

As reimbursement transitions from rewarding volume to rewarding performance, healthcare reform is defining the performance expectations for the future at the same time that the HITECH EHR incentive program is available to help build the IT foundation for that future. The challenge is to be sure that today's work on HITECH is aligned with the future requirements.

## The Challenge

Executives in U.S. hospitals and health systems have their hands full today juggling multiple, high-profile strategic initiatives that together set the course for the future of the organization.

One urgent priority is achieving HITECH meaningful use in time to gain the available incentive payments and avoid the penalties that kick in beginning in 2016. For most hospitals, this has led to an extremely accelerated pace for rolling out health information technology (HIT).<sup>12345</sup> As a result, HITECH has become the almost all-consuming clinical IT project in many hospitals. HITECH is not the goal, however; it provides the foundation for a high-performing health system.

At the same time, the U.S. healthcare industry is moving rapidly to reimbursement tied to performance, rather than just the volume of services provided. CMS is issuing a steady stream of complex, proposed and final rules that define how payment reform for Medicare will work. Just a step behind CMS, commercial payers and state Medicaid programs are rolling out their own versions of payment reform that link payment with performance.

### Medicare Healthcare Reform Programs for Hospitals that Link Reimbursement Rates with Performance

**Value-Based Purchasing (VBP)** — Offers increased update to diagnosis-related group (DRG) payment rates to hospitals according to demonstration of performance or improvement in designated performance areas relative to performance standards and benchmarks.

**Shared Savings Program** — For groups of providers who form an Accountable Care Organization (ACO), potentially shares a portion of financial savings in caring for Medicare patients if performance standards are met, according to performance rated on a sliding scale against benchmarks.

**Readmission Reduction Program (RRP)** — Decreases annual adjustments to DRG payment rates for hospitals that are in the lowest performance quartile for excess readmissions of Medicare patients with selected discharge diagnoses.

**HAC Payment Limitation** — Decreases annual adjustments to DRG payment rates for hospitals that are in the lowest performance quartile for a designated set of Hospital-Acquired Conditions (HACs).

**Bundled Payments for Care Improvement Initiative** — One of several initiatives of the CMS Innovation Center to give doctors and hospitals new incentives to coordinate care, improve the quality of care and save money for Medicare. Bundle care for a package of services patients receive to treat a specific medical condition during a single hospital stay and/or recovery from that stay. Applicants pick conditions to target and one of four ways to define the extent of pre- and post-hospital care included in the bundled payment.

In this new world, performance matters a great deal. Payment adjustments for VBP and RRP begin in FY 2013. By FY 2015, 4.5 percent of Medicare revenue will be at risk (not including the additional adjustments for the HAC initiative, for which rules are still pending and potentially also from the ACO program).<sup>6</sup> In contrast, HITECH meaningful use puts up to 75 percent of the market basket

adjustment at risk in FY 2016 and beyond. Keeping in mind that the more immediate and more significant financial risk comes from not performing well creates the proper perspective on HITECH as one element of positioning the organization for the future. This paper offers ten principles for aligning today's work on HIT with the requirements of the future.

Strategies are essential to qualify for HITECH incentives *and* build the HIT foundation for success in the new payment environment. The specifics of meaningful use and many overlaps with the goals and timelines for healthcare reform suggest three strategies for accomplishing this.

Strategies for aligning today's work on HITECH with building the foundation for the new payment environment include:

- Exceeding Stage 1 requirements in some areas
- Focusing on the quality targets of healthcare reform whenever possible
- Moving ahead of HITECH in some areas

1. Requirements for meaningful use will be defined for three stages. Stage 1 accepts partial implementation of required capabilities and sets a fairly low bar on how much use qualifies as meaningful use. *Going beyond the threshold defined for Stage 1 is necessary in some cases for a safe implementation and to make sure that every step taken is a step toward what will be needed in the future.*
2. There's no time to lose in ramping up performance. Measurement for future Medicare payment adjustments is already underway, ahead of the meaningful use deadlines.<sup>7</sup> In order to gain immediate value for patients and shorten the learning curve for the organization, meaningful use must put HIT to work in a focused way. *In some areas, there are opportunities to focus on subgroups of patients directly tied to the targets of healthcare reform.*
3. Though a daunting HIT agenda for many hospitals, Stage 1 of HITECH doesn't include everything that is important. *In some cases, building the HIT foundation for the future requires going beyond the scope defined for HITECH meaningful use and what is included in HITECH certification.*

The ten principles discussed below incorporate these strategies.

