical documentation and are therefore dependent on the tools and process in place to support clinical practice. Different types of care have different documentation requirements, different areas of clinical specialization (or even individual providers) may have unique processes and tools for completing these tasks, and multiple steps may be involved. Each variation and subsequent step in a process introduces some degree of risk in completing the subsequent HIM process correctly and in a proscribed timeframe.

Revenue cycle improvement projects will typically look for opportunities to standardize and streamline the processes for coding and charge review. Specific objectives may be set for improving efficiencies in the coding process, accuracy of coding and or reducing the interval of time to complete the work required to support claim submission. Highlights of the systems tools, key performance indicators and processes that optimize performance are included in this section of the report. For more specific details please see the Health Information Management worksheet [here](#).

High-level revenue cycle objectives for health information management include:

- Complete, accurate and timely codification of documented clinical care and patient conditions as necessary to support billing claims.

- Complete, accurate and timely verification of provider- or clerk-entered codification of clinical care and patient conditions against actual documentation to ensure compliance with financial and regulatory guidelines.
  - Note: Other measures of compliance are captured for HIM, but these are not necessarily specific to revenue cycle performance and therefore are not addressed here.

**System Implications for Health Information Management**
HIM processes depend on access to all clinical documentation and any pre-coded data. Thus, HIM coders require access to all areas where this data may be recorded. In the absence of a unified EMR, the HIM coding function requires access to the paper chart and/or component systems used to document clinical care. Where an EMR is used, coders require access to view all of the areas within the EMR where documentation and coded data may be recorded.

Sites that allow multiple means to store clinical documentation (scanned text, posted transcription, direct entry) may be satisfying individual provider choices yet complicating
the function of the coders if each method fails to place the documentation in a logical and searchable context for a given clinical encounter. Ultimately, coders must be able to identify and access all clinical documentation for a given episode of care. When planning an EMR and options for clinical documentation, the downstream use of the data by coders should be considered. Otherwise, there is risk of missing essential clinical information to ensure coding accuracy, risk of creating inefficiencies in the coding process and risk of subsequent negative impacts on revenue cycle performance.

The task of coding the clinical documentation may also employ coding specific systems tools within a comprehensive HIS or a HIM-specific application that is integrated with other HIS applications. There are trends to move more coding functions to remote services, either in off-site in office complexes or decentralized to coders’ home offices. This adds to the system requirements for remote access, and this carries additional security considerations, given the protected nature of patient data. Decentralization requires appropriate tools for the distribution of work. Thus, electronic worklists are needed so each individual coder has clear accountability for specific cases to be completed.

Clinical care coding must adhere to explicit and sometimes complex guidelines. Coders must have access to guideline reference materials, either in hard copy or in a searchable soft-copy format. Decentralization may complicate distribution of hardcopy reference materials.

Once code assignment has been determined, coded values for diagnosis and procedures must be entered into the billing system for inclusion in claims processing. In the physician revenue cycle, professional charges are identified in the coding of procedures and these must also be entered. In a streamlined workflow this work may be done directly by coders. Some organizations may first capture coded values on forms and then transfer these to a second party within the organization for data entry.

To ensure compliance and coding accuracy on outpatient claims, edits should be applied to coded clinical data prior to claims submission for CCI and LMRP/NCD edits. Automated edits may be embedded in transactions systems to identify discrepancies at the time of entry (prior to submission into the claim cycle). Should an error or issue be reported as the edits are applied, the coded items require refinement or the claim may be denied.

Refinements to coded values are likely dependent on addendums to the clinical record. Thus, the ideal circumstance is for providers to enter coded values for charges and diagnoses directly, receive immediate feedback on the coding edits and create addendums to clinical documentation as appropriate. Where many tasks and multiple parties are involved in the coding and data entry process, the greater the difficulty in providing essential feedback to providers and refining the clinical record and coding.

Once coding of diagnoses and procedures have been completed, hospital claims require assignment of the DRG for case-based reimbursement. Final coded records must be
submitted through diagnosis-related grouping system tools to calculate and assign DRGs. Integration of the grouper application with the HIS allows for automated completion of this process. DRG assignment is calculated on the documented diagnoses and procedures. Thus, coding inaccuracies may have an adverse impact on case-based reimbursement. Once DRGs are assigned, an attestation must be completed by the provider. Availability of records for review and attestation can also impact revenue cycle performance.

**Performance Measurement for Health Information Management**

Claim submission is dependent on completion of the HIM coding processes. Errors and delays in the process will degrade revenue cycle performance. Operational controls should be established to monitor performance of the component tasks in completing the coding process. Operational controls should provide checks and balances for each task and accountable party. The accountable party should be alerted in real-time when these items are not completed within an expected timeframe.

Performance measurement of the HIM coding functions fall into three categories:

- Operational controls (tools and alerts at the encounter specific level of detail).
- Outcomes measurement.
- Workload/productivity (department and specific individual).

Essential operational controls for tracking and management of HIM coding activities should be reported at the task/user-performer level of detail. These may include:

- List of discharges pending completion of documentation (by accountable provider) with aging.
- List of cases pending completion of coding (by assigned coder) with aging.
- Alerts for incomplete cases greater than five days from discharge.
- List of cases pending attestations (by accountable Provider) with aging.
- Alerts for incomplete attestations > 5 days form DRG assignment.

Outcomes measures for HIM coding performance assessment:

<table>
<thead>
<tr>
<th>Key Performance Indicators</th>
<th>Best Practice Standards</th>
</tr>
</thead>
<tbody>
<tr>
<td>DNFB HIM work in process &lt;X% of revenue or 'days A/R'</td>
<td>5 percent</td>
</tr>
<tr>
<td>Average days age in pending queue &lt; X days from entry into queue</td>
<td>3 days</td>
</tr>
<tr>
<td>Average days age in pending queue &lt; X days from DOS or discharge</td>
<td>3 days</td>
</tr>
<tr>
<td>Coding status incomplete &gt; five days (DNFB) &lt; X% of total cases</td>
<td>5 percent</td>
</tr>
</tbody>
</table>
Coding denials < X% of (number of accts) ($ total charges) | 1 percent
Coding write-offs < X% of (number of accts) ($ total charges) | 1 percent

Workload and productivity measures for HIM coding performance assessment:

