CENTERS FOR MEDICARE & MEDICAID SERVICES
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CMS Quality Measure Development Plan

2021 Annual Report

For the Quality Payment Program

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For the Quality Payment Program

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Prepared by Health Services Advisory Group, Inc.

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Table of Contents

Executive Summary

The Centers for Medicare & Medicaid Services (CMS) directed measure development efforts to identify and address measurement gaps within the Quality Payment Program according to the guidance of the *CMS Quality Measure Development Plan* (MDP). New challenges arising from a global pandemic prompted rapid policy changes to support health care providers and reduce burden in quality programs.

2021 Quality Payment Program Measure Inventory

Merit-based Incentive Payment System		***Qualified Clinical Data Registries***	
209 total measures		CMS-approved:	**58**
Outcome/Intermediate outcome:	**41**	Applicable to specialties prioritized in MDP and MDP Annual Reports	**33**
Patient-reported outcome-based performance measures (PRO-PM):	**17**		
Efficiency:	**6**	***Advanced Alternative Payment Models***	
Process:	**141**		
Patient experience:	**2**		
Structural:	**2**	CMS-approved:	**12**

Key Accomplishments Advancing the MDP

- Increased **patient engagement** in measure development
- Advanced **electronic clinical quality measure (eCQM) standards**
- Clarified **CMS strategic priorities** through the draft Quality Measurement Action Plan and Meaningful Measures 2.0
- Finalized **MIPS Value Pathways** through rulemaking as a future reporting option for MIPS eligible clinicians
- Developed a **Quality Measure Index** to transparently and objectively assess measures

Population Health Measurement Gaps

The MDP Technical Expert Panel evaluated 35 subtopics identified in an environmental scan as measurement gaps, ranking 7 as broadly applicable and appropriate for clinician measure development.

Rank	Topic	Subtopic
1	**Access to Care**	Telehealth
2	**Health Behaviors**	Health literacy
3	**Access to Care**	Foreign language interpretive services
4	**Coordination of Care and Community Services**	Integration of mental health, substance use and physical health
5	**Health Behaviors**	Smoking rates in the population
6	**Utilization of Health Services**	Emergency department – inappropriate utilization
7	**Clinical Outcomes**	Well-being

MACRA Section 102 Funding

$13.15 million

obligated in fiscal year (FY) 2020

$11.35 million for direct measure development

$1.80 million for support activities

5 Measures Developed in FY 2020

Outcome/Intermediate: **4**
- Unplanned admissions for patients with heart failure
- Unplanned admissions for patients with multiple chronic conditions
- Patient Safety Indicator for Hypoglycemia
- Practitioner-level long-term catheter rate

Process: **1**
- Continuity of pharmacotherapy for opioid use disorder

24 Measures Continuing Development in 2021

Outcome/Intermediate: **8**
PRO-PM: **9**
Process: **6**
Composite: **1**

1. Introduction

CMS supports the delivery of consistent high-quality care, promotes efficient outcomes in the health care system, and works to ensure that health insurance remains affordable for the millions of Americans seeking and receiving health care coverage. All policy levers and program guidance are used to achieve these goals while rewarding innovation in the delivery of services, implementing initiatives to reduce provider burden, and employing state-of-the-art measurement approaches to ensure that beneficiaries are experiencing the best possible health outcomes.

This 2021 Annual Report, the fifth since publication of the *CMS Quality Measure Development Plan: Supporting the Transition to the Merit-based Incentive Payment System (MIPS) and Alternative Payment Models (APMs),*[1] describes progress made in fulfilling Quality Payment Program priorities. The report details how CMS has directed measure development funds to address measurement gaps within the Quality Payment Program, while upholding the objectives of the Measure Development Plan (MDP) to achieve patient-centered and clinician-supported quality measures that are meaningful and critical to improving health outcomes.

Objectives

The 2020 MDP Annual Report fulfills the following requirements of section 102 of the Medicare Access and Children's Health Insurance Program (CHIP) Reauthorization Act of 2015 (MACRA)[i]:

- **Reports on the progress made in developing quality measures for the Quality Payment Program[ii] and the Secretary's efforts to implement the MDP.**[iii] Five measures were completed in fiscal year (FY) 2020, and 24 measures are proceeding in development. The report notes progress in developing the Quality Measure Index (QMI), a tool designed to provide an objective and standard methodology to rapidly assess the relative value of quality measures in achieving CMS strategic objectives.
- **Provides other information the Secretary determines to be appropriate.**[iv] The Department of Health and Human Services (HHS) assessed the burdens experienced by stakeholders developing, implementing, and reporting electronic clinical quality measures (eCQMs) and adopted solutions derived from the eCQM Strategy Project.
- **Details updates to the MDP, including newly identified gaps and the status of previously identified gaps.**[v] This report reflects current information about measure inventories and gaps, measure development, and approaches. Gaps identified in an environmental scan and gap analysis focused on population health[vi] were reviewed and prioritized by the MDP Technical Expert Panel (TEP).

[i] Section 1848(s)(3) of the Social Security Act (the Act), as added by section 102 of the Medicare Access and Children's Health Insurance Program (CHIP) Reauthorization Act of 2015 (MACRA). Appendix A contains excerpts of the statutory language.
[ii] Section 1848(s)(3)(A) of the Act.
[iii] Section 1848(s)(3)(B)(i) of the Act.
[iv] Section 1848(s)(3)(B)(v) of the Act.
[v] Section 1848(s)(3)(B)(iv) of the Act.
[vi] For purposes of this document, *population health* is defined as health behaviors and outcomes of a broad group of individuals, including the distribution of such outcomes affected by the contextual factors within the group.

- **Describes the quality measures developed during the previous year[vii] (FY 2020, October 1, 2019–September 30, 2020)**. Measure information provided includes name, health care quality priority(ies); developer, steward, type, and whether electronically specified. The total number of quality measures developed, endorsement status, and an estimate of the total amount expended to develop all measures of a particular type are also provided.
- **Describes quality measures in development at the time of the report (as of September 30, 2020).**[viii] An estimate of the time of completion is provided, if available, along with the same details described for fully developed measures.
- **Provides an inventory of applicable measures.**[ix] The inventory available for 2021 reporting in the Quality Payment Program consists of measures approved for MIPS, MIPS qualified clinical data registries (QCDRs), Advanced APMs, and MIPS APMs. The APM Performance Pathway (APP) is a new reporting option available to MIPS eligible clinicians participating in MIPS APMs. The APP offers a fixed set of claims-based and Consumer Assessment of Healthcare Providers and Systems (CAHPS) measures, together with either eCQMs or Web Interface measures.

Report Development

Section 102 of MACRA authorizes $15 million each fiscal year from 2015 through 2019, available through the end of FY 2022, for measure development and supporting activities advancing the strategic plan set forth in the MDP. As required by section 102 of MACRA, the 2021 MDP Annual Report estimates obligated funding, which totaled $13.15 million in FY 2020:

- $8.59 million for measure development under MACRA cooperative agreements
- $2.76 million[x] for other measure development funded by section 102 of MACRA
- $1.00 million for technical support to MACRA cooperative agreement recipients
- $788,109 related to MACRA support activities (e.g., development of the MDP Annual Report, identification of performance measurement gaps, developing approaches for systematic measure assessment, and the patient engagement support contract).

CMS components also reported the accomplishments of their partnerships with contractors and other endeavors in FY 2020 that supported implementation of the MDP. See *MACRA Requirements for the CMS MDP Annual Report* (Chapter 2), which also describes technology updates and other efforts by HHS to support and coordinate with measure developers.

As another indicator of progress in fulfilling the MDP, CMS examined the annual Measures under Consideration List and the *Inventory of Applicable Quality Measures* for the 2021 performance period to assess the status of measurement gaps in the Quality Payment Program (Chapter 3). Chapter 4 summarizes information about measures developed and in development for the Quality Payment Program in FY 2020. Appendices supplement the report information:

[vii] Section 1848(s)(3)(B)(ii) of the Act.
[viii] Section 1848(s)(3)(B)(iii) of the Act.
[ix] Section 1848(s)(3)(B)(iv) of the Act.
[x] This amount represents obligated funds for FY 2020. Because of the public health emergency associated with the 2019 novel coronavirus disease (COVID-19), development was delayed for certain measures, so not all obligated funds were expended.

Appendix A – MACRA Statutory Language Excerpts
Appendix B – Acknowledgments (including MDP Technical Expert Panel members)
Appendix C – Status of Measurement Gaps
Appendix D – CMS-Funded Measures Developed During the Previous Year
Appendix E – CMS-Funded Measures in Development
Appendix F – CMS Advanced APM Quality Measures Inventory

2. MACRA Requirements for the CMS MDP Annual Report

Efforts to Implement the MDP

The MDP guides the development of quality measures for the two tracks of the Quality Payment Program: MIPS and Advanced APMs. The MDP describes key considerations for MIPS and Advanced APMs, including identifying and developing meaningful measures; partnering with patients, families, caregivers, and clinicians; reducing clinician reporting burden; and aligning measures. The following efforts and partnerships demonstrate CMS's commitment to fulfill the MACRA requirements while responding to the needs and priorities of patients, families, and health care providers.

