CMS Quality Measure Development Plan

2018 Annual Report

May 3, 2018

Center for Clinical Standards and Quality
Centers for Medicare & Medicaid Services (CMS)

CMS Quality Measure Development Plan

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Suggested citation: Center for Clinical Standards and Quality, Centers for Medicare & Medicaid Services. *CMS Quality Measure Development Plan 2018 Annual Report.* Baltimore, MD: Centers for Medicare & Medicaid Services; 2017. https://www.cms.gov/Medicare/Quality-Payment-Program/Measure-Development/Measure-development.html

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Executive Summary

The U.S. Department of Health and Human Services (HHS) and the Centers for Medicare & Medicaid Services (CMS) are committed to putting patients first. Accordingly, CMS is partnering with patients, clinicians, payers, and other stakeholders to build a strong foundation for the Quality Payment Program. This Measure Development Plan (MDP) Annual Report fulfills a statutory requirement[i] to report annually on the progress CMS is making in developing measures for the Quality Payment Program and implementing the *CMS Quality Measure Development Plan: Supporting the Transition to the Merit-based Incentive Payment System (MIPS) and Alternative Payment Models (APMs)*.[1]

Report Development

CMS built upon the methods used for the 2017 MDP Annual Report and developed new approaches to prioritize measure development. Specifically, CMS tracked the progress of federal efforts to implement important aspects of section 102 of the Medicare Access and Children's Health Insurance Program (CHIP) Reauthorization Act of 2015 (MACRA). Measure development activities were summarized, and measure development costs were calculated for calendar year (CY) 2017. To prioritize specialties for new measure development, a data-driven approach inclusive of stakeholder comments was used to rank 67 clinical specialties by their potential measure development needs. A complete inventory of applicable quality measures for 2018 reporting was compiled and categorized. Finally, as part of a comprehensive assessment strategy that includes the *2018 National Impact Assessment of CMS Quality Measures Report*, the contractor sought input from the MDP Technical Expert Panel (TEP) to develop criteria for assessing how the CMS portfolio of measures and measure development reflects the strategic goals outlined in the MDP.

Efforts to Implement the Measure Development Plan

Developing Meaningful Measures and Reducing Burden

- CMS announced the Patients Over Paperwork and Meaningful Measures initiatives to reduce the cost and burden of reporting measures in order to focus providers on the quality issues most important to patients and clinicians and provide a framework for patient-centered measure development across CMS programs.[2]
- CMS made progress toward developing a patient-centered portfolio of measures for the Quality Payment Program, including:
    - 275 quality measures finalized for MIPS in 2018, including 172 high-priority measures representing each of the MACRA domains.
    - 150 qualified clinical data registries (QCDRs) approved for 2018, including 14 new registries applicable to the priority specialties in the MDP, expanding coverage to 56 specialties.
    - Five new specialty-specific measure sets added in 2018 for a total of 35.

[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).

Note: Throughout this report, statutory citations and explanatory footnotes link to superscript Roman numerals in the text, whereas superscript Arabic numerals cite references listed at the end of the report.

- Seven new outcome measures included on the 2017 CMS Measures Under Consideration List,[3] five of which are directly applicable to the prioritized specialties of general medicine/crosscutting and orthopedic surgery. All five received support or conditional support for rulemaking from the Measure Applications Partnership (MAP).[4]
- Seven measures in development[ii] address specialty gaps in general medicine and orthopedic surgery specialties across three priority MACRA domains.

- The CY 2018 Quality Payment Program final rule established policies aimed at encouraging successful participation, extending the flexibility of the program while reducing cost and burden for eligible clinicians.

Partnering With Patients and Families

- CMS contractors used a number of practices to collaborate with patients and caregivers at various stages of measure development and maintenance through focus groups, interviews, TEPs, and development of a patient engagement network.

Collaborating With Clinicians

- CMS engaged clinicians in quality and cost measure development activities through webinars and in-person educational offerings and by promoting opportunities for clinician participation in measure development.
- CMS hosted the Spotlight series as a forum to showcase clinician-driven innovations and efficiencies in measure development processes.
- CMS met with clinicians to understand challenges and identify improvements in reporting electronic clinical quality measures.

Improving the Measure Development Process

- CMS released a new online searchable Measure Inventory Tool, a common platform for all stakeholders to find critical information about measures under development, implemented for use in a CMS quality program or initiative, or removed from use.

Funding New Measure Development

- On March 2, 2018, CMS announced a funding opportunity for $30 million in grants to be awarded, beginning in fiscal year (FY) 2018, for quality measure development. The funding opportunity is aimed at external stakeholders with insight into clinician and patient perspectives on quality measurement and areas for improvement to advance quality measures for the Quality Payment Program.[5]

Measure Development Applicable to the Quality Payment Program

CMS funded the development of 22 measures in 2017, covering the five MACRA domains specified in section 1848(s)(1)(B) of the Social Security Act (the Act) and the six national quality priorities CMS has established with input from stakeholders. Table 1 summarizes the numbers of measures within each CMS quality priority/MACRA domain.[iii] Combined 2017 expenditures for measures applicable to the Quality Payment Program were estimated at $3,361,556.

[ii] See *CMS-Funded Measures in Development* (Appendix E).

[iii] The MACRA domains specified in section 1848(s)(1)(B) of the Act are care coordination, clinical care, population health and prevention, safety, and patient and caregiver experience. CMS quality priorities also include affordable care.

Table 1: CMS-Funded Measures Developed or in Development for the Quality Payment Program

CMS Quality Priority/ MACRA Domain	# Developed or in Development 1/1/17–12/31/17	# Electronically Specified[iv]
Affordable Care	1	0
Communication and Coordination/Care Coordination	3	3
Effective Treatment/Clinical Care	3	2
Healthy Living/ Population Health and Prevention	1	1
Patient Safety/ Safety	3	3
Person and Family Engagement/Patient and Caregiver Experience	11	9
Total	22	18

Newly Identified Measure Gaps and Status of Previously Identified Gaps[v]

The MDP[6] identified initial measure development priorities pertaining to specific quality domains (e.g., care coordination), topics (e.g. assessing team-based care), and specialties (e.g., oncology, radiology) as a starting point to address measure and performance gaps for the Quality Payment Program. The *CMS MDP Environmental Scan and Gap Analysis Report*,[7] posted in February 2017, further defined these priority areas. Drawing information from national reports and stakeholder comments submitted during rulemaking, CMS prioritized five additional clinical specialties in 2017 as a focus for new measure development to support the Quality Payment Program:

- Allergy/immunology
- Emergency medicine
- Neurology
- Physical medicine and rehabilitation
- Rheumatology

Conclusion and Future Directions

CMS puts patients first in every endeavor, including in the development of measures to support the Quality Payment Program. The Meaningful Measures initiative prioritizes measures that are meaningful to patients, clinicians, and other providers. CMS and its partners are integrating practices to collaborate with patients and clinicians in the development process. CMS has actively partnered with patients, clinicians, and other providers through broad outreach efforts to better understand the types of measures needed to fill performance gaps that will also minimize cost and burden. CMS recognizes that additional work is needed to eliminate measures that are no longer contributing to improved outcomes and enhance the portfolio with outcome measures and measure sets that will lead to better outcomes for patients.

[iv] Section 1848(s)(3)(B)(ii)(V) of the Act.
[v] Section 1848(s)(3)(B)(iv) of the Act.

I. Introduction

The 2018 MDP Annual Report describes CMS activities during the previous year to advance the development of clinician quality measures in accordance with MACRA.[vi] In 2017, as required by MACRA, CMS transitioned from three discrete clinician quality programs to the Quality Payment Program, consisting of MIPS and incentive payments for participation in Advanced APMs. The CY 2018 Quality Payment Program final rule established policies to encourage successful participation and to extend the flexibility of the clinician program. The Quality Payment Program is structured to develop over time with input from clinicians, patients, and other stakeholders.[8] As required by section 102 of MACRA,[vii] CMS developed the MDP, published on the CMS website in May 2016.[viii,1] In implementing this strategic plan to evolve the measure portfolio for the Quality Payment Program, CMS embraces a new approach to achieve high-quality health care and meaningful outcomes for patients while minimizing cost and burden for eligible clinicians. "Meaningful Measures"[9] was announced in 2017 as a component of the Patients Over Paperwork initiative,[10] which is aimed at evaluating and streamlining regulations with a goal to reduce unnecessary cost and burden, increase efficiencies, and improve the beneficiary experience.[11] The Meaningful Measures initiative represents a new approach to quality measures that will foster operational efficiencies and reduce costs, including collection and reporting burden, while producing quality measurement that focuses on meaningful outcomes.

Collaborating with external stakeholders, CMS identified criteria for prioritizing measures and developed the Meaningful Measures framework, mapped to the CMS quality priorities.[12] This framework, which addresses 19 high-impact areas of focus for quality improvement and measure development, will help CMS identify measures that:

- Address high-impact measurement areas that safeguard public health.
- Are patient-centered and meaningful to patients, clinicians, and other providers.
- Are outcome-based where possible.
- Fulfill requirements in program statutes.
- Minimize the level of burden for providers.
- Identify significant opportunity for improvement.
- Address measure needs for population-based payment through APMs.
- Align across programs and/or with other payers (e.g., Medicaid, commercial payers).

CMS also intends to remove measures for which performance is already very high or that are of low value while continuing to develop specialty-specific measures relevant to clinical practices. As measures are implemented, data will guide CMS in assessing whether high-quality care is achieved, whether modifications to measures are warranted, and how measure development should be directed.

Putting patients first in all quality improvement endeavors, CMS envisions the Meaningful Measures initiative as a pathway to achieving the following goals:

- Eliminate health care disparities.
- Track measurable outcomes and impact.

[vi] Section 1848(s)(3)(A) of the Act
[vii] Excerpts of the authorizing legislation can be found in *MACRA Statutory Language Excerpts* (Appendix A).
[viii] Section 1848(s)(1)(F) of the Act

- Safeguard public health.
- Achieve cost savings.
- Improve access for rural communities.
- Reduce burden for clinicians and other providers reporting quality measures.

Objectives

The *2017 MDP Annual Report*,[6] developed in accordance with section 102 of MACRA[ix] and published in June 2017, described foundational work to engage patients, caregivers, clinicians, and specialty societies, among others, as key collaborators in implementing the MDP.[1] This *2018 MDP Annual Report* describes further efforts to implement the MDP, including the development of quality measures for the Quality Payment Program and progress in addressing newly as well as previously identified performance and measure gaps.

The 2018 MDP Annual Report highlights the Secretary's efforts to support the evolution of the MDP as a strategic framework for measure development for the Quality Payment Program. Taken together with the MDP, this report informs and guides CMS and measure developers on progress and priorities for measure development while fulfilling the following requirements of section 102 of MACRA:

- **Reports on the progress made in developing quality measures for the Quality Payment Program[x] and the Secretary's efforts to implement the MDP.**[xi] These efforts include the identification and development of meaningful outcome measures; partnering with patients, clinicians, and professional societies in the measure development process; and funding of new measure development. The contributions of the MDP TEP are noted (a membership list appears in *Acknowledgments* [Appendix B]).
- **Provides other information the Secretary determines to be appropriate.**[xii] Further efforts include optimizing the measure development process and mimimizing clinician burden of data collection and reporting to reduce costs.
- **Details updates to the MDP, including newly identified gaps and the status of previously identified gaps** (*Status of Previously Identified Gaps* [Appendix C]).[xiii] CMS took a systematic and quantitative approach to identify five additional specialties with gaps in quality measures, expanding those specialties initially prioritized in the MDP. The 2017 CMS Measures Under Consideration List[3] was reviewed to assess progress in addressing previously identified gaps.
- **Describes the quality measures developed during the previous year (January 1, 2017–December 31, 2017) (***CMS-Funded Measures Developed During the Previous Year* **[**Appendix D**]).**[xiv] Measure information provided includes name, quality priority(ies); developer, steward, 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.

