



Position Paper

The Role of Picis High Acuity Solutions in CMS Reporting Requirements and Quality Measures

Prompted by the Institute of Medicine's (IOM) landmark report on medical errors and patient safety, the U.S. Federal government, through a variety of initiatives including the recent American Recovery and Reinvestment Act (ARRA), has made it clear that the intersection of cost and quality will be the prime mover in the reform of our healthcare delivery system. The Centers for Medicare and Medicaid Services (CMS) has taken the lead in efforts to correlate the reporting of certain measures with the delivery of high quality and cost-effective care to influence how hospitals and caregivers are reimbursed.

This paper will describe how Picis solutions are well positioned to help provide hospitals and clinicians with the rich clinical data that will define quality and shape reimbursement, as the reform of the U.S. healthcare system moves forward.

1. Introduction

The modern healthcare enterprise is under constant and intense pressure to deliver high quality, safe and effective care to its patients, while also increasing the efficiency and cost-effectiveness of care delivery. In the U.S., the concepts of quality and economy as they pertain to the healthcare system have been on a collision course. Prompted by the Institute of Medicine's (IOM) landmark report on medical errors and patient safety, the agencies responsible for certifying and financing a significant portion of the U.S. healthcare system have led these efforts. The U.S. Federal government, through a variety of initiatives including the recent American Recovery and Reinvestment Act (ARRA), has made it clear that the intersection of cost and quality will be the prime mover in the reform of our healthcare delivery system.

The Centers for Medicare and Medicaid Services (CMS) has taken the lead in efforts to correlate the reporting of certain measures with the delivery of high quality and cost-effective care. These initiatives have influenced the ways CMS reimburses hospitals and caregivers, in an attempt to change behavior through financial incentives. As a result, healthcare providers and institutions must examine all aspects of care delivery and documentation, to ensure that they can be compliant with CMS quality reporting requirements. Specific language linking quality and cost-efficient care to "meaningful use" imply at least some of the ARRA healthcare IT stimulus funds will be linked to these quality measure reporting programs already in place.

This paper will describe how Picis solutions are well positioned to help provide hospitals and clinicians with the rich clinical data that will define quality and shape reimbursement, as the reform of the U.S. healthcare system moves forward.

2. Background

Over the years, there have been a number of distinct initiatives introduced to link quality reporting and financial reimbursement. These hospital-based and physician quality initiatives have become instrumental in shaping how quality care is delivered.

Hospital Quality Reporting

CMS implemented the Inpatient Prospective Payment System (IPPS) in 1983. As a way to reward hospitals for efficiency, CMS instituted a single payment to the hospital based on the average costs of treating a patient with a particular diagnosis, rather than paying for the actual costs of each individual case. However, until the Deficit Reduction Act of 2005, CMS did not have the legal authority to use its payment system as a vehicle to encourage hospitals to improve the quality of care delivery.

In 2002, prompted in part by the 1999 IOM report, the National Quality Forum (NQF) created a list of 27 serious reportable events (this was expanded to 28 events in 2006). The NQF defines these events as "errors in medical care that are clearly identifiable, preventable and serious in their consequences for patients." On July 31, 2008, CMS

announced an aggressive effort to “encourage greater patient safety in hospitals and reduce ‘never events.’” A final IPPS rule was published in the Federal Register on August 19, 2008 that included payment provisions to reduce the occurrence of “never events -- preventable medical errors that result in serious consequences for the patient.” This rule also expands the program for the reporting of quality measures. The following is from the CMS press release, “Medicare and Medicaid Move Aggressively to Encourage Greater Patient Safety in Hospitals and Reduce Never Events,” dated July 31, 2008:

“The IPPS rule adds conditions, including one NQF never event, to the list of conditions that have been determined to be reasonably preventable through proper care. Beginning last year, as required by the Deficit Reduction Act of 2005 (DRA), CMS began selecting hospital-acquired conditions (HACs) that were determined to be reasonably preventable. If a condition is not present upon admission, but is subsequently acquired during the hospital stay, Medicare will no longer pay the additional cost of the hospitalization. The patient is not responsible for the additional cost. Rather, the hospital is being encouraged to prevent an adverse event and improve the reliability of care it is giving to Medicare patients.

In last year’s final rule, CMS listed eight preventable conditions for which it would not make additional payments. In this year’s proposed rule, CMS identified nine potential categories of conditions, but based on public comments, is finalizing three of these. The new additional conditions in this year’s final rule include:

- Surgical site infections following certain elective procedures, including certain orthopedic surgeries, and bariatric surgery for obesity;
- Certain manifestations of poor control of blood sugar levels; and,
- Deep vein thrombosis or pulmonary embolism following total knee replacement and hip replacement procedures.