Funding New Measure Development

An innovative partnership between CMS and private organizations awarded cooperative agreements to seven recipients to develop, improve, update, or expand quality measures for the Quality Payment Program with funds under section 102 of MACRA.[2,3] Each of the projects was intended to produce one or more fully developed, specified, and tested quality measures.

Under these cooperative agreements, $26.6 million[xi] was initially awarded for distribution over a three-year period, September 14, 2018, through September 13, 2021. Seven recipients received grants to develop measures for the prioritized specialties of orthopedic surgery, pathology, radiology, palliative care, oncology, and mental health and substance use. See Appendix D, Table D-1, for information on one measure that completed development and Appendix E, Table E-3, for details of the 20 measures that remain in development[xii] under these cooperative agreements.

CMS also used funds under section 102 of MACRA for six additional measures for the Quality Payment Program. Five are outcome or intermediate outcome measures; the sixth is a patient-reported outcome-based performance measure (PRO-PM) for orthopedic surgeons. See Appendix D, Table D-1, and Appendix E, Tables E-3 and E-4, for details about these measures.

Identifying and Developing Meaningful Measures

CMS Strategic Priorities

CMS strives to modernize and align its quality reporting and payment programs to improve the quality of health care for all Americans. The Agency consulted with patient advocacy groups, specialty societies, professional associations, and other national stakeholder organizations throughout 2020 in developing the draft Quality Measurement Action Plan,[4] a multi-year approach delineating specific objectives in support of four interrelated goals:

1. **Use meaningful measures to streamline quality measurement.** Ensure high-impact measures that promote the best patient outcomes; focus on outcome measures over

[xi] Final obligated amounts for each Award Year totaled $26.34 million: $9,228,475 (Year 1); $8,529,400 (Year 2); $8,590,731 (Year 3).

[xii] As of September 30, 2020, to allow for estimated funding for the entire FY 2020 and for federal review and clearance of this report

process measures; align across CMS, federal programs, and private payers when possible; and reduce the number and burden of measures.

2. **Leverage measures to drive outcome improvement.** Accelerate ongoing efforts to streamline and modernize programs, reducing burden and promoting strategically important focal areas.
3. **Improve quality measures' efficiency through a transition to digital measures and use of advanced data analytics.** Use data and health information to establish a robust infrastructure to allow for payment and management of accountable, value-based health care.
4. **Empower patients to make the best health care choices through patient-directed quality measures and public reporting of performance scores.** Foster transparency so that patients can make well-informed decisions.
5. **Leverage quality measures to promote equity and close gaps in care.** Develop a multi-year plan to promote equity and close gaps through quality measures and pay-for-performance incentive programs.

Meaningful Measures 2.0 Initiative

The Meaningful Measures Initiative, introduced in 2017, guided CMS and its partners to reduce the number of Medicare quality measures and subsequent burden on providers. CMS intends to build upon the success of the Meaningful Measures initiative by evolving the framework to reflect a modern and innovative health care environment that supports value-based care. Stakeholders provided feedback that the framework needs to be patient-centered, inclusive of all care settings and CMS programs, and, above all, simplified.[5]

Meaningful Measures 2.0 was designed to elevate the patient voice, align measures, advance innovative payment structures, provide rapid performance feedback, and promote electronic measures and use of data from all payer sources.[5] Thus, the draft currently under review aligns with key themes from the Quality Measurement Action Plan.[4]

Figure 1 illustrates the draft Meaningful Measures 2.0 framework, which establishes the consumer and caregiver voice at the foundation of eight priorities: Person-Centered Care; Equity; Safety; Affordability and Efficiency; Chronic Conditions;

Figure 1: Draft Meaningful Measures 2.0 Framework

Wellness and Prevention; Seamless Care Coordination; and Behavioral Health. Within this framework, CMS intends to address health care priorities and gaps, emphasize digital quality measurement, and promote patient perspectives.[6]

The Meaningful Measures 2.0 draft framework[6] proposes to address measurement gaps, reduce burden, and increase efficiency by:

- Using measures that advance innovative payment structures.
- Promoting use of all-payer data.
- Moving away from component or element measures while promoting composite measures.
- Increasing alignment of measures.
- Modernizing value-based programs.

The Meaningful Measures 2.0 draft framework further emphasizes digital quality measures (dQMs). As defined in the CY 2021 Physician Fee Schedule final rule, a dQM originates from sources of health information captured and transmitted electronically and via interoperable systems. Examples of digital sources include electronic health records (EHR), health information exchanges (HIEs), clinical registries, case management systems, electronic administrative claims systems, electronically submitted assessment data, and wearable devices.[7(p. 84849)] Prioritizing dQMs for the Quality Payment Program and across CMS supports the creation and sustainability of a digital clinical infrastructure system for quality measurement.

COVID-19 Considerations for Measure Development

The 2019 novel coronavirus disease (COVID-19) shifted the health care landscape and prompted CMS to redouble its efforts to ensure safe and timely delivery of care. Meanwhile, outreach to stakeholders enabled CMS to assess the widespread implications of the public health emergency for measure development, specifically regarding timelines, measure specifications, technical expert panel (TEP) meetings, and data availability for measure testing.

Partnering with the National Quality Forum (NQF),[xiii] CMS identified four primary areas of impact of the pandemic: telehealth, data availability and accessibility, differential impact across the nation, and behavioral health/capacity strain. Throughout FY 2020, CMS demonstrated responsiveness and flexibility in modifying policies and timelines to address two of those themes: telehealth and data availability.

Prior to the U.S. outbreak, Medicare limited telehealth services to certain services provided by physicians and certain other practitioners using two-way audio and visual communications, and only when provided in certain types of medical sites located in mostly rural settings. Two sets of emergency waivers expanded telehealth to include a broader range of services, including some delivered using audio-only communication; allow more types of practitioners to provide them; and make services available regardless of the beneficiary's location.[8] Initial inpatient, nursing facility, and emergency department visits and several physical and occupational therapies and speech language pathology services, among others, became available via telehealth. The CY 2021 Physician Fee Schedule final rule generally extended the expansion of these telehealth services through the later of December 31, 2021, or the end of the year in which the COVID-19 public health emergency ends.[7(p. 84517)]

[xiii] NQF is the consensus-based entity that coordinates the pre-rulemaking review of measures and convenes stakeholders to consider measures for endorsement.

While telehealth enhanced access to care, the shift from traditional office visits was anticipated to have an adverse effect on data availability for quality measure testing and maintenance. CMS and its contractors adjusted timelines for the development and maintenance of quality measures to account for delays in testing and data collection.[9]

Furthermore, with few quality measures specified to apply to telehealth, mitigation strategies focused on identifying whether existing measures are appropriate and, if not, what additional testing or modification may be needed. Underscoring the need for work in this area, the 2020 MDP Population Health Environmental Scan confirmed a measurement gap for telehealth at the clinician level.[10]

Quality Measure Index (QMI)

The Quality Measure Index (QMI) is a tool designed to provide an objective and standard methodology to rapidly assess the relative value of quality measures in achieving CMS strategic objectives. The QMI is intended to improve transparency for measure assessment and enhance the decision-making processes currently used by CMS for measure selection, implementation, and continued use in quality reporting programs.

The QMI has been extensively tested on clinician measures at various phases of the Measure Lifecyle, including conceptualization, specification, testing, and implementation. The results suggest the tool is reliable and valid when adequate measure documentation is available; however, wide variation in the quality and type of information documented currently limits the ability to score and compare measures. In addition, internal and external stakeholders have recommended adding variables to the QMI that could provide information concerning the potential impact of a measure, such as the cost and reach of a measure and whether it is meaningful to patients and clinicians.

CMS has developed a roadmap for QMI implementation in 2021 that addresses data availability and application of the tool across CMS quality programs to augment internal CMS measure evaluation processes. Public comment on the QMI's methodology will be sought to ensure transparency in its implementation.

Partnering with Patients, Families, and Caregivers in Measure Development

To support long-term goals of improving health outcomes and empowering patients in health care decision-making, CMS encourages measure developers to engage patients and the public in their work. CMS education and outreach activities ensure that contractors have the resources and understanding of best practices for effective engagement.

In February 2020, CMS and a contractor presented *Making Measures More Person-Centered: Applying Human Centric Design Principles to the Development Process*,[11] a webinar available now on the CMS Measures Management System Resources website.[12] The webinar explains human-centered design as a means to elicit insights from patients and families about their unmet health care needs. The presentation describes the contractor's experience implementing human-centered design in the early phases of measure development, citing empathy interviews and workshops as methods to generate and prioritize measure concepts from patients and families. The contractor maintains a Patient and Family Advisory Board whose members provide insight on the importance and usability of measure concepts. In 2020, the Patient and Family Advisory

Board supported the identification of six new measure concepts focused on wellness, chronic disease management, geriatric surgical outcomes, and cancer care. Patients and caregivers helped prioritize patient-reported outcome-based measure concepts for another contractor developing a survey to elicit feedback from patients and providers about patient life goals. This work led to subsequent interviews and focus groups.