[ix] Section 1848(s)(3) of the Act.
[x] Section 1848(s)(3)(A) of the Act.
[xi] Section 1848(s)(3)(B)(i) of the Act.
[xii] Section 1848(s)(3)(B)(v) of the Act.
[xiii] Section 1848(s)(3)(B)(iv) of the Act.
[xiv] Section 1848(s)(3)(B)(ii) of the Act.

- **Describes quality measures in development at the time of the report (as of December 31, 2017)** (*CMS-Funded Measures in Development* [Appendix E]).[xv] In addition to the same details described for measures developed in the previous year, if available, the timeline for completion of those measures still in development is included. If development of a measure was suspended during the year, an explanation is provided.
- **Provides an inventory of applicable measures.**[xvi] Relevant information is compiled on quality measures for MIPS, including MIPS APM measures, published in the CY 2018 Quality Payment Program final rule; measures for Advanced APMs (*CMS APM Quality Measures Inventory* [Appendix F]); and measures reportable through MIPS qualified clinical data registries for 2018.

Report Development

Section 102 of MACRA authorizes $15 million each fiscal year from 2015 through 2019, available through the end of Fiscal Year (FY) 2022, for measure development and supporting activities to advance the implementation of the MDP.[xvii] CMS has spent approximately $7.2 million ($3.7 million in FY 2017 and $3.5 million in FY 2018) of this funding to inform the development of the Annual Reports, advance the priorities identified in the MDP, and provide a strong foundation for measure development opportunities funded by MACRA.

Among these foundational activities to advance quality measure development was further examination of measurement gaps for clinician specialties. The *CMS MDP Environmental Scan and Gap Analysis Report*[7] published in February 2017 focused on the initial measurement gaps and priorities identified in the MDP, which included clinical specialties determined to have performance and measure gaps. Building upon this work and the previously identified specialties, CMS conducted a partially quantitative analysis of clinical specialties in 2017, ranking 67 specialties to narrow the field to an additional five specialties prioritized for future measure development. The additional specialties are the focus of another MDP environmental scan and gap analysis in 2018, which, along with the first, will help guide procurement for future measure development.

An inventory was compiled of measures developed and in development, and the inventory was compared with previously identified gaps. The 2017 CMS Measures Under Consideration List[3] was reviewed to assess progress in addressing gaps for the seven clinical specialties prioritized in the MDP (general medicine/ crosscutting, mental health/substance use conditions, oncology, orthopedic surgery, palliative care, pathology, and radiology).

The MDP TEP convened by the MDP project contractor concluded a year of service by providing valuable input on areas of quality measure development, including potential evaluation criteria for assessing how the Quality Payment Program measure portfolio evolves to reflect CMS and stakeholder priorities and fulfill the stated objectives of the MDP.

An open call for a new TEP convened by the MDP project contractor was posted on the CMS website December 7, 2017, through January 8, 2018, to recruit clinicians, quality and measurement experts, patients, and caregiver representatives. The panel will assess gaps within the newly prioritized specialties and provide recommendations in 2018 and early 2019.[13] These

[xv] Section 1848(s)(3)(B)(iii) of the Act.
[xvi] Section 1848(s)(3)(B)(iv) of the Act.
[xvii] Section 1848(s)(6) of the Act.

experts will provide further input for measure development and selection, as well as future updates of the MDP as CMS determines to be appropriate.

II. MACRA Requirements for the CMS MDP Annual Report

This section of the MDP Annual Report details progress on each requirement outlined in the Objectives section above, including CMS efforts to implement the plan[xviii]; broader HHS efforts to support the strategic approaches and considerations within the plan; methods to identify and close gaps; and an accounting of inventories of clinician quality measures applicable to the Quality Payment Program.

Efforts to Implement the MDP

Since the publication of the MDP,[1] CMS has progressed in addressing operational requirements and key considerations described in the MDP. Ongoing efforts to implement the strategic approaches of the MDP include identifying and developing meaningful outcome measures, partnering with patients in the measure development process, partnering with clinicians and professional societies, and funding new measure development. These efforts underscore the CMS commitment to listen to, engage with, and learn from stakeholders throughout the transition to the Quality Payment Program and value-based health care.

Identifying and Developing Meaningful Measures

In late 2017, CMS launched the Meaningful Measures initiative, which draws from the work of the Health Care Payment Learning and Action Network, the National Quality Forum (NQF), and the National Academy of Medicine to streamline current measure sets. This initiative aims to address high-impact measurement areas and promote the development of measures that are meaningful to patients, families, and clinicians, including outcome measures, as well as to remove measures for which performance is already high.[2] Measures meeting Meaningful Measures criteria will assess core areas vital to providing high-quality care and improving patient outcomes. Of the measures on the 2017 Measures Under Consideration List intended for use as quality measures in the MIPS program, 50% (seven of 14[xix]) are outcome measures.

Partnering With Patients in the Measure Development Process

CMS emphasizes the importance of engaging patients and families throughout measure development, as described in the *Blueprint for the CMS Measures Management System*.[14] The Blueprint, which outlines general principles and standard processes to optimize measure development across all CMS programs, highlights the utility of obtaining the person/family perspective to develop high-quality measures that are readily understood, relevant, and useful to consumers.

Among the best practices the Blueprint encourages is the inclusion of at least two patient/family representatives on TEPs convened by measure developers. Of the 11 established TEPs listed on the CMS website in December 2017, nine included patients or family members or mentioned recruitment of patients,[15] and three TEPs accepting nominations in December 2017 were actively seeking members to represent the patient/family perspective.[13]

CMS measure development contractors are implementing and evaluating innovative approaches to collaborate with patients in the measure development process:

[xviii] Section 1848(s)(3)(B)(i) of the Act.
[xix] Count of measures excludes 8 condition specific cost measures.

- Developing a network consisting of 29 patients, 19 family caregivers, 20 advocates, and four consumers that the developer has engaged in 15 projects dealing with eight measures or measure concepts.
- Conducting semi-structured interviews of diverse patients and caregivers with care experiences in the care setting at the measure concept/environmental scan phase to ensure they can understand the measure results and would find the information meaningful when seeking health care.
- Leading broad-based patient focus groups to provide feedback and perspective on measure selection, development, testing, and implementation to foster patient-centered measures, objectives, and communications.
- Convening specialized focus groups to obtain patient input on measure intent and usefulness directly from members of a specified measure population.
- Recruiting a patient and family advisory board with diverse backgrounds and personal experience with various health delivery systems, disorders, and outcomes.
- Focusing outreach to patient advocacy organizations to solicit their input when a measure enters a public comment period or is updated.
- Including the patient voice in annual maintenance of CMS-stewarded measures through participation by TEPs with patient and caregiver representation.

Partnering With Clinicians and Professional Societies

Throughout 2017, CMS expanded outreach to external stakeholders to support measure development. Clinicians and professional society representatives were included on the 2016–2017 MDP TEP convened by the project contractor to provide critical input on the landscape of current measures, measurement gaps, and measure development priorities. Specialty societies were invited to highlight improvements to measure development processes through a "Spotlight" series held monthly by the CMS Measures Management project contractor. The 2017 series addressed topics including understanding patient priorities, shared decision-making, and outcome-focused measures.

CMS provided technical support to measure stewards and developers maintaining specifications, updating measure documentation, and preparing testing and analytic constructs. Additional opportunities to learn about and participate in CMS measure development activities were offered to clinicians and specialty societies. For example, webinars and in-person educational sessions guided novices through the measure development process, addressed best practices in engaging stakeholders, and provided an introduction to the Quality Payment Program. CMS informed stakeholders about public comment periods, updates to the Blueprint, calls for TEPs, and other measure development activities through a monthly email newsletter and occasional updates disseminated to approximately 55,000 subscribers on the Measures Management System electronic mailing list.[16]

The Quality Payment Program incorporates selected specialty-specific measures developed by professional societies for their clinical registries. CMS provided feedback on more than 1,400 measures submitted for consideration as part of the QCDR review and approval process, which was established to ensure these MIPS measures reflect the care provided by clinicians.

Clinicians and specialty societies also contributed substantially to the development of new episode-based cost measures for reporting in the cost performance category of MIPS. Section 1848(r)(2) of the Act requires the development of care episode groups and patient condition

groups (referred to as episode-based measures in Quality Payment Program rulemaking) in collaboration with stakeholder communities. To date, CMS has collaborated with nearly 150 clinicians affiliated with 100 national specialty societies. Subcommittees of clinicians have participated in every step of the cost measure development, including decisions on which episodes to build and which cost components to include in each measure. Ongoing development of episode measures will meet the section 1848(r) requirement of the Act and advance the CMS goal of representative measures for MIPS. CMS is striving to align these new cost measures with those applicable to the MIPS quality performance category.

Funding New Measure Development

CMS recognizes the benefits of measure development by external stakeholders with insight into clinician and patient perspectives on quality measurement and areas for improvement to advance quality measures for the Quality Payment Program. On March 2, 2018, CMS announced a funding opportunity for $30 million in grants to be awarded, beginning in fiscal year (FY) 2018, for quality measure development. This MACRA funding opportunity is specifically designated for organizations external to CMS, including clinical specialty societies, clinical professional organizations, patient advocacy groups, educational institutions, and independent research organizations. Collaborative efforts will incorporate medical specialty and patient perspectives in addressing topics such as clinician engagement, consumer-informed decisions, critical measure gaps, quality measure alignment, and efficient data collection that minimizes health care provider cost and burden.[5]

An additional funding source for measure development is the Measure & Instrument Development and Support (MIDS) Indefinite Delivery, Indefinite Quantity contract. MIDS dollars provide critical support to the development, testing, refining, revising, maintaining, implementing, and public reporting of clinical quality measures, including clinician measure development conducted under MACRA.[17] In a request for proposals released in February 2018, notable changes to the MIDS contract included the promotion and evaluation of electronic clinical quality measures, special topics (multiple chronic conditions, outcome, composite, and cost/resource use measures), alignment of the Blueprint with the Meaningful Measures initiative, and measure alignment and harmonization across HHS.

Additional HHS Efforts to Support the MDP

In 2017, CMS advanced efforts to support the implementation of key component areas within the MDP, including "Reducing clinician burden of data collection for measure reporting" and "Shortening the time frame for measure development," in this instance specifically through the development and implementation of resources to make measure development more efficient and reduce costs. Progress in each of these component areas is critical to implementing the MDP.

Reducing Burden of Data Collection and Quality Measure Reporting

Reducing the cost and burden of data collection for clinicians to report measures is a high priority for CMS. The Patients Over Paperwork initiative introduced a crosscutting, collaborative process to evaluate and streamline regulations.[2] The goals of the initiative are to reduce unnecessary cost and burden, increase efficiencies, and improve the beneficiary experience. In a December 2017 newsletter, CMS details how Patients Over Paperwork aims to increase customer satisfaction through direct outreach with clinicians, institutional providers, and health plans. The newsletter further notes the aim of decreasing the dollars and hours clinicians

spend on CMS-mandated compliance and increasing the proportion of tasks that can be completed digitally.[10]

Late in 2017, CMS initiated the eCQM Strategy Project, designed to explore clinicians' challenges with the implementation, data capture, and reporting of electronic clinical quality measures, known as eCQMs. User-centered design was incorporated to obtain feedback from stakeholders, including leadership, quality reporting teams, eligible clinicians, eligible acute care hospitals, and critical access hospitals, as well as electronic health record (EHR) vendors and measure developers. The goal of these stakeholder meetings is to develop recommendations to address the concerns of these groups and explore tools that can decrease the burden and costs of implementing and reporting eCQMs.

Measure alignment is recognized as a means of reducing the burden of data collection and reporting for clinicians. One way CMS is striving to promote alignment across programs and payers is through the 2017 release of the CMS Measures Inventory Tool (CMIT), an interactive repository of measures used in CMS programs.[18] Through this public resource, clinicians can search online for available measures, filtering by topics such as measure type, measure group (similar to specialty grouping), Meaningful Measure area, CMS program, and NQF endorsement status.[19] The tool and options for measure searches can help clinicians identify measures applicable to their clinical workflow (i.e., less burdensome) and meaningful to their practices (e.g., at the applicable care setting or assessing relevant conditions). Additional efforts to align measures include the July 2017 release of the Core Quality Measures Collaborative pediatric core measure set, added to seven core sets released in 2016.[2] Core measure sets also promote quality improvement efforts and provide consumers valuable information for decision-making. CMS coordinates with commercial health plans, consumers, purchasers, and physician and other health-related professional groups in developing these consensus-driven measure sets for use by both commercial and government payers.