<table>
<thead>
<tr>
<th>Key Performance Indicators</th>
<th>Best Practice Standards</th>
</tr>
</thead>
<tbody>
<tr>
<td>IP charts coded per coder/per day (20-23)</td>
<td>23.0</td>
</tr>
<tr>
<td>Observation (OBSV) charts coded per coder/per day (30-34)</td>
<td>34.0</td>
</tr>
<tr>
<td>Ambulatory Surgery (AMB SURG) charts coded per coder/per day (30-34)</td>
<td>34.0</td>
</tr>
<tr>
<td>OP charts coded per coder/per day (150-210)</td>
<td>210.0</td>
</tr>
<tr>
<td>ED charts coded per coder/per day (150-210)</td>
<td>210.0</td>
</tr>
</tbody>
</table>

**Special Note:** though not directly tied to revenue cycle performance, issues in chart handling (if using paper charts) and/or management of the Master Patient Index in the EMR or other hospital information systems can have an impact on revenue cycle performance. Lost charts cannot be coded, and duplicate electronic records can delay the coding processes or even result in lost charges. If paper charts are still processed, the entity ideally will use an online, bar-code enabled chart location system. A few fundamental parameters to monitor include:

<table>
<thead>
<tr>
<th>Key Performance Indicators</th>
<th>Best Practice Standards</th>
</tr>
</thead>
<tbody>
<tr>
<td>MPI duplicates as a % of total MPI entries (&lt; .05%)</td>
<td>0.5 percent</td>
</tr>
<tr>
<td>Chart delinquencies</td>
<td>5 percent</td>
</tr>
<tr>
<td>Missing charts</td>
<td>0 percent</td>
</tr>
</tbody>
</table>

**Processes to Optimize Health Information Management**

Depending on operational practices and system tools in place the HIM coding functions may be very well managed, or be overly complex and subject to errors and delays. Delays or inaccuracies can have a significant impact on revenue cycle performance. A review of hospital entities with high revenue cycle performance reveals certain structures, processes and tools for HIM coding that may be closely correlated with their level of performance. These include:

- Health Information Management reports to chief revenue officer.
- HIM assigning interventional/surgical procedure codes.
- All coding done by employees reporting to HIM Director.
- All coding done by certified coders who are retrained often.
- All certified coders maintain certification and CPEs.
- All coding done in descending balance order, not FIFO.
- All coding done when information is sufficient, not 100-percent complete.
• Appropriate staffing levels to prevent process backlogs.
• Internal quality-control audits performed at least quarterly.
• External quality-control audits completed at least annually.
• If coding is to support both professional and technical claims, the diagnosis coding accounts for the different needs of professional procedure specific requirements vs. hospital case level requirements.
• If using an online, scanning-enabled HIM records imaging system, all scanned images are indexed to specific encounter by provider.
• Use of an online clinical abstracting system.
• Use of an online, up-to-date coding compliance system.
• Use of online DRG and APC groupers.
• Physician’s ability to view and/or e-sign records outside the hospital.
• Consistent monitoring and management of discharges and non-billed accounts receivables (DNFB A/R) due to HIM.
• Aging reports on HIM claim processing with both dollars of charges and number of claims.
• Denial review with information provided by Patient Financial Services (PFS) or others.
• Denials/delinquency reviews with physicians.
• Active coding education program for all parties accountable for charge entry.
• Assurance that storage/retrieval/release of records is HIPAA-compliant.

Discussion and Other Considerations

Effective HIM coding can have a positive impact on hospital revenue cycle performance. Coding effectiveness is dependent on the availability of clinical data. Systems strategy should account for coders’ access to information and the reporting of coder efficiency and effectiveness.

Downstream RCM: Billing and Claim Submission; Cashiering, Refunds and Adjustment Posting; Third Party and Guarantor Processing, Payment Posting and Follow Up; Customer Service; Collections and Outsourcing

The downstream revenue cycle are “financial clearance” operations typically described as business office or back office functions. The key objectives are to manage timely billing of clinical services once records are provided by HIM, and oversee the associated collection and reconciliation of those accounts. The process for completing these tasks takes significant coordination from all areas of the revenue cycle to gather, correct, appeal and reconcile needed information.
Due to the extreme volume of activity involved in downstream activities, automation is no longer a luxury but a necessity. IT can play a significant role in enhancing the process required to generate a timely bill and manage required activities associated collecting on those accounts. Strong automated workflow management tools coupled with an effective process governance process can yield effective streamlining of backend processes.

Downstream revenue cycle functions may be sub-categorized into:

- Billing and claim submission.
- Cashiering, refunds and adjustment posting.
- Third-party and guarantor follow-up.
- Payment posting and follow up.
- Customer service.
- Collections and outsourcing.

Accountability for each of these functions may be assigned to a unique employee class, and requires a unique skill set to perform well. Performance metrics, processes to support optimal performance and general discussion are presented by sub-category in the sections that follow.

**Downstream: Billing and Claim Submission**

**Revenue Cycle Objectives**
Downstream revenue cycle functions start with billing and claim submission. The overall performance of the billing function relies on exceptionally strong performance from the upstream and midstream components of the revenue cycle.

Billing and claim submission can only operate smoothly if strong processes and information technology solutions are in place that provides real-time, rules-based editing of accounts throughout the upstream and midstream section of the revenue cycle. Although claim volumes may be high, employing information technology to automate and manage the billing process is key to expediting the billing of clean claims and organizing the manual interactions required by the inevitable percentage of claims that need review and interaction.

Understanding the current best practices in automation and workflow management used for claim submission can make information technology extremely effective. Using information technology that provides bi-directional communication between payors, strong bill editing functionality and flexible workflow management can compliment well designed billing processes that ultimately improve collection rates and reduce accounts receivables (A/R.). Highlights of the systems tools, key performance indicators and processes that optimize performance are included in this section of the report. For more specific details please see the Billings / Claims Submission worksheet here.

**System Tools to Optimize Billing/Claim Submission**
Effective billing and claims submission requires an online electronic billing system with the following characteristics:
• Flexibility to add new billing edits.
• Automatic daily downloads from HIS system.
• Biller-specific worklists.
• Major-payor edits supplied/supported by vendor.
• Claim-submit notice automatically uploaded to HIS system.
• Claim corrections automatically uploaded to HIS system.
• All claims (paper + electronic) editable.
• Standard errors automatically corrected by system.
• Biller-specific productivity and error reporting.
• Clinical department-specific error reporting.
• Automated Medicare-supplement/COB-2 claim submission.
• Interface with online Medicare-compliance system.

**Performance Measurement for Billing/Claim Submission**

Monitoring billing performance for continuous improvement is not a new practice but is mandatory to ensure that employees are properly allocated. Productivity tracking may be difficult, due to the complexity and the various circumstances in which billable accounts are received. Nevertheless, an attempt must be made to monitor activities in real time, or require employees to perform daily activity tracking, at a minimum. More importantly, biller quality can and should be audited through a defined process of feedback from downstream functions about billing/claim submission quality and effectiveness.