**Never Short-Change Patient Safety**  
**Ensure the Minimum Data Set**  
**Put CPOE to Work Immediately**  
**Close the Medication Loop**  
**Move Measurement to Real Time**  
**Focus Patient Engagement on High-Risk Patients**  
**Go Beyond Testing with Health Information Exchange (HIE)**  
**Invest in Internal Integration**  
**Throw the Book at Readmissions**  
**Consider HITECH the Floor, not the Ceiling**

## Never Short-Change Patient Safety

### Stage 1 Meaningful Use for Hospitals — Relevant Requirements

More than 30 percent of all unique patients with at least one medication in their medication list have at least one medication order entered using CPOE

More than 80 percent of all unique patients have at least one entry (or indication of none) recorded as structured data in a problem list

More than 80 percent of all unique patients have at least one entry (or an indication that the patient has no known medication allergies) recorded as structured data.

More than 80 percent of all unique patients have at least one entry (or an indication that the patient is not currently prescribed any medication) recorded as structured data in a medication list

For more than 50 percent of all unique patients age 2 and over: height, weight and blood pressure are recorded as structured data; BMI is calculated and displayed; growth charts are plotted and displayed for children 2-20 years, including BMI

Achieving a safe implementation requires exceeding Stage 1 requirements in some areas. One important way to avoid fragmenting clinical work flow is to go beyond the requirements and implement any new electronic tasks *completely* for any given patient and nursing unit.

Letting the bare minimum for achieving meaningful use guide the approach will result in a partial transition for some critical clinical work processes. One of the dangers of this approach is confusion about where the new has replaced the old. In healthcare, this confusion is not only inefficient, but also potentially dangerous. Both physicians and nurses need clear, logical work flows that do not add work or work-arounds and make sense. Ambiguity about where to document or find information leads to inefficiency and possible information gaps.

The recent Institute of Medicine report on HIT and patient safety has stressed the importance of taking great care with changes to the clinical work environment when implementing HIT. In one dramatic example cited, the same system was implemented in pediatric intensive care units in two different hospitals.<sup>8</sup> In one case, a significant increase in mortality was documented; in the other, no change resulted.<sup>9,10</sup> (Later, several other children's hospitals also implemented the same system without changes in mortality rates or even improvement.<sup>11</sup>) Among the differences in implementation believed to contribute to the bad outcome in the one hospital were lack of order sets to facilitate quick ordering, a policy requiring the patient to be in the unit before orders could be entered, and the elimination of a satellite pharmacy, which delayed treatment.

One important way to avoid fragmenting clinical work flow is to go beyond the Stage 1 requirements and implement any new electronic tasks completely for any given patient and nursing unit. For example, a problem list with one problem documented is of no use clinically and may in fact be dangerous if relied upon for the many patients who have a large number of acute and chronic problems. Similarly, Computerized Physician Order Entry (CPOE) should encompass all orders for any affected patient (not just some medication orders as allowed by meaningful use), as well as at least all orders on any inpatient unit so that the workflow of order management makes sense not just to the physicians, nurses and others providing care on the unit, but also to staff in pharmacy and other departments that respond to orders. Likewise, the transition to capturing vital signs electronically should be complete on each inpatient unit involved in Stage 1 meaningful use so that nurses can accomplish their work efficiently and physicians do not have to consult both paper flow sheets and electronic displays to understand patient status and progress.

The fact that many patients are transferred is another reality that needs to be factored into planning a safe implementation. If it is not possible to implement electronic tasks house-wide, phasing needs to reflect the common patterns of patient transfers (e.g., medicine units and medical ICU implemented at the same time; surgical units, surgical ICU, surgical suite) so that transfers in patient location do not also require transfers of critical patient information to and from paper.

## Ensure the Minimum Data Set

### Stage 1 Meaningful Use for Hospitals – Relevant Requirements

More than 50 percent of all unique patients have the following demographics recorded: preferred language; gender; race and ethnicity; date of birth; and date and preliminary cause of death in the event of mortality

More than 80 percent of all unique patients have at least one entry (or indication of none) recorded as structured data in a problem list

More than 80 percent of all unique patients have at least one entry (or an indication that the patient is not currently prescribed any medication) recorded as structured data in a medication list

More than 80 percent of all unique patients have at least one entry (or an indication that the patient has no known medication allergies) recorded as structured data in a medication allergy list

For more than 50 percent of all unique patients age 2 and over: height, weight and blood pressure are recorded as structured data; BMI is calculated and displayed; growth charts are plotted and displayed for children 2-20 years, including BMI

More than 50 percent of all unique patients 13 years of age or older have smoking status recorded

Complete and accurate patient data provides the foundation for HIT-enabled care and quality management. Getting physicians to document information, that to be meaningful must come from them, is a critical building block of that foundation.