The CMS Person and Family Engagement (PFE) for Quality Measure Development contractor offers resources and best practices to all CMS measure developers and coordinates recruitment for technical expert panels, working groups, and focus groups. The PFE contractor maintains a network of more than 90 patients, families, and caregivers whom it can match with opportunities in measure development that fit their interests and experience. A website, a monthly newsletter, and a social media group maintain communications with the network. In 2020, the contractor reported assisting with 13 projects across six CMS quality measure programs to incorporate the patient perspective.[13]

Partnering with Clinicians and Professional Societies

Quality Payment Program Educational Resources

In 2020, CMS conducted 21 educational webinars, including informative sessions on QCDR measure development, the 2021 MIPS Self-Nomination Application for QCDRs, MIPS Value Pathways, and the CY 2021 Physician Fee Schedule proposed rule. The recorded webinars are available on the Quality Payment Program website.[14] The general resources section has been updated with general and regulatory guidance for providers for the 2020 and 2021 performance years. Also on the Quality Payment Program website, a new COVID-19 response resource describes CMS accommodations for clinicians and health care providers submitting quality measure data for the 2019, 2020, and 2021 performance years.[15]

Measures Management System (MMS) and Outreach

The *CMS Measure Management System (MMS) Blueprint Version 16.0*[16] (Blueprint 16.0) was substantially streamlined in its annual update to make it more accessible to a broad group of stakeholders. Core material pertaining to measure development remains in the main guidance document, while topic-specific supplementary materials and templates are separated as stand-alone files.

New core sections of the Blueprint 16.0 include special considerations for Medicaid-focused measures, Clinical Quality Language style guidance, enhanced information on roles in measure development, and updated graphic and tables, such as those depicting stakeholder engagement in the Measure Lifecycle.

Examples of supplementary materials to the Blueprint 16.0 include the following:

- Codes, Code Systems, and Value Sets (PDF)
- Electronic Clinical Quality Measures (eCQM) Specification, Testing, Standards, Tools, and Community (PDF)
- Environmental Scans for Quality Measurement (PDF)
- Measure Harmonization, Respecification, and Adoption (PDF)
- Patient-Reported Outcome Measures (PDF)
- Technical Expert Panels (PDF)

Downloadable templates are available for measure development documents such as these:

- Business Case & Instructions (PDF)
- Information Gathering Report Template (PDF)
- Public Comment Call Web Posting Template (PDF)
- TEP Nomination Form (PDF)

The introductory document Quality Measures: How They Are Developed, Used, & Maintained ("Quality Measures 101") was developed for those new to measure development. A Blueprint QuickStart guide contains helpful tips, deadlines, and checklists for more experienced measure developers. For a comprehensive list of changes to the Blueprint 16.0, supplementary materials and templates, please visit CMS Measure Management System Blueprint (Blueprint v16.0).

Development of Episode-Based Cost Measures for the MIPS

Five new episode-based cost measures were field-tested in August and September 2020. Stakeholders reviewed and provided input on specifications for measures addressing colon and rectal resection; melanoma resection; sepsis; diabetes; and asthma/chronic obstructive pulmonary disease. The measures were part of the third wave of measure development, continuing work begun in 2017 and focusing on three episode groups: procedural, acute inpatient medical conditions, and chronic conditions.[17] Public comment is serving in lieu of clinical subcommittees for the next wave of development, planned for 2021, to provide broader and more flexible stakeholder participation.[18]

Reducing Clinician Burden of Data Collecting for Quality Measure Reporting

MIPS Value Pathways

Because of the impact of COVID-19 on the health care system, CMS delayed implementation of the MVP framework until the 2022 performance year.[7(p. 84841)] MVPs are required to go through the federal rulemaking process, and no MVPs were implemented through the CY 2021 Physician Fee Schedule final rule. However, CMS released criteria that will be used to support MVP development:

- Utilize measures and activities across all four performance categories (quality, cost, improvement activities, and promoting interoperability).
- Clearly define the intent of measurement of the candidate MVPs.
- Align with the Meaningful Measures framework.
- Link and establish complementary relationships between the measures and activities within the MVP.
- Formulate MVPs that include clinically appropriate measures and activities.
- Collaborate across specialties where the MVP is relevant to multiple specialties.
- Ensure that MVPs are comprehensive and understandable by clinicians, groups, and patients.
- Prioritize the inclusion of electronically specified and other digital measures to the extent feasible.
- Incorporate the patient voice.
- Ensure quality measures align with existing MIPS inclusion criteria.
- Consider the collection types by which quality measures are reported and whether they are applicable to clinicians and groups.

- Beginning with the 2022 performance period, MVPs may include fully tested QCDR measures.

Alternative Payment Model Performance Pathway (APP)

The CY 2021 Physician Fee Schedule final rule established a new APM Performance Pathway (APP), effective for the 2021 performance period. The APP is intended as a predictable and consistent MIPS reporting standard to reduce reporting burden and encourage continued APM participation. CMS terminated the original APM scoring standard, which APM entities and participating clinicians found to be complex, confusing, and lacking in flexibility to adapt to changes in APM participation and design.[7(p. 84895)]

Qualified Clinical Data Registries (QCDRs)

In response to the COVID-19 pandemic, CMS delayed the implementation of data collection and testing requirements for measures submitted to CMS through the QCDR self-nomination process.[7(p. 84938)] Beginning with the self-nomination period for the 2022 performance period,[xiv] QCDRs must begin measure data collection appropriate to the measure type prior to submission for consideration in MIPS. In addition, all QCDR measures (i.e., those previously approved and newly submitted) must follow a two-step process: initial face validity testing followed by full measure testing (beta testing) in the subsequent performance period. CMS also finalized MVP submission criteria, allowing fully tested QCDR measures to be considered for MVPs.[7(p. 84857-84859)]

Alignment of Measures

Core Quality Measures Collaborative (CQMC)

America's Health Insurance Plans (AHIP), CMS, and NQF established the Core Quality Measures Collaborative (CQMC) in 2015 to align quality measurement across health care systems and payers for value-based purchasing and alternative payment models. CMS and CQMC members (e.g., health insurance issuers and purchasers, medical associations, consumer groups) partner to enhance existing core sets and expand quality measures in new clinical areas to support value-based models of care.

Convened by NQF, the multi-stakeholder CQMC has more than 70 member organizations that collaborate to recommend core sets of measures for use by all payers to reduce provider burden and promote high-quality care.[19] The initial eight measure core sets were updated in 2020:

- Gastroenterology
- HIV and Hepatitis C
- Obstetrics and Gynecology
- Pediatrics
- Accountable Care Organization/Patient-Centered Medical Homes/Primary Care
- Medical Oncology
- Orthopedics
- Cardiology

[xiv] This requirement had been finalized for the 2021 performance period but was delayed for one year because of the public health emergency.

Two additional core sets were released in December 2020.

- Behavioral Health
- Neurology

In November 2020, the CQMC published an Analysis of Measurement Gap Areas and Measure Alignment detailing measurement gaps across core sets to inform future activities and promote alignment.[20] A multi-stakeholder committee of subject matter experts also developed and received public comment on the CQMC Implementation Guide in 2020.[21] The guide aims to expand the adoption of core measure sets across health care partners.

Additional HHS Efforts to Support the MDP

eCQM Strategy Project

CMS initiated the eCQM Strategy Project in 2017 to understand and address burden experienced by stakeholders implementing eCQMs. Over three years, the project used a human-centered design approach to engage more than 250 stakeholders representing clinicians, quality staff and standards experts, EHR analysts, health information technology professionals, terminologists, and measure developers. Feedback obtained through focus groups, interviews, listening sessions, site visits, and conference gallery-walk sessions in 2017 and 2018 was organized into six key eCQM burden themes:

- Alignment
- Value
- Development Process
- Implementation and Reporting Processes
- EHR Certification Process
- Communication, Outreach, and Education

A final report published in August 2020[22] describes the results of the project. Of the 117 recommendations identified for improvement, 114 were implemented. Two solutions that directly address aspects of eCQM development include the Value Set Workgroup and the Measure Collaboration Workspace, which was fully implemented with four modules that increase transparency and extend opportunities for external stakeholders to engage and provide input into eCQM development.

Value Set Workgroup

Value sets identify the clinical codes associated with data elements used in eCQMs, such as diagnosis codes for diabetes (i.e., ICD-10 CM, SNOMED-CT). The Value Set Workgroup addresses the eCQM burden theme of alignment by providing a forum to discuss issues related to the use of value sets for eCQM reporting and clinical decision support across HHS.

Coordinated by the CMS eCQM development and maintenance contractor, the workgroup includes eCQM, terminology, and clinical decision support experts representing CMS and its federal partners,[xv] as well as the MMS Blueprint contractor and measure developers.