Leveraging technology to support these efforts is important. Managers should, however, be cautious to not overcomplicate workflow processes and the flow of accounts. It is common for organizations to use separate tools for tracking discharged and not final billed (DFNB) edits, payor edits, clearinghouse status and work lists. All of these can be helpful, if used properly, but confusing and difficult to report on, if not managed properly.

<table>
<thead>
<tr>
<th><strong>Key Performance Indicators</strong></th>
<th><strong>Best Practice Standards</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>HIPAA-compliant electronic claim submission rate</td>
<td>100 percent</td>
</tr>
<tr>
<td>Final-billed/claim not submitted backlog (one A/R day)</td>
<td>1.0</td>
</tr>
<tr>
<td>Medicare supplement ins billing following adjudication (two business days)</td>
<td>2.0</td>
</tr>
<tr>
<td>Non-Medicare COB-2 insurance billing following COB-1 payment (2 business days)</td>
<td>2.0</td>
</tr>
<tr>
<td>Medicare RTP (Return to Provider) denials rate</td>
<td>3.0 percent</td>
</tr>
<tr>
<td>Outsourced guarantor statement cost to produce / mail (20 – 25¢)</td>
<td>$0.20</td>
</tr>
<tr>
<td>-------------------------------------------------------------</td>
<td>-------</td>
</tr>
<tr>
<td>Clean claim submission rate</td>
<td>&gt;85%</td>
</tr>
</tbody>
</table>

**Processes to Optimize Billing/Claim Submission**

- Primary/secondary billing completed by dedicated team.
- Staffing levels sufficient to minimize / prevent billing backlogs.
- Quantity/quality performance standards as part of billers’ job descriptions.
- Regular quality control reviews of billers’ work.
- Billers receive performance-based incentive compensation.
- All billers receive annual Medicare compliance training.
- Billers cross-trained on more than one payor type.
- Use Patient Friendly Billing® concepts for guarantor billing.
- Use of proration to bill insurance and guarantor simultaneously.
- Guarantor statements include credit card and online payment option.
- Guarantor statements clearly communicate payment policies.
- Guarantor statements provide customer service phone number.
- Guarantor statements provide customer service Web address.
- Guarantors receive letters/statements at least monthly.

**Discussion and Other Considerations**

Third-party billing is the foundation of a provider’s cash flow. Remember: If it doesn’t get billed, it can’t get paid. Further, guarantors also expect and deserve timely, accurate and understandable bills. Third-party payors are billed using the UB-04 billing form/ANSI 837 data set. Both the paper form and the electronic data set contain data elements known as form locators that are used to record claim-related data. A biller's key responsibility is to produce a "clean claim," which is a UB-05 / ANSI 837 that is completed exactly according to the requirements of the third-party payor that will receive it.

**Downstream: Cashiering, Refunds and Adjustment Posting**

**Revenue Cycle Objectives**

Effectively managing the high volume of incoming claim responses from payors has long been a labor-intensive, thankless function performed by the business office. Technology, however, has progressed considerably since the turn of the century. Today, large fractions of previously manual-entry work has been automating in downstream departments. High-performing organizations are scrutinizing workflows and further enhancing the effectiveness of these departments. Highlights of the systems tools, key performance indicators and processes that optimize performance are included in this section of the
report. For more specific details please see the cashiering, refunds and adjustment worksheet here.

Pushing to maximize automated posting and increasing the level of detailed information added to accounts has improved organizations ability to route work, automate secondary billing and quickly respond to denial and underpaid claims. In many organizations that are not performing early proactive status checks on outstanding claims, the cash posting process is the first indication of an adjustment to the expected reimbursement and can play a key role in accelerating the routing and follow up of those accounts to specialized denial management and payment review teams.

**Systems to Optimize Cashiering, Refunds and Adjustment Posting**

For patient (post-insurance) balances, pure self-pay balances, and even some smaller payers, use of a bank lockbox service can speed to deposit time and add a preferred electronic receipt of accounts to be posted. Most lockbox providers will now remit an ANSI 835 transaction, which is the first nationwide, all-payor electronic standard for healthcare claims. Accepting the 835, however, requires an approach tailored to the individual provider's IT system. Providers have four options for receiving ANSI 835 claims payments. They include: direct transmission from payors, value added network services (VANs), banks with electronic data interchange capabilities and paper reports. Providers' claims processing systems vary enormously in the formats they use and in their capacities to transmit and receive claims payments electronically.

Providers need ANSI transaction capabilities that are integrated seamlessly with legacy systems to support full-EDI claims, claim attachments and payment processing. Alternately, they need to deploy new-generation systems in which these capabilities are built in. Providers and payors can generate/receive the following EDI ANSI transaction communications:

**Primary Bill & Remittance Advice Transactions**

- 837 ~ Medical Bill.
- 275 ~ Medical Bill Attachment.
- 277 ~ Pre-adjudication Bill Status/ADR.
- 835 ~ Medical Bill EOR/EOB/Remittance Advice.
- 810 ~ Non Medical Bill.
- 820 ~ Non Medical Bill Remittance Advice.

**Transaction Acknowledgements**

- TA1 ~ Interchange Acknowledgment.
- 997 ~ Functional Acknowledgment.
- 824 ~ Application Acknowledgment.
Inquiry Transactions

- 270 / 271 ~ Inquiry/Claims Indexing.
- 276 / 277 ~ Bill Status Inquiry/Response.

Performance Measurement for Cashiering, Refunds and Adjustment Posting

<table>
<thead>
<tr>
<th>Key Performance Indicators</th>
<th>Best Practice Standards</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIPAA-compliant electronic payment posting %</td>
<td>100 percent</td>
</tr>
<tr>
<td>Transaction posting backlog (during the month) (1 business day)</td>
<td>1.0</td>
</tr>
<tr>
<td>Transaction posting backlog (end of the month) (0 business day)</td>
<td>0.0</td>
</tr>
<tr>
<td>Credit-balance A/R days (gross) (1 A/R days)</td>
<td>1.0</td>
</tr>
<tr>
<td>Medicare credit-balance report submission timeliness (due date)</td>
<td>0.0</td>
</tr>
</tbody>
</table>

Processes to Optimize Cashiering, Refunds and Adjustment Posting

- Cashiering completed by dedicated team w/ no other duties.
- Refunds completed by dedicated team w/ no other duties.
- Quantity/quality performance standards part of cashiers’ job description.
- Regular quality control reviews of cashiers’ work.
- Cashiers receive performance-based incentive compensation.
- All cashiers receive annual Medicare compliance training.
- Cashiers cross-trained on more than one payor type.
- Use of lockbox for non-electronic/non-EDI payments.
- Lockbox remits payment data electronically/EDI/OCR.
- Denial transaction codes entered to facilitate follow-up.
- Use of online system to compare expected vs. actual payments.
- Post contractual adjustments at time of final billing.
- Productivity by collector is measured and discussed routinely with posters.
- All lockbox, electronic and mail receipts are reconciled and posted each day.
- Payment discrepancies are researched and resolved on the day identified.
- Cash receipts are credited to lockboxes or deposited on the day received.
Discussion and Other Considerations

The cashiering, refunds and transaction posting functions focus on processing reimbursement from third-party payors and guarantors, for monies previously spent by providers in the treatment of their patients.