Much of Stage 1 focuses on a very logical starting point in the transition to the electronic health record (EHR): documenting care electronically. All of the targeted information for Stage 1 of meaningful use is very important, however, the definitions of how much is enough and who is to be the documenter set low expectations. This is another area where it makes sense to exceed the requirements defined for Stage 1.

HITECH allows some latitude concerning who enters the information into the EHR, but downstream users and uses of the information do not. To be meaningful, physicians must maintain the problem list. A problem list maintained by anyone else will not be credible or relied upon for care management. Similarly, for the entries in the electronic problem list to serve as the source of documentation for coding needed for billing or quality reporting, a physician must have documented the problem(s). Although it may be tempting to have others maintain the problem list in the minimal sense required for Stage 1, investing in duplicate paper and electronic documentation is unsustainable as an ongoing practice. Although it won't be easy, the right path to the future is to do it right the first time by having physicians maintain the electronic problem list.

Contribution of physician documentation to data elements needed for Stage 1 meaningful use clinical quality measures (%): <sup>12</sup>	
CPOE	10%
Allergy List	4%
Problem List	11%
Other MD Documentation	29%
<b>Total</b>	<b>54%</b>

Data is truly the foundation for HIT-enabled care and quality management. Though Stage 1 requirements target very important information, the resulting data set (even if documented completely for each patient, as discussed earlier) is not sufficient. Overcoming this gap will be very difficult, as much of what is needed must be documented by physicians.<sup>13</sup> Going beyond HITECH is important to start figuring out how to do that hard work. A good starting

point is an electronic data management strategy for the minimum data set required for all of the Stage 1 clinical quality measures and for continuity of care (the latter to populate HIE). Though not all of this may be accomplished in Stage 1, the work is headed in the right direction if the plan sets the correct end point. The experience gained will also prepare the organization for the quickly expanding set of performance measures at the core of payment reform.

## Put CPOE to Work Immediately

### Stage 1 Meaningful Use for Hospitals — Relevant Requirements

More than 30 percent of all unique patients with at least one medication in their medication list have at least one medication order entered using CPOE

Drug-drug and drug-allergy checks were enabled during the entire EHR reporting period

#### Selectable Requirements

Drug-formulary checking with access to at least one internal or external drug formulary was enabled for the entire EHR reporting period

Putting CPOE to work beyond the requirements for meaningful use offers a significant payback in improved quality and safety and fosters organizational learning about how to integrate more advanced HIT into clinical performance management.

Assuming that CPOE is implemented safety (as discussed previously), going beyond the explicit requirements for Stage 1 can add significant value to quality and safety. The potential contributions of CPOE to the goals of healthcare reform go way beyond merely recording and communicating orders electronically.<sup>14</sup> From the outset, CPOE can accomplish so much more when attention is paid to building out orders and order sets and using rule-based decision support to make it easier for physicians to follow safe practices, comply with protocols for care and increase the appropriateness of what they order. Putting CPOE to work in this way requires an upfront investment to identify the set of quality and safety targets and then to build in the corresponding order master files, structured orders, order sets, and other forms of clinical decision support (CDS).

A starter set of some of the most obvious ways to align putting CPOE to work with healthcare reform include the following:

- Set up structured orders (sometimes also called “order sentences”) for medications that only allow safe choices for dose, route and frequency, and help users differentiate among medications that are easily confused.
- Implement drug-drug and drug-allergy checking in a way that physicians agree the decision support is useful and drug-formulary checking to encourage use of the medications recommended by the Pharmacy and Therapeutics Committee and to assist with managing drug shortages.
- Start gaining experience with using CDS such as renal dosing, drug-age and drug-diagnosis checking to help prevent adverse drug events (these actually cause more patient harm than the medication-related CDS included in Stage 1 meaningful use.)<sup>15</sup>
- Build and implement order sets for admission and discharge at a minimum for conditions currently targeted in quality measures for VBP and the RRP (AMI, HF, PN, and COPD).
- Also build and implement order sets in line with the clinical quality measures for Stage 1 of HITECH (VTE prevention and management, stroke) because they are slated for CMS Inpatient Quality Reporting and eventual inclusion in VBP.
- Build into order sets quick ways for physicians to document reasons why a recommended medication or other intervention is *not clinically appropriate* (to capture exclusions needed for quality reporting and patient tracking such as “patient has X co-morbidity or allergy”).

