In the last decade, there has been a rapidly growing emphasis and imperative for healthcare quality improvement. With the vast number of stakeholders involved, it is reaching a pinnacle of activity and requirements. The federal government has been developing and implementing quality initiatives across the healthcare system spectrum. This article looks at three major programs: the Hospital Value-based Purchasing/Inpatient Quality Reporting Program, Hospital Outpatient Quality Reporting, and the Physician Quality Reporting System /Physician Value-based Payment Modifier. Quality measurement in healthcare will continue to grow and evolve. Current and upcoming programs will expand, change, and likely disappear or morph into variations of themselves.

EXECUTIVE SUMMARY

• In the last decade, there has been a rapidly growing emphasis and imperative for healthcare quality improvement. With the vast number of stakeholders involved, it is reaching a pinnacle of activity and requirements.
• The federal government has been developing and implementing quality initiatives across the healthcare system spectrum. This article looks at three major programs: the Hospital Value-based Purchasing/Inpatient Quality Reporting Program, Hospital Outpatient Quality Reporting, and the Physician Quality Reporting System /Physician Value-based Payment Modifier.
• Quality measurement in healthcare will continue to grow and evolve. Current and upcoming programs will expand, change, and likely disappear or morph into variations of themselves.

Healthcare providers more and more must demonstrate their quality strength and cost agility through performance measurement in order to stay in their game and have competitive advantage. Since the Institute of Medicine reports at the turn of this century, a rapidly growing emphasis and imperative for healthcare quality improvement is reaching a pinnacle of activity and requirements. From acute care hospitals to long term care facilities to physician offices, quality reporting and measurement programs are making a stronghold; individuals, groups, and systems must respond in order to avoid reduced reimbursement, maintain or procure contracts, receive gold stars, but above all to achieve delivery of high quality, efficient care.

The number and variety of organizations involved in the healthcare quality enterprise has also significantly grown. Their names are an alphabet soup of stakeholders, regulators, collaboratives, societies, vendors, certifying bodies, quality improvement organizations, educators, consultants, measure developers, and on and on (see Box 1). All there to support, direct, educate, demand, evaluate, measure, and report on how high the level of quality, how low the cost of care is delivered.

A sampling of private payers, entities, and initiatives include programs such as the CareFirst BlueCross Blue Shield (Washington, DC metropolitan area) Patient-Centered Medical Home (PCMH), Cigna Collaborative Accountable Care, Integrated Healthcare Association (IHA) California pay-for-performance, and HealthPartners Partners in Excellence. Healthcare improvement collaboratives, such as Minnesota Community Measurement, Institute for Clinical Systems Improvement, and the Wisconsin Collaborative for Healthcare Quality, which typically are groups of key healthcare stakeholders in a state or region, number in the dozens across the United States. Another such collaborative, the Healthcare Incentives Improvement Institute (HCI3) is the developer and implementer of the Bridges to Excellence (BTE) recognition programs, which are used in numerous pay-for-performance programs like the Colorado Business Group on Health and IHA in California.

Since the early 1990s, the National Committee for Quality Assurance (NCQA) began measuring health plan performance through the Healthcare Effectiveness Data and Information Set (HEDIS), which quickly became a nationally recognized quality measurement tool by purchasers, regulators, and consumers of healthcare. Today, NCQAs programs extend to accreditation, certification, and recognition in various
clinical areas and settings. The Joint Commission recently implemented a new standard for ongoing evaluation of professional practice quality of hospital medical staff individuals—the Ongoing Professional Practice Evaluation (OPPE). OPPE measures a clinician’s competence in six core areas on a frequent basis. Medical specialty boards under the umbrella of the American Board of Medical Specialties (ABMS) also assesses continued physician competency in six core areas through Maintenance of Certification (MOC), with increasing emphasis on "Part IV"—Practice Performance Assessment.