Sources of Payments

- Third-party payors make payments on behalf of beneficiaries or subscribers. Such payments may be less than full charges, based on pre-determined contractual arrangements with the provider.
- Each third-party payment should reflect "full contract benefits" which are due to the beneficiary or subscriber through his/her relationship with a third-party payor.
- Guarantors make payments on behalf of patients for whom they are financially responsible.

Types of Payments

- Cash is usually paid only by guarantors and is almost never mailed to the provider. Cash payments are typically given directly to cashiers at their windows, hence the term "window payment."
- Money orders are usually paid only by guarantors and may be given directly to cashiers, or mailed to the provider.
- Checks may be paid by guarantors and by third-party payors and may be given to cashiers, mailed to the provider, mailed to a lockbox, or (rarely) picked up by someone from the business office at the end of the month. Some third-party payors use a single check to pay multiple accounts, and these checks are typically accompanied by a remittance advice that details the specific payment amounts.
- Direct deposit and electronic funds transfer are usually paid by third-party payors. They involve sending payments directly to the hospital's bank, either through the mail or by computer.

Downstream: Third Party and Guarantor Follow-Up

Revenue Cycle Objectives

Business office follow up has long been the workhorse of the revenue cycle process and has functioned to clean up poor upstream and midstream processes and mishandled claims. Follow-up processes can include generating reports on the general status of individual accounts, technical denial follow up, payment discrepancy review, rebilling activities, secondary billing and in some cases credit balance research and adjustment. While the upstream and midstream portions of the revenue cycle are gaining effectiveness, claim follow up teams remain a necessary and effective method for protecting revenue. Highlights of the systems tools, key performance indicators and processes that optimize performance are included in this section of the report. For more specific details please see the third-party and guarantor worksheet here.
**Systems to Optimize Third-Party and Guarantor Follow-Up**
Routing unpaid or underpaid claims to the most effective teams at the appropriate time is imperative to keep A/R collection time to a minimum. Whether accounts are managed in-house or outsourced, the timeliness of follow up has a direct relation to collection effectiveness. Using IT to route claims and provide applicable information needed to resolve claims is becoming routine for effectively managed business offices. Implementing standard processes, quality monitoring and key performance indicator (KPI) monitoring to compliment technology can take cash collections to a new level for organizations.

Systems used by best-practice collection and follow-up organizations include:

- Receivables workstation.
- Remittance posting.
- Contract-management.
- Imaging.
- Address and credit checking/scoring.
- KPI reporting.

<table>
<thead>
<tr>
<th>Key Performance Indicators</th>
<th>Best Practice Standards</th>
</tr>
</thead>
<tbody>
<tr>
<td>Insurance A/R aged more than 90 days from service / discharge (15 – 20%)</td>
<td>15 percent</td>
</tr>
<tr>
<td>Insurance A/R aged more than 180 days from service / discharge</td>
<td>5 percent</td>
</tr>
<tr>
<td>Insurance A/R aged more than 365 days from service / discharge</td>
<td>2 percent</td>
</tr>
<tr>
<td>Bad debt write-offs as a % of gross revenue</td>
<td>3 percent</td>
</tr>
<tr>
<td>Charity write-offs as a % of gross revenue</td>
<td>2 percent</td>
</tr>
<tr>
<td>Cost-to-collect ([PA + PFS + agency expenses]/cash)</td>
<td>3 percent</td>
</tr>
<tr>
<td>Patient cash as a % of net revenue</td>
<td>100 percent</td>
</tr>
<tr>
<td>In-House Inpatient A/R days (ALOS)</td>
<td>5.0</td>
</tr>
<tr>
<td>DNFB A/R days (4 – 6 A/R days)</td>
<td>4.0</td>
</tr>
<tr>
<td>Net A/R days (55 A/R days)</td>
<td>55.0</td>
</tr>
<tr>
<td>Cash as a % of cash goal</td>
<td>100 percent</td>
</tr>
<tr>
<td>Total point-of-service cash as a % of net revenue (2 – 3%)</td>
<td>3 percent</td>
</tr>
</tbody>
</table>

**Processes to Optimize Third Party and Guarantor Follow-Up**
- High-balance follow-up completed by dedicated team.
- Staffing levels sufficient to minimize/prevent aged A/R build-up.
- Quantity/quality performance standards part of collectors’ job descriptions.
- Regular quality control reviews of collectors’ work.
- Collectors receive performance-based incentive comp.
• All collectors receive annual Medicare compliance training.
• Collectors cross-trained on more than one payor type.
• Use of online “receivables work station” system.
• Final bill date used for driving initial follow up (bill date from last billing submission system/editor used).
• Collector specific work list assignments presented in descending balance order.
• Automatic daily downloads from HIS system.
• Full (dual direction) interface for collection notes, etc. to HIS system.
• Next activity date automatically uploaded to HIS system.
• Use online, Web-enabled third-party payor inquiry system(s).
• Guarantor follow-up outsourced or on predictive dialer.
• Collectors receive third-party/guarantor follow-up training.
• Collectors use of third-party/guarantor follow-up scripts.
• Collectors have no competing staff duties (example: customer service duties).
• Underpayments and full denials (technical) are identified at time of cash receipt and promptly addressed (preferably a dedicated team).
• System reminders (follow-up timeframes) are set appropriately for each stage of follow-up on outstanding claims.
• Proper controls and monitoring tools are in place for write-offs and bad debt ($ level approvals).
• Reasons for nonpayment or underpayment (denials) are known, appropriately summarized, monitored and quickly resolved.
• Productivity by collector is measured and discussed routinely with collectors.