The final rule...also expands the Reporting Hospital Quality Data for Annual Payment Update Program. The Medicare law requires CMS to reduce payments to hospitals that do not successfully report quality measures adopted under the program by two percent from the percentage increase that would otherwise apply to their payment rates. The quality measures are publicly reported on the CMS Hospital Compare Web site, a tool that can be used by beneficiaries in choosing where to receive treatment.”

“The Medicare law requires CMS to reduce payments to hospitals that do not successfully report quality measures adopted under the program by two percent from the percentage increase that would otherwise apply to their payment rates.”

Source: CMS, July 2008

Physician Quality Reporting Initiative

In 2006, the Tax Relief and Health Care Act established a voluntary physician quality reporting system, including an incentive payment for eligible professionals who satisfactorily report data on quality measures for covered services furnished to Medicare beneficiaries. CMS named this program the Physician Quality Reporting Initiative (PQRI). The Medicare Improvements for Patients and Providers Act of 2008 (MIPPA) made the PQRI program permanent.

Eligible providers can earn an incentive payment of 2.0 percent of their total allowed charges for covered professional services under this program. In 2009 the PQRI program consists of seven measure groups, containing 153 individual measures.

American Recovery and Reinvestment Act

In February of this year, President Obama signed into law the American Recovery and Reinvestment Act (ARRA) of 2009. This broad spending bill (often referred to as the “stimulus package”) includes a provision that is intended to serve as an important step towards improving America’s healthcare delivery system by encouraging the adoption of information technology. A cornerstone of this effort is funding, in the form of modified Medicare and Medicaid reimbursement rates, for the implementation and adoption of various electronic health record systems (EHRs).

As the legislation is written, funding for providers is contingent on becoming a “meaningful user” of this technology by certain dates. The legislation, however, gives only general guidance as to the nature of “meaningful use” and leaves a more precise definition to the Office of the National Coordinator for Healthcare IT (ONC) and to the regulation-writing process. What is known is that enhancements to Medicare reimbursements for individual providers and hospitals will begin in fiscal year 2011 (October 2010). Then, beginning in 2015, those who do not demonstrate “meaningful use” of information technology will face reductions in Medicare reimbursement. Some of the details, as currently understood, have been outlined in a recent press release by HIMSS, “HIMSS Publishes Its Definitions of ‘Meaningful Use,’” dated April 27, 2009:

“An eligible professional or hospital will receive incentive payments as specified in the legislation, for the first five years (2011 –2015), for demonstrating a meaningful use of EHR technology and demonstrated performance during the reporting period for each payment year. If an eligible professional or hospital does not demonstrate meaningful use by 2015, their reimbursement payments under Medicare will begin to be reduced.

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HIMSS, April 2009

A meaningful user is an eligible professional or hospital that:

- 1** Demonstrates to the satisfaction of the Secretary that during such period the professional is using certified EHR technology in a meaningful manner;
- 2** Demonstrates to the satisfaction of the Secretary that during such period such certified EHR technology is connected in a manner that provides, in accordance with law and standards applicable to the exchange of information, for the electronic exchange of health information to improve the quality of health care, such as promoting care coordination; and
- 3** Submits information for such period, in a form and manner specified by the Secretary, on such clinical quality measures and such other measures as selected by the Secretary.”

There are two important conclusions to be drawn from the implications of these various legislative initiatives. First, the hospital’s future viability and success is dependent upon placing even greater emphasis on creating efficiencies in delivering quality patient care to reduce the occurrence of preventable medical errors. Second, every hospital must become meaningful users of healthcare information technology through the adoption of electronic health record solutions to help them create those efficiencies, encourage best practices, and improve outcomes.

The high acuity areas of the hospital (ED, OR and ICU) are strategically important as major sources of revenue and cost consumption, yet these areas are also where the highest incidence of inefficiency and medical errors occur. Hospitals are finding that even though they spend tens of millions of dollars implementing enterprise EHR and CPOE systems, the financial investment fails to address the needs of these high acuity areas.

The reason for this failure is that the high acuity areas are explicitly different from general med-surg units because of the fast pace, complex and rapidly changing care regimens and mountains of diverse clinical data. The special needs of these areas can best be addressed by a specialist in high acuity cluster solutions who has an established track record in offering the clinical expertise, depth of functional capabilities, and proven interoperability with EHR and CPOE systems. The remainder of this paper explores how Picis solutions help address CMS quality measures through reporting on the rich, discrete data that is documented and collected throughout these high acuity areas.

3. Picis Solutions

Picis is a provider of information solutions that enable rapid and sustained delivery of clinical, financial and operational results in the high-acuity areas of the hospital. These high-acuity areas include the emergency department (ED), operating (OR) and recovery rooms (PACU), and intensive care units (ICU). Picis offers an advanced suite of integrated products focused on these life-critical areas of the hospital where the patients are the most vulnerable, the care process is the most complex, and an increasing majority of hospital costs are concentrated.