Optimizing the Measure Development Process to Reduce Costs

The CMS Measures Management System contractor coordinated efforts throughout 2017 to build consensus among CMS, other HHS agencies, and key external stakeholders (e.g., NQF) on measurement policies, measure inventories, and alignment across programs and settings of care. In September 2017, the contractor convened a TEP in support of Quality Measure Development: Supporting Efficiency and Innovation in the Process of Developing CMS Quality Measures. Experts in measure development, consensus endorsement, quality improvement, and performance measurement, as well as patient advocates, clinicians, EHR vendors, and other stakeholders, serve on the TEP until late summer 2018 to provide recommendations on streamlining measure development and maintenance processes.[15]

Year-round, CMS systematically gathers, formally tracks, and carefully considers input from stakeholders for inclusion in updates to the Blueprint to ensure the tool is meeting the evolving needs of measure developers. The Blueprint allows CMS to optimize costs by establishing standard procedures for CMS-sponsored measure development and enhancing measure alignment across domains and programs. From the first version in 2005 to the latest release, Version 13.0, in May 2017, CMS has refined the Blueprint to reflect changing regulatory environments and quality measurement science and standards.[14] Version 13.0 incorporates almost 1,000 diverse comments and suggestions from measure developer reviewers to optimize measure development processes. Recent updates include full integration of electronically specified and other clinical quality measures and addition of a master deliverables list and a

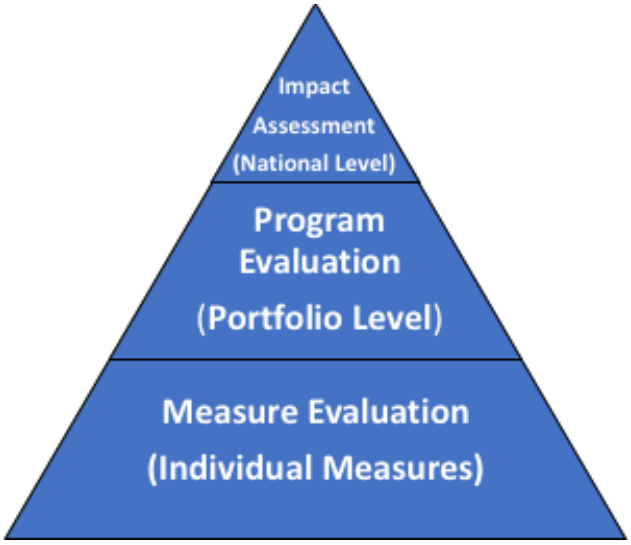
comprehensive listing of project elements.[14] After the release of Version 13.0, CMS launched an updated Measures Management System website in August 2017.[20] The website displays the Blueprint in a user-friendly, intuitive, and decentralized fashion, making it more digestible and accessible to all stakeholders. The website caters to the specific needs of patients, consumers, clinicians, and experienced measure developers with sections labeled Measures Development, Get Involved, Tools & Resources, New to Measures, and Popular Links.

The CMIT is another web-based resource that makes information procurement more efficient for measure developers, enhances the visibility of the CMS measure portfolio, and supports efforts to reduce costs. Measure developers can track measures under development, implemented for use, and removed from a CMS quality program or initiative.[18] The CMIT supports efforts to identify global and specialty-driven areas of need, increase alignment across CMS programs, and avoid duplication of measures.

Innovative Approaches to Measure Evaluation

To ensure that current quality priorities are met, CMS evaluates the impact of quality measures used across its programs on multiple levels (see Figure 1). Every three years, CMS assesses the quality and efficiency impact of the use of endorsed measures in CMS programs nationwide.[21] Impact is defined as progress toward achieving goals and objectives related to the CMS quality priorities. CMS uses multiple methods to evaluate the quality and efficiency impact of the use of endorsed measures, including patient impact and cost-avoided analyses, national surveys of quality leaders in provider settings, and measure performance trends and disparity analyses. Evaluating the national impact of measures in alignment with these priorities provides a comprehensive assessment of progress. Additionally, analyzing performance rates on the measures is a critical component of the measure life cycle and complements the program-level and measure-level evaluations that CMS conducts to gain data-driven insights for improving patient outcomes and addressing disparities.

Figure 1: Measure Evaluation Hierarchy



At the measure portfolio level, CMS will track progress toward achieving the goals for measure development outlined for the Quality Payment Program in the MDP. Standardized criteria proposed for this MDP evaluation will reflect patient, clinician, and CMS priorities (e.g., the proportion of measures in the Quality Payment Program that measure outcomes). The evaluation criteria will align with the Meaningful Measures initiative and guide measure development toward priority areas that have not been addressed.

CMS also conducts individual measure evaluations through the activities of multiple contractors. CMS is working to better standardize this process in alignment with stakeholder and CMS priorities for quality measures and to support CMS efforts to reduce burden.

MDP Evaluation Criteria

In 2017, CMS considered the 16 characteristics of a person-centered measure portfolio outlined in the MDP[1] for potential use in evaluating fulfillment of the MDP objectives. The MDP TEP reviewed the list and proposed additional criteria. Further refinement yielded 25 criteria, for which operational definitions were identified. The availability of data for each operational definition was assessed by examining the portfolio of measures for the 2017 Quality Payment Program. The MDP TEP reviewed and provided input on the evaluation criteria and determined that 13 would be highly feasible to implement, meaning the definitions are clear and data are readily available. Table 18 in *Highly Feasible MDP Evaluation Criteria* (Appendix G) lists the criteria and operational definitions that the TEP found to be highly feasible.

Closing Measurement Gaps by Advancing the MDP

The MDP provides a strategic framework for building and implementing a measure portfolio to support the Quality Payment Program. CMS anticipates updating the MDP, as appropriate, to reflect the status of measure inventories and performance gaps, prioritize ongoing measure development, and refine approaches to achieve the operational requirements under MACRA. The MDP identified high-level priorities for measure development in clinical specialties with known gaps to ensure clinicians have a sufficient selection of measures to report for the Quality Payment Program. The progress reported in this *2018 MDP Annual Report* builds on earlier foundational work completed since the passage of MACRA to identify, track, and close gaps.

Specialties With Gaps Newly Identified for Future Measure Development

CMS employed a systematic approach to identify clinical specialties with known gaps in measures as prospects for future measure development. CMS gathered information about factors including volume of services,[22] quality reporting experience,[23] stakeholder comments,[24] and CMS quality priorities.[25,26] A scoring methodology based on these data sources was developed to prioritize 67 CMS Medicare clinician specialties. Using this approach, CMS identified five additional specialties to target for future measure development to support the Quality Payment Program:

- Allergy/immunology
- Emergency medicine
- Neurology
- Physical medicine and rehabilitation
- Rheumatology

An environmental scan of existing clinician-level measures aligned with CMS priorities for these specialties will be conducted in 2018 to prioritize concepts for future measure development. CMS intends to provide results of the future environmental scan in the next MDP Annual Report and will continue to assess progress on addressing gaps for those five specialties and the seven previously identified in the MDP[1]:

- General medicine/crosscutting
- Mental health/substance use conditions
- Oncology
- Orthopedic surgery
- Palliative care
- Pathology
- Radiology

Closing Previously Identified Gaps

Current measure development efforts demonstrate progress toward addressing the measure gaps identified in the *2017 MDP Annual Report*.[6] A review of the CMS Measures Under Consideration List,[3] combined with the inventory of CMS-funded measures in development, identified measures that address gaps reported in the *2017 MDP Annual Report.*[6] As of December 31, 2017, 21 CMS-funded measures intended for use in MIPS were in development. These measures are applicable to two of the seven clinical specialties prioritized in 2016 in the MDP (general medicine/crosscutting and orthopedic surgery). It is anticipated that once MACRA-funded measure development is initiated in accordance with the notice of funding opportunity for FY 2018, additional measure gaps identified in the *2017 MDP Annual Report* will begin to be addressed. The priority specialties named in the announcement align with the initial priority specialties in the MDP.

Measures Under Consideration List Applicable to Initial Priorities of the MDP

The 2017 Measures Under Consideration List includes quality and efficiency measures under consideration by the Secretary of HHS for use in certain Medicare quality programs.[3] Of the 32 measures under consideration, 22 were considered for inclusion in MIPS. Seven of those 22 were applicable to two of the priority specialties with identified topic gaps in the *2017 MDP Annual Report*[6]: general medicine/crosscutting (three) and orthopedic surgery (four). After evaluation, the MAP supported or conditionally supported for rulemaking all seven of the measures applicable to general medicine/crosscutting and orthopedic surgery.[4] CMS takes into account MAP analyses and recommendations when considering measures for potential use in programs.

Measures must undergo an extensive testing and validation process to ensure the development of reliable and meaningful measures. Gaps identified by measure subtopics can be anticipated to close as measure developers proceed with the sequence of steps required to develop and test measures prior to submission for consideration. A list of measures applicable to general medicine/crosscutting and orthopedic surgery is provided in the *Status of Previously Identified Gaps* (Appendix C). Table 2 provides a count of the measures, categorized in four of the six MACRA quality domains.

Table 2: Summary of 2017 Measures Under Consideration Applicable to Previously Identified Gaps by CMS Priority/MACRA Domain and Specialty

CMS Quality Priority/MACRA Domain *Measure Name*	# of Measures for General Medicine/ Crosscutting	# of Measures for Orthopedic Surgery
Affordable Care *- Appropriate Use of DXA Scans in Women Under 65 Years Who Do Not Meet the Risk Factor Profile for Osteoporotic Fracture*	1	0
Communication and Coordination/Care Coordination	0	0
Effective Treatment/Clinical Care *- Diabetes A1c Control (< 8.0)*	1	0
Healthy Living/ Population Health and Prevention *- HIV Screening*	1	0
Patient Safety/ Safety	0	0

CMS Quality Priority/MACRA Domain *Measure Name*	# of Measures for General Medicine/ Crosscutting	# of Measures for Orthopedic Surgery
Person and Family Engagement/Patient and Caregiver Experience *- Average change in functional status following lumbar spine fusion surgery* *- Average change in functional status following total knee replacement surgery* *- Average change in functional status following lumbar discectomy laminotomy surgery* *- Average change in leg pain following lumbar spine fusion surgery*	0	4
Total	3	4

Quality Measures Developed During the Previous Year

This subsection of the report describes CMS measures intended for inclusion in the MIPS program, MIPS APMs, or Advanced APMs for which development was completed between January 1, 2017, and December 31, 2017. One electronically specified measure was developed using an estimated $118,124:

- *HIV Screening*[xx]: This general medicine/crosscutting measure, focused on early detection of the human immunodeficiency virus (HIV), is a priority prevention measure applicable to the MACRA quality domain of population health and prevention. This process of care measure reflects key tenets and principles outlined in the MDP,[1] including alignment with CMS quality priorities and use of electronic specifications.[xxi] Developed by Mathematica Policy Research and stewarded by the Centers for Disease Control and Prevention (CDC), the measure was included on the 2017 CMS Measures Under Consideration List.[3] See *CMS-Funded Measures Developed During the Previous Year* (Appendix D) for measure details.[xxii]

Clinical process measures must have a strong scientific evidence base to demonstrate a linkage between the process being measured and improved outcomes. For example, appropriate care coordination at discharge (clinical process) and follow-up with primary care can reduce a patient's chances of a readmission (clinical outcome).