Discussion and Other Considerations

Throughout the downstream revenue cycle, some basic philosophies should be considered for managing people, processes and information technology. Considerations should include:

• **Stratification and prioritization** should be a core philosophy instilled in each process and workflow of the revenue cycle. Risk, age, value, volume and strategic timelines should all be considered when determining these priorities. Managers and directors should work to identify the proper pre-determined stratification and prioritization philosophy needed for individual workflows, and most importantly, these philosophies must be transparent and communicated.

• **Baseline measurement and goals** should be established and communicated for individual departments and the entire enterprise. These goals should be
quantifiable and tracked to create/promote a culture that is working toward management’s defined goals and strategies. Goal examples would include due diligence accomplishments, productivity, cash collections, denial reduction, DNFB and A/R levels.

- **Identification and detailed review of work drivers** should take place to ensure proper work assignments for each department and group. Goals should be to provide the proper resources to the correct employee(s) who can move each process forward at the earliest point in the revenue cycle. Worklists must be sorted and prioritized for each employee, and work must be distributed to maximize resource utilization and minimize bottlenecks. Worklists may be electronic (preferred) or paper-based (if properly managed).

- **High dollar/high risk/high delinquency account review** meetings should become a weekly occurrence. Accounts that are of significant value and have aged past expected timeframes in their respective process area should be tracked and documented through to resolution. Coordination between key departments should be used to assist in resolving these accounts.

- **Due-diligence steps** (response guidelines) for completing required work must be determined, documented, communicated and tracked for applicable department employees. This should include steps for the financial clearance of accounts, point-of-service collections, billing steps, follow-up on billed accounts, denial recognition and appeals, payment review and cash posting. This practice ensures proper steps are taken as determined by management and proper work quality is monitored and maintained.

- **Downstream revenue cycle management and monitoring reports** are agreed on and shared with all layers of management, from supervisors through C-suite executives. These should include but not be limited to: a core dashboard report; results trend reports; and supporting drill-down detailed reports. Reporting should include current and trended data for revenue, cash, adjustments, bad debt, DNFB, and billed accounts. These reports should be produced weekly and at month’s end, notated with management observations and comments and reviewed as a management-team to identify for progress/roadblocks towards identified goals.

- **A DNFB request communication process** should be in place to organize communication between the upstream, midstream and downstream areas of the revenue cycle. This request process can be a simple as an Excel or Access database that generates paper-driven reports, or as complex as an online request-to-work list-driven tool. Requests should be filed at a detailed process level and monitored by volume, dollar level and age-since-request, to properly manage and prioritize requests. The process for routing these requests, as well as the follow-up required to resolve requests, must be monitored at an executive level. This will help ensure timely response and compliance across unit and department boundaries.

- **A weekly revenue cycle meeting** should take place to review the core set of weekly revenue cycle reports. This event should include designated representatives for each key area of the revenue cycle (including but not limited to access management, HIM, billing, cash posting, follow up, case management and
information technology) who are accountable for communicating weekly process status, identifying key issues, problems, and accomplishments and forecasting results on a weekly—and monthly—basis. Multi- or cross-department issues should be addressed during this meeting, supported by data and facts—not hearsay, innuendo or anecdote. Assignment of tasks, issue identification and strategy refinement should be tracked and directed by leadership at this time. A weekly and month-end summary of accomplishments, forecasts and issues identified within this meeting should be summarized for C-suite executives’ review.

- As processes and reporting are refined, clear management expectations should be determined to identify quantifiable goals for each department. This process should be mirrored throughout the revenue cycle, at the individual-employee level. Each department should be managed as a micro-business unit of the revenue cycle. Managers should focus on productivity, quality, operational efficiency and excellence. Accountability for meeting expectations should be monitored and adjustments in staffing or training should be addressed promptly.

**Downstream: Customer Service**

**Revenue Cycle Objectives**
Customer Service is an essential business unit or function for any healthcare provider. Many of the metrics included in best practice for the pre-service and post-service systems are the same for customer service. Particularly, customer service can be most closely related to patient registration in terms of performance metrics, such as call wait times, numbers of calls dropped and calls resolved in the first contact; but the subject matter in this area is less standardized and more complex. Critical objectives for customer service include addressing patient inquiries and issues regarding accounts and claims, and close coordination with other revenue cycle functions, as needed, to resolve such problems in a timely manner.

Some of the key objectives and competencies for this important department include:

- Strong patient service-oriented culture.
- Timely and accurate resolution of patient account issues, phone or walk-in inquires and correspondence as assigned.
- Wide-ranging knowledge of the overall revenue cycle and related resources to use within and outside of the department unit as needed.
- Departmental and individual accountability for established customer service standards, productivity and goals.

**Systems to Optimize Customer Service**
In developing the following information related to customer service, important processes, tasks and functions specific to each area were carefully considered. In addition, key metrics and associated desired levels of performance for each measure have been addressed. Heavy emphasis was placed on the use of technology to automate and/or
streamline certain tasks, activities and processes, as well as facilitate the monitoring and management of these areas.

The use of integrated information technology and automated processes can significantly support high-performing customer service for healthcare providers. Similar to the need to provide strong customer service in patient access as the initial point of patient contact, downstream customer service operations require equal attention, because they are potentially the final point of contact with a patient.

Strong customer service in healthcare is directly supported by integrated information and telecom systems that facilitate rapid access to patient information for timely account resolution. Such systems should provide a variety of automated reported and tracking capabilities for operational management and assessment of on-going performance against established goals, as well as automated communication processes. These technological capabilities streamline customer service activities, resulting in efficiencies and savings from elimination of manual processes and tracking, and importantly, allow providers to serve patients in a timely and effective manner.

To monitor telephone satisfaction and actual performance vs. goals, the telecom system must have a robust automated call distribution (ACD) reporting system that tracks all calls into and through the system. Both historic and real-time dashboards should be available to the employees who supervise the telephone operators, so issues can be addressed in a timely manner. Current ACD dashboards can be viewed on multiple computers, so both employees and supervisors can be aware of the telecom status.

One of the major challenges for future HISs in post-service applications will be developing applications for other forms of communication, such as wireless communications devices. Healthcare providers will need to complement existing interactive voice response (IVR) systems with new technologies that facilitate multiple means of customer communication.

Customer service employees must be able to navigate a provider’s information systems to adequately review, research and resolve account inquiries. This experience, combined with the “soft” skills of serving patients, contributes to a high-functioning customer service unit. Not all inquiries, however, can be addressed by customer service employees. Thus, there is a need for defined processes, steps and open communication channels with other functions and departments to resolve account and claim issues.