[xv] Office of the National Coordinator for Health Information Technology (ONC), Centers for Disease Control and Prevention (CDC), Agency for Healthcare Research and Quality (AHRQ), National Library of Medicine (NLM)

The group developed a draft governance framework to outline standards and processes for the development, use, maintenance, and retirement of value sets for use with eCQMs and in electronic clinical quality improvement (eCQI) activities. Three principles inform the group's efforts to improve the quality of value sets, increase coordination among value set authors, and automate development and maintenance of value sets:

1. Employ user-centric design for authoring value sets.
2. Emphasize reuse, harmonization, and/or multipurpose value sets.
3. Integrate best practices and lessons learned in the development, maintenance and retirement of value sets.

Measure Collaboration Workspace

The Measure Collaboration (MC) Workspace, a product of the eCQM Strategy Project and hosted by the eCQI Resource Center,[23] is a platform for measure developers to publish information about eCQMs under development and for external stakeholders to submit comments on eCQM measure concepts, clinical workflow, and the feasibility of data elements used in eCQMs. Use of the site increased after a webinar series in 2020 increased awareness of its tools to support stakeholders.

Four modules are available for use by measure developers and external stakeholders:

- ***eCQM Concepts:*** Comment on concepts under development and submit concepts for new measure development.
- ***eCQM Clinical Workflow:*** Review clinical workflow documents and submit comments on proposed workflows.
- ***eCQM Test Results:*** Participate in eCQM testing activities, submit test results through a standardized template, and review test results for measures being tested.
- ***eCQM Data Element Repository:*** Access eCQM data elements and value sets; see use cases related to a data element; submit comments on data elements for measures under development.

eCQM Standardization

To advance the transition to digital quality measures, CMS has been converting and testing eCQMs to Fast Healthcare Interoperability Resources (FHIR) standards to reduce burden and promote interoperability of health care quality data. CMS partnered with two EHR vendors in a pilot project to develop a FHIR-based receiving system and to test sending data through a FHIR-based application programming interface (API). CMS also is developing FHIR versions of the Measure Authoring Tool (MAT) and Bonnie testing tool.

Contractors are assessing their measure concepts for FHIR readiness and converting their eCQMs to FHIR during measure maintenance. One contractor, having aligned eCQM development, testing, and maintenance to FHIR standards, also developed conversation timelines, support tools, and testing plans to collaborate with other measure developers on completing the transition to the new standards.

CMS Measure Inventory Tool

The CMS Measure Inventory Tool (CMIT) provides tools and resources to support measure developers. In January 2020, CMS enhanced the CMIT Environmental Scan Support Tool (ESST) with the added functionality of the De Novo Measure Scan. ESST uses artificial intelligence to identify abstracts and full-text articles related to measures housed in CMIT. This tool, available to CMS contractors on controlled-access CMIT, promotes efficiency and effectiveness in conducting and reviewing environmental scans. Using structured terms, the De Novo Measure Scan identifies abstracts and full-text articles from the biomedical literature related to measure(s) in development. The De Novo Measure Scan will be available to the public in 2021.

In February 2020, CMS launched a new Measure and Instrument Development and Support (MIDS) Library on the CMIT platform. The MIDS Library is a community resource for MIDS contractors and contracting officers' representatives that promotes collaboration through the sharing of measure-related information and resources, best practices, and lessons learned. The new MIDS Library features a flexible and intuitive user interface, a searchable repository of MIDS deliverables, and an online portal that contractors use to submit deliverables to the library.

National Quality Forum

EHR and eCQM Data Quality

In May 2020, NQF published a CMS-funded report on *EHR Data Quality Best Practices for Increased Scientific Acceptability: An Environmental Scan.*[24] NQF examined how unstructured data impede automated quality reporting from EHRs, which are an important component of documenting patient care. Issues specific to care settings (e.g., inpatient, outpatient, and post-acute) were addressed, along with implications of data quality challenges for the NQF endorsement process. The report highlighted the importance of regulatory and standard-setting bodies and noted instrumental legislation[xvi] that provided resources to support EHR adoption, develop quality standards, and address EHR data quality relative to quality measure reporting.

In December 2020, NQF posted a final report, *Technical Expert Panel on Electronic Health Records Data Quality Best Practices for Increased Scientific Acceptability,* describing solutions to issues that impact the development, endorsement, and implementation of eCQMs and other clinical quality measures using data derived from EHRs.[25] The report contained input from a multistakeholder TEP convened in November 2019. The TEP's recommendations included these strategies to address challenges in measure development, endorsement, and implementation:

- HHS incentives to providers and health IT vendors that support measure development and testing
- CMS grants to fund personnel to support EHR vendors in understanding and implementing quality measures into systems used in the post-acute care setting
- Formal guidance from NQF for submitting EHR-sourced measures for endorsement, including a determination whether evaluation criteria for such measures should be revised

[xvi] The Health Information Technology for Economic and Clinical Health Act of 2009 (HITECH Act) and the Improving Medicare Post-Acute Care Transformation Act of 2014 (IMPACT Act)

NQF Scientific Methods Panel

The Scientific Methods Panel was established in 2017 to assist the redesign of NQF's measurement endorsement process.[26] The panel evaluates the scientific acceptability (i.e., reliability and validity) of complex measures (e.g., outcome, instrument-based, cost/resources, efficiency and composite). Twenty-eight current members draw on expertise in statistics, risk adjustment, psychometrics, measure testing, composite measures, and eCQMs to advise on methodological issues related to measurement testing in 14 NQF topic areas.

NQF convened the panel in publicly accessible meetings throughout its 2019–2020 term and posted meeting summaries on the NQF website.[27] The panel applies established Evaluation Guidance when discussing methodological issues such as appropriate thresholds for reliability testing and acceptable testing methods for validity, as discussed in an October 2020 meeting.[28]

3. Closing the Measurement Gaps by Advancing the MDP

Status of Measurement Gaps

As an indicator of progress in fulfilling the objectives outlined in the MDP, this report assesses the status of measurement gaps in the Quality Payment Program. Measure development targeting previously identified gaps shows gradual progress, though potential for additional measure development or adaptation of existing measures remains.

Identifying New Gaps for Measure Development

2020 MDP Population Health Environmental Scan and Gap Analysis – An environmental scan and gap analysis in 2020 identified measurement gaps to inform the development of population health measures and thus support the formation of MIPS Value Pathways. CMS envisions building specialty-specific MVPs on a common foundation of interoperability and population health measures, broadly applicable to eligible clinicians and calculated from administrative claims to avoid additional reporting effort.

The environmental scan methodology aligned with an information-gathering process described in the MMS Blueprint.[29] A targeted review of peer-reviewed journals and NQF reports contributed to operational definitions of population health and population health measures[30-36]:

- *Population health:* Health behaviors and outcomes of a broad group of individuals, including the distribution of such outcomes affected by the contextual factors within the group.
- *Population health measure:* Broadly applicable indicator that reflects the quality of a group's overall health and well-being. Topics include access to care, clinical outcomes, coordination of care and community services, health behaviors, preventive care and screening, and utilization of health services.

A conceptual framework was developed, based on the six topics derived from the definition of a population health measure. A review of national reports from key sources[xvii] published from January 1, 2018, to December 31, 2019, yielded 58 measure subtopics important to population health, which were mapped to the conceptual framework.

A scan of large, publicly available quality measure sources was conducted to find population health-focused measures in use by CMS quality programs, other federal agencies, health care systems, and other measure steward organizations. All levels of measurement (e.g., clinician, facility) were included to identify candidates for adaptation as an alternative to *de novo* measure development and to support CMS efforts toward alignment of measures. The scan initially identified 2,646 measures; after excluding duplicates and applying keyword searches of measure titles and descriptions against the identified subtopics, the count was reduced to 1,233 unique measures. A measure-by-measure review confirmed that 248 of 1,233 measures were applicable to the six population health topics in the conceptual framework: access to care (21 measures), clinical outcomes (108), coordination of care and community services (39), health behaviors

[xvii] Key sources included 63 national reports related to measure development and evaluation; seven reports from the Measure & Instrument Development and Support (MIDS) Resource Library; nine rules published in the *Federal Register*, including the CY 2020 Physician Fee Schedule final rule; the 2019 MDP Annual Report; and relevant peer-reviewed publications.

(26), preventive care and screening (50), and utilization of health services (four). (Figure C-1 in Appendix C illustrates the search strategy.)

Mapping 103 unique clinician-level measures to the conceptual framework addressed 23 of 58 population health-focused subtopics (40%), whereas 35 subtopics (60%) remained gap areas at the clinician level. Fifty-seven measures specified at other levels of analysis were mapped to 14 of the 58 subtopics (24%), indicating potential for adaptation. If one or more of the remaining 21 subtopics (36%) were deemed priorities for population health, *de novo* measure development would be required.

This gap analysis highlighted subtopics and levels of measurement not addressed by existing quality measures, revealing potential for clinician measure development. Likewise, measures mapped to the conceptual framework but not included in the Quality Payment Program represent opportunities for adoption or adaptation at the clinician level. Population health measures for other levels of measurement, including those used in federal quality programs, could inform future measure development to ensure alignment across quality programs.