Going beyond meaningful use in these ways offers immediate payback in quality and safety that can increase reimbursement from CMS, and also fosters organizational learning about how to integrate HIT into clinical performance management.

## Close the Medication Loop

### Stage 1 Meaningful Use for Hospitals – Relevant Requirements

More than 30 percent of all unique patients with at least one medication in their medication list have at least one medication order entered using CPOE

More than 80 percent of all unique patients have at least one entry (or an indication that the patient has no known medication allergies) recorded as structured data

More than 80 percent of all unique patients have at least one entry (or an indication that the patient is not currently prescribed any medication) recorded as structured data in a medication list

#### *Selectable Requirements*

For more than 50 percent of transitions of care medication reconciliation is performed

Inpatient medication management is a critical patient safety target and HIT a significant enabler. Hospitals that push ahead of HITECH to support the entire process will reap big gains not just in safety, but also in continuity of care.

Inpatient medication management is the area of hospital care in which the burden of avoidable errors and adverse events is best understood and the potential contributions of HIT to patient safety have been most validated.<sup>16</sup>

Gaining the most from HIT requires first taking the medication use process into account. In most hospitals, this requires further extending standardization, incorporating safe practices in all key processes and patient care areas, and optimizing reliable workflows, reinforced by carefully designed safeguards.<sup>17</sup> Taking the process approach to its logical conclusion requires closing the loop on medication management by reducing and simplifying steps from end-to-end of the process, incorporating safe practices throughout, and ensuring safeguards at high-risk points. HIT is a critical enabler throughout.

Stage 1 meaningful use requires some of the important elements of HIT for medication management: CPOE, allergy information management. Medication reconciliation, which is optional in Stage 1, should be given a high priority because of its importance to safe transitions in care and link with workflow for CPOE. Medication administration and HIT-assisted five-rights checking, the processes that directly interact with patients, are conspicuously absent in Stage 1, though they are proposed additions of Stage 2. Electronic documentation of medications *administered* is also required for quality reporting. Another gap so far is e-prescribing at discharge, including feedback concerning what patients actually pick up. Hospitals that go beyond meaningful use and proceed with a comprehensive strategy to optimize medication management incorporating these pieces — even possibly in a different sequence than suggested by HITECH — will reap advances in not just safety, but also coordination of care. Payment reform is focused on both of these areas.

## Move Measurement to Real Time

### Stage 1 Meaningful Use for Hospitals — Relevant Requirements

Report 15 hospital clinical quality measures to CMS or the States (for Medicaid)

Implement one clinical decision support rule related to a high priority hospital condition along with the ability to track compliance with that rule

#### *Relevant Selectable Requirements*

Generate at least one list of patients by specific conditions to use for quality improvement, reduction of disparities, research or outreach

Measurement becomes most meaningful when it supports not just external reporting, but real-time care and quality management. Data analysis is at the core, but most powerful when working in parallel with the HIT used by clinicians at the point of care.

Probably the single most important core competency for the future is the capacity to understand (measure) and deliver continuously improved clinical performance. Data analysis is at the core, but most powerful when working in parallel with the HIT used by clinicians at the point of care. Once so much more clinical data is accumulating during the hospital stay, measurement can take on a much more proactive role than the traditional retrospective, often post-discharge, reporting. Clinical quality measures (including the 15 hospital measures for Stage 1 meaningful use) and patient tracking, clinical decision support and other uses of clinical HIT for care management share the same data foundation and similar logic when applied to common clinical quality targets. Accomplishing all of these in parallel provides the capability to manage and improve clinical performance in real time.<sup>18</sup>

Making measurement more meaningful in this way requires going beyond the explicit requirements of HITECH. It requires a disciplined approach to data capture so that critical information is available as soon as possible (definitely not just as the patient is discharged), bridges across any data base silos and proprietary data models, and re-engineering of traditional data analytics to deliver information in time to be actionable. New quality measures expand the externally driven part of each hospital's quality agenda each year, and the scope and financial implications of these will grow as payment reform takes hold. Hospitals that build the capacity to manage against these rising expectations in real time will be well positioned for that future.