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

This subsection of the report summarizes a description of measures CMS intends for inclusion in the MIPS program, MIPS APMs, or Advanced APMs that were in development (but not yet completed) between January 1, 2017, and December 31, 2017, using an estimated $3,243,432.[xxiv] Table 3 provides titles of the measures in development within each MACRA quality domain and whether the measures were electronically specified. See *CMS-Funded Measures in Development* (Appendix E) for additional details[xxv] about these measures, including developers and timelines for completion.

[xx] The measure included in Appendix D is intended for use in MIPS but was not funded by section 1848(s)(6) of the Act, as funding for development was obligated prior to the passage of MACRA.
[xxi] Section 1848(s)(3)(B)(ii)(V) of the Act
[xxii] Section 1848(s)(3)(B)(ii) of the Act
[xxiii] As of December 31, 2017, to allow for federal review and clearance prior to publication of this report
[xxiv] Measures included in Appendix E were not funded by section 1848(s)(6) of the Act, as funding for development was obligated prior to the passage of MACRA, using existing CMS funds under Title XVIII.
[xxv] Section 1848(s)(3)(B)(iii) of the Act

Table 3. CMS-Funded Measures in Development by CMS Quality Priority/MACRA Domain[xxvi]

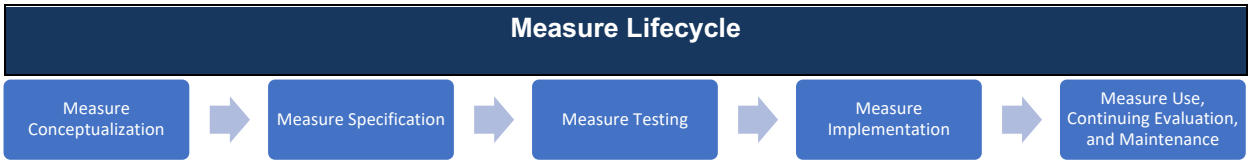
CMS Quality Priority/MACRA Domain Measure Name (Steward/Developer[s])	# in Development 1/1/17 12/31/17	# Electronically Specified
Affordable Care - *Overuse of PCI in Asymptomatic Patients* (CMS/Mathematica Policy Research, PCPI®)	1	0
Communication and Coordination/Care Coordination - *Care Coordination after Asthma-Related Emergency Department Visit*† (CMS/ Mathematica Policy Research) - *Care Coordination after Asthma-Related Emergency Department Visit: EP Follow-up*† (CMS/Mathematica Policy Research) - *Documentation of a Health Care Partner for Patients with Dementia or Mild Cognitive Impairment*† (CMS/Mathematica Policy Research)	3	3
Effective Treatment/Clinical Care - *Annual Wellness Assessment: Preventive Care (Composite)*† (CMS/Mathematica Policy Research, National Committee for Quality Assurance [NCQA]) - *Exploratory research on feasibility of a 90-day CABG measure* (CMS/Yale Center for Outcomes Research and Evaluation [CORE]) - *HIV Screening for Patients with Sexually Transmitted Infection (STI)*† (CDC/Mathematica Policy Research)	3	2
Healthy Living/Population Health and Prevention	0	N/A
Patient Safety/ Safety - *Adverse Drug Events for Patients Taking Anticoagulant Medications in an Ambulatory Setting*† (CMS/Mathematica Policy Research) - *Diabetes Overtreatment in the Elderly*† (CMS/Mathematica Policy Research, NCQA) - *Potential Opioid Overuse*† (CMS/Mathematica Policy Research, The Lewin Group)	3	3
Person and Family Engagement/Patient and Caregiver Experience - *CAHPS Measure Modification for CPC+ Practices* (CMS/American Institutes for Research [AIR]/Mathematica Policy Research) - *Changes in Patient Reported Outcomes (PROs) Following Non-Emergent PCI*† (CMS/The Lewin Group) - *Disease Activity Assessments and Target Setting in Patients with Rheumatoid Arthritis*† (CMS/Mathematica Policy Research, NCQA) - *Functional Status Assessment and Target Setting for Patients with Congestive Heart Failure*† (CMS/Mathematica Policy Research, NCQA) - *Functional Status Assessments and Target Setting for Patients with Asthma*† (CMS/Mathematica Policy Research, NCQA) - *Functional Status Assessments and Target Setting for Patients with Chronic Obstructive Pulmonary Disease*† (CMS/Mathematica Policy Research, NCQA) - *Functional Status Improvement for Patients who Received a Total Hip Replacement*† (CMS/Mathematica Policy Research, NCQA) - *Functional Status Improvement for Patients who Received a Total Knee Replacement*† (CMS/Mathematica Policy Research, NCQA) - *Pain Assessments and Target Setting for Patients with Osteoarthritis*† (CMS/ Mathematica Policy Research, NCQA) - *Patient-reported outcome measure* (measure title TBD)† (CMS/AIR, Johns Hopkins University [JHU]) - *Patient-reported outcomes and risk variable data collection (PRO)* (CMS/Yale CORE)	11	9
Total	21	17

† Measure is planned to be electronically specified.

[xxvi] Section 1848(s)(3)(B)(iii)(I) of the Act

These 21 measures that were in development between January 1 and December 31, 2017,[xxvii] included 12 measures targeting processes of care, three care outcomes, five patient-reported outcome performance measures, and one patient experience measure. Seventeen of the 21 were being developed as electronic clinical quality measures. As noted above, the total estimated expenditures for these 21 measures include $1,014,396 for 12 process measures, $1,086,964 for three outcome measures, $1,120,072 for five patient-reported outcome performance measures, and $22,000 for one patient experience measure.

The measure development process is designed to inform CMS and stakeholders about the viability of a measure for broad-based implementation. These processes can be conceived as a series of gates through which each measure must successfully pass to advance for consideration in CMS quality programs. Measure conceptualization, specification, and testing activities—the first three steps in the measure lifecycle—are critical to vet and assess measure concepts prior to their implementation in the Quality Payment Program.



Source: *Blueprint for the CMS Measures Management System,* Version 13.0

Development was suspended on two of the 21 measures—one because of unreliability at multiple denominator thresholds and the other because the APM for which the measure was being developed was canceled in December 2017 (*CMS-Funded Measures in Development* [Appendix E], Table 7. [xxviii]) The remaining 19 measures in development at the time of this report[xxix] are at different stages of the measure development process:

- Two patient-reported outcome performance measures are undergoing concept development or measure specification and will undergo testing once fully specified. Completion of these measures is estimated to occur by June 2021. One measure assessing the functional status of patients with multiple chronic conditions is directly relevant to a gap identified in the *CMS MDP Environmental Scan and Gap Analysis Report*[7] as applicable to the general medicine/crosscutting specialty. (See *CMS-Funded Measures in Development* [Appendix E], Table 8.[xxx])
    - Patient-reported outcome measure
    - Patient-reported outcomes and risk variable data collection (PRO)
- Eight measures are fully specified. Measure testing will begin once the measure developer procures representative sites. Although no funding was spent on these measures during CY 2017, CMS recognizes the importance of these measures as a step forward to reduce provider burden, as all eight are electronically specified. Completion of these measures is estimated by June 2019. (See *CMS-Funded Measures in Development* [Appendix E], Table 9.[xxx])
    - Five of the eight measures are condition-specific and applicable to the MACRA domain of patient and caregiver experience. These measures are focused on

[xxvii] No funding spent on eight measures for which identification of testing sites is pending.
[xxviii] Section 1848(s)(3)(B)(iii) of the Act
[xxix] As of December 31, 2017, to allow for federal review and clearance prior to publication of this report
[xxx] Section 1848(s)(3)(B)(iii) of the Act

target-setting and progression toward individualized care goals via a validated assessment tool, thus demonstrating that care is personalized and aligned with patient preferences. These process measures can provide a foundation for the development of meaningful functional outcome measures.
        - *Disease Activity Assessments and Target Setting in Patients with Rheumatoid Arthritis*
        - *Functional Status Assessment and Target Setting for Patients with Congestive Heart Failure*
        - *Functional Status Assessments and Target Setting for Patients with Asthma*
        - *Functional Status Assessments and Target Setting for Patients with Chronic Obstructive Pulmonary Disease*
        - *Pain Assessments and Target Setting for Patients with Osteoarthritis*
    - Two of the eight measures are setting-specific process measures focused on follow-up and timely exchange of information. Applicable to the MACRA domain of care coordination, these measures will support reduction of hospital admissions.
        - *Care Coordination after Asthma-Related Emergency Department Visit*
        - *Care Coordination after Asthma-Related Emergency Department Visit: EP Follow-up*
    - The remaining measure of the eight is a general medicine/crosscutting measure that addresses adequate care coordination between patient and clinician. Applicable to the MACRA domain of care coordination, this measure directly aligns with the initial priorities and specialties identified in Section V of the MDP.
        - *Documentation of a Health Care Partner for Patients with Dementia or Mild Cognitive Impairment*
- Nine measures are undergoing measure testing with an estimated completion date of June 2018. Decisions about whether to advance the measures will be based on testing results. (See *CMS-Funded Measures in Development* [Appendix E], Table 10.[xxxi]) Six of the nine measures are directly relevant to the gaps identified in the *CMS MDP Environmental Scan and Gap Analysis Report*[7]:
    - Three measures are applicable to the MACRA domain of safety and the general medicine/crosscutting specialty. Under the topic of medication safety, these measures pertain to adverse drug event subtopics for anticoagulants, diabetic agents, and opioids.
        - *Adverse Drug Events for Patients Taking Anticoagulant Medications in an Ambulatory Setting*
        - *Diabetes Overtreatment in the Elderly*
        - *Potential Opioid Overuse*
    - Three measures are applicable to the MACRA domain of patient and caregiver experience. Two of those can be categorized within the topic of patient-reported outcome performance measures and are applicable to the orthopedic surgery specialty assessing "functional status pre-/post-orthopedic treatment/joint-specific." One survey measure can be categorized within the topic of

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

patient/caregiver experience and is applicable to the general medicine/crosscutting specialty.
    - *Functional Status Improvement for Patients who Received a Total Hip Replacement*
    - *Functional Status Improvement for Patients who Received a Total Knee Replacement*
    - *CAHPS Measure Modification for CPC+ Practices*
- The remaining three measures are classified under the MACRA domains of clinical care, patient and caregiver experience, and affordable care. Although not directly related to the original conceptual framework, these measures are meaningful, as they address preventive care, patient-reported functional outcomes, and appropriate use of health care services.
    - *Annual Wellness Assessment: Preventive Care (Composite)*
    - *Changes in Patient Reported Outcomes (PROs) Following Non-Emergent PCI*
    - *Overuse of PCI in Asymptomatic Patients*

Detailed information on the 19 measures that are continuing development (including estimated time to completion) and two measures for which development has been suspended appears in Tables 7–10 in *CMS-Funded Measures in Development* (Appendix E). CMS will consider these measures in development for inclusion in the Quality Payment Program once measure testing has been completed. CMS is aware that many organizations are actively developing quality measures for use by clinicians; therefore, CMS will promote broader collaboration with external measure development organizations through measure development opportunities funded under MACRA to advance clinician measures for the Quality Payment Program.

Inventory of Applicable Quality Measures

The inventory of applicable quality measures describes the clinician measures available in 2018 for reporting by participants in the Quality Payment Program. The inventory consists of the 2018 MIPS measures, including MIPS APM measures, 2018 MIPS QCDR measures, and measures approved for use in 2018 Advanced APMs.

The 2018 MIPS measures were posted for stakeholder review and input through the rulemaking process, which culminated in the publication of the CY 2018 Quality Payment Program final rule on November 16, 2017, to take effect on January 1, 2018.[27]

Inventory of MIPS Measures for the CY 2018 Quality Payment Program

For the 2017 performance period, 271 MIPS measures were available for reporting. During the CY 2018 rulemaking process, four quality measures were removed[27(p. 54157-54159)] and eight new quality measures were added[27(p. 53966-53975)] to MIPS. The rulemaking process yielded 275 quality measures available for the 2018 performance period, including 76 intermediate outcome or outcome measures, 183 process measures, and nine efficiency measures; the remaining seven are structural or patient engagement/experience measures.