**Alternative Payment Models and Quality**

Within today’s healthcare system, the majority of payment arrangements continue to be based on fee-for-service. Evolving payment models move toward various levels of provider risk using capitation, episode-based payment or global payments, but also with emphasis on high performance on quality and outcome metrics—to get at paying for “value.” Such budding alternative payment method contracts, accountable care organizations (ACOs) or hospital-physician associations based on risk sharing and performance measurement are on the rise. BlueCross Blue Shield of Massachusetts’ Alternative Quality Contract is an example of such a model. The HCI3 PROMETHEUS Payment® system is an alternative payment method with provider risk and reward based on some measure of quality. PROMETHEUS pilot sites include HealthPartners in Minnesota and Spectrum Health and Priority Health in Michigan.

ACOs, PCMHs, and a newer concept, the medical neighborhood, are basically provider collaborations integrating the services of physician groups, hospitals, and other providers with the goal of providing patient-centered, high quality care with reduction in overall spending (or spending growth) for a defined patient population, incentivized by potential additional payments. The largest vehicle for implementation of ACOs has been through the Centers for Medicare and Medicaid Services (CMS) Medicare Shared Savings Program (MSSP), brought forward by the passage of healthcare reform.

**CMS Quality and Value-based Purchasing Programs**

That brings this review to the 10,000 pound giant of quality measurement programs—the federal government. For more than a decade, the Department of Health and Human Services (DHHS) and CMS have been developing and implementing quality initiatives across the healthcare system spectrum including acute care, rehabilitative, and psychiatric hospitals; physician offices; ambulatory surgery centers; and end-stage renal disease facilities. These initiatives, whether in the form of pilots, demonstration projects or full
blown programs, have been authorized by Congress through numerous legislative acts that in many cases have built on preceding legislation. This summary will look at three major programs: the Hospital Value-based Purchasing (HVBP)/Inpatient Quality Reporting Program (IQR), Hospital Outpatient Quality Reporting (OQR), and the Physician Quality Reporting System (PQRS)/Physician Value-based Payment Modifier (Value Modifier [VM]). It is the intention of CMS, through implementation of these quality measurement programs, to transition to value-based purchasing, moving away from traditional fee-for-service volume-based reimbursement, as directed by Congress.

Inpatient Quality Reporting (IQR) Program
The hospital IQR program was initially implemented in 2005 for all “sub-section D” hospitals (primarily excludes psychiatric, rehabilitation, pediatric, and cancer facilities). Under the program, hospitals paid under the Medicare Inpatient Prospective Payment System (IPPS) submit data for specific quality measures for health conditions that typically result in hospitalization and are common among people with Medicare, or the hospital will forfeit a percentage of the Annual Payment Update (APU) the following fiscal year (FY).

As of 2014, there are over 100 measures in IQR including six clinical topic areas, patient safety, infection, mortality and readmission, although not all measures are required to be reported every year. Currently, there are no IQR measures specifically related to imaging or radiology; however, radiology services may well play into performance rates for several measures, particularly for those that evaluate throughput of services, primarily in the emergency department (ED). For example, in Measure ED-1a, b: Median Time from ED Arrival to ED Departure for Admitted ED Patients, provision of imaging has the potential to substantially affect the timeframe.

Also, for admitted patients the rate for a similar measure AMI-8 Median Time to Primary Percutaneous Coronary Intervention (PCI) could be affected by imaging services. Additionally, an Agency for Healthcare Research and Quality (AHRQ) Patient Safety Indicator (PSI): PSI-6 Iatrogenic pneumothorax could occur within radiology.

Hospital IQR program measure rates are available to the public on the CMS Hospital Compare website (www.medicare.gov/hospitalcompare).

Hospital Outpatient Quality Reporting (OQR) Measures
The hospital OQR program is structured the same as IQR, but administered under the Outpatient Prospective Payment System (OPPS) for collecting, reporting, and analyzing quality measure data for hospital outpatient services. The financial incentive is also an award of the full annual payment update for participating hospitals, and began with payments in calendar year (CY) 2009. Hospitals that participate in OQR agree to have their quality measure data publicly reported on the CMS Hospital Compare website.

