

# Bringing Value to Interoperability: A Tool to Realize Electronic Exchange Opportunities within MACRA's Quality Payment Program (QPP) Reporting Metrics



## Purpose:

An overarching goal of [MACRA](#) is to achieve the widespread exchange of health information through interoperable certified health information technology (health IT). While not explicit, many of the reporting measures in MACRA's [Quality Payment Program \(QPP\)](#) can be achieved through the electronic exchange of data. When considering these issues, how can a provider or practice adopt specific workflows, or use cases, to help further this goal of interoperability while also optimizing their reporting for MACRA's QPP?

Across the three active reporting categories, there are over 250 metrics an eligible professional (EP) can report on to meet QPP Performance Requirements. This resource aims to examine how specific interoperability use cases can be implemented in a practice to not only achieve value related to the quality of care and/or patient satisfaction, but also meet an array of these reporting requirements. We hope that Health Information Exchange (HIE) organizations assisting in the achievement of MACRA/MIPS or others working to meet reporting requirements can leverage these tools to demonstrate value in expanding the sharing of information across settings.

## How to Use This Tool:

Below are examples of use cases leveraging interoperability functionalities and information exchange that can be adopted in clinical settings and can assist providers in meeting a number of reimbursement metrics.

The tables are comprised of the following:

- 1) Components required for use case implementation,
- 2) Potential value,
- 3) Possible Merit Based Incentive Payment System (MIPS) metrics that this use case can help satisfy, and
- 4) Additional considerations for review to achieve successful implementation. These use case examples aim to demonstrate that the addition of these types of workflows can provide value through a number of different avenues.

We invite you to leverage this template in your review of the value behind specific use cases. HIE organizations may use this tool to consider and highlight the value of new use cases they can offer to a practice or provider looking to expand HIE capabilities that an organization may integrate into their workflows.

[Transitional Care Management](#)  
[Receiving Patient Results from Outside Source](#)  
[Receiving/Integration of Patient Generated Health Data into an EHR](#)  
[Chronic Care Management \(CCM\)](#)  
[Specialist Referral Loop](#)  
[Reporting to Public Health Registries](#)  
[Appendix: Definitions](#)

***\*Note:** This document serves as a guideline based on the current version of the Quality Payment Program (as of November 2017). These scenarios are not comprehensive representations; workflows and capabilities are likely to differ by organization. This document does not provide information on how to complete reporting requirements. For more details on these aspects of the program visit the [QPP website](#) or check out the resources within [HIMSS MACRA Resource Center](#).*

## Transitional Care Management

<p><b>Summary:</b> When a patient is seen in the ED, admitted as a hospital inpatient or discharged from the inpatient setting, a notification is sent to the Primary Care Provider (PCP), care managers or other stakeholders in support of collaborative care. These notifications benefit care management programs, Accountable Care Organizations (ACOs) and other programs where patient care management is required.</p> <p>The primary intent of Transitional Care Management (TCM) is to lower 30-day readmissions. It requires a patient to be contacted within 2 days of a discharge to inquire as to their well-being, then seen by their primary care provider (PCP) within 7 - 14 days of discharge. This visit provides the PCP with enhanced reimbursement that is more than twice the normal office visit.</p>	<p><b>Primary Actors:</b></p> <p>Primary Care Provider, Care Management Teams, ACOs, Hospitals</p>	<p><b>Challenges to Successful Implementation:</b></p> <ul style="list-style-type: none"> <li>• Technical and financial barriers related to implementation of HIE functionality</li> <li>• Dependency on hospital willingness or ability to send ADT alerts</li> <li>• Potential alert fatigue from multiple methods of notification transmission (too many alerts that results in ignoring important notifications).</li> </ul>
	<p><b>Information Exchanged:</b></p> <p>Hospital electronically sends ADT notification and/or discharge summary to primary care provider ( either directly or via HIE) with patient demographics and details about the stay. PCP accesses through connected EHR system or by logging into the HIE system.</p>	
	<p><b>Standards/ Transport Mechanisms:</b></p> <p>HL7 ADT Messages C-CDA R2.1 - Discharge Summaries and other relevant templates (Continuity of Care Document (CCD), Transfer Summary, Referral Note)</p> <p>Direct message/FHIR-based APIs leveraged to transport messages.</p>	