## Focus MU Patient Engagement on High-Risk Patients

### Stage 1 Meaningful Use for Hospitals — Relevant Requirements

More than 50 percent of all patients who request an electronic copy of their health information are provided it within 3 business days

More than 50 percent of all patients who are discharged and who request an electronic copy of their discharge instructions are provided it

#### *Selectable Requirements*

More than 10 percent of all unique patients are provided patient-specific education resources

HIT-enabled patient engagement is a core competency for the future. Focusing early efforts on the performance targets of payment reform will push the organization up the learning curve and deliver immediate value for patients who can truly benefit.

Effective patient engagement is a core competency for the future, not just because patient feedback concerning the experience of care is prominent in the measure sets for VBP and the ACO program, but also because patient self-management (compliance with recommended care, etc.) will improve outcomes. Stage 1 meaningful use incorporates only some of the most basic contributions of HIT. Building actual competency will require a great deal of organizational learning about how to approach and match patients with the modes and content to which they are most receptive. For most hospitals, this is new territory beyond traditional patient education at discharge.

Considering the Stage 1 requirements an extension of the work of Health Information Management (i.e., responding to patient requests for medical record information) might be an expedient way to achieve meaningful use. But patients who are interested and equipped are the easy patients to engage and may not be the ones who need engagement the most. Rather, connecting tailored, HIT-enabled patient engagement to current care management initiatives will push the organization to learn how to put patient engagement to work more broadly. In addition, focusing the work on high-risk patients such as those at risk for readmission or subgroups requiring especially complicated or time-critical post-discharge care will yield the most immediate clinical payback. A good starting point is on patients with heart failure, pneumonia and chronic obstructive pulmonary disease, conditions targeted by VBP, RRP, and the ACO program.

## Go Beyond Testing with HIE

### Stage 1 Meaningful Use for Hospitals — Relevant Requirements

Performed at least one test of certified EHR technology's capacity to electronically exchange key clinical information

#### *Relevant Selectable Requirements*

For more than 50 percent of transitions of care and referrals to another setting of care or provider of care, a summary record of care is provided

Continuity of care is a recurring theme in the measures for payment reform and HIE a critical enabler. Hospitals should go beyond what HITECH requires by setting up actual information exchange with community partners with high volumes of shared patients or high-risk patients.

Healthcare reform puts a high premium on care coordination and patient-centered care management, both through reimbursement models that reward or penalize poor performance and explicit measures of avoided care, i.e., hospital-sensitive conditions for ACOs and patient assessment of the overall care experience (included in both VBP and the ACO program). HITECH meaningful use pushes for some early steps in health information exchange — one test of capabilities is required and starting to gain experience with a summary record of care is one of the selectable requirements for Stage 1.

However, the exchange of information that is meaningful — available and useable for care — is an HIT core competency for the future of any provider. Hospitals (and affiliated medical groups and other community providers) that adopt other principles in this paper will actually have meaningful information to exchange and integrate with locally captured patient information in a useful way. Rather than stopping with one test and possibly putting off work on the summary of care record for Stage 1, hospitals should go beyond meaningful use by pushing ahead aggressively and getting a head start on exchanging information with community partners with either high volumes of shared patients (medical groups of employed or affiliated physicians) or high-risk patients in all settings.

Measurement for many programs of healthcare reform has already started, and equipping the providers on both sides of patient transfers to other sites and settings of care with critical information is today's goal, not one for "some day."<sup>19</sup>

## Invest in Internal Integration

This principle is an overarching one — a critical "how" that ultimately determines the extent of the payback to quality and safety from the hospital's investments in HITECH-encouraged HIT. Both HITECH certification and meaningful use requirements are silent on the need for a *patient-centered approach* to information management within the hospital. The reality of providing and managing care in a hospital sets a

Leaders in any hospital considering extending or swapping out clinical HIT need to put integration of patient information house-wide at the top of the list of requirements. However integration is achieved technically, care givers must be able to base decisions and actions on a complete picture of patient information throughout a patient's hospital stay to deliver safe care.

higher bar. In fact the admission for many patients begins in the Emergency Department and the hospital stay often includes time in both an ICU and an acute care unit, with a possible detour to the Surgical Suite in between. For the care team (as well as for the patient), this is one continuous care episode, and team members in any location in the hospital need information about care and patient status in every location.