Currently, in CY2013, there are 26 quality measures in the OQR program, including seven imaging efficiency measures, shown in Table 1. Hospitals do not need to submit data to CMS for the imaging efficiency measures since they are claims based; CMS calculates the measure rates from OPPS hospital claims.

More information on the hospital IQR and OQR programs can be found on the CMS website, QualityNet (www.qualitynet.org).

Physician Quality Reporting System (PQRS)
The PQRS was first implemented in 2007 as the Physician Quality Reporting Initiative (PQRI). It began as an incentive based reporting program in which eligible professionals (EPs) (eg, physicians and other clinicians providing services to Medicare Part B Fee for Service beneficiaries) report quality data to CMS by adding such data to claims. The incentive is based as a percentage of total allowable Medicare charges billed by a reporting EP. Since 2007 to the 2013 reporting year, the PQRS program has expanded both the number of measures available for reporting and mechanisms for reporting (ie, claims, registry, EHR, web interface). There are nearly 30 PQRS measures in CY2014 that are potentially relevant to diagnostic radiologists, interventional radiologists, radiation oncologists, and nuclear medicine physicians (see Table 2).

### Table 1. Hospital OQR Imaging Efficiency Quality Measures CY 2013

<table>
<thead>
<tr>
<th>Measure</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>OP-8</td>
<td>MRI Lumbar Spine for Low Back Pain</td>
</tr>
<tr>
<td>OP-9</td>
<td>Mammography Follow-up Rates</td>
</tr>
<tr>
<td>OP-10</td>
<td>Abdomen CT Use of Contrast Material</td>
</tr>
<tr>
<td>OP-11</td>
<td>Thorax CT Use of Contrast Material</td>
</tr>
<tr>
<td>OP-13</td>
<td>Cardiac Imaging for Preoperative Risk Assessment for Non-Cardiac Low-Risk Surgery</td>
</tr>
<tr>
<td>OP-14</td>
<td>Simultaneous Use of Brain Computed Tomography (CT) and Sinus CT</td>
</tr>
<tr>
<td>OP-15</td>
<td>Use of Brain CT in the Emergency Department (ED) for Atraumatic Headache <strong>REPORTING POSTPONED</strong></td>
</tr>
</tbody>
</table>
New options for reporting have been implemented, such as the Maintenance of Certification Additional Incentive and the Group Practice Reporting Option (GPRO). The incentive percentage has ranged from a high of 2% in 2009/2010 to a current low of 0.5% in 2013/2014. Although participation remains voluntary, beginning in CY2015 the program transitions to a penalty for EPs who do not report measure data to CMS. The 2015 payment adjustment, based on participation in 2013, will be 1.5% and for 2016 and subsequent years, the payment adjustment is 2% (see Table 3). Additionally, as proposed in the CY2014 Medicare Physician Fee Schedule proposed rule, CMS is increasing