Technical Expert Panel review – The MDP TEP reviewed the draft *2020 CMS MDP Population Health Environmental Scan and Gap Analysis Report* and provided crucial feedback on the findings. Using an online assessment tool, TEP members individually rated the 35 subtopics identified as clinician-level measurement gaps. Ratings were compiled to rank and prioritize subtopics that the TEP identified as (1) appropriate for clinician-level measurement and (2) broadly applicable to clinicians. During a TEP webinar meeting in October 2020, discussion focused on seven subtopics that could be developed as population health measures for the MVP foundation, keeping in mind that CMS prioritizes measures which:

- Focus on outcomes.
- Impose low to no burden on clinicians.
- Can be implemented as digital measures.
- Represent the patient/caregiver voice.
- Align when possible.

After the webinar discussions, TEP members individually completed an online assessment to re-rank the seven subtopics (Table 1).

Table 1: Population Health Priorities – Subtopic Results of TEP Post-Meeting Assessment

Rank	Topic	Subtopic
1	**Access to Care**	Telehealth
2	**Health Behaviors**	Health literacy
3	**Access to Care**	Foreign language interpretive services
4	**Coordination of Care and Community Services**	Integration of mental health, substance use and physical health
5	**Health Behaviors**	Smoking rates in the population
6	**Utilization of Health Services**	Emergency department – inappropriate utilization
7	**Clinical Outcomes**	Well-being

Among the key takeaways from the October 2020 TEP webinar were the following themes:

- **TEP members agreed on the importance of these subtopic gap areas in population health:** Telehealth; integration of mental health, substance use, and physical health; health literacy; and foreign language interpretive services received favorable feedback from the TEP and were generally well-supported. TEP members discussed the possibility of creating a PRO-PM to evaluate whether telehealth services addressed a patient's needs and concerns.
- **The TEP shared examples of potential challenges that should be considered for measure development** related to data source, development of a low- or no-burden measure, and aspects of the national health care delivery system such as referrals and insurance requirements that could affect access to data for a measure.
- **Certain subtopics were recommended for system- rather than clinician-level measurement**, including smoking; certain aspects of telehealth; and integration of mental health, substance use, and physical health.

Closing Previously Identified Gaps

Measure development efforts demonstrate progress toward addressing the measurement gaps identified in 2017–2020 MDP Annual Reports.[37-40]

Three measures completed development in FY 2020, two of which directly address specialty-specific gaps identified in the *2017 MDP Environmental Scan and Gap Analysis Report*.[41] All are planned to be digital quality measures, and two are specified to assess an outcome or intermediate outcome.

CMS-funded measure development efforts remain in progress for 24 quality measures,[xviii] all of which are applicable to prioritized specialties.

- 15 (63%) directly address gaps identified in the *2017 MDP Environmental Scan and Gap Analysis Report*.[41]
- 21 (88%) are planned as digital quality measures, including eight specified as eCQMs.
- 17 (71%) are outcome or intermediate outcome measures or PRO-PMs.

A review of the CQMC core sets examined whether any of their measures could address clinician-level gaps previously identified for MDP prioritized specialties.[41,42] *Oncology Care Model-6 Patient-Reported Experience of Care* in the Oncology Core Set is specific to patients with cancer and addresses the measurement gap of patient/caregiver experience for the oncology specialty.[41] A measure in the Orthopedics Core Set, *Unplanned Reoperation within the 30-Day Postoperative Period,* addresses return to surgery, a gap identified for orthopedic surgery,[41] and has been adopted for use in MIPS (Quality ID #355).

[xviii] Funding sources include MACRA Measure Development for the Quality Payment Program (20 measures), other MACRA section 102 funding (two measures), and funding obligated sources prior to the passage of MACRA (two measures).

Measures Under Consideration List Applicable to Identified Gaps

Each year the Measures Under Consideration List identifies quality and efficiency measures under review by the Secretary of HHS for use in certain Medicare quality programs.[43] The *2020 MDP Annual Report*[40] mentioned six measures on the 2019 Measures Under Consideration List[44] for MIPS, of which three were applicable to clinical specialties identified as having measurement gaps.[41,42] Two of those three measures were proposed and subsequently finalized in the CY 2021 Physician Fee Schedule final rule for use in MIPS[7(p. 85045-85051)]: *Hospital-Wide, 30-Day, All-Cause Unplanned Readmission (HWR) Rate for the Merit-Based Incentive Payment System (MIPS) Groups* (general medicine/crosscutting) and *Risk-standardized complication rate (RSCR) following elective primary total hip arthroplasty (THA) and/or total knee arthroplasty (TKA) for Merit-based Incentive Payment System (MIPS)* (orthopedic surgery).

Five potential MIPS quality measures were included on the 2020 Measures Under Consideration List.[45, xix] All five were applicable to the priority specialty of general medicine/crosscutting. One, MUC20-0040: *Intervention for Prediabetes*, directly addresses a gap identified in the *2018 CMS Quality Measure Development Plan Environmental Scan and Gap Analysis Report*.[42] *Previously Identified Gaps Addressed in 2020 Measures Under Consideration List* (Appendix C) provides additional information about the measure.

As part of the pre-rulemaking process, the multi-stakeholder MAP convened by NQF reviewed all submitted measures. After evaluation, the MAP[xx] disposition for MUC20-0040: *Intervention for Prediabetes* was "do not support with potential for mitigation."[46] CMS considers the MAP recommendations when reviewing measures for potential use in programs.

Gaps identified through the MDP environmental scans are anticipated to close as measure developers proceed with the sequence of steps required to develop, test, and validate measures prior to submission.

[xix] Five quality measures and five cost measures were included for MIPS on the 2020 MUC List.
[xx] Comprehensive information about the MAP and MAP processes is available at: http://www.qualityforum.org/MAP_Initiates_Review_of_Performance_Measures_for_Federal_Programs.aspx.

4. Quality Measures Developed and In Development During the Previous Year

Quality Measures Developed During the Previous Year

This subsection of the report describes five measures stewarded by CMS and intended for inclusion in MIPS, MIPS APMs, or Advanced APMs. Estimated development expenditures for three outcome measures ($243,984), one intermediate outcome measure ($66,535), and one process measure ($44,867) totaled $355,386 for FY 2020.

Outcome and intermediate outcome measures

- One outcome measure applicable to the MACRA domain of Safety was developed by Yale-New Haven Health Services Corporation/Center for Outcomes Research and Evaluation (Yale CORE). This measure addresses a gap identified in the 2017 *CMS Environmental Scan and Gap Analysis Report*.[41]
    - *Patient Safety Indicator for Hypoglycemia*[xxi]: This general medicine/crosscutting measure focuses on diabetic complications related to medications.
- Yale CORE developed two additional outcome measures specific to the MACRA domain of Care Coordination. These low-burden, claims-based measures will support the reduction of hospital admissions and fill a gap for crosscutting measures identified in the *2018 CMS MDP Environmental Scan and Gap Analysis Report*.[42] Both were adapted for use at the clinician or clinician group level.
    - *Clinician and Clinician Group Risk-standardized Hospital Admission Rates for Patients with Multiple Chronic Conditions*[xxi]
    - *Risk-Standardized Acute Unplanned Cardiovascular-Related Admission Rates for Patients with Heart Failure for the Merit-based Incentive Payment System*
- The University of Michigan Kidney Epidemiology and Cost Center (UM-KECC) developed an intermediate outcome measure applicable to the MACRA domain of Safety.
    - *Practitioner-Level Long-Term Catheter Rate*[xxii]: Several observational studies of vascular access for hemodialysis demonstrate that long-term catheter use is associated with the highest mortality risk, while arteriovenous fistula has the lowest.[47] After receiving conditional support from the Measure Applications Partnership during the 2019–2020 pre-rulemaking cycle,[48] the measure was submitted to NQF for consideration of endorsement.

Process measure – Clinical process of care measures must have a strong scientific evidence base to demonstrate a linkage between the process being measured and improved outcomes.

- *Continuity of Pharmacotherapy for Opioid Use Disorder* (NQF #3175)[xxi]: This mental health/substance use–focused measure reflects key tenets and principles outlined in the MDP[1] and aims to advance population health by addressing the opioid epidemic. The University of Southern California developed and stewarded the measure, which was

[xxi] Although the 2020 MDP Annual Report identified this measure as developed, updates to the measure for potential programmatic use and feedback to support CMS decision making required additional MACRA funding in FY 2020.
[xxii] Measure title on 2019 Measures under Consideration List: *Hemodialysis Vascular Access: Practitioner Level Long-term Catheter Rate*

implemented in MIPS for performance year 2020 (Quality ID #468) and is applicable to the MACRA domain of Clinical Care.