**Departmental Clinical Systems in US Hospitals With ≥200 beds:**

Emergency Department	30%
Surgical Suite	
- Pre	25%
- Peri	35%
- Post	24%
Intensive Care Unit	10%

Source: Analysis of data from HIMSS Analytics, 2010<sup>20</sup>

Because of specialized workflows in some care areas and the availability of stand-alone systems specifically designed to support them, many hospitals include one or more specialty clinical systems that manage locally captured information in a stand-alone data base. Other hospitals still use paper records in these areas. When patients move across these artificial HIT boundaries, care givers often can't consult, for example, a clinical flow sheet showing vital signs or an integrated record of medication orders and

administrations since the patient arrived in the hospital. As a consequence, they waste time consulting multiple paper and electronic sources or re-entering information and can miss something important.

Leaders in any hospital considering extending or swapping out clinical HIT, need to put integration of patient information *house-wide* at the top of the list of requirements. However integration is achieved technically, care givers must be able to base decisions and actions on a complete picture of patient information to deliver safe care.

**Throw the Book at Readmissions**

Reducing preventable readmissions deserves to be one high-priority target of HIT-enabled quality improvement that can incorporate almost every functional requirement of HITECH meaningful use. The reason for leveraging new HIT in a concerted effort to reduce readmissions is evident in the design and timelines of two different programs of payment reform for Medicare.

- The RRP will penalize hospitals in the lowest performance quartile for readmissions of patients with heart attack, pneumonia or heart failure by 1 percent of DRG payment rates in FY 2013 (measurement based on claims 2008-2011).
- For FY 2014, the penalty rises to 2 percent of DRG payment rates and conditions are expanded to include chronic obstructive pulmonary disease and coronary artery bypass graft surgery.
- The ACO program includes a risk-adjusted, all-condition readmission rate as one of the performance measures used to determine what portion of any cost savings achieved accrue to the ACO.
- In addition, the costs of any readmissions cut into economic savings the ACO might otherwise achieve.

Readmissions are also an increasingly attractive target for Medicaid programs, employer groups and commercial payers because they can represent lapses in quality, as well as add significant costs.

Because of these high stakes, work on many HIT capabilities required for HITECH should be focused on patients at risk of readmission. HIT can provide a critical linkage in new joint programs with medical groups that are heavy admitters of Medicare or other high-risk patients and/or with nursing homes or rehab hospitals to which at-risk patients are discharged. HIE and patient engagement capabilities of HITECH meaningful use are obvious tools to employ in this effort, but so are electronic patient tracking and clinical decision support. Readmissions are emerging as the first real test of care coordination in operation, and every hospital will need to leverage HIT effectively to gain a passing grade.

Preventable readmissions are targeted in several different CMS payment reform initiatives. Focusing HITECH work on this target will allow leveraging most of the required Stage 1 capabilities and bring immediate value to some of the patients who need extra care management attention the most.

Everything required for HITECH is important, but HITECH doesn't include everything a hospital needs for the new payment environment. An ideal example is specialized support to infection prevention and management.

## **Consider HITECH the Floor, not the Ceiling**

Until meaningful use was defined for HITECH, there were many different definitions of what constituted the inpatient EHR. As a result, both the destination and the path to get there had many variations both in hospitals and the vendor marketplace. Now meaningful use has eliminated (for practical purposes) any ambiguity about what is needed at a minimum, and there no longer is a need for ongoing debate as an excuse for delay. For most hospitals though, considerable work is needed to meet the mark of meaningful use. In the throes of that effort, however, it is important to remember that HITECH is the floor rather than the ceiling of HIT.

An ideal example is infection prevention and management. Healthcare-acquired infections and antimicrobial resistance are major public health concerns, receiving the high-profile attention of regulators and agencies such as the Centers for Disease Control and Prevention. CMS and other payers no longer reimburse for care responding to healthcare-acquired conditions during hospital care, including many infections; beginning in FY 2015 CMS will further penalize hospitals in the lowest-performance quartile for hospital-acquired conditions with a decrease in DRG payments.

The typical EHR was never designed to support infection prevention and management, including the use of additional information from Microbiology to assist in understanding patterns of nosocomial infections and antimicrobial resistance. To equip both the infection management team and front-line clinicians with the best available tools, most hospitals must acquire additional specialized HIT for automated surveillance and effective antimicrobial stewardship.<sup>21</sup>

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