<table>
<thead>
<tr>
<th>Measure Set</th>
<th>Measure</th>
<th>Most Applicable Subspecialty</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cardiac Stress Imaging</td>
<td>Preoperative Evaluation in low-risk Surgery Patients Routine Testing After Percutaneous Coronary Intervention (PCI) Testing in Asymptomatic, Low-risk Patients</td>
<td>IR, DR</td>
</tr>
<tr>
<td>Critical Care</td>
<td>CVC insertion/Sterile Barrier Technique</td>
<td>IR</td>
</tr>
<tr>
<td>Nuclear Medicine</td>
<td>Correlation of Bone Studies</td>
<td>NM</td>
</tr>
<tr>
<td>Oncolgy</td>
<td>Hormonal Therapy Colorectal Cancer: Chemotherapy for AJCC Stage III Colon Patient Pain Intensity Quantified Plan for Care for pain Cancer Stage Documented</td>
<td>RO</td>
</tr>
<tr>
<td>Osteoporosis</td>
<td>Communication Following Fracture Management Following Fracture</td>
<td>DR, IR</td>
</tr>
<tr>
<td>Prostate CA</td>
<td>Bone Scan Overuse—Staging Adjuvant Hormonal Therapy</td>
<td>RO</td>
</tr>
<tr>
<td>Radiology</td>
<td>Fluoroscopy Exposure/Time Recorded Inappropriate Use of BIRADS 3 Stenosis Measurement in Carotid Imaging Studies Reminder System for Mammograms</td>
<td>DR, IR</td>
</tr>
<tr>
<td>Perioperative Care</td>
<td>Timing of Antibiotics—Ordering Physician Selection of Antibiotic Discontinuation of Antibiotic VTE Prophylaxis</td>
<td>IR</td>
</tr>
<tr>
<td>Radiation Safety</td>
<td>Reporting to a Radiation Dose Index Registry Utilization of a Standardized Nomenclature for CT Imaging Description Appropriateness: Follow-up CT Imaging for Incidental Pulmonary Nodules According to Recommended Guidelines Cumulative Count of Potential High Dose Radiation Imaging Studies: CT Studies and Cardiac Nuclear Medicine Studies Search for Prior CT Studies through a Secure, Authorized, Media-free, Shared Archive CT Images Available for Patient Follow-up and Comparison Purposes</td>
<td>DR, IR, NM</td>
</tr>
</tbody>
</table>
requirements for successful participation in PQRS in order to avoid payment adjustment. As proposed, EPs will be required to submit data on nine measures, an increase from the current requirement of three, and the measures reported must be across three National Quality Strategy domains (see Box 2).

Although the increased measure requirement is steep, based on authorization from Congress CMS proposed allowing use of qualified clinical data registries (QCDR) beginning in CY2014 as a reporting option for successful PQRS participation. This proposal identifies specialty board and specialty society clinical data registries as those that might qualify as vehicles through which EPs may successfully participate in PQRS. Clinical data registry examples include the Society of Thoracic Surgeons National Database or the American College of Radiology National Radiology Data Registries. In many cases, such registries will allow a physician to meet requirements both for board MOC requirements and PQRS requirements simultaneously.

**Box 2. National Quality Strategy Domains**

- Making care safer by reducing harm caused in the delivery of care
- Ensuring person and family centered care
- Promoting effective communication and coordination of care
- Promoting the most effective prevention and treatment practices for the leading causes of mortality
- Working with communities to promote healthy living
- Making quality care more affordable

**Transition to Value-based Purchasing**

The HVBP program is an outgrowth of the IQR program. Quality and cost measures included in the HVBP are those that have been in use in the IQR. However, where in IQR payment adjustment is determined based on reporting alone, under HVBP beginning in CY 2013 hospitals’ measure performance rates on a subset of the IQR measures affect the total payments made to the facilities under the IPPS. Depending on the measure scores, a hospital may have an upward or downward adjustment on their reimbursement rates. Since the HVBP is budget neutral, the program is funded by a withhold from all participating hospitals’ diagnosis related group (DRG) payments. For CY2013, that withhold is 1% rising to 2% by FY2017. The premise is that hospitals will have an opportunity to recoup that withhold based on performance levels.

Similar to the IQR program, PQRS is the basis for the VM. Where the PQRS penalty is based on reporting success in the program, the VM penalty will be based on PQRS measure performance rates of group practices and eventually individual physicians. Beginning in 2015, group practices of 100 or more EPs will be subject to a VM penalty for not participating in PQRS in 2013. For the initial VM year (2015), those groups that did participate in PQRS could choose to have their VM at a level 0%, or to potentially receive an upward or downward adjustment through quality tiering (see Table 4) of their performance scores. Again, like the HVBP program, the physician VM is budget neutral so the level of the upward adjustment (incentive) is based on penalty assessed for lower performers and groups that did not PQRS report.

According to statute, the VM must be implemented for all physicians by 2017. CMS has proposed a somewhat aggressive schedule to meet that deadline by subjecting groups of 10 or more EPs to the VM in 2016, based on CY 2014 PQRS reporting. Where the PQRS penalty of 2% in 2016 may not be persuasive enough for some EPs to participate in PQRS, the addition of another 2% penalty through the VM may be.