A hallmark of the Picis solutions is the ability to collect important patient encounter data through carefully engineered automation of clinical documentation and workflow. Once collected, the data is available for reporting and analytics via an open and non-proprietary database schema. This provides clinicians and hospitals with a window into the clinical, operational and financial details of care delivery in these critical areas.

In addition to the prominent place these high-acuity areas hold in the delivery of acute care services, they also represent the areas where much of the data that CMS requires for its quality measures reporting program are collected. CMS has organized the quality measures into several broad categories, each of which has some applicability for documentation and reporting through Picis high-acuity solutions:

- Acute MI
- Pneumonia
- Heart Failure
- Surgical Care Improvement Project (SCIP)
- Cardiac Surgery
- Patient Safety
- Readmission
- Nursing Care
- Mortality Measures
- Patient Satisfaction

Within these categories, there are many individual quality measures that can be collected and reported on by the various Picis solutions. The chart below outlines some of the CMS quality measures uniquely applicable for documentation in the ED, OR and ICU areas. See appendix for product descriptions.

Care Area	Picis application	CMS Quality Measures
ED	ED PulseCheck®	<p>Acute MI</p> <ul style="list-style-type: none"> Aspirin at arrival Thrombolytic agent within 30 minutes of arrival <p>Pneumonia</p> <ul style="list-style-type: none"> Timing of initial antibiotic dose Appropriate initial antibiotic selection Blood culture before first antibiotic
OR	OR Manager Anesthesia Manager PACU Manager	<p>SCIP</p> <ul style="list-style-type: none"> Perioperative beta blocker administration Prophylactic antibiotic timing Appropriate prophylactic antibiotic selection VTE prophylaxis AM glucose control for cardiac surgery patients
ICU	Critical Care Manager	<p>SCIP</p> <ul style="list-style-type: none"> Perioperative beta blocker administration Prophylactic antibiotic discontinued within 24 hours post surgery VTE prophylaxis within 24 hours pre/post surgery AM glucose control for cardiac surgery patients <p>Acute MI</p> <ul style="list-style-type: none"> ACE-I or ARB for left ventricular systolic dysfunction <p>Heart Failure</p> <ul style="list-style-type: none"> ACE-I or ARB for left ventricular systolic dysfunction Left ventricular function assessment <p>Patient safety</p> <ul style="list-style-type: none"> Iatrogenic pneumothorax

Picis Capabilities Facilitate Quality Reporting

From the ED to the OR to the ICU, multiple mechanisms exist within the various Picis applications for capturing and reporting on the applicable quality measures and PQRI:

- Documentation and orders:
 - Clinical documentation in ED PulseCheck and Critical Care Manager
 - Custom, recommended and required fields in ED PulseCheck and OR Manager
 - Events, event sets, assessments and protocols in Anesthesia Manager, PACU Manager, Critical Care Manager
 - Order entry / order sets in ED PulseCheck, PACU Manager and Critical Care Manager
 - Clinical and risk content in ED PulseCheck and Preop Manager
- Reporting:
 - Quality Manager
 - Extelligence®

Multiple features also exist within the Picis CareSuite application suite to ensure that time-based quality measures are documented in an appropriate and timely manner:

- SmarTrack® notifications based on critical pathways in OR Manager
- Care Beacon notifications based on orders, order sets and protocols in Anesthesia Manager, PACU Manager and Critical Care Manager
- InSight™ notifications based on clinical rules in ED PulseCheck, Anesthesia Manager, PACU Manager and Critical Care Manager

Reporting of Hospital-acquired Conditions (HAC)

Picis solutions are also uniquely positioned to capture the documentation associated with CMS-defined hospital-acquired conditions. Looking at the list of CMS HACs quickly reveals that each one is relevant to the high-acuity areas that Picis automates:

- Foreign Object Retained After Surgery
- Air Embolism
- Blood Incompatibility
- Stage III and IV Pressure Ulcers
- Falls and Trauma
- Manifestations of Poor Glycemic Control
- Catheter-Associated Urinary Tract Infection
- Vascular Catheter-Associated Infection
- Surgical Site Infection
- Deep Vein Thrombosis (DVT)/Pulmonary Embolism (PE)

Reporting of Present on Admission (POA) Information

Hospital-acquired conditions that are present on admission (POA) can be documented so that appropriate reimbursement is not refused. Patients can be admitted through the ED or directly to a surgical or ICU service, providing several opportunities to capture POA information:

- POA diagnoses can be captured in ED PulseCheck and E/Code
- POA diagnoses for an inpatient surgical admission can be captured at registration in OR Manager
- POA diagnoses can be captured at registration in Preop Manager
- POA diagnoses can be captured on admission into the ICU in Critical Care Manager

And if a serious, reportable event does happen during the course of a hospital admission, the same mechanisms used for capturing and reporting quality measures can also provide the clinical information necessary for administrators to manage the care and risk associated with these occurrences. By capturing the most important clinical, procedural and administrative data at the point of care, in the high acuity areas of the hospital, Picis solutions can form the basis for reporting initiatives. Retrospective data analysis can be used not only to fulfill reporting requirements, but also to conduct clinical research on outcomes or even benchmarking.