**Value Summary** *If this use case is implemented and leveraged among all relevant stakeholders, it can help satisfy reporting requirements for: (MACRA MIPS or other examples identified)*

<p><b>Clinical:</b> Potential reduction in 30-day readmissions.</p> <p><b>Process:</b> Improved tracking of patient. Quicker follow-up opportunity after acute episode.</p> <p><b>Financial:</b> Increased reimbursement for providers for performing TCM visits. Core concept in Patient-Centered Medical Home (PCMH) care. Potential to increase shared savings by eliminating costly readmissions.</p>	<p><b>Quality Metrics</b></p> <p>All-cause Hospital Readmission (NQF1789) Medication Reconciliation Post Discharge (ACO-12/NQF0097) <a href="#">Closing the Referral Loop: Receipt of Specialist Report</a> (if admission linked to scheduled procedure by specialist) (CMS50v5)</p>
	<p><b>Advancing Care Information Metrics</b></p> <p>Request/Accept Summary of Care (ACI_HIE_2) (base metric) Clinical Information Reconciliation (ACI_HIE_3)</p>
	<p><b>Improvement Activities</b></p> <p>Care transition documentation practice improvement (IA_CC_10) Care transition standard operational improvements (IA_CC_11) Implementation of episodic care management practice improvements (IA_PM_15)</p>

## Receiving Patient Results from Outside Source

<p><b>Summary:</b> This example represents the electronic receipt of patient lab and/or radiology results directly into the EHR via a HIE or directly from a hospital, lab or other organization. Many of the MIPS Quality Measures are reliant upon a patient lab and/or radiology result being present within the EHR.</p> <p>For example, the measure NQF 0059 Diabetes A1c Poor Control requires the presence of an A1c result less than 9.0 for a patient to be considered "in control". If a patient has an A1c result of greater than 9.0 then the patient is considered "out of control", The patient is also considered "out of control" if a result does not appear in the medical record as discrete data.</p>	<p><b>Primary Actors:</b></p>	<p>All providers requesting/accepting labs/radiology reports, Labs/radiology sending reports</p>	<p><b>Challenges to Successful Implementation:</b></p> <ul style="list-style-type: none"> <li>• Technical and financial barriers related to implementation of HIE/EHR functionality</li> <li>• Ability of pathology and lab organizations to share results electronically</li> </ul>
	<p><b>Information Exchanged:</b></p>	<p>Provider sends request for processing of results. Discrete lab results, radiology reports, pathology reports sent back to requesting provider. Results and reports integrated into EHR.</p>	
	<p><b>Standards/Transport Mechanisms:</b></p>	<p>HL7 C-CDA R2.1 templates (CCD, Diagnostic Imaging, etc.)  Direct message/FHIR-based APIs leveraged to transport messages.</p>	

**Value Summary** *If this use case is implemented and leveraged among all relevant stakeholders, it can help satisfy reporting requirements for: (MACRA MIPS or other examples identified)*

<p><b>Clinical:</b> Improved patient care due to more complete clinical record available in EHR.</p> <p><b>Financial:</b> Potential increased reimbursement from MIPS related increase due to improved or high quality scores, ACO shared savings from improved patient care (see right for metrics).</p> <p><b>Process:</b> Streamlined flow of information from EHR to patient portal.</p> <p><b>Experience:</b> Increased engagement of patients via sharing of results via a patient portal</p>	<p><b>Quality Metrics</b></p>	<p>Any quality measure reliant upon a discrete lab result or radiology report being present in a patient medical record. Some examples of measures that may be satisfied are included below.  <a href="#">Diabetes: Hemoglobin A1c poor control</a> (CMS122/NQF0059)  <a href="#">Breast Cancer Screening</a> (CMS125v5/NQF0031)  <a href="#">Colorectal Cancer Screening</a> (CMS130v4/NQF0034)  <a href="#">Cervical Cancer Screening</a> (CMS124v4/NQF0032)  <a href="#">Use of Imaging Studies for Low Back Pain</a> (CMS166v5/NQF0052)</p>
	<p><b>Advancing Care Information Metrics</b></p>	<p>Provide Patient Access (ACI_PEA_1) – Results flowing to the patient portal provide a richer and more engaging experience for patients. Send Summary or Care (ACI_HIE_1) – Referrals/C-CDAs sent for referrals contain more complete encounter/clinical information</p>
	<p><b>Improvement Activities</b></p>	<p>Implementation of improvements that contribute to more timely communication of results (IA_CC_2) – Results sent from performing lab are sent immediately upon completion to the receiving EHR, which can be much more efficient than faxing. These results can then flow immediately to the physician’s patient portal.</p>