Aside from experience, knowledge and skills, efficient and effective customer service heavily depends on the information system infrastructure. Today’s customer service information systems capabilities include integration with the main information systems to track and report key quantitative and qualitative aspects of the function (e.g., call-wait times; recorded calls to assess quality and identify training needs; length of actual call times; etc.). In particular, ACD systems that are tightly integrated with a provider’s exiting information systems can streamline patient account look up and review, as well as facilitate the monitoring and performance of the department and individual employees.
As with any other revenue cycle function, the more information that resides in the information system(s), the better the ability of customer service employees to fulfill their role in serving patients. Indeed, the success of resolving patient inquiries and complaints in a timely manner depends on the availability of real-time and accurate information within the patient account. As such, customer service not only serves to address patient account and claims issues, but this unit can also be a vital source of information for identification of improvement opportunities throughout the revenue cycle.

**Performance Measurement for Customer Service**

Specific to customer service in healthcare, a variety of quantitative metrics can be measured to assess and improve performance. These measures and associated best practice goals typically fall within the categories of operational controls and associated reporting, outcomes measurement, and productivity, and include, but are not necessarily limited to, the following metrics:

<table>
<thead>
<tr>
<th>Key Performance Indicators</th>
<th>Best Practice Standards</th>
</tr>
</thead>
<tbody>
<tr>
<td>Correspondence backlog (in- and external) (one business day from receipt)</td>
<td>1 day or less</td>
</tr>
<tr>
<td>Walk-in patients’ wait time (minutes)</td>
<td>5.0 or less</td>
</tr>
<tr>
<td>ACD system average hold time (minutes)</td>
<td>0.5 or less</td>
</tr>
<tr>
<td>ACD system abandoned call percentage (% of calls on hold more than 30 seconds)</td>
<td>2 percent or less</td>
</tr>
<tr>
<td>ACD system percentage of calls resolved in less than five minutes</td>
<td>85 percent or more</td>
</tr>
<tr>
<td>Calls resolved in customer service without complaint or referral to</td>
<td>5 percent or less</td>
</tr>
<tr>
<td>Administration/CRO/related staff function</td>
<td>99 percent or more</td>
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In addition to these measures, individual productivity standards should be established for the number of accounts worked, walk-in patients served and correspondence processed per customer service representative. Information system activity or action codes placed on accounts processed by customer service employees can provide a means for automatically reporting productivity results to compare to goals. Assigned worklists for addressing accounts with issues, or for conducting follow-up on accounts to ensure issues are resolved, can also be monitored to assess productivity and workload. Specific goals for these metrics should be based on the volume of activity experienced within a particular organization, which can vary widely.

Incorporation of select measures and goals, as outlined above, into customer service employees’ job descriptions and annual performance reviews will strengthen individual and departmental results. Customer service representatives should be routinely informed of their individual performance vs. goals. Accordingly, daily, weekly or monthly reporting of these statistics, and posting of the results vs. goals in a visible area, will promote improved departmental performance.
In addition to quantifiable measures, providers should review and assess their organization’s status and improvement potential regarding other important criteria. For more specific details, please see the Customer Service worksheet here.

**Processes to Optimize Customer Service**

- Customer service should be handled by a dedicated team without any other competing duties.
  - Obviously, in small provider settings, customer service may overlap into other functions, given volumes that may not justify full-time dedication.
  - The emphasis on customer service, however, should not be secondary to other tasks and activities required to achieve and maintain a high level of revenue cycle performance.
- The customer service unit should be responsible for assisting walk-in patients, answering phone calls, and responding to “snail mail” and e-mail correspondence.
- Quantifiable and quality performance standards should be part of customer service job descriptions.
- Regular quality control reviews should be performed to assess each customer service representative’s work and results.
- Customer service representatives should receive some type of performance-based incentive compensation.
  - This incentive could be tied to multiple criteria, such as productivity, collections and quality.
- All customer service employees should receive annual Medicare compliance training.
- Customer service representatives should be cross-trained on more than one responsibility.
  - Employees should be knowledgeable and active in addressing phone calls, walk-in patients and correspondence.
- Customer service employees should be cross-trained on most if not all information system functions.
- Voicemail and Web-based systems should be in place for patients to request basic information and/or itemized bills.
- An ACD system should be in place and automatically maintain statistics on the customer service unit and individual representatives.
- An efficient returned-mail processing procedure should also be in place and used to update data in the information system(s).
- A follow-up mechanism should exist to routinely track correspondence and resolution of items sent to other departments.
• Complaints should be logged and properly addressed real-time, or within two business days or less.
• Communication channels should be open and active with admitting/registration, case management/utilization review, HIM/medical records and billing/collection to resolve patient inquiries, identify and address causes of errors and denials, and share critical information.
  o Such channels can include the use of e-mail, automated referrals sent through the information system, or other technology means that facilitate tracking of the communication and resolution of the issue.

Discussion and Other Considerations

Because they touch so many facets of the revenue cycle, customer service employees must be experienced in addressing a variety of patient inquiries. Healthcare accounts and claims are often complex, requiring an understanding of the whole revenue cycle and the resources available internally to assist with the resolution of account issues.

Such experience should include an understanding of the admitting/registration process specific to collection of critical data elements, familiarity with insurance carrier requirements for insured patients and policies/procedures for processing self-pay patients, and knowledge of charging and billing processes and practices. It is important to have software that can support the most frequently asked questions and allow the customer service representatives to help add to the database. In addition, connection to the billing system’s information also is important.

Downstream: Collections and Outsourcing

Revenue Cycle Objectives
As an industry, healthcare providers have struggled with acknowledging the existence of unpaid bills and how aggressive they should be in collecting these debts. Providers are also experiencing new reporting pressures from the changes to the Internal Revenue Tax Form 990 and the implementation of the Sarbanes-Oxley Act. Form 990 and SOX have changed how providers report bad debt and charitable care, and when they report it.

For collections and outsourcing, key objectives relate to selection of vendors experienced in the resolution of healthcare accounts, either early in the collections process (i.e., early-out or extended business office arrangements) or after exhaustion of internal collection efforts (i.e., placement of bad debt accounts). An additional objective is establishment of routine monitoring of the performance of selected vendors to assess results and return on investment.

The discussion of collections and outsourcing presented below is both in-depth and broad. Although additional practices and measures may be relevant, however, given the many facets of these areas and variability among providers with respect to needs, volumes, organizational structure and information systems.
As in many industries, collections and outsourcing is a normal part of day-to-day business operations in healthcare. Historically, healthcare providers relied upon external collections vendors primarily for resolution of bad debt accounts. Once internal efforts to collect on a given account were exhausted, the account would be deemed bad debt and placed with an external vendor to continue the collections process.