4. Summary

As demonstrated in this discussion, Picis solutions are designed to facilitate the capture and reporting of many of the key data elements required for the various CMS quality initiatives. By leveraging years of proven success in automation and interoperability with other hospital IT systems, Picis has established a standard for information access and analytics that allows our clients to do more than simply replace paper processes with computer screens. The volume of high resolution clinical data generated by Picis high-acuity application suite provides clinicians and administrators unprecedented visibility into the operation of the most life-critical areas of the hospital.

With the role of CMS expanding in the context of ever-increasing cost and quality pressures, the need for meaningful adoption of information technology that provides demonstrable benefits has never been greater. Although the precise definition of “meaningful use” is still under development, it is clear that any solution for the automation of documentation and workflow in any healthcare setting will have to provide powerful and flexible mechanisms for collecting and reporting on the clinical data that defines quality and best practices.

Appendix

Description of Picis high acuity solutions

1. **ED PulseCheck** is an emergency department information system (EDIS) that documents the care provided during an emergency department (ED) visit and manages core functions such as patient tracking, nursing and physician documentation, medication reconciliation, charge capture and order entry.
2. **OR Manager** is an operating room information management system (ORIS) that automates each step of the perioperative documentation process, including surgical scheduling, patient tracking, preference card maintenance, perioperative documentation, supply chain management, billing and much more.
3. **Anesthesia Manager** is a clinical documentation solution that automatically collects, manages and stores the information required for anesthesia care providers to evaluate the patient's condition, manage the anesthesia care process and generate a complete anesthetic record.
4. **PACU Manager** automates the postoperative record, enabling nurses and physicians to better manage the complex and diverse data generated in the demanding post anesthesia care units (PACUs). This automated capture of patient vital signs and physiologic data and documentation reduces charting time while helping to improve record accuracy, legibility and availability.
5. **Critical Care Manager** is a clinical documentation and decision support system that creates a complete, accurate, and timely patient record fully accessible by the entire clinical team. This automated solution organizes high volume data collected from medical devices, lab results, calculations, orders, meds, and clinical notes.
6. **Preop Manager** supports the creation of a complete and uniform preoperative patient record. Preop Manager records readiness for surgery by supporting workflow from the time the patient is scheduled for surgery to the day of surgery, helping make patient flow predictable, avoiding delays, and unnecessary costs.
7. **Quality Manager** helps healthcare providers pinpoint perioperative conditions that may put a patient at risk, and then prompts healthcare staff to take action to prevent them from occurring in the future. Quality Manager also reduces manual chart review by automatically checking patient charts, pulling forward information onto one interactive review screen and then allowing users to do a review and follow-up online in one easy step.

8. **Extelligence** OR, Extelligence Anesthesia, Extelligence Critical Care are business intelligence solutions focused on business performance that integrates with and leverages data from existing Picis systems. Executives can drill through the data to determine trends, monitor key performance indicators, and evaluate everything from physician performance to length of stay, to OR suite utilization.
9. **SmarTrack** is an interactive tool that speeds and simplifies the tracking of surgical patients through the perioperative process — from the patient's arrival in the perioperative suite through discharge. It tracks the status and locations of patients and resources, and compares their progress to user-defined carepaths and critical checkpoints.
10. **Care Beacon** is a notification feature in Picis clinical applications, (Anesthesia Manager, PACU Manager, Critical Care Manager) specifically in the nursing flowsheet. The Care Beacon is a visual screen notification that tells the clinician that a pre-defined rule has been met and/or a notification is pending their acknowledgement.
11. **InSight** for the ED, Critical Care, and Anesthesia, are clinical rules applications that allow clinicians and administrators to create rules that trigger notifications when specified criteria are met, facilitating communication and supporting clinical decisions.
12. **E/Code** compiles all charges captured in ED PulseCheck, making it easier for coders to review and submit the patient bill. This integration eliminates much of the data entry required of the coder, allowing more time to be spent on coding review than transcription of charges into codes. This integrated solution also enables coders and clinicians to communicate with each other directly to quickly reconcile documentation discrepancies.

For more details about the benefits of the Picis applications, visit www.picis.com.



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