**TABLE 3. PQRS Incentive and Payment Adjustment Amounts**

<table>
<thead>
<tr>
<th>Year</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013</td>
<td>0.5% incentive</td>
</tr>
<tr>
<td>2014</td>
<td>0.5% incentive</td>
</tr>
<tr>
<td>2015</td>
<td>1.5% payment adjustment (applied based on 2013 reporting)</td>
</tr>
<tr>
<td>2016</td>
<td>2% payment adjustment (applied based on 2014 reporting)</td>
</tr>
</tbody>
</table>

**TABLE 4. Value Modifier Quality Tiering**

<table>
<thead>
<tr>
<th>Quality/Cost</th>
<th>Low Cost</th>
<th>Average Cost</th>
<th>High Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>High Quality</td>
<td>+2.0x*</td>
<td>+1.0x*</td>
<td>0.0%</td>
</tr>
<tr>
<td>Average</td>
<td>+1.0x*</td>
<td>0.0%</td>
<td>−1.0%</td>
</tr>
<tr>
<td>Low Quality</td>
<td>0.0%</td>
<td>−1.0%</td>
<td>−2.0%</td>
</tr>
</tbody>
</table>

x indicates the factor for the VM upward adjustment; % determined by aggregated downward adjustments, maintaining the program in budget neutral fashion
* indicates an additional +1.0x upward adjustment for treatment of high-risk beneficiaries
Box 3. Quality Program Resource Guide

Accountable Care Organizations/Alternative Delivery Models
1. Medicare Shared Savings Program: www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/sharedsavingsprogram/index.html?redirect=/SharedSavingsProgram
2. Center for Medicare and Medicaid Innovation (CMMI): innovation.cms.gov
3. CMMI Innovation Models: innovation.cms.gov/initiatives/index.html#views=models

CMS Quality Measurement Programs
2. Outpatient Quality Reporting Program (OQR): www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/HospitalQualityInits/HospitalOutpatientQualityReportingProgram.html
3. OQR Imaging Efficiency: www.qualitynet.org/dcs/ContentServer?c=Page&pagename=QnetPublic%2FPage%2FQnetTier2&cid=1228695266120
4. Inpatient Quality Reporting (IQR): www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/HospitalQualityInits/HospitalInpatientQualityReportingProgram.html
8. Physician Value Based Payment Modifier (VM): www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/PhysicianFeedbackProgram/ValueBasedPaymentModifier.html

Government Agencies
2. Health IT: www.healthit.gov/HIE

Quality Improvement Organizations/National and Regional Healthcare Collaboratives/Learning Institutes
2. Network for Regional Healthcare Improvement (NRHI): www.nrhi.org (includes links to organizations like Minnesota Community Measurement and Institute for Clinical Systems Improvement)
3. Institute for Healthcare Improvement: www.ihi.org

Private Pay for Performance or Provider Recognition Programs
1. Bridges to Excellence (HCI3): www.hci3.org/what_is_bte
2. Care First Blue Cross Blue Shield PCMH: provider.carefirst.com/wps/portal/Provider/PCMH?WCM_GLOBAL_CONTEXT=/wcmwps/wcm/connect/Content-Provider/CareFirst/ProviderPortal/PCMH/Tab/pcmhOverview
Physician Payment Reform

Recent proposed legislation seeks to improve the current methods of physician reimbursement under the MPFS by doing away with the sustainable growth rate (SGR) and replacing it with an annual payment adjustment methodology based on performance of a single, budget neutral physician incentive payment program. Updates or annual changes to reimbursement levels would be according to a physician or clinician’s performance in a prior period through the “Value Based Payment Program,” using a composite score across measure for quality, resource use, and use of electronic health records (EHRs).

This is the era of quality measurement in healthcare. It will grow and evolve. Current and upcoming programs will expand, change, and likely disappear or morph into variations of themselves. For a comprehensive list of resources, see Box 3.

