Quality Improvement in the Advent of Population Health Management

WHITE PAPER
For healthcare organizations whose reimbursement and revenue are tied to patient outcomes, achieving performance on quality measures for the Centers for Medicare and Medicaid Services (CMS) and other stakeholders drives high-priority quality improvement projects. Organizations face challenges, however, in the execution of quality initiatives due to disparate data systems, inefficient clinician workflows, and time-consuming measurement processes. Adding to these challenges are the quality demands of risk-based contracts that have grown with the advent of population health management. In addition to driving more emphasis on patient outcomes, however, population health is driving innovative new health information technology (IT) solutions that help organizations improve quality by connecting technology, processes, clinicians and patients. This whitepaper will discuss the drivers of quality improvement as well as detail how population health management is influencing how healthcare organizations can achieve quality improvement measures.

**DRIVERS OF QUALITY IMPROVEMENT**

**The Need to Improve Patient Outcomes**

As illustrated by the GE Healthcare Associated Infections infographic below, too often the quality of care is not at the level needed or desired. As a result, while large healthcare organizations undoubtedly have many initiatives underway, pursuing quality improvement is typically one of the core strategies. One could argue, that given the mission of hospitals and other healthcare delivery organizations, improving patient outcomes lies at the heart of nearly every healthcare initiative.
Quality improvement in the advent of population health management

Second to the desire for better patient care, reimbursement penalties and rewards serve to drive quality improvement. Targeting high healthcare costs, striving to address patient safety and quality concerns, and seeking to reduce waste, CMS has implemented a number of payment changes to reward providers for lowering costs and improving care quality. These changes—some mandatory, others currently elective—have the potential to radically shift health system economics, transferring some portion of financial risk to providers to make payment subject to the quality of care provided.

- **FY 2008:** CMS discontinued reimbursement for 28 never events—inexcusable outcomes in a health care setting, such as surgery performed on the wrong body part—that occurred in the treatment of Medicare and Medicaid patients.
- **FY 2009:** CMS defined a list of hospital-acquired conditions for which reimbursement is denied or reduced.
- **FY 2013:** The Value-Based Purchasing program imposes penalties and provides bonuses of up to one percent of Medicare inpatient revenue, increasing to two percent by 2015, depending on individual hospital performance against a range of quality metrics.

Thirdly, as quality measures are being reported publicly on websites such as [www.hospitalcompare.hhs.gov](http://www.hospitalcompare.hhs.gov), organizations view quality scores as a differentiator in the market; those with better or improving quality measures can use them to competitive advantage.

Despite these drivers, improving quality and reporting across large organizations has historically been difficult. According to a study published in the Journal of General Internal Medicine, only 28 percent of initiatives that provide guidance to clinicians have shown at least 10 percent quality improvement over 25 years.

**POPULATION HEALTH MANAGEMENT AS AN ACCELERATOR**

A key component of the Patient Protection and Affordability Care Act of 2010 (PPACA) is the increased linking of Medicare payments to patient outcomes. As a requirement of government programs, e.g. Physician Quality Reporting System (PQRS) or Medicare Shared Savings Program (MSSP), healthcare organizations must report on clinical or quality measures in order to earn incentives or avoid reimbursement penalties. Similar requirements are found in contractual arrangements with private payers, and health plans report Healthcare Effectiveness Data and Information Set (HEDIS) measures.

Many of the programs or arrangements require a defined level of performance or improvement year-over-year in order to qualify for those incentives. For example, the MSSP requires reporting of 33 accountable care organization (ACO) measures in year one, performance on 25 of those measures year two, and performance on 32 in year three. Furthermore, these requirements are likely to grow: HEDIS measures, for example, have grown from a handful to over 80. CMS has proposed changes to the ACO quality measures for 2015, adding twelve and deleting eight, creating the need to adapt to evolving requirements.
YOUR POPULATION HEALTH STRATEGY WILL DRIVE YOUR QUALITY INITIATIVES

An organization’s strategy can take different forms:

- Medicare Shared Savings Program (MSSP) accountable care organization
- ACO agreement with commercial payers
- Other risk arrangements with payers or employers
- Medicare Advantage plan
- Medicaid managed care plan

Each of these strategies requires some form of quality measures reporting. It is also possible that organizations must pursue multiple quality programs at the same time in order to meet the requirements of both CMS and payer contracts. The table below outlines a few of the major programs and what they entail.