In today’s environment, however, many external collections vendors position their services to assist with efforts beyond bad debt accounts. Common arrangements still include the servicing of bad debt, but may also encompass additional activities, such as extended business office (EBO) services to resolve accounts prior to bad debt status, as well as the total outsourcing of most, if not all, key downstream revenue cycle functions (e.g., billing, posting, collections follow-up and customer service).

Further, some vendors offer upstream collection services to establish and operate collections at the point of service for healthcare providers. For the content of this section, the focus is on downstream collections, although certain aspects of the information can apply to activities prior to an account’s arrival in the patient financial services unit.

**Systems to Optimize Collections and Outsourcing**

In developing the following information related to collections and outsourcing, important processes, tasks, and functions specific to each area were carefully considered. In addition, key metrics and associated desired levels of performance for each measure have been addressed. Heavy emphasis was placed on the use of technology to automate and/or streamline certain tasks, activities and processes, as well as facilitate the monitoring and management of these areas.

The use of integrated information technology and automated processes can significantly support high-performing collections and outsourcing for healthcare providers. Similar to the need to provide strong customer service in patient access as the initial point of patient contact, downstream collections and outsourcing operations require equal attention, because they are potentially the final point of contact with a patient.

Information technology plays a critical role in the relationship between a healthcare provider and a collections vendor. Specifically, best-practice vendors demonstrate the following qualities related to the incorporation and use of technology, as well as regarding the processes supported by information systems:

- Use of an automated billing and collection system, with the latest or most current version of the system software, as well as a clear plan for routine and future upgrades of the software.
- Direct integration of billing, collections and posting system functions.
- Provision of remote access to the vendor’s information system for accessing certain reports and other types of information.
- Clear description and detailed processes outlining the preferred interface connectivity with a provider, and delineation of information needed to make a
recommendation as to electronic connectivity with the provider, including any special hardware or software requirements.

- Clear description and detailed processes for the bi-lateral transfer of accounts between the vendor and provider, as well as capabilities to transfer accounts to other collection companies.
- Comprehensive, standard reporting capabilities and system features, as well as ad hoc reporting capabilities.
- Automatic, system-generated prioritization of accounts, for third-party and separately for self-pay, including detailed steps for system control over collection follow-up activities and associated monitoring.
- Automated tracking of collection work standards by balance range and automated internal audit procedures to validate compliance with work standards.
- Use of a phone dialer system that is integrated into the main collection system.
- Use of a propensity-to-pay methodology and related technology to stratify follow up of accounts.
- Automated system capabilities to process and reconcile payments and adjustments.
- User-friendly patient statements that can be easily customized within the vendor’s information system.

Information technology plays a vital role in the relationship between a healthcare provider and an external collections vendor. In addition to collections results, the combination of current information and telecom systems, controlled processes and automated capabilities distinguish high-performing collections vendors. Indeed, providers should thoroughly assess and ascertain a vendor’s technology capabilities prior to forging a relationship with the vendor.

A collections vendor’s emphasis and reliance on technology should likely facilitate a higher return on investment for the provider, through greater cash flow and possibly a greater level of absolute collections. Equally important, use of technology should minimize costly, manual processes on the part of the provider in dealing with a given collections vendor, from account placement through final account reconciliation and resolution.

Technology is essential to coordinate identification of the patient’s payment ability and associated identification of charity care eligibility. Best practice includes implementation of systems that connect upstream insurance and bill estimates (financial clearance) with downstream insurance coverage, actual bills, and the amounts collected (financial settlement). These systems must include quality modules that report on the accuracy of estimated bulls, to identify improvement opportunities and refine these estimates.

Providers’ information systems should be interfaced with those of insurance companies, internal billing and posting systems, secondary billing companies and collection agencies.
This will facilitate expedient information transfer to accelerate the billing cycle and maximize collections. For more specific details, please see the Collections+Outsourcing worksheet here.

Performance Measurement for Collections and Outsourcing
Regarding metrics specific to healthcare collections and outsourcing, several quantitative measures should be routinely reviewed to analyze vendor performance. Such measures and related best practices relate to monitoring and reporting on processes and results specific to an external collections vendor and may include, but are not limited to, the following metrics:

<table>
<thead>
<tr>
<th>Key Performance Indicators</th>
<th>Best Practice Standards</th>
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<tr>
<td>Bad debt net-back collection percentage</td>
<td>11.0 percent or more (minimum of 7 percent)</td>
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<td>(Defined as: ( \text{collections} - \text{fees} \div \text{placements} ))</td>
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<td>3rd-party Extended Bus Ofc (EBO) fee as a percentage of collections</td>
<td>15.0 percent (maximum of 18 percent)</td>
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<td>Self-pay EBO fee as a percentage of collections</td>
<td>6 percent to 12.0 percent(^1)</td>
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<td>Legal collections fee as a percentage of collections</td>
<td>25.0 percent or less (maximum of 30%)</td>
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<tr>
<td>Medicaid eligibility assistance fee as a percentage of collections</td>
<td>15.0 percent (^2) (maximum of 18%)</td>
</tr>
<tr>
<td>Routine auditing of collection agency minimum work standards</td>
<td>Every 60 days</td>
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1. Goal is dependent on when third-party or self-pay accounts are sent to a vendor. Lower fees should be expected the earlier an account is submitted to an external vendor.
2. A flat fee amount per account qualified for Medicaid could also be considered. Additionally, differing fee amounts could also be established for inpatient, outpatient, and emergency room accounts.

Of all the measures outlined above, the net-back percentage is the most important. This metric allows a provider to determine the return on investment for a given arrangement with an external collections vendor, which can be compared to other collections companies used by the provider. The obvious goal is to maximize the result of this metric, meaning that return on investment is maximized.

Processes to Optimize Collections and Outsourcing
As with customer service, the listed quantifiable measures for collections and Outsourcing should be supplemented with additional criteria, which are often characteristic of best-practice organizations, including:

- Providers should use two or more bad debt agencies for primary as well as secondary account placements.
The use of two agencies allows providers to compare agency performance, and thus, routinely identify and performance issues.