References

Continuing Education

Quality and the Physician Value-based Payment Program

Home-Study Test

1.0 Category A credit • Expiration date 2-29-2016

Carefully read the following multiple choice questions and take the post-test at AHRA’s Online Institute (www.ahraonline.org/onlineinstitute)

QUESTIONS

Instructions: Choose the answer that is most correct.

1. Current and upcoming Physician Value-based Payment Programs will:
   a. Expand
   b. Change
   c. Disappear or morph into variations of themselves
   d. All of the above

2. According to Box 1, the acronym “EP” stand for:
   a. Employee Perks
   b. Electronic Payment
   c. Eligible Professional
   d. Efficiency Programs

3. Across the United States, healthcare improvement collaboratives, such as Minnesota Community Measurement and the Wisconsin Collaborative for Healthcare Quality, number in the:
   a. Dozens
   b. Twenties
   c. Fifties
   d. Hundreds

4. The Healthcare Incentives Improvement Institute (HCi3) is the developer and implementer of the recognition program:
   a. Credit for Top Performers (CTP)
   b. Bridges to Excellence (BTE)
   c. Professional Appreciation Committee (PAC)
   d. Acknowledging Employee Excellence (AEE)

5. The National Committee for Quality Assurance began measuring health plan performance through the Healthcare Effectiveness Data and Information Set in:
   a. Early 1990s
   b. Late 1970s
   c. Mid 2010
   d. Projected to begin in 2015

6. PROMETHEUS pilot sites include HealthPartners in Minnesota and Spectrum Health and Priority Health in:
   a. Wisconsin
   b. Iowa
   c. Michigan
   d. North Dakota
7. It is the intention of CMS, through implementation of quality measurement programs, to transition to value-based purchasing from traditional fee-for-service volume-based reimbursement.
   a. True
   b. False

8. The hospital IQR program for all “sub-section D” hospitals was initially implemented in:
   a. 2003
   b. 2005
   c. 2007
   d. 2009

9. As of 2014, there are over 100 measures in IQR including how many topical areas?
   a. 10
   b. 8
   c. 6
   d. 4

10. Hospital IQR program measure rates are:
    a. Available to government agencies
    b. Restricted to private medical organizations
    c. Restricted to insurance companies
    d. Available to the public

11. The hospital OQR program is structured:
    a. Larger than IQR
    b. Completely different than IQR
    c. Smaller than IQR
    d. The same as IQR

12. According to Table 1, Hospital OQR Imaging Efficiency Quality Measures CY 2013, reporting was postponed for:
    a. OP-15
    b. OP-13
    c. OP-11
    d. OP-9

13. The PQRS was first implemented as the Physician Quality Reporting Initiative (PQRI) in:
    a. 2013
    b. 2007
    c. 2001
    d. 1995

14. Since 2007 to 2013, the number of measures available for reporting and mechanisms for reporting by the PQRS program has:
    a. Expanded
    b. Decreased
    c. Stayed the same
    d. None of the above

15. The incentive percentage has ranged from a high of 2% in 2009/2010 to a current low in 2013/2014 of:
    a. 1%
    b. 0.75%
    c. 0.5%
    d. 0.25%

16. As proposed in the CY2014 Medicare Physician Fee Schedule proposed rule, CMS is decreasing requirements for successful participation in PQRS in order to avoid payment adjustment.
    a. True
    b. False

17. The HVBP program is an outgrowth of the:
    a. JEB program
    b. TK program
    c. SIS program
    d. IQR program

18. For CY2013, the withhold from all participating hospital diagnosis related group (DRG) payments is 1% and:
    a. Rising to 2% by FY2015
    b. Rising to 2% by FY2017
    c. Declining to .5% by FY2015
    d. Declining to .5% by FY2017

19. According to Table 4, Value Modifier Quality Tiering -2.0% represents:
    a. Low cost and high quality
    b. Average cost and average quality
    c. High cost and average quality
    d. High cost and low quality

20. According to statute, the VM must be implemented for all physicians by:
    a. 2014
    b. 2015
    c. 2016
    d. 2017