See *CMS-Funded Measures Developed During the Previous Year* (Appendix D) for details of these five measures.[xxiii]

Quality Measures in Development at the Time of This Report[xxiv]

This subsection of the report describes measures CMS intends for inclusion in MIPS, MIPS APMs, or Advanced APMs that were in development during FY 2020 (but not yet completed) at an estimated combined cost of $11.33 million.[xxv]

Table 2 lists the 54 measures in development by health care quality priority/MACRA quality domain and notes whether the measures were electronically specified. See *CMS-Funded Measures in Development* (Appendix E) for additional details[xxiii] about these measures, including timelines for completion and a crosswalk of measure names changed since the *2020 MDP Annual Report.*[40]

Table 2. Summary of CMS-Funded Measures in Development[xxiv] in FY 2020

Health Care Quality Priority/MACRA Domain* - *Measure Name* (Steward/Developer[s])	# of Measures	# of eCQMs
Affordable Care	0	N/A
Communication and Coordination/Care Coordination - *Care Coordination after Asthma-Related Emergency Department Visit* Σ (CMS/Mathematica) - *Care Coordination after Asthma-Related Emergency Department Visit: EP Follow-up* Σ (CMS/Mathematica) - *Notification to the Provider Requesting Amylase Tests* Σ (American Society for Clinical Pathology) - *Notification to the provider requesting myoglobin or CK-MB* Σ (American Society for Clinical Pathology) - *Notification to the provider requesting thyroid screening tests* Σ (American Society for Clinical Pathology) - *Rate of communicating results of an amended report with a major discrepancy to the responsible provider* Σ (American Society for Clinical Pathology) - *Rate of Notification of a New Diagnosis of Malignancy to the Responsible Provider* Σ (American Society for Clinical Pathology) - *Time Interval: Critical Value Reporting for Chemistry* Σ (American Society for Clinical Pathology) - *Time Interval: Critical Value Reporting for Troponin* Σ (American Society for Clinical Pathology)	9	9
Effective Treatment/Clinical Care** - *Annual Wellness Assessment: Preventive Care (Composite)* Σ (CMS/NCQA) - *Cognitive Impairment (CI) Assessment Among Older Adults (75 Years and Older)* Σ (CMS/Mathematica) - *Evidence-based treatment (EBT): First Episode Psychosis Initiation & Adherence to treatment* (American Psychiatric Association)	18	7

* CMS will update the measure priority/domain if a more suitable option is identified during the development process.
** Prevention measures are included in the Effective Treatment health care quality priority.
Σ Measure is planned to be electronically specified.

[xxiii] Section 1848(s)(3)(B)(ii) of the Act.
[xxiv] As of September 30, 2020, to allow for estimated funding for the entire FY 2020 and for federal review and clearance of this report.
[xxv] This amount includes $9.3 million authorized by section 102 of MACRA ($8.5 million for cooperative agreements and $816,110 for other MACRA-funded measure development) and $2.0 million in funding from other title XVIII sources not specific to MACRA.

Health Care Quality Priority/MACRA Domain* - *Measure Name* (Steward/Developer[s])	# of Measures	# of eCQMs
- *Evidence-based treatment (EBT): Initiation & adherence to medication-assisted treatment (MAT) for patients with opioid use disorder (OUD)* (American Psychiatric Association) - *High-dose opioid prescribing practices after hospital discharge following total hip (THA) or total knee arthroplasty (TKA) in previously opioid naive patients* Σ (Brigham and Women's Hospital/TBD) - *Improvement or Maintenance in Recovery for Individuals with a Mental Health and/or Substance Use Disorder* (American Psychiatric Association) - *Improvement or Maintenance of Functioning for Individuals with a Mental and/or Substance Use Disorder* (American Psychiatric Association) - *Initiation and Update to Suicide Safety Plan for Individuals with Suicidal Ideation, Behavior or Suicide Risk* (American Psychiatric Association) - *Measurement-based care (MBC): Monitoring of symptoms, functioning, and recovery for all patients seen for mental health and substance use care* (American Psychiatric Association) - *Measurement-based care (MBC): Treatment or care plan adjustment for all patients seen for mental health and/or substance use care* (American Psychiatric Association) - *Measurement-based care (MBC): Stabilization or Reduction in Psychotic symptoms for patients with first-episode psychosis (FEP)* (American Psychiatric Association) - *Measurement-based care (MBC): Stabilization or Reduction in symptoms for patients with Opioid Use Disorder (OUD)* (American Psychiatric Association) - *Measurement-based Care Processes: Baseline Assessment, Monitoring and Treatment Adjustment* (American Psychiatric Association) - *Potential Opioid Overuse* Σ (CMS/Mathematica) - *Preventive Care and Wellness (composite)* Σ (CMS/Mathematica) - *Prolonged opioid prescribing following elective primary total hip arthroplasty (THA) and/or total knee arthroplasty (TKA)* Σ (Brigham and Women's Hospital) - *Reduction in Suicidal Ideation or Behavior Symptoms* (American Psychiatric Association) - *Safe Opioid Prescribing Practices* Σ (CMS & American Society of Anesthesiologists [ASA]/ Mathematica)		
Healthy Living/Population Health and Prevention**	0	N/A
Patient Safety/Safety - *Adverse Drug Events for Patients Taking Anticoagulant Medications in an Ambulatory Setting* Σ (CMS/Mathematica) - *Excessive Radiation Dose or Inadequate Image Quality for Diagnostic Computed Tomography (CT) in Adults* (The Regents of the University of California San Francisco) - *Opioid Safety Measure* (CMS/UM-KECC) - *Risk-standardized complication rate (RSCR) following elective primary total hip arthroplasty (THA) and/or total knee arthroplasty (TKA)* Σ (Brigham and Women's Hospital) - *Risk-standardized inpatient respiratory depression rate following elective primary total hip arthroplasty (THA) and/or total knee arthroplasty (TKA)* Σ (Brigham and Women's Hospital) - *Risk-standardized major bleeding and venous thromboembolism (VTE) rate following elective primary total hip arthroplasty (THA) and/or total knee arthroplasty (TKA)* Σ (Brigham and Women's Hospital)	6	4
Person and Family Engagement/Patient and Caregiver Experience - *CAHPS Measure Modification for CPC+ Practices* (CMS/RTI) - *Care Goal Achievement Following Total Hip Arthroplasty (THA) and/or Total Knee Arthroplasty (TKA)* (Brigham and Women's Hospital) - *Changes in Patient Reported Outcomes (PROs) Following Non-Emergent Percutaneous Coronary Intervention (PCI)* Σ (CMS/Mathematica) - *Consumer Rating of Care Experience* (American Psychiatric Association)	21	10

* CMS will update the measure priority/domain if a more suitable option is identified during the development process.

** Prevention measures are included in the Effective Treatment health care quality priority.

Σ Measure is planned to be electronically specified.

Health Care Quality Priority/MACRA Domain* - *Measure Name* (Steward/Developer[s])	# of Measures	# of eCQMs
- *Disease Activity Assessments and Target Setting in Patients with Rheumatoid Arthritis* Σ (CMS/ National Committee for Quality Assurance [NCQA]) - *Documentation of a Health Care Partner for Patients with Dementia or Mild Cognitive Impairment* Σ (CMS/Mathematica) - *Functional Status Assessment and Target Setting for Patients with Congestive Heart Failure* Σ (CMS/NCQA) - *Functional Status Assessments and Target Setting for Patients with Asthma* Σ (CMS/ NCQA) - *Functional Status Improvement for Patients who Received a Total Hip Replacement* Σ (CMS/NCQA) - *Functional Status Improvement for Patients who Received a Total Knee Replacement* Σ (CMS/NCQA) - *Pain Assessments and Target Setting for Patients with Osteoarthritis* Σ (CMS/NCQA) - *Palliative care outpatients' experience of feeling heard and understood* (American Academy of Hospice and Palliative Medicine) - *Palliative care outpatients' experience of receiving desired help for pain* (American Academy of Hospice and Palliative Medicine) - *Patient Reported Outcome Measure - PHQ9 & PROMIS Depression Screening* Σ (CMS/RAND) - *Patient-Reported Fatigue Following Chemotherapy among Adults with Breast Cancer, Colon Cancer, and Non-Small Cell Lung Cancer* (Purchaser Business Group on Health [PBGH]/Seattle Cancer Care Alliance [SCCA]) - *Patient-Reported Overall Mental Health Following Chemotherapy among Adults with Breast Cancer, Colon Cancer, and Non-Small Cell Lung Cancer* (PBGH/SCCA) - *Patient-Reported Overall Physical Health Following Chemotherapy among Adults with Breast Cancer, Colon Cancer, and Non-Small Cell Lung Cancer* (PBGH/SCCA) - *Patient-Reported Pain Intensity Following Chemotherapy among Adults with Breast Cancer, Colon Cancer, and Non-Small Cell Lung Cancer* (PBGH/SCCA) - *Patient-Reported Pain Interference Following Chemotherapy among Adults with Breast Cancer, Colon Cancer, and Non-Small Cell Lung Cancer* (PBGH/SCCA) - *Risk-Standardized Patient-Reported Outcomes Following Elective Primary Total Hip and/or Total Knee Arthroplasty (THA/TKA) Measure for Merit-based Incentive Payment System (MIPS)* (CMS/Yale CORE) - *Use of Multimodal and Multidisciplinary Pain Management Therapies for Adults Prescribed Opioids* Σ (CMS/Mathematica)		
Total	54	30

* CMS will update the measure priority/domain if a more suitable option is identified during the development process.