## Receiving/Integration of Patient Generated Health Data into an EHR

<p><b>Summary:</b></p> <p>To further benefit specific care encounters, patient-generated health data is captured, received and integrated into the electronic record via a number of methods.</p> <p>For example, a patient with diabetes may be prescribed an app for tracking blood glucose from a provider. This triggers the ability for the patient-generated health data from a smartphone app for blood glucose monitoring to be incorporated into the certified EHR technology (CEHRT) for at least one type II diabetes patient.</p>	<p><b>Primary Actors:</b></p>	<p>Patient, Primary Care Provider (PCP), smartphone app, EHR</p>	<p style="text-align: center;"><b>Challenges to Successful Implementation:</b></p> <ul style="list-style-type: none"> <li>• Access to wearable technology, smartphone and blood glucose devices that integrate with smartphone (Bluetooth vs manual data entry- might have less compliance).</li> <li>• Lack of reliable wireless connectivity/service</li> <li>• Limited availability - still an emerging technology so may not be used widely</li> <li>• Education for eligible providers and their patients on using the technology, setting the parameters for monitoring.</li> <li>• Integrating the data into workflow, i.e. alerts or messages that notify provider of new information, what action is taken when information is reviewed, etc.</li> <li>• Costs to implement and use: Not all health plans pay for these devices. New billing codes and payment options needed to assist patients/providers for financial responsibility.</li> </ul>
	<p><b>Information Exchanged:</b></p>	<p>Health status, biometric data, symptoms, medication/treatment information, advance directives and health history transferred automatically from mobile device to EHR</p>	
	<p><b>Standards/ Transport Mechanisms:</b></p>	<p>REST APIs (i.e. SMART on FHIR)</p> <p>HL7 CDA Personal Advanced Care Plan Implementation Guide (supports patient defined advance directives)</p>	

<b>Value Summary</b>	<p><i>If this use case is implemented and leveraged among all relevant stakeholders, it can help satisfy reporting requirements for: (MACRA MIPS or other examples identified)</i></p>
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<p><b>Clinical:</b> Helps complete a key component of patient engagement in their chronic care management. Supports capture and sharing of patient identified preferences, needs and priorities for the care and interventions they receive. Chronic care management with the use of some type of smart device can lead to fewer doctor visits, ER visits, and hospitalizations as well as provide the necessary data to multiple providers and care team members in order to monitor for potential co-morbidities or other health issues and intervene earlier.</p> <p><b>Financial:</b> Helps satisfy advancing care reporting requirements and many of the improvement activities related to patient self-management, coaching and education.</p> <p><b>Experience:</b> Increased patient engagement in their care.</p>	<p><b>Quality Metrics</b></p>	<p><a href="#">Diabetes: Hemoglobin A1c (HbA1c) Poor Control (&gt;9%) (CMS122/NQF0059)</a></p> <p><a href="#">Preventive Care and Screening: Body Mass Index (BMI) Screening and Follow-Up Plan (CMS69v5/NQF0421)</a></p> <p><a href="#">Weight Assessment and Counseling for Nutrition and Physical Activity for Children and Adolescents_ (CMS155v5/NQF0024)</a></p>
	<p><b>Advancing Care Information Metrics</b></p>	<p>Clinical Data Registry Reporting (ACI_PHCDRR_5)</p> <p>Electronic Case Reporting( ACI_PHCDRR_3)</p> <p>Patient-Generated Health Data (ACI_CCTPE_3)</p> <p>Patient-Specific Education (ACI_PEA_2)</p> <p>Provide Patient Access (ACI_PEA_1)</p> <p>Public Health Registry Reporting (ACI_PHCDRR_4)</p> <p>Secure Messaging (ACI_CCTPE_2)</p> <p>View, Download and Transmit (VDT) (ACI_CCTPE_1)</p>
	<p><b>Improvement Activities</b></p>	<p>Continued on next page</p>