- Different vendors should be used for separate placement of bad debt and EBO accounts, to eliminate conflicts of interest.
- Long-term agency payment plan accounts should be written off, with close monitoring and reporting by the external vendor.
- The Medicare bad debt 120-day rule should be applied to all financial classes for equal treatment of all financial classes and patient types.
- External vendors should accept account placements electronically, and maintain controlled processes to ensure receipt of all accounts submitted.
- The external vendor should be able to access the provider’s information system to review account notes and other important data and information for account resolution.
- Medicaid eligibility vendors should maintain good relationships with the respective state Medicaid agency.
- External vendors should send gross payments to the provider, and then submit invoices for fees to the provider, along with account-level reports for fee reconciliation.
- External agencies should be willing to provide their own support employees on-site as needed.
- External collections vendors should be willing to assign dedicated employees to a provider’s accounts; the vendor should also analyze the results of each assigned representative and compare activity to performance goals on a routine basis.
- Regardless of the purpose, all external collection vendors should be subject to competitive bid arrangements.

**Discussion and Other Considerations**

Collections and outsourcing vendors should possess direct experience in the healthcare industry due to the complex nature of patient accounting, as well as a track record demonstrating quantifiable results. These types of vendors should be selected not only based on the level of fees proposed or charged, but also on historical results, the ability to connect electronically with a provider’s information systems (or use the provider’s information systems as needed), the availability of meaningful reporting for assessment of results, and a strong customer-service orientation.

When evaluating an external collections vendor, the amount or percentage of fees charged by the vendor is a key factor to consider, yet a number of other factors are equally important. Additional, important criteria to consider when evaluating an external collections vendor are:
• A core competence in healthcare billing, collections, customer service and support, specifically for resolution of accounts that involve third-party payors and individual patients.
• Strong customer-service focus.
• Financial stability.
• Specialized, on-going training in healthcare billing, collections and compliance.
• HIPAA-compliant operations.
• Efficient and effective information technology capabilities.
• Strong reporting capabilities.
• Agreement to regularly scheduled performance audits.

Summary: A Life Cycle Approach for Performance Measurement and System Justification

Building a business case for health care information technology systems is challenging. This is especially true today because of the industry regarding how healthcare is paid for by patients and their families.

This paper’s fundamental purpose is to help organizations measure their own RCM performance, to help justify selection and implementation of best-practice RCM information technology. This paper identifies valid measures of performance at two distinct levels: an actionable level of detail and those needed for strategic analysis.

It also provides highlights of specific tools and processes known to contribute to optimal revenue cycle performance. Specifics of all the identified metrics can be found here. Sources of the performance metrics and systems tools identified here included review of the relevant literature, system specifications, and personal experience of the workgroup members.

Our goal was to provide, in one place, an overview of the complex world of the revenue cycle life-cycle. We have addressed upstream and midstream “financial clearance” functions and downstream “financial settlement” functions. The paper incorporates the highlights of the best-practice metrics that were identified during research by the contributing members HIMSS Revenue Cycle Workgroup.

Justifications for RCM information systems are often easier than those for clinical systems because the “one-to-one” relationship of dollars invested to dollars returned (ROI) is much clearer. RCM systems are, however, no longer simple billing systems. They are much more sophisticated and include registration, bill estimations, case management, discharge billing, and post-service billing reconciliation, among many other features.

The information presented herein should be useful to any healthcare provider organization, especially those looking to improve their revenue cycle performance. Measuring department- and task-level performance, productivity, patient satisfaction, and
customer demand for services is critical to an organization’s revenue cycle performance improvement strategy. These metrics provide the data which justify investment in information technology to facilitate organizational improvement and enhance revenue cycle effectiveness.
Acknowledgments


Members of the HIMSS Financial Systems Revenue Cycle Task Force, who spearheaded the development of this white paper, include:

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<thead>
<tr>
<th>Name</th>
<th>Title/Position</th>
<th>Email/Contact Information</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Shari Bailey, SPHR</strong></td>
<td>Healthcare Revenue Cycle Consultant</td>
<td><a href="mailto:sharibailey@fuse.net">sharibailey@fuse.net</a></td>
</tr>
<tr>
<td></td>
<td>Verite Healthcare Consulting</td>
<td></td>
</tr>
<tr>
<td><strong>Brian Bullock, CPHIMS</strong></td>
<td>Healthia Consulting</td>
<td><a href="mailto:brian.bullock@healthiaconsulting.com">brian.bullock@healthiaconsulting.com</a></td>
</tr>
<tr>
<td><strong>David Hammer, FHFMA, CHFP</strong></td>
<td>Vice President, Enterprise Revenue Management</td>
<td><a href="mailto:David.Hammer@McKesson.com">David.Hammer@McKesson.com</a></td>
</tr>
<tr>
<td></td>
<td>McKesson Provider Technologies</td>
<td></td>
</tr>
<tr>
<td><strong>Bradley Tinnermon</strong></td>
<td>Director</td>
<td><a href="mailto:BTinnermon@AccretiveHealth.com">BTinnermon@AccretiveHealth.com</a></td>
</tr>
<tr>
<td><strong>Lee Remen (2010 Chair)</strong></td>
<td>Regional Director</td>
<td><a href="mailto:llemen@healthwaresytems.com">llemen@healthwaresytems.com</a></td>
</tr>
<tr>
<td><strong>Jill Rumberger (2008-2009 Chair)</strong></td>
<td>Assistant Professor</td>
<td><a href="mailto:jsr178@psu.edu">jsr178@psu.edu</a></td>
</tr>
<tr>
<td></td>
<td>Healthware Systems</td>
<td></td>
</tr>
<tr>
<td><strong>David Whitham</strong></td>
<td>Director of IT and Accounts Receivable</td>
<td><a href="mailto:dwhitham@dimock.org">dwhitham@dimock.org</a></td>
</tr>
<tr>
<td></td>
<td>Dimock Community Health Center</td>
<td></td>
</tr>
<tr>
<td><strong>Scott Murphy</strong></td>
<td>Ingenix Consulting</td>
<td><a href="mailto:Scott.A.Murphy@IngenixConsulting.com">Scott.A.Murphy@IngenixConsulting.com</a></td>
</tr>
<tr>
<td><strong>Mark R. Cameron, MBA, FHFMA</strong></td>
<td>Managing Principal</td>
<td><a href="mailto:RevenueVantage@att.net">RevenueVantage@att.net</a></td>
</tr>
<tr>
<td></td>
<td>RevenueVantage</td>
<td></td>
</tr>
<tr>
<td><strong>Pam Matthews, CPHIMSS, FHIMSS</strong></td>
<td>Senior Director, Business &amp; Financial Information</td>
<td><a href="mailto:pmatthews@himss.org">pmatthews@himss.org</a></td>
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<td>HIMSS – Staff Support</td>
<td></td>
</tr>
<tr>
<td><strong>Holly Gaebel</strong></td>
<td>Coordinator, Business &amp; Financial Information</td>
<td><a href="mailto:hgaebel@himss.org">hgaebel@himss.org</a></td>
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