Of the 275 quality measures, 172 are categorized as high priority to assist clinicians in meeting the reporting requirements for a positive payment adjustment. CMS has begun to address stakeholder concern regarding the lack of measures available for specialists by finalizing five additional measure sets for CY 2018 for the specialties of nephrology, infectious disease, neurosurgery, podiatry, and dentistry, making a total of 35 specialty-specific measure sets

available for reporting.[27(p. 53976-54146)] An interactive tool to view the comprehensive list of MIPS measures is available at https://qpp.cms.gov/mips/quality-measures.

Eligible clinicians who participate in MIPS APMs are scored using a methodology called the APM scoring standard, which was established to reduce the reporting burden on participants by eliminating the need to report both the APM and MIPS measures.[28] CMS finalized reporting requirements for each of six MIPS APMs for CY 2018 reporting[27(p. 53692, 53707-53711)]:

- Oncology Care Model
- Comprehensive ESRD Care
- Comprehensive Primary Care Plus (CPC+)
- Medicare Shared Savings Program
- Track 1+ ACOs[xxxii]
- Next Generation ACO Model

See *CMS APM Quality Measures Inventory* (Appendix F) for a list of measures included in each of the MIPS APMs.

MIPS QCDR Measures

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 2018 MIPS performance period, CMS approved 150 QCDRs covering 56 clinical specialties, as outlined in the *2018 CMS-Approved Qualified Clinical Data Registry Measures (QCDRs) Qualified Posting*.[29] Each QCDR contains six or more quality measures with at least one measure being an outcome measure or another high-priority measure, consistent with the 2018 requirement for eligible clinicians reporting under MIPS. The approved 2018 QCDRs and corresponding measures list are located at: https://www.cms.gov/Medicare/Quality-Payment-Program/Resource-Library/2018-Resources.html.

Thirty QCDRs focus on clinical specialties identified in the MDP as initial priorities: mental health (five), oncology (11), orthopedic surgery (11), palliative care (one), pathology (three), and radiology (one). These numbers represent an increase in applicable QCDRs for five of those specialties. Two or more QCDRs focus on more than one specialty, and additional QCDRs are applicable to general medicine or are crosscutting.

In accordance with MACRA requirements to evaluate gaps, five additional clinical specialties have been identified as priorities for measure development. For 2018, 11 QCDRs are applicable to the newly prioritized clinical specialties: allergy/immunology (one), emergency medicine (three), neurology (two), physical medicine and rehabilitation (two), and rheumatology (three).

CMS 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 incentive payments under the Quality Payment Program. Qualifying APM participants are excluded from MIPS reporting requirements and payment adjustments and receive an annual 5% incentive payment for each year from 2019 to 2024.[30]

[xxxii] Track 1+ ACOs require concurrent participation in Track 1 of the Shared Savings Program; these ACOs will be scored based on participation in the Shared Savings Program under the APM scoring standard.

The Center for Medicare and Medicaid Innovation (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 of the criteria for Advanced APMs is that they must base payment for items and services in part on MIPS-comparable quality measures, which CMS has interpreted to mean the measures are reliable and valid and have an evidence-based focus. See *CMS APM Quality Measures Inventory* (Appendix F) for the list of measures for each Advanced APM included in the 2018 Quality Payment Program.

III. Summary and Conclusions

CMS efforts to put patients first by partnering with patients, providers, payers, and other stakeholders strengthen the foundation for the development and use of quality measures for the Quality Payment Program. In 2017, CMS announced the Meaningful Measures initiative that underscores a strong commitment to reduce the cost and burden associated with reporting measures and fosters the development of measures "most vital to providing high quality care and improving patient outcomes."[2] CMS also advanced strategic approaches outlined in the MDP with respect to partnering with patients and clinicians in the measure development process, optimizing measure development to reduce costs, and funding new measure development.

To gauge progress in reducing burden and establishing meaningful measures to support the Quality Payment Program, CMS initiated innovative approaches for measure evaluation at the portfolio level. The MDP evaluation criteria will be used to highlight progress in the refinement and streamlining of the measures included in the Quality Payment Program in relation to the goals set forth in the MDP and the Meaningful Measures initiative. This approach is envisioned to support policymakers and stakeholders when prioritizing measures for development and implementation.

The MDP leverages existing CMS measurement strategies, policies, and principles and input from diverse stakeholders to support the Meaningful Measures initiative across multiple levels. CMS added to these resources a new, systematic approach to rank specialties for targeted measure development, used to identify five as priorities: allergy/immunology, emergency medicine, neurology, physical medicine and rehabilitation, and rheumatology. In-depth environmental scans of specialty measures will inform future updates of the MDP.

MACRA requires an annual accounting of clinician quality measures developed or intended for the Quality Payment Program using Medicare funds. In this 2018 MDP Annual Report, CMS provides a summary of CMS-funded clinician quality measure development activities and expenditures for 21 measures, including details about each measure and an inventory of measures selected for the 2018 Quality Payment Program.[xxxiii,xxxiv,xxxv]

CMS has made annual progress toward closing previously identified measure and performance gaps as described in this report and will continue to advance these efforts in the coming years. Seven of the 21 measures referenced address specialties prioritized in the MDP, and of these, six directly address measure priorities and topics identified in the *CMS MDP Environmental Scan and Gap Analysis Report*.[7] A review of the 2017 Measures Under Consideration List[3] identified seven measures applicable to the prioritized specialties of general medicine/ crosscutting and orthopedic surgery.

CMS continues to make strides in advancing important initiatives that will foster collaboration with patients, clinicians, professional organizations, and other stakeholders and put patients first in the health care system. CMS recognizes that the successful implementation of the MDP requires these ongoing partnerships to develop measures to support MIPS and Advanced APMs that are meaningful to patients and clinicians.

[xxxiii] MIPS inventory of measures available at: https://qpp.cms.gov/mips/quality-measures

[xxxiv] QCDRs for 2018 MIPS available at: https://www.cms.gov/Medicare/Quality-Payment-Program/Resource-Library/Resource-library.html

[xxxv] Measures included in Advanced APMs in *CMS APM Quality Measures Inventory* (Appendix F).

Glossary of Acronyms/Abbreviations

Acronym	Definition
ACO	accountable care organization
AHRQ	Agency for Healthcare Research and Quality
AIR	American Institutes for Research
AJCC	American Joint Committee on Cancer
AMI	acute myocardial infarction
APM	alternative payment model
BMI	body mass index
CABG	coronary artery bypass graft
CAHPS®	Consumer Assessment of Healthcare Providers and Systems®
CDC	Centers for Disease Control and Prevention
CEC Model	Comprehensive End-Stage Renal Disease Care Model
CEHRT	certified electronic health record technology
CG-CAHPS®	Clinician and Group Consumer Assessment of Healthcare Providers and Systems®
CHIP	Children's Health Insurance Program
CJR	Comprehensive Care for Joint Replacement
CMIT	CMS Measures Inventory Tool
CMS	Centers for Medicare & Medicaid Services
CORE	Center for Outcomes Research and Evaluation
CPC+	Comprehensive Primary Care Plus
CY	calendar year
DXA	dual X-ray absorptometry
eCQM	electronic clinical quality measure
ED	emergency department
EDAC	excess days in acute care
EHR	electronic health record
EP	eligible professional
ER-PR	estrogen receptor/progesterone receptor
ESRD	end-stage renal disease
FY	fiscal year
Hb	hemoglobin
HCAHPS®	Hospital Consumer Assessment of Healthcare Providers and Systems®
HER2	human epidermal growth factor receptor 2
HHS	Health and Human Services (U.S. Department of)
HIQR	Hospital Inpatient Quality Reporting Program
HIV	human immunodeficiency virus
HSAG	Health Services Advisory Group, Inc.
ICH-CAHPS®	In-Center Hemodialysis Consumer Assessment of Healthcare Providers and Systems®
JHU	Johns Hopkins University
KDQoL	*Kidney Disease Quality of Life Survey*
MACRA	Medicare Access and Children's Health Insurance Program Reauthorization Act of 2015
MAP	Measure Applications Partnership

Acronym	Definition
MDP	Measure Development Plan
MIDS	Measure & Instrument Development and Support
MIPS	Merit-based Incentive Payment System
NCQA	National Committee for Quality Assurance
NQF	National Quality Forum
PCI	percutaneous coronary intervention
PHQ-9	Patient Health Questionnaire-9
PPPW	*Percentage of Prevalent Patients Waitlisted*
PQI	Prevention Quality Indicator
PRO	patient reported outcome
PRO-PM	patient-reported outcome performance measure
QCDR	qualified clinical data registry
RSCR	risk-standardized complication rate
RSMR	risk-standardized mortality rate
SNFRM	*Skilled Nursing Facility 30-Day All-Cause Readmission Measure*
STI	sexually transmitted infection
SWR	*Standardized First Kidney Transplant Waitlist Ratio for Incident Dialysis Patients*
TBD	to be determined
TEP	technical expert panel
TKA	total knee arthroplasty
THA	total hip arthroplasty
WI	CMS Web Interface

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Appendix A – MACRA Statutory Language Excerpts

Section 1848(s)(3) of the Social Security Act, as amended by section 102 of the Medicare Access and CHIP Reauthorization Act of 2015 (MACRA)

"(3) ANNUAL REPORT BY THE SECRETARY.—

''(A) IN GENERAL.—Not later than May 1, 2017, and annually thereafter, the Secretary shall post on the Internet website of the Centers for Medicare & Medicaid Services a report on the progress made in developing quality measures for application under the applicable provisions.

''(B) REQUIREMENTS.—Each report submitted pursuant to subparagraph (A) shall include the following:

''(i) A description of the Secretary's efforts to implement this paragraph.

''(ii) With respect to the measures developed during the previous year—

''(I) a description of the total number of quality measures developed and the types of such measures, such as an outcome or patient experience measure;

''(II) the name of each measure developed;

''(III) the name of the developer and steward of each measure;

''(IV) with respect to each type of measure, an estimate of the total amount expended under this title to develop all measures of such type; and

''(V) whether the measure would be electronically specified.

''(iii) With respect to measures in development at the time of the report—

''(I) the information described in clause (ii), if available; and

''(II) a timeline for completion of the development of such measures.

''(iv) A description of any updates to the plan under paragraph (1) (including newly identified gaps and the status of previously identified gaps) and the inventory of measures applicable under the applicable provisions.

''(v) Other information the Secretary determines to be appropriate."

Section 1848(s)(6) of the Social Security Act, as amended by section 102 of MACRA

''(6) FUNDING.—For purposes of carrying out this sub-section, the Secretary shall provide for the transfer, from the Federal Supplementary Medical Insurance Trust Fund under section 1841, of $15,000,000 to the Centers for Medicare & Medicaid Services Program Management Account for each of fiscal years 2015 through 2019. Amounts transferred under this paragraph shall remain available through the end of fiscal year 2022.