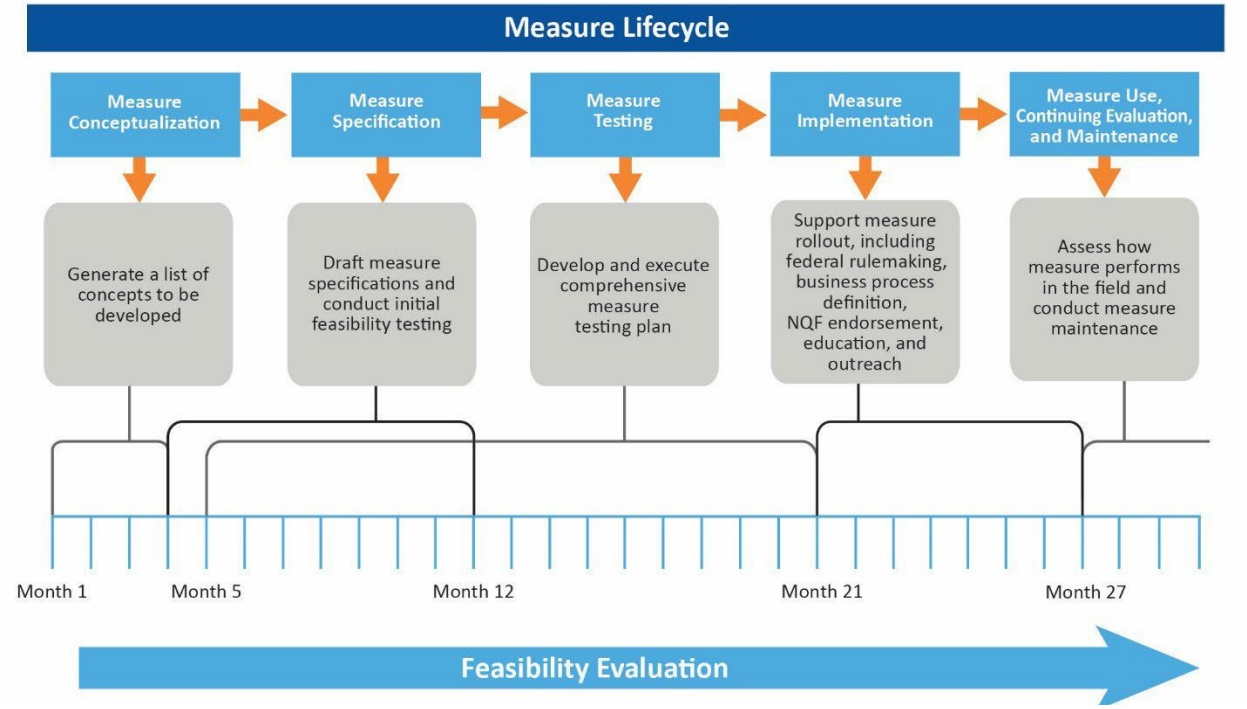
Σ Measure is planned to be electronically specified.

Total estimated expenditures for these 54 measures in development during FY 2020[xxvi] include $307,170 for two composite measures, $2.17 million for two intermediate outcome measures, $1.68 million for nine outcome measures, $148,810 for two patient engagement/experience measures, $4.95 million for 17 PRO-PMs, and $2.08 million for 22 process measures. Thirty of the 54 measures were being developed as eCQMs.

[xxvi] No funding was spent during FY 2020 on 14 measures on which development was suspended.

Phases of the Measure Lifecycle

Measure development can be conceived as a series of gates through which each measure must pass to advance for consideration in CMS quality programs. Measure conceptualization, specification, and testing—the first three phases in the measure lifecycle—are critical to vet and assess the viability of a measure concept prior to implementation.



Source: *Blueprint for the CMS Measures Management System, Version 16.0*

Even in the later phases, CMS may determine that development should proceed no further. Reasons include addressing clinician burden, lack of feasibility, shifts in funding, and policy-driven alignment. During FY 2020, CMS stopped development on 30 of the measures in Table 2.

- Fifteen measures were determined to be low-value and/or duplicative of existing measures during evaluation.
- Five of the measures were stopped because the current HL7 standards do not provide a way to specify data elements required for the measure.
- Two measures were integrated into a third that continues development, incorporating three reporting strata.
- Two measures were replaced with two new measures with greater reach and impact and an expanded inclusion population to align with existing MIPS measures.
- The remaining five measures were stopped for various other reasons, including timeline constraints, lack of funding, inability to define a target population, lack of meaningfulness at a clinician level, and sample size concerns.

For the full list of measures stopped during FY 2020, see *CMS-Funded Measures in Development* (Appendix E), Table E-1.[xxvii]

[xxvii] Section 1848(s)(3)(B)(iii) of the Act.

The remaining 24 measures are at different phases of development at the time of this report,[xxviii] as described below. CMS will consider these measures for inclusion in the Quality Payment Program once testing has been completed.

Measure Conceptualization (n = 0)

No measures were in the conceptualization phase of development during FY 2020.

Measure Specification (n = 2)

Two measures are in the specification phase of the measure lifecycle. Because a measure can require further specification after testing, its status throughout development is fluid. One of these measures is estimated for completion by August 2021; the other, by August 2022. (See *CMS-Funded Measures in Development* [Appendix E], Table E-3) for additional details about these measures, including developers and timelines for completion.[xxix])

Both measures are applicable to the prioritized specialty of general medicine and are planned to be electronically specified. One is a composite measure; the other, a process measure that addresses the high-priority subtopic of opioids.

Composite measure:

- *Preventive Care and Wellness (composite)*

Process measure:

- *Safe Opioid Prescribing Practices*

Measure Testing (n = 21)

Twenty-one measures are undergoing data collection and measure testing that will inform decisions about use of the measures. The estimated completion date is the summer of 2021 for one measure and September 2021 for the remaining 20 measures. (See *CMS-Funded Measures in Development* [Appendix E, Table E-3, for additional details about these measures, including developers and timelines for completion.[xxix])

- Nine of the 21 measures are specific to the MACRA domain Patient and Caregiver Experience, focusing on functional outcomes and experience of care. All nine are patient-reported outcome performance measures for prioritized specialties and eight address specific gaps identified in the *2017 MDP Environmental Scan and Gap Analysis Report.*[41]: five for oncology, two for orthopedic surgery, and two specific to palliative care.

  Patient-reported outcome performance measures:

  - *Care goal achievement following total hip arthroplasty (THA) and/or total knee arthroplasty (TKA)*
  - *Palliative care outpatients' experience of feeling heard and understood*
  - *Palliative care outpatients' experience of receiving desired help for pain*
  - *Patient-Reported Fatigue Following Chemotherapy among Adults with Breast Cancer, Colon Cancer, and Non-Small Cell Lung Cancer*
  - *Patient-Reported Overall Mental Health Following Chemotherapy among Adults with Breast Cancer, Colon Cancer, and Non-Small Cell Lung Cancer*
  - *Patient-Reported Overall Physical Health Following Chemotherapy among Adults with Breast Cancer, Colon Cancer, and Non-Small Cell Lung Cancer*

[xxviii] As of September 30, 2020, to allow for estimated funding for the entire FY 2020.
[xxix] Section 1848(s)(3)(B)(iii) of the Act.

  - *Patient-Reported Pain Intensity Following Chemotherapy among Adults with Breast Cancer, Colon Cancer, and Non-Small Cell Lung Cancer*
  - *Patient-Reported Pain Interference Following Chemotherapy among Adults with Breast Cancer, Colon Cancer, and Non-Small Cell Lung Cancer*
  - *Risk-Standardized Patient-Reported Outcomes Following Elective Primary Total Hip and/or Total Knee Arthroplasty (THA/TKA) Measure for Merit-based Incentive Payment System (MIPS)*

- Six of the 21 measures are applicable to mental health and substance use, a prioritized specialty identified in the MDP,[1] and the MACRA domain of Clinical Care. Three are outcome measures; the other three, process measures. Five of the measures are being tested in a specialty-specific QCDR, and the other is planned to be an eCQM.

  Outcome measure:
  - *Improvement or Maintenance in Recovery for Individuals with a Mental Health and/or Substance Use Disorder*
  - *Improvement or Maintenance of Functioning for Individuals with a Mental and/or Substance Use Disorder*
  - *Reduction in Suicidal Ideation or Behavior Symptoms*

  Process measures:
  - *Initiation and Update to Suicide Safety Plan for Individuals with Suicidal Ideation, Behavior or Suicide Risk*
  - *Measurement-based Care Processes: Baseline Assessment, Monitoring and Treatment Adjustment*
  - *Prolonged opioid prescribing following elective primary total hip arthroplasty (THA) and/or total knee arthroplasty (TKA) (eCQM)*

- Four of the 21 measures in active testing include three outcome measures and one intermediate outcome measure, all in the MACRA domain of Safety. Three of the four measures fill identified gaps specific to the prioritized specialty of orthopedic surgery and one measure is applicable to the prioritized specialty of radiology.