<table>
<thead>
<tr>
<th>Quality Measure Programs</th>
<th>Components</th>
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<tbody>
<tr>
<td>Accountable Care Organization (ACO) 33 Clinical Quality Measures for Medicare Shared Savings Program (MSSP) and commercial ACOs</td>
<td>Before an ACO can share in any savings generated, it must demonstrate that it met the quality performance standard for that year. There are also interactions between ACO quality reporting and other CMS initiatives, particularly the Physician Quality Reporting System (PQRS) and meaningful use. The program’s 33 quality measures span four quality domains: 1) Patient / Caregiver Experience; 2) Care Coordination / Patient Safety; 3) Preventive Health; and 4) At-Risk Population.2</td>
</tr>
<tr>
<td>Healthcare Effectiveness Data and Information Set (HEDIS) Measures for Medicare Advantage plans and commercial payers</td>
<td>HEDIS is a tool used by more than 90 percent of America’s health plans to measure performance on important dimensions of care and service. Altogether, HEDIS consists of 81 measures across 5 domains of care.3</td>
</tr>
<tr>
<td>Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS)</td>
<td>The HCAHPS survey is the first national, standardized, publicly reported survey of patients’ perspectives of their hospital experience. HCAHPS is among the measures used to calculate value-based incentive payments in the Hospital Value-Based Purchasing program. CMS publishes participating hospitals’ HCAHPS results on (<a href="http://www.hospitalcompare.hhs.gov">www.hospitalcompare.hhs.gov</a>) four times a year.4</td>
</tr>
<tr>
<td>Payer Driven</td>
<td>Healthcare organizations can enter into a contractual arrangement with a private payer that ties incentives to quality-based requirements as determined by the payer.</td>
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WHAT TO LOOK FOR IN A QUALITY IMPROVEMENT SOLUTION

The emergence of population health management has driven advances in the health IT solutions that support it. These solutions can not only measure and report quality, but provide the means to enhance quality improvement efforts. With those solutions, healthcare organizations can leverage all of their data in near-real time (clinical, financial, claims, HCAHPS survey data etc.), identify quickly where care gaps are hurting quality, surface the information at the point of care to improve care management and patient engagement workflows, and streamline measurement processes.

An organization’s patient population size, diversity of facilities and technologies that contain data, assumption of risk and organizational change are key factors in determining the need for HIT solutions to support that organization’s population health strategy and quality improvement initiatives.

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<tr>
<th>Considerations for Quality Improvement Health IT</th>
<th>Yes/No</th>
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<tr>
<td>Do you have 25,000 or more patients covered under a risk arrangement?</td>
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<tr>
<td>Do you currently participate in or are interested in participating in risk-based contracts (e.g. ACO, bundled payments, value-based contracts)?</td>
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<tr>
<td>Have you identified specific quality measures you want to improve?</td>
<td></td>
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<tr>
<td>Do you have analysts that must dedicate 3-5 days every month for quality measures reporting?</td>
<td></td>
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<tr>
<td>Do you have 10 or more disparate healthcare IT systems that store data (e.g. clinical, claims, financial)?</td>
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<tr>
<td>Does your organization have a mix of inpatient, ambulatory, and post-acute facilities?</td>
<td></td>
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<tr>
<td>Do you have 15 or more care managers across your organization?</td>
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If you answered yes to four or more of the questions above, then your organization may have the operational scale, complexity and financial risk that would benefit from investment in population health management (PHM) software solutions in order to drive quality improvement.
WHAT TO LOOK FOR IN A QUALITY IMPROVEMENT SOLUTION

Types of Solutions

Because they can help not only measure but improve quality, population health solutions are recommended. The landscape of population health vendors, however, is becoming denser by the day, and it can be difficult to distinguish among vendor solutions. That being said, there are important differences between point population health solutions and integrated solutions. The figure below helps explain the different types of population health vendors today.