Appendix B – Acknowledgments

The *2018 MDP Annual Report* is the product of collaboration among the Centers for Medicare & Medicaid Services, other HHS agencies, and the private sector. Specifically, we thank:

Health Services Advisory Group, Inc.: Kyle Campbell, Kendra Hanley, Anita Somplasky, Eric Clark, Carolyn Lockwood, Cherrishe Brown-Bickerstaff, Heather Tinsley, Eric Gilbertson, Nancy Gordon, Susan Hemmingway

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Stephanie Glier, MPH, Senior Manager, Consumer-Purchaser Alliance; Pacific Business Group on Health, San Francisco, CA
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Peggy Zuckerman, MSEd, Patient and Advocate, SmartPatients, LLC, Mountain View, CA
Caregiver (Name withheld upon request), West Hartford, CT

Appendix C – Status of Previously Identified Gaps

Table 4. Select Measures Under Consideration Addressing General Medicine/Crosscutting Gaps

CMS Quality Priority/ MACRA Domain	Electronically Specified	Measure Type	Measure Title	Measure Steward/ Measure Developer	MAP Recommendation
Affordable Care	Yes	Process	Appropriate Use of DXA Scans in Women Under 65 Years Who Do Not Meet the Risk Factor Profile for Osteoporotic Fracture	Centers for Medicare & Medicaid Services/ National Committee for Quality Assurance	Conditional support for rulemaking
Effective Treatment/ Clinical Care	No	Intermediate Outcome	Diabetes A1c Control (< 8.0)	Minnesota Community Measurement/Minnesota (MN) Community Measurement	Conditional support for rulemaking
Healthy Living/ Population Health and Prevention	Yes	Process	HIV Screening	Centers for Disease Control and Prevention/ Mathematica Policy Research	Conditional support for rulemaking

Source: 2017 Measures Under Consideration List[xxxvi]

Table 5: Select Measures Under Consideration[xxxiii] Addressing Orthopedic Surgery Gaps

CMS Quality Priority/ MACRA Domain	Electronically Specified	Measure Type	Measure Title	Measure Steward/ Measure Developer	MAP Recommendation
Person and Family Engagement/ Patient and Caregiver Experience	No	PRO-PM	Average change in functional status following lumbar spine fusion surgery	MN Community Measurement/ MN Community Measurement	Support for rulemaking
Person and Family Engagement/ Patient and Caregiver Experience	No	PRO-PM	Average change in functional status following total knee replacement surgery	MN Community Measurement/ MN Community Measurement	Support for rulemaking
Person and Family Engagement/ Patient and Caregiver Experience	No	PRO-PM	Average change in functional status following lumbar discectomy laminotomy surgery	MN Community Measurement/ MN Community Measurement	Conditional support for rulemaking

[xxxvi] The 2017 Measures Under Consideration List includes quality and efficiency measures under consideration by the Secretary of HHS for use in certain Medicare quality programs.

CMS Quality Priority/ MACRA Domain	Electronically Specified	Measure Type	Measure Title	Measure Steward/ Measure Developer	MAP Recommendation
Person and Family Engagement/ Patient and Caregiver Experience	No	PRO-PM	Average change in leg pain following lumbar spine fusion surgery	MN Community Measurement/ MN Community Measurement	Conditional support for rulemaking

Source: 2017 Measures Under Consideration List[xxxiii]

Appendix D – CMS-Funded Measures Developed During the Previous Year

Table 6: CMS-Funded Measures Developed Between January 1, 2017, and December 31, 2017[xxxvii]

NQF/ MIPS	CMS eMeasure ID	CMS Quality Priority/ MACRA Domain	Electronically Specified	Measure Type	Measure Title	Measure Steward/ Measure Developer
N/A[xxxviii]/ N/A	349	Healthy Living/ Population Health and Prevention	Yes	Process	HIV Screening[xxxix]	Centers for Disease Control and Prevention/ Mathematica Policy Research

[xxxvii] Section 1848(s)(3)(B)(ii)(I-III), (V) of the Act.
[xxxviii] Measure has been submitted for NQF endorsement per MAP clinician workgroup recommendation.
[xxxix] The *HIV Screening* measure is intended for use in MIPS but was not funded by section 1848(s)(6) of the Act, as funding for development was obligated prior to the passage of MACRA.

Appendix E – CMS-Funded Measures in Development

See **Quality Measures in Development at the Time of This Report**, page 15, which estimates the amount expended under Title XVIII to develop all quality measures.

Table 7: CMS-Funded Measures Suspended Due to Measure Reliability or Program Changes (n = 2) at the Time of This Report[xl, xli, xlii]

Est. Date of Completion	CMS eMeasure ID	CMS Quality Priority/ MACRA Domain	Electronically Specified	Measure Type	Measure Title	Measure Steward/ Measure Developer
N/A	N/A	Effective Treatment/ Clinical Care	Yes	Process	HIV Screening for Patients with Sexually Transmitted Infection (STI)[A]	Centers for Disease Control and Prevention/ Mathematica Policy Research
N/A	N/A	Effective Treatment/ Clinical Care	No	Outcome	Exploratory Research on Feasibility of a 90-day CABG Measure[B]	Centers for Medicare & Medicaid Services/ Yale CORE

Rationale for Suspending Measure Development

[A] Reliability – Testing found the measure to be very unreliable at multiple denominator thresholds. The low reliability was driven by extremely wide variance within clinician performance that exceeded the variance between clinicians. This finding suggests that performance on the measure might be due to chance rather than to underlying differences in clinician practice, which is why the Centers for Disease Control and Prevention decided to stop development of the measure.

[B] Program change – Model was canceled as of December 1, 2017.

Table 8: CMS-Funded Measures in Conceptual Development (n = 2) at the Time of This Report[xxxvii, xliii, xliv]

Est. Date of Completion	CMS eMeasure ID	CMS Quality Priority/ MACRA Domain	Electronically Specified	Measure Type	Measure Title	Measure Steward/ Measure Developer
June 2021	TBD	Person and Family Engagement/ Patient and Caregiver Experience	Yes	PRO-PM	Patient-reported outcome measure (TBD)	Centers for Medicare & Medicaid Services/ AIR/JHU
June 2021	NA	Person and Family Engagement/ Patient and Caregiver Experience	No	PRO-PM	Patient-reported outcomes and risk variable data collection (PRO)	Centers for Medicare & Medicaid Services/ Yale CORE

[xl] As of December 31, 2017, to allow for federal review and clearance prior to publication of this report

[xli] Section 1848(s)(3)(B)(iii) and section 1848(s)(3)(B)(v) of the Act.

[xlii] Measure development for the areas listed was not funded by section 1848(s)(6) of the Act, as funding for development was obligated prior to the passage of MACRA, using existing CMS funds under Title XVIII.

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

[xliv] Measure development for the areas listed was not funded by section 1848(s)(6) of the Act, as funding for development was obligated prior to the passage of MACRA, using existing CMS funds under Title XVIII.

Table 9: CMS-Funded Measures in Development and Pending Test Sites (n = 8) at the Time of This Report[xlv, xlvi, xlvii]

Est. Date of Com-pletion	CMS eMeasure ID	CMS Quality Priority/ MACRA Domain	Electronically Specified	Measure Type	Measure Title	Measure Steward/ Measure Developer
June 2019	344	Communication and Coordination/ Care Coordination	Yes	Process	Care Coordination after Asthma-Related Emergency Department Visit	Centers for Medicare & Medicaid Services/ Mathematica Policy Research
June 2019	343	Communication and Coordination/ Care Coordination	Yes	Process	Care Coordination after Asthma-Related Emergency Department Visit: EP Follow-up	Centers for Medicare & Medicaid Services/ Mathematica Policy Research
June 2019	342	Communication and Coordination/ Care Coordination	Yes	Process	Documentation of a Health Care Partner for Patients with Dementia or Mild Cognitive Impairment	Centers for Medicare & Medicaid Services/ Mathematica Policy Research
June 2019	250	Person and Family Engagement/ Patient and Caregiver Experience	Yes	Process	Disease Activity Assessments and Target Setting in Patients with Rheumatoid Arthritis	Centers for Medicare & Medicaid Services/ Mathematica Policy Research, National Committee for Quality Assurance
June 2019	TBD	Person and Family Engagement/ Patient and Caregiver Experience	Yes	Process	Functional Status Assessment and Target Setting for Patients with Congestive Heart Failure	Centers for Medicare & Medicaid Services/ Mathematica Policy Research, National Committee for Quality Assurance
June 2019	228	Person and Family Engagement/ Patient and Caregiver Experience	Yes	Process	Functional Status Assessments and Target Setting for Patients with Asthma	Centers for Medicare & Medicaid Services/ Mathematica Policy Research, National Committee for Quality Assurance
June 2019	227	Person and Family Engagement/ Patient and Caregiver Experience	Yes	Process	Functional Status Assessments and Target Setting for Patients with Chronic Obstructive Pulmonary Disease	Centers for Medicare & Medicaid Services/ Mathematica Policy Research, National Committee for Quality Assurance

[xlv] As of December 31, 2017
[xlvi] Section 1848(s)(3)(B)(iii) of the Act.
[xlvii] Measure development for the areas listed was not funded by section 1848(s)(6) of the Act, as funding for development was obligated prior to the passage of MACRA, using existing CMS funds under Title XVIII.

Est. Date of Com-pletion	CMS eMeasure ID	CMS Quality Priority/ MACRA Domain	Electronically Specified	Measure Type	Measure Title	Measure Steward/ Measure Developer
June 2019	336	Person and Family Engagement/ Patient and Caregiver Experience	Yes	Process	Pain Assessments and Target Setting for Patients with Osteoarthritis	Centers for Medicare & Medicaid Services/ Mathematica Policy Research, National Committee for Quality Assurance

Table 10: CMS-Funded Measures in Development and Active Testing (n = 9) at the Time of This Report[xlviii, xlix, l]

Est. Date of Com-pletion	CMS eMeasure ID	CMS Quality Priority/ MACRA Domain	Electronically Specified	Measure Type	Measure Title	Measure Steward/ Measure Developer
June 2018	TBD	Affordable Care	No	Process	Overuse of PCI in Asymptomatic Patients	Centers for Medicare & Medicaid Services/ Mathematica Policy Research, PCPI
June 2018	229, 232, 233, 234, 238, 241, 244	Effective Treatment/ Clinical Care	Yes	Process	Annual Wellness Assessment: Preventive Care (Composite)	Centers for Medicare & Medicaid Services/ Mathematica Policy Research, National Committee for Quality Assurance
June 2018	TBD	Patient Safety/ Safety	Yes	Outcome	Adverse Drug Events for Patients Taking Anticoagulant Medications in an Ambulatory Setting	Centers for Medicare & Medicaid Services/ Mathematica Policy Research
June 2018	323	Patient Safety/Safety	Yes	Intermediate Outcome	Diabetes Overtreatment in the Elderly	Centers for Medicare & Medicaid Services/ Mathematica Policy Research, National Committee for Quality Assurance
June 2018	460	Patient Safety/ Safety	Yes	Process	Potential Opioid Overuse	Centers for Medicare & Medicaid Services/ Mathematica Policy Research, The Lewin Group
June 2018	379	Person and Family	Yes	PRO-PM	Functional Status Improvement for	Centers for Medicare & Medicaid Services/

[xlviii] As of December 31, 2017
[xlix] Section 1848(s)(3)(B)(iii) of the Act.
[l] Measure development for the areas listed was not funded by section 1848(s)(6) of the Act, as funding for development was obligated prior to the passage of MACRA, using existing CMS funds under Title XVIII.

Est. Date of Com-pletion	CMS eMeasure ID	CMS Quality Priority/ MACRA Domain	Electronically Specified	Measure Type	Measure Title	Measure Steward/ Measure Developer
		Engagement/ Patient and Caregiver Experience			Patients who Received a Total Hip Replacement	Mathematica Policy Research, National Committee for Quality Assurance
June 2018	378	Person and Family Engagement/ Patient and Caregiver Experience	Yes	PRO-PM	Functional Status Improvement for Patients who Received a Total Knee Replacement	Centers for Medicare & Medicaid Services/ Mathematica Policy Research, National Committee for Quality Assurance
June 2018	NA	Person and Family Engagement/ Patient and Caregiver Experience	No	Patient Engagement/ Experience	CAHPS Measure Modification for CPC+ Practices	Centers for Medicare & Medicaid Services/ AIR/ Mathematica Policy Research,
June 2018	TBD	Person and Family Engagement/ Patient and Caregiver Experience	Yes	PRO-PM	Changes in Patient Reported Outcomes (PROs) Following Non-Emergent PCI	Centers for Medicare & Medicaid Services/ The Lewin Group

Appendix F – CMS APM Quality Measures Inventory

Refer to www.qpp.cms.gov for a current list of Advanced and MIPS APMs; changes to models occur more frequently than the publication of this MDP Annual Report. These measure sets are accurate and complete as of March 1, 2018.