	<b>Improvement Activities</b>	<p>Chronic care and preventative care management for empaneled patients (IA_PM_13)</p> <p>Engage patients and families to guide improvement in the system of care. (IA_BE_14)</p> <p>Engagement of patients through implementation of improvements in patient portal (IA_BE_4)</p> <p>Engagement of patients, family and caregivers in developing a plan of care (IA_BE_15)</p> <p>Evidence-based techniques to promote self-management into usual care (IA_BE_16)</p> <p>Glycemic management services (IA_PM_4)</p> <p>Implementation of condition-specific chronic disease self-management support programs (IA_BE_20)</p> <p>Improved practices that disseminate appropriate self-management materials (IA_BE_21)</p> <p>Integration of patient coaching practices between visits (IA_BE_23)</p> <p>Participation in a QCDR, that promotes implementation of patient self-action plans. (IA_BE_10)</p> <p>Participation in a QCDR, that promotes use of patient engagement tools. (IA_BE_7)</p> <p>Participation in a QCDR, that promotes use of processes and tools that engage patients for adherence to treatment plan. (IA_BE_11)</p> <p>Participation in population health research (IA_PM_9)</p> <p>Practice improvements that engage community resources to support patient health goals (IA_CC_14)</p> <p>Use of tools to assist patient self-management (IA_BE_17)</p>
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## Chronic Care Management (CCM)

<p><b>Summary:</b> Patients with two or more chronic conditions require enhanced care management and care coordination. Chronic conditions are conditions lasting at least 12 months. Care often requires management outside of traditional office visits and depends on care coordination with other providers. Electronic information exchange across these providers can improve care coordination for the patient.</p>	<p><b>Primary Actors:</b></p>	<p>Care team examples: Patient Centered Medical Home (PCMH) team, and/or the Comprehensive Primary Care Plus (CPC+) teams. The composition of the team is dictated by the patient care plan. In addition to a Primary Care Provider (PCP) it may include a nutritionist, social worker, clinical pharmacist, physical therapist etc.</p>	<p style="text-align: center;"><b>Challenges to Successful Implementation:</b></p> <ul style="list-style-type: none"> <li>• Technical and financial barriers related to implementation of HIE/EHR functionality</li> <li>• Technical requirements needed for EHR to support non-visit care</li> <li>• To be a PCMH, practice must meet NCQA standards.</li> <li>• CPC+ determination is conducted by CMS.</li> <li>• Barriers may arise if patients refuse permissions for information sharing</li> <li>• Lack of standard business practices for sharing and triaging social determinant information among care teams.</li> </ul>
	<p><b>Information Exchanged:</b></p>	<p>The patient care plan and supporting clinical information (ADT messages, Clinical Care Summaries, etc.) is exchanged to support collaboration among all patient care team members.</p>	
	<p><b>Standards/ Transport Mechanisms:</b></p>	<p>C-CDA R2.1 Care Plan and Continuity of Care Document (CCD) templates, HL7 FHIR Care Team Resource, HL7 Pharmacist Care Plan, IHE Dynamic Care Plan Profile, HL7 ADT Messages; Direct secure messaging.</p>	

**Value Summary** *If this use case is implemented and leveraged among all relevant stakeholders, it can help satisfy reporting requirements for: (MACRA MIPS or other examples identified)*