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<thead>
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<th>Analytics</th>
<th>Patient Outreach</th>
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<tr>
<td>Use advanced statistical tools such as algorithms and machine learning for the purposes of reporting and discovering insights.</td>
<td>Designed to improve the efficiency of clinician and patient engagement workflows that impact quality.</td>
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<tr>
<td>Do not integrate with clinician or patient engagement workflows, creating a gap between insights and action at the point-of-care.</td>
<td>Do not include advanced analytics, performance measurement or data aggregation capability; vary in the breadth of capabilities and integration among vendors.</td>
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<tr>
<th>Electronic Medical Records</th>
<th>Integrated Population Health Management</th>
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<tr>
<td>Collect and report health activity at the patient level; often provide a patient portal for patient engagement.</td>
<td>Integrate a data aggregation platform, predictive analytics engine and set of applications which inform and enable the interventions that can improve quality at the point-of-care.</td>
</tr>
<tr>
<td>Not designed for interoperability which limits data aggregation for longitudinal records; do not manage data at the cohort or population; lack advanced analytics.</td>
<td>Not designed to serve just a single need.</td>
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Meeting the needs of quality improvement demands more than individual point solutions for analytics, electronic medical records, or patient outreach. It requires all of those in an integrated solution where the comprehensiveness and timeliness of the data fuels the accuracy and insights of the analytics, which fuels clinician workflows at the point-of-care. Gaps or a lack of integration at any point in the set of solutions weakens quality improvement efforts.
### KEY FUNCTIONALITY

How do you tell a point population health solution from an integrated population health solution? Look for key functionality that an end-to-end population health solution should have in order to drive quality improvement.

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<tr>
<th>Functionality</th>
<th>Look For</th>
<th>Be Aware Of</th>
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| **Data Aggregation**| • Vendor neutral interoperability: Ability to pull data from all of your disparate clinical and financial systems.  
• Near real-time data updates.  
• Data aggregation domain expertise: Out-of-the-box connectors that speed up implementation. Ability to aggregate and normalize data regardless of system complexity, upgrades or changes. | • Less than full interoperability, which leads to incomplete data sets, and diminishes all downstream processes dependent on that data.  
• Data that takes days or weeks to update, which is a detriment to taking corrective action.  
• Long implementation times and potential disruptions during system upgrades and changes. |
| **Analytics**       | • Multi-dimensional root cause analysis.  
• Analytics running on near real-time data.  
• Analytics that integrate with and inform care management and patient engagement applications. | • Inability to drill down from macro-level reporting.  
• Analytics running on incomplete or stale data that takes days or weeks to update.  
• Point analytics solutions that are not integrated with care management and patient engagement workflows. |
| **Care Coordination**| • Gaps of care surfaced in the EMR so a clinician can take action while still in the presence of patient.  
• Clinical decision support such as prioritized interventions, scheduling logic and alerts. | • Absence of integration between data, analytics and clinician workflows to address quality gaps at point of care.  
• Absence of clinical decision support such as prioritized interventions, scheduling logic, alerts. |
| **Patient Engagement**| • Out-of-the-box programs and campaigns that patients can be enrolled in quickly.  
• Ability for care managers to automate patient engagement processes that improve adherence to plan of care. | • Absence of distinct patient engagement solution or inability to integrate it with care management. |
| **Quality Measurement**| • Automatic computation of various quality measures including ACO Measures as defined by the CMS and HEDIS.  
• Ability to compare performance relative to industry benchmarks or institution-specific targets per measure. | • Minimal out-of-the-box quality measures and overreliance on custom reporting. |
QUALITY IMPROVEMENT IN THE ADVENT OF POPULATION HEALTH MANAGEMENT

ABOUT CARADIGM

Caradigm is a healthcare analytics and population health company dedicated to helping organizations improve patient care, reduce costs and manage risk through the strategic, timely and compliant use of data generated across the healthcare continuum.

CONCLUSION

Healthcare organizations have a tremendous opportunity to improve patient outcomes and benefit from risk-based contracts by pursuing quality improvement initiatives. With the emergence of population health management, there are new demands for quality reporting but also new opportunities to succeed with complex quality improvement initiatives. Organizations that are able to connect their technology, processes, clinicians and patients will be able improve quality and differentiate themselves in the market.

1 Growing Literature, Stagnant Science? Systematic Review, Meta-Regression and Cumulative Analysis of Audit and Feedback Interventions in Health Care. By Noah M. Ivers, MD, PhD, Jeremy M. Grimshaw, PhD, Gro Jamtvedt, PT, Signe Flottorp, MD, Mary Ann O’Brien, PhD, Simon D. French, PhD, Jane Young, MD, and Jan Odgaard-Jensen, PhD

2 http://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/Sharedsavingsprogram/Quality_Measures_Standards.html


4 http://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/HospitalQualityInits/HospitalHCAHPS.html