Table 11: Bundled Payments for Care Improvement Advanced

NQF/ MIPS	CMS eMeasure ID	CMS Quality Priority/ MACRA Domain	Measure Type	Measure Title	Measure Steward
1789/ 458	N/A	Communication and Coordination/ Care Coordination	Outcome	Risk-Standardized, All Condition Readmission	Centers for Medicare & Medicaid Services
0326/ 047	N/A	Communication and Coordination/ Care Coordination	Process	Advance Care Plan	National Committee for Quality Assurance
0268/ N/A	N/A	Patient Safety/Safety	Process	Perioperative Care: Selection of Prophylactic Antibiotic: First OR Second Generation Cephalosporin	American Society of Plastic Surgeons
2558/ N/A	N/A	Patient Safety/Safety	Outcome	Hospital 30-Day, All-Cause, Risk-Standardized Mortality Rate (RSMR) Following Coronary Artery Bypass Graft (CABG) Surgery	Centers for Medicare & Medicaid Services
2881/ N/A	N/A	Patient Safety/Safety	Outcome	Excess days in acute care (EDAC) after hospitalization for acute myocardial infarction (AMI)	Centers for Medicare & Medicaid Services
0531/ N/A	N/A	Patient Safety/Safety	Outcome	Patient Safety for Selected Indicators (PSI90)	Agency for Healthcare Research & Quality
1550/ N/A	N/A	Patient Safety/Safety	Outcome	Hospital-level risk-standardized complication rate (RSCR) following elective primary total hip arthroplasty (THA) and/or total knee arthroplasty (TKA)	Centers for Medicare & Medicaid Services

Table 12: Comprehensive ESRD Care (CEC) Model – All Tracks[li]

NQF/ MIPS	CMS eMeasure ID	CMS Quality Priority/ MACRA Domain	Measure Type	Measure Title	Measure Steward
0101/ 154	139v6	Patient Safety/ Safety	Process	Falls: Screening, Risk Assessment, and Plan of Care to Prevent Future Falls$_{\beta}$	National Committee for Quality Assurance
0326/ 047	N/A	Communication and Coordination/ Care Coordination	Process	Advance Care Plan$_{\beta}$	National Committee for Quality Assurance
0258/ N/A	N/A	Person and Family Engagement/ Patient and Caregiver Experience	Patient engagement/ experience	ICH-CAHPS: Nephrologists' Communication and Caring$_{\beta}$	Centers for Medicare & Medicaid Services

[li] This model is also a MIPS APM. MIPS eligible clinicians participating in this APM will be scored under MIPS on these measures that are required and scored under this APM, as finalized in the CY 2018 Quality Payment Program final rule.

NQF/ MIPS	CMS eMeasure ID	CMS Quality Priority/ MACRA Domain	Measure Type	Measure Title	Measure Steward
0258/ N/A	N/A	Person and Family Engagement/ Patient and Caregiver Experience	Patient engagement/ experience	ICH-CAHPS: Quality of Dialysis Center Care and Operations$_{\beta}$	Centers for Medicare & Medicaid Services
0258/ N/A	N/A	Person and Family Engagement/ Patient and Caregiver Experience	Patient engagement/ experience	ICH-CAHPS: Providing Information to Patients$_{\beta}$	Centers for Medicare & Medicaid Services
0258/ N/A	N/A	Person and Family Engagement/ Patient and Caregiver Experience	Patient engagement/ experience	ICH-CAHPS: Rating of the Nephrologist$_{\beta}$	Centers for Medicare & Medicaid Services
0258/ N/A	N/A	Person and Family Engagement/ Patient and Caregiver Experience	Patient engagement/ experience	ICH-CAHPS: Rating of Dialysis Center Staff$_{\beta}$	Centers for Medicare & Medicaid Services
0258/ N/A	N/A	Person and Family Engagement/ Patient and Caregiver Experience	Patient engagement/ experience	ICH-CAHPS: Rating of the Dialysis Facility$_{\beta}$	Centers for Medicare & Medicaid Services
N/A	N/A	Person and Family Engagement/ Patient and Caregiver Experience	Patient engagement/ experience	Kidney Disease Quality of Life Survey (KDQoL)	IMPAQ/National Committee for Quality Assurance
0554/ N/A	N/A	Communication and Coordination/ Care Coordination	Process	Medication Reconciliation Post Discharge$_{\beta}$	National Committee for Quality Assurance
0055/ 117	131v5	Effective Treatment/ Clinical Care	Process	Diabetes Care: Eye Exam$_{\beta}$	National Committee for Quality Assurance
0056/ 163	123v5	Effective Treatment/ Clinical Care	Process	Diabetes Care: Foot Exam$_{\beta}$	National Committee for Quality Assurance
0369/ N/A	N/A	Effective Treatment/ Clinical Care	Outcome	Standardized Mortality Ratio$_{\beta}$	Centers for Medicare & Medicaid Services
N/A	N/A	Effective Treatment/ Clinical Care	Process	Standardized First Kidney Transplant Waitlist Ratio for Incident Dialysis Patients (SWR)	Centers for Medicare & Medicaid Services
N/A	N/A	Effective Treatment/ Clinical Care	Process	Percentage of Prevalent Patients Waitlisted (PPPW)	Centers for Medicare & Medicaid Services
N/A	147v4	Healthy Living/ Population Health and Prevention	Process	Influenza Immunization for the ESRD Population$_{\beta}$	Kidney Care Quality Alliance
0043/ 111	127v5	Healthy Living/ Population Health and Prevention	Process	Pneumonia Vaccination Status$_{\beta}$	National Committee for Quality Assurance

NQF/ MIPS	CMS eMeasure ID	CMS Quality Priority/ MACRA Domain	Measure Type	Measure Title	Measure Steward
0418/ 134	2v6	Healthy Living/ Population Health and Prevention	Process	Screening for Depression and Follow-Up Plan$_{\beta}$	Centers for Medicare & Medicaid Services
0028/ 226	138v5	Healthy Living/ Population Health and Prevention	Process	Tobacco Use: Screening and Cessation Intervention$_{\beta}$	American Medical Association-Physician Consortium for Performance Improvement

β indicates a measure subject to scoring under the MIPS APM scoring standard.

Table 13: Comprehensive Primary Care Plus (CPC+) Model[lii]

NQF/ MIPS	CMS eMeasure ID	CMS Quality Priority/ MACRA Domain	Measure Type	Measure Title	Measure Steward
0712/ 371	160v6	Effective Treatment/ Clinical Care	Process	Depression Utilization of the PHQ-9 Tool	Minnesota Community Measurement
0018/ 236	165v6	Effective Treatment/ Clinical Care	Intermediate outcome	Controlling High Blood Pressure$_{\beta}$	National Committee for Quality Assurance
0059/ 001	122v6	Effective Treatment/ Clinical Care	Intermediate outcome	Diabetes: Hemoglobin A1c (HbA1c) Poor Control (>9%)$_{\beta}$	National Committee for Quality Assurance
2872/ 281	149v6	Effective Treatment/ Clinical Care	Process	Dementia: Cognitive Assessment$_{\beta}$	American Medical Association-Physician Consortium for Performance Improvement
0101/ 318	139v6	Patient Safety/Safety	Process	Falls: Screening for Future Fall Risk$_{\beta}$	National Committee for Quality Assurance
0004/ 305	137v6	Effective Treatment/ Clinical Care	Process	Initiation and Engagement of Alcohol and Other Drug Dependence Treatment$_{\beta}$	National Committee for Quality Assurance
N/A/ 374	50v6	Communication and Coordination/ Care Coordination	Process	Closing the Referral Loop: Receipt of Specialist Report$_{\beta}$	Centers for Medicare & Medicaid Services
0032/ 309	124v6	Effective Treatment/ Clinical Care	Process	Cervical Cancer Screening$_{\beta}$	National Committee for Quality Assurance
0034/ 113	130v6	Effective Treatment/ Clinical Care	Process	Colorectal Cancer Screening$_{\beta}$	National Committee for Quality Assurance
0055/ 117	131v6	Effective Treatment/ Clinical Care	Process	Diabetes: Eye Exam$_{\beta}$	National Committee for Quality Assurance
0062/ 119	134v6	Effective Treatment/ Clinical Care	Process	Diabetes: Medical Attention for Nephropathy$_{\beta}$	National Committee for Quality Assurance

[lii] This model is also a MIPS APM. MIPS eligible clinicians participating in this APM will be scored under MIPS on these measures that are required and scored under this APM, as finalized in the CY 2018 Quality Payment Program final rule.

NQF/ MIPS	CMS eMeasure ID	CMS Quality Priority/ MACRA Domain	Measure Type	Measure Title	Measure Steward
0068/ 204	164v6	Effective Treatment/ Clinical Care	Process	Ischemic Vascular Disease: Use of Aspirin or Another Antiplatelet$_{\beta}$	National Committee for Quality Assurance
N/A/ 438	347v1	Effective Treatment/ Clinical Care	Process	Statin Therapy for the Prevention and Treatment of Cardiovascular Disease$_{\beta}$	Centers for Medicare & Medicaid Services
0028/ 226	138v6	Healthy Living/ Population Health and Prevention	Process	Preventive Care and Screening: Tobacco Use: Screening and Cessation Intervention$_{\beta}$	American Medical Association-Physician Consortium for Performance Improvement
0418/ 134	166v6	Healthy Living/ Population Health and Prevention	Process	Preventive Care and Screening: Depression and Follow-Up Plan$_{\beta}$	Centers for Medicare & Medicaid Services
0041/ 110	147v7	Healthy Living/ Population Health and Prevention	Process	Preventive Care and Screening: Influenza Immunization$_{\beta}$	American Medical Association-Physician Consortium for Performance Improvement
0043/ 111	127v6	Healthy Living/ Population Health and Prevention	Process	Pneumococcal Vaccination Status for Older Adults$_{\beta}$	National Committee for Quality Assurance
2372/ 112	125v6	Healthy Living/ Population Health and Prevention	Process	Breast Cancer Screening$_{\beta}$	National Committee for Quality Assurance
N/A	N/A	Person and Family Engagement/Patient and Caregiver Experience	Patient engagement/ experience	CG -CAHPS Survey 3.0 – Modified for CPC+$_{\beta}$	Agency for Healthcare Research & Quality
N/A	N/A	Healthy Living/ Population Health and Prevention	Efficiency	Inpatient Hospital Utilization$_{\beta}$	National Committee for Quality Assurance
N/A	N/A	Healthy Living/ Population Health and Prevention	Efficiency	Emergency Department Utilization$_{\beta}$	National Committee for Quality Assurance

β indicates a measure subject to scoring under the MIPS APM scoring standard.

Table 14: Shared Savings Program Accountable Care Organizations (ACOs) – All Tracks[liii] and Track 1+

NQF/ MIPS	CMS eMeasure ID	CMS Quality Priority/ MACRA Domain	Measure Type	Measure Title	Measure Steward
0005/ 321	N/A	Person and Family Engagement/ Patient and Caregiver Experience	Patient engagement/ experience	CAHPS: Getting Timely Care, Appointments, and Information	Agency for Healthcare Research & Quality
0005/ 321	N/A	Person and Family Engagement/ Patient and Caregiver Experience	Patient engagement/ experience	CAHPS: How Well Your Providers Communicate	Agency for Healthcare Research & Quality
0005/ 321	N/A	Person and Family Engagement/ Patient and Caregiver Experience	Patient engagement/ experience	CAHPS: Patients' Rating of Provider	Agency for Healthcare Research & Quality
N/A /321	N/A	Person and Family Engagement/ Patient and Caregiver Experience	Patient engagement/ experience	CAHPS: Access to Specialists	Agency for Healthcare Research & Quality
N/A/ 321	N/A	Person and Family Engagement/ Patient and Caregiver Experience	Patient engagement/ experience	CAHPS: Health Promotion and Education	Agency for Healthcare Research & Quality
N/A/ 321	N/A	Person and Family Engagement/ Patient and Caregiver Experience	Patient engagement/ experience	CAHPS: Shared Decision Making	Agency for Healthcare Research & Quality
N/A/ 321	N/A	Person and Family Engagement/ Patient and Caregiver Experience	Patient engagement/ experience	CAHPS: Health Status/Functional Status	Agency for Healthcare Research & Quality
N/A/ 321	N/A	Person and Family Engagement/ Patient and Caregiver Experience	Patient engagement/ experience	CAHPS: Stewardship of Patient Resources	Agency for Healthcare Research & Quality
1789/ 458	N/A	Communication and Coordination/ Care Coordination	Outcome	Risk-Standardized, All Condition Readmission	Centers for Medicare & Medicaid Services
2510/ N/A	N/A	Communication and Coordination/ Care Coordination	Outcome	Skilled Nursing Facility 30-Day All-Cause Readmission Measure (SNFRM)	Centers for Medicare & Medicaid Services
2887/ N/A	N/A	Communication and Coordination/ Care Coordination	Outcome	All-Cause Unplanned Admissions for Patients with Diabetes	Centers for Medicare & Medicaid Services
2886/ N/A	N/A	Communication and Coordination/ Care Coordination	Outcome	All-Cause Unplanned Admissions for Patients with Heart Failure	Centers for Medicare & Medicaid Services

[liii] This model is also a MIPS APM. MIPS eligible clinicians participating in this APM will be scored under MIPS on these measures that are required and scored under this APM, as finalized in the CY 2018 Quality Payment Program final rule.