<p><b>Process:</b> Improved care management patient workflows. Real time information is provided to patient care teams. <b>Clinical:</b> Fewer hospital/clinic visits for patients with chronic illnesses. Decreased sequelae from chronic illness. Minimized errors and increased patient safety. Reduced medication non-adherence. Provides preventative care. Reduced duplication of tests, diagnosis, medications and other services. <b>Experience:</b> Improved patient satisfaction. Supports multi-disciplinary care team engagement in longitudinal care planning. <b>Financial:</b> On average \$40 reimbursement for care management occurring outside an office visit. Reduced utilization of costly ED services.</p>	<p><b>Quality Metrics</b></p>	<p>Care plan (NQF0326) Additional quality metrics can be identified based on chronic condition and the care plan established.</p>
	<p><b>Advancing Care Information Metrics</b></p>	<p>Request/Accept Summary of Care(ACI_HIE_2) (base metric) Clinical Information Reconciliation (ACI_HIE_3)</p>
	<p><b>Improvement Activities</b></p>	<p>Care coordination agreements that promote improvements in patient tracking across settings (IA_CC_12) Chronic care and preventative care management for empaneled patients (IA_PM_13) Implementation of documentation improvements for practices/process improvements (IA_CC_8) Implementation of practices/processes for developing regular individual care plans (IA_CC_9)</p>

## Specialist Referral Loop

<p><b>Summary:</b> A Primary Care Provider (PCP) electronically sends a referral to Specialist for patient visit. Following the visit, the specialist sends a summary back to the PCP who integrates it into the patient’s electronic record, and closes the loop of care between both providers.</p>	<p><b>Primary Actors:</b></p>	Primary Care Provider (PCP), Specialist Provider	<p><b>Challenges to Successful Implementation:</b></p> <ul style="list-style-type: none"> <li>Clinician specialty groups may not be participating or using EHR/HIE capabilities due to their initial exclusion in incentives programs, lack of resources, etc.</li> </ul>
	<p><b>Information Exchanged:</b></p>	PCP to Specialist: Referral Summary Specialist to PCP: Summary of Care	
	<p><b>Standards/Transport Mechanisms:</b></p>	HL7 C-CDA R2.1 Templates (Referral Note, Continuity of Care Document, Consult Note); Direct secure messaging	

**Value Summary** *If this use case is implemented and leveraged among all relevant stakeholders, it can help satisfy reporting requirements for: (MACRA MIPS or other examples identified)*

<p><b>Process:</b> Helps complete a key component of care coordination to ensure information on all aspects of a patient’s care journey is collated. Decreased time spent by specialist collecting patient information in initial consultation.</p>	<p><b>Quality Metrics</b></p>	<p>This use case can assist in reporting on quality metrics that utilize outside specialists in the management of patient care. Below are a sample of metrics that may be satisfied.</p> <p>Diabetes: Eye Exam (often referred out to an ophthalmologist) Diabetes: Foot Exam (often referred out to a podiatrist) Nutrition Counseling/Weight Management (often referred out to a dietitian) Diabetes: Medical Attention for Neuropathy (often referred out to a nephrologist)</p>
<p><b>Clinical:</b> Critical to chronic care management, especially in patients with co-morbidities and multiple providers and members of their care team.</p>	<p><b>Advancing Care Information Metrics</b></p>	<p>Send a Summary of Care (base metric) (ACI_HIE_1) Request/Accept Summary of Care (base metric) (ACI_HIE_2) Clinical Information Reconciliation (ACI_HIE_3)</p>
<p><b>Financial:</b> Helps satisfy reporting requirements for clinicians that require patient information from sources outside of their practice.</p>	<p><b>Improvement Activities</b></p>	<p>Implementation of use of specialist reports back to referring clinician or group to close referral loop (IA_CC_1) Care coordination agreements that promote improvements in patient tracking across settings (IA_CC_12) Implementation of episodic care management practice improvements (IA_PM_15)</p>