  Outcome measures:
  - *Risk-standardized complication rate (RSCR) following elective primary total hip arthroplasty (THA) and/or total knee arthroplasty (TKA) (eCQM)*
  - *Risk-standardized inpatient respiratory depression rate following elective primary total hip arthroplasty (THA) and/or total knee arthroplasty (TKA) (eCQM)*
  - *Risk-standardized major bleeding and venous thromboembolism (VTE) rate following elective primary total hip arthroplasty (THA) and/or total knee arthroplasty (TKA) (eCQM)*

  Process measure:
  - *Excessive Radiation Dose or Inadequate Image Quality for Diagnostic Computed Tomography (CT) in Adults*

- The remaining two Care Coordination process measures, applicable to the prioritized specialty of pathology, will be electronically specified and assess communication to providers.

Process measures:

- *Rate of communicating results of an amended report with a major discrepancy to the responsible provider*
- *Rate of Notification of a New Diagnosis of Malignancy to the Responsible Provider*

Public Comment (n = 1)

The *Opioid Safety Measure* has been fully specified, tested, and posted for public comment. No changes are anticipated for this high-priority measure addressing opioid use disorder, but the measure may need to be reevaluated in response to public comments. Afterward, it will be submitted to NQF for consideration of endorsement.

Inventory of Applicable Quality Measures

The inventory of applicable quality measures describes the measures available in 2021 for reporting by eligible clinicians participating in the Quality Payment Program. The inventory consists of the 2021 MIPS measures, measures included in MIPS APMs, 2021 MIPS QCDR measures, and measures approved for use in 2021 Advanced APMs. The 2021 MIPS measures were posted for stakeholder review and input through the rulemaking process, which culminated in the publication of the CY 2021 Physician Fee Schedule final rule on December 2, 2020, which took effect on January 1, 2021.[7]

MIPS Quality Measures Included in the CY 2021 Physician Fee Schedule Final Rule

For the 2020 performance period, 218 MIPS measures were available for reporting. During the CY 2021 rulemaking process, 11 quality measures were removed and two new quality measures were added to MIPS.[7(p. 84974)] The rulemaking process yielded 209 quality measures[7(p. 84974)] available for the 2021 performance period, including 41 intermediate outcome or outcome measures, 17 PRO-PMs, 141 process measures, and six efficiency measures; the remaining four are structural or patient engagement/experience measures.

Of the 209 quality measures, 139 are categorized as high priority[xxx] to assist clinicians in selecting measures for reporting to meet MIPS requirements. CMS included high-priority measures in all specialty sets so that MIPS eligible clinicians should be able to select a specialty set that reflects their scope of practice and report on measures within that set.[50] CMS modified 45 of the 46 specialty measure sets based on review of updates to quality measure specifications, changes finalized through rulemaking, and feedback from specialty societies.[7(p. 85052-85217)] An interactive tool to view the comprehensive list of MIPS measures is available at https://qpp.cms.gov/mips/quality-measures.

[xxx] High-priority measures include outcome (including intermediate and patient-reported), appropriate use, patient safety, efficiency, patient experience, care coordination, and opioid-related quality measures. MIPS eligible clinicians must report six measures, including one outcome measure or, in the absence of an applicable outcome measure, a high-priority measure.[49(p. 59702)]

APM Performance Pathway

The APM Performance Pathway (APP) is a new reporting option for the 2021 performance period. The APP is composed of a fixed set of measures available to MIPS eligible clinicians participating in MIPS APMs. Eligible clinicians will be scored on the quality performance category for the following measures:

- Ten measures via the CMS Web Interface[xxxi] or three eCQM/MIPS CQM measures, selected and reported by the MIPS eligible clinician
- CAHPS for MIPS patient experience survey
- Hospital-wide readmission and multiple chronic condition measures using administrative claims, calculated by CMS

Additional information about MIPS APMs and the APP for performance year 2021 is available in the CY 2021 Physician Fee Schedule final rule[7] and on the Quality Payment Program website at https://qpp.cms.gov/apms/mips-apms or https://qpp.cms.gov/mips/apm-performance-pathway.

QCDR Quality Measures Approved for 2021 MIPS Reporting

QCDRs are designed to expand reporting options for MIPS eligible clinicians, including those without sufficient specialty-applicable MIPS quality measures. QCDRs may report on MIPS quality measures and/or QCDR measures developed by QCDRs and submitted for CMS consideration. For the 2021 MIPS performance period, CMS approved 58 QCDRs as outlined in the *2021 Qualified Clinical Data Registry (QCDRs) Qualified Posting*[51]; 36 of the 58 focus on a single specialty. Each QCDR has at least one outcome or other high-priority measure among six or more quality measures, consistent with the 2021 requirement for eligible clinicians reporting under MIPS. The approved 2021 QCDRs and corresponding measures list are located at https://qpp.cms.gov/about/resource-library.

Table 3: QCDRs Applicable to MDP-Prioritized Specialties

Specialty	# of QCDRs
Allergy/Immunology	1
Emergency medicine	7
General medicine/Crosscutting	7
Mental health/Substance use	5
Neurology	3
Oncology	3
Orthopedic surgery	6
Palliative care	1
Pathology	3
Physical medicine and rehabilitation	7
Radiology	6
Rheumatology	2

Thirty-three unique QCDRs approved for 2021 reporting focus on clinical specialties prioritized in the MDP or subsequent gap analyses, including general medicine/crosscutting. (In Table 3, the counts add up to more than 33 because some QCDRs are applicable to more than one prioritized specialty.)

CMS Advanced APM Quality Measures

In the Advanced APM track of the Quality Payment Program, eligible clinicians who achieve threshold levels of participation based on Medicare payments or patient volume can earn a 5% incentive payment under the Quality Payment Program.[7(p. 85011),52] Qualifying APM participants are excluded from MIPS reporting requirements and payment adjustments.

[xxxi] CMS Web Interface measures as a collection type/submission type will sunset beginning with the 2022 performance period (85 FR 84961–84962).

The Center for Medicare & Medicaid Innovation (CMS Innovation Center) works in consultation with clinicians to test new payment and service delivery models. Models are designed to reduce expenditures while preserving or enhancing the quality of care for beneficiaries. One criterion for Advanced APMs is that they must base payment for items and services in part on MIPS-comparable quality measures, which CMS has interpreted as measures that are reliable and valid and have an evidence-based focus. See *CMS Advanced APM Quality Measures Inventory* (Appendix F) for a list of measures for each model included in the 2021 Quality Payment Program.

5. Conclusion

CMS met the challenges of 2020 with urgency and resolve to bolster a beleaguered health care system and safeguard beneficiaries at great risk from the novel coronavirus. As the nation's leaders and the health care community strove to contain the threat and develop effective and safe vaccines, CMS supported efforts to sustain and protect the doctors, nurses, and clinical support staff at the front lines of the pandemic.

Even while mobilizing resources in an agile response to the public health emergency, CMS devised a multi-year Quality Measurement Action Plan[4]: a framework guiding initiatives to innovate and modernize health care, streamline quality measurement and transition to digital sources, drive outcome improvement, and empower patients. Within that framework, CMS produced a draft Meaningful Measures 2.0 framework that addresses health care priorities and gaps, emphasizes electronic measurement, and promotes patient perspectives.

New resources for CMS contractors expanded efforts to capture the patient voice and promote transparency in measure development. The Person and Family Engagement network supports recruitment of patients and family caregivers to serve on technical expert panels, while the Patient and Family Advisory Board provides insights on prospective measure concepts.

CMS remained committed to partnering with clinicians, patients, families, and caregivers to improve the quality of care, alleviate burden, and foster the most meaningful and relevant quality measures to achieve a modern and resilient health care system. The Quality Payment Program reflects CMS strategic priorities and a drive to develop a sustainable quality measurement system emphasizing outcome, digital, and patient-supported measures.

As required by statute, this 2021 MDP Annual Report describes efforts to develop CMS-funded clinician quality measures for the Quality Payment Program during FY 2020. Three quality measures were completed during this period; 24 remain in development, eight of which are electronically specified.

In support of the anticipated MIPS Value Pathways (MVPs), the 2020 MDP environmental scan and gap analysis examined the landscape of population health measures. Thirty-five population health subtopics were identified as clinician-level gap areas across the topics of access to care, clinical outcomes, coordination of care and community services, health behaviors, preventive care and screening, and utilization of health services. The MDP TEP reviewed the subtopic gaps for future development for the MVP foundation. While noting potential challenges in seeking to use low-burden data sources (e.g., administrative claims) for measurement, the TEP affirmed the importance of these measure subtopics for population health: telehealth, health literacy; foreign language interpretive services; integration of mental health, substance use and physical health; smoking; inappropriate emergency department utilization; and well-being.

Topping the TEP's ranking, telehealth is a key topic of interest for the Quality Payment Program. CMS acknowledged its importance, especially during the COVID-19 public health emergency, by expanding coverage of telehealth services in the CY 2021 Physician Fee Schedule

final rule. The action acknowledged the reality that as many Medicare beneficiaries avoid in-person doctor visits, access to care through alternative methods is essential to maintain a healthy population.

CMS resolves to remain transparent in the measure development process and responsive to the voices of patients, families, and caregivers while pursuing efforts to alleviate provider burden and modernize the nation's health care system.

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