NQF/ MIPS	CMS eMeasure ID	CMS Quality Priority/ MACRA Domain	Measure Type	Measure Title	Measure Steward
2888/ N/A	N/A	Communication and Coordination/ Care Coordination	Outcome	All-Cause Unplanned Admissions for Patients with Multiple Chronic Conditions	Centers for Medicare & Medicaid Services
N/A	WI*	Communication and Coordination/ Care Coordination	Outcome	Ambulatory Sensitive Condition Acute Composite (AHRQ Prevention Quality Indicator [PQI] #91)	Agency for Healthcare Research & Quality
N/A	N/A	Communication and Coordination/ Care Coordination	Structural	Use of Certified EHR Technology	Centers for Medicare & Medicaid Services
0097/ 46	WI*	Patient Safety/Safety	Process	Medication Reconciliation Post-Discharge	National Committee for Quality Assurance
0052/ 312	WI*	Patient Safety/Safety	Process	Use of Imaging Studies for Low Back Pain	National Committee for Quality Assurance
0101/ 154	WI*	Patient Safety/Safety	Process	Falls: Screening for Future Fall Risk	National Committee for Quality Assurance
0041/ 110	WI*	Healthy Living/Population Health and Prevention	Process	Preventive Care and Screening: Influenza Immunization	American Medical Association-Physician Consortium for Performance Improvement
0043/ 111	WI*	Healthy Living/Population Health and Prevention	Process	Pneumonia Vaccination Status for Older Adults	National Committee for Quality Assurance
0421/ 128	WI*	Healthy Living/Population Health and Prevention	Process	Preventive Care and Screening: Body Mass Index (BMI) Screening and Follow Up	Centers for Medicare & Medicaid Services
0028/ 226	WI*	Healthy Living/Population Health and Prevention	Process	Preventive Care and Screening: Tobacco Use: Screening and Cessation Intervention	American Medical Association-Physician Consortium for Performance Improvement
0418/ 134	WI*	Healthy Living/Population Health and Prevention	Process	Preventive Care and Screening: Screening for Depression and Follow-up Plan	Centers for Medicare & Medicaid Services
0034/ 113	WI*	Effective Treatment/ Clinical Care	Process	Colorectal Cancer Screening	National Committee for Quality Assurance
2372/ 112	WI*	Effective Treatment/ Clinical Care	Process	Breast Cancer Screening	National Committee for Quality Assurance
N/A/ 438	WI*	Effective Treatment/ Clinical Care	Process	Statin Therapy for the Prevention and Treatment of Cardiovascular Disease	Centers for Medicare & Medicaid Services
0710/ 370	WI*	Effective Treatment/ Clinical Care	Intermediate outcome	Depression Remission at Twelve Months	Minnesota Community Measurement
0018/ 236	WI*	Effective Treatment/ Clinical Care	Intermediate outcome	Controlling High Blood Pressure	National Committee for Quality Assurance
0068/ 204	WI*	Effective Treatment/ Clinical Care	Process	Use of Aspirin or Another Antithrombotic	National Committee for Quality Assurance

NQF/ MIPS	CMS eMeasure ID	CMS Quality Priority/ MACRA Domain	Measure Type	Measure Title	Measure Steward
0059/ 001	WI*	Effective Treatment/ Clinical Care	Intermediate outcome	ACO - 27: Diabetes Mellitus: Hemoglobin A1c Poor Control	National Committee for Quality Assurance
0055/ 117	WI*	Effective Treatment/ Clinical Care	Process	ACO - 41: Diabetes: Eye Exam	National Committee for Quality Assurance

*Measures are reported via CMS Web Interface (WI); eCQM reporting is not an available option under this model. All Web Interface measures on this list are subject to scoring for MIPS under the APM scoring standard.

Table 15: Next Generation ACO Model[liv]

NQF/ MIPS	CMS eMeasure ID	CMS Quality Priority/ MACRA Domain	Measure Type	Measure Title	Measure Steward
0005/ 321	N/A	Person and Family Engagement/ Patient and Caregiver Experience	Patient engagement/ experience	CAHPS: Getting Timely Care, Appointments, and Information	Agency for Healthcare Research & Quality
0005/ 321	N/A	Person and Family Engagement/ Patient and Caregiver Experience	Patient engagement/ experience	CAHPS: How Well Your Providers Communicate	Agency for Healthcare Research & Quality
0005/ 321	N/A	Person and Family Engagement/ Patient and Caregiver Experience	Patient engagement/ experience	CAHPS: Patients' Rating of Provider	Agency for Healthcare Research & Quality
N/A/ 321	N/A	Person and Family Engagement/ Patient and Caregiver Experience	Patient engagement/ experience	CAHPS: Access to Specialists	Agency for Healthcare Research & Quality
N/A/ 321	N/A	Person and Family Engagement/ Patient and Caregiver Experience	Patient engagement/ experience	CAHPS: Health Promotion and Education	Agency for Healthcare Research & Quality
N/A/ 321	N/A	Person and Family Engagement/ Patient and Caregiver Experience	Patient engagement/ experience	CAHPS: Shared Decision Making	Agency for Healthcare Research & Quality
N/A/ 321	N/A	Person and Family Engagement/ Patient and Caregiver Experience	Patient engagement/ experience	CAHPS: Health Status/Functional Status	Agency for Healthcare Research & Quality
N/A/ 321	N/A	Person and Family Engagement/ Patient and Caregiver Experience	Patient engagement/ experience	CAHPS: Stewardship of Patient Resources	Agency for Healthcare Research & Quality

[liv] This model is also a MIPS APM. MIPS eligible clinicians participating in this APM will be scored under MIPS on these measures that are required and scored under this APM, as finalized in the CY 2018 Quality Payment Program final rule.

NQF/ MIPS	CMS eMeasure ID	CMS Quality Priority/ MACRA Domain	Measure Type	Measure Title	Measure Steward
1789/ 458	N/A	Communication and Coordination/ Care Coordination	Outcome	Risk-Standardized, All Condition Readmission	Centers for Medicare & Medicaid Services
2510/ N/A	N/A	Communication and Coordination/ Care Coordination	Outcome	Skilled Nursing Facility 30-Day All-Cause Readmission Measure (SNFRM)	Centers for Medicare & Medicaid Services
2887/ N/A	N/A	Communication and Coordination/ Care Coordination	Outcome	All-Cause Unplanned Admissions for Patients with Diabetes	Centers for Medicare & Medicaid Services
2886/ N/A	N/A	Communication and Coordination/ Care Coordination	Outcome	All-Cause Unplanned Admissions for Patients with Heart Failure	Centers for Medicare & Medicaid Services
2888/ N/A	N/A	Communication and Coordination/ Care Coordination	Outcome	All-Cause Unplanned Admissions for Patients with Multiple Chronic Conditions	Centers for Medicare & Medicaid Services
N/A	WI*	Communication and Coordination/ Care Coordination	Outcome	Ambulatory Sensitive Condition Acute Composite (AHRQ Prevention Quality Indicator [PQI] #91)	Agency for Healthcare Research & Quality
0097/ 46	WI*	Patient Safety/Safety	Process	Medication Reconciliation Post-Discharge	National Committee for Quality Assurance
0052/ 312	WI*	Patient Safety/Safety	Process	Use of Imaging Studies for Low Back Pain	National Committee for Quality Assurance
0101/ 154	WI*	Patient Safety/Safety	Process	Falls: Screening for Future Fall Risk	National Committee for Quality Assurance
0041/ 110	WI*	Healthy Living/ Population Health and Prevention	Process	Preventive Care and Screening: Influenza Immunization	American Medical Association-Physician Consortium for Performance Improvement
0043/ 111	WI*	Healthy Living/ Population Health and Prevention	Process	Pneumonia Vaccination Status for Older Adults	National Committee for Quality Assurance
0421/ 128	WI*	Healthy Living/ Population Health and Prevention	Process	Preventive Care and Screening: Body Mass Index (BMI) Screening and Follow Up	Centers for Medicare & Medicaid Services
0028/ 226	WI*	Healthy Living/ Population Health and Prevention	Process	Preventive Care and Screening: Tobacco Use: Screening and Cessation Intervention	American Medical Association-Physician Consortium for Performance Improvement
0418/ 134	WI*	Healthy Living/ Population Health and Prevention	Process	Preventive Care and Screening: Screening for Depression and Follow-up Plan	Centers for Medicare & Medicaid Services
0034/ 113	WI*	Effective Treatment/ Clinical Care	Process	Colorectal Cancer Screening	National Committee for Quality Assurance
2372/ 112	WI*	Effective Treatment/ Clinical Care	Process	Breast Cancer Screening	National Committee for Quality Assurance

NQF/ MIPS	CMS eMeasure ID	CMS Quality Priority/ MACRA Domain	Measure Type	Measure Title	Measure Steward
N/A/ 438	WI*	Effective Treatment/ Clinical Care	Process	Statin Therapy for the Prevention and Treatment of Cardiovascular Disease	Centers for Medicare & Medicaid Services
0710/ 370	WI*	Effective Treatment/ Clinical Care	Intermediate outcome	Depression Remission at Twelve Months	Minnesota Community Measurement
0018/ 236	WI*	Effective Treatment/ Clinical Care	Intermediate outcome	Controlling High Blood Pressure	National Committee for Quality Assurance
0068/ 204	WI*	Effective Treatment/ Clinical Care	Process	Use of Aspirin or Another Antithrombotic	National Committee for Quality Assurance
0059/ 001	WI*	Effective Treatment/ Clinical Care	Intermediate outcome	ACO - 27: Diabetes Mellitus: Hemoglobin A1c Poor Control	National Committee for Quality Assurance
0055/ 117	WI*	Effective Treatment/ Clinical Care	Process	ACO - 41: Diabetes: Eye Exam	National Committee for Quality Assurance

*Measures are reported via CMS Web Interface; eCQM reporting is not an available option under this model. All Web Interface measures on this list are subject to scoring for MIPS under the APM scoring standard.

Table 16: Oncology Care Model – All Tracks[lv]

NQF/ MIPS	CMS eMeasure ID	CMS Quality Priority/ MACRA Domain	Measure Type	Measure Title	Measure Steward
1858/ 450	N/A	Affordable Care	Process	Trastuzumab administered to patients with AJCC stage I (T1c)–III and human epidermal growth factor receptor 2 (HER2) positive breast cancer who receive adjuvant chemotherapyβ	American Society of Clinical Oncology
N/A/374	50v5	Communication and Coordination/ Care Coordination	Process	Closing the Referral Loop: Receipt of Specialist Report	Centers for Medicare & Medicaid Services (Adapted Version)
N/A	N/A	Communication and Coordination/ Care Coordination	Outcome	Risk-adjusted proportion of patients with all-cause ED visits that did not result in a hospital admission within the 6-month episodeβ	N/A**
N/A	N/A	Communication and Coordination/ Care