## Reporting to Public Health Registries

<p><b>Summary:</b> Primary care provider (PCP) sends record of one or more conditions, suspected conditions, or treatment including immunizations, conditions reportable to state/local public health, cancer reporting, and other “specialized registries” which include both public health registries (those administered by a local, state, or national public health agency) and clinical data repositories (those managed by other types of organizations or associations). In some cases, data is provided back to clinical users to support clinical services (e.g., Immunization Information System query/response).</p>	<p><b>Primary Actors:</b></p>	<p>Primary Care Provider, Public Health Agency, public health intermediary</p>	<p><b>Challenges to Successful Implementation:</b></p> <ul style="list-style-type: none"> <li>• Inconsistent implementation among EHR vendors</li> <li>• Varying capability and strategies within HIEs to facilitate these transactions. Some HIEs provide “pass-through” transport only; some serve as an intermediary and assist in formatting reports to registries. Still others store the information in a clinical data repository and generate public health reporting from there.</li> <li>• Incomplete/insufficient clinical data within EHRs</li> <li>• Inconsistent interoperability requirements presented by different jurisdictions</li> <li>• Complicated legal environment for data sharing across jurisdictions</li> </ul>
	<p><b>Information Exchanged:</b></p>	<p>Dependent on the domain area (i.e. Immunization, Cancer reporting, Electronic Case Reporting) and requirements of specific public health agencies.</p>	
	<p><b>Standards/Transport Mechanisms:</b></p>	<p>Dependent on the domain area: Immunization – HL7 v2, SOAP-based Web Services Cancer reporting – C-CDA, varies Electronic Case Reporting – eICR (CDA document), varies, but include Direct</p>	

### Value Summary

*If this use case is implemented and leveraged among all relevant stakeholders, it can help satisfy reporting requirements for: (MACRA MIPS or other examples identified)*

<p><b>Process:</b> Supports both public health surveillance and reporting (mandated in some jurisdictions).</p> <p><b>Clinical:</b> Provides a consolidated immunization history to prevent over/under immunization. Potential value to clinical decision making.</p>	<p><b>Quality Metrics</b></p>	<p>Public health reporting is optional under MIPS but does provide “bonus points” if implemented. Various quality measures exist related to registry reporting dependent on information reported.</p> <p><a href="#">Preventive Care and Screening: Influenza Immunization</a> (CMS147v6) Preoperative diagnosis of breast cancer</p>
	<p><b>Advancing Care Information Metrics</b></p>	<p>Immunization Registry Reporting (ACI_PHCDRR_1) Syndromic Surveillance Reporting (ACI_PHCDRR_2) Electronic Case Reporting (ACI_PHCDRR_3) Public Health Registry Reporting (ACI_PHCDRR_4) Clinical Data Registry Reporting (ACI_PHCDRR_5)</p>
	<p><b>Improvement Activities</b></p>	<p>Use of QCDR data for quality improvement such as comparative analysis reports across patient populations (IA_PM_10)</p>

## Appendix: Definitions

**CPC+:** **Comprehensive Primary Care Plus** is a national advanced primary care medical home model that aims to strengthen primary care through regionally-based multi-payer payment reform and care delivery transformation. CPC+ includes two primary care practice tracks with incrementally advanced care delivery requirements and payment options to meet the diverse needs of primary care practices in the United States (U.S.). ([source](#))

**PCMH:** The **Patient-Centered Medical Home** is a model of care that puts patients at the forefront of care. This model of care emphasizes all members of the care team sharing information and collaborate with each other – and patients -- to optimize outcomes. In this fashion, PCMHs build better relationships between people and their clinical care teams. Research shows that they improve quality, the patient experience and staff satisfaction, while reducing health care costs. ([source](#))

**QCDR:** A **Qualified Clinical Data Registry** is a CMS-approved entity (such as a registry, certification board, collaborative, etc.) that collects medical and/or clinical data for the purpose of patient and disease tracking to foster improvement in the quality of care provided to patients. ([source](#))

**REST APIs:** RESTful API is an application program interface (API) that uses HTTP requests to GET, PUT, POST and DELETE data ([source](#))

**SMART on FHIR:** A set of open specifications to integrate apps with Electronic Health Records, portals, Health Information Exchanges, and other Health IT systems. ([source](#))

For definitions related to MACRA and the Quality Payment Program, please visit this [MACRA Fact Sheet](#) and the [HIMSS MACRA Resource Center](#) on the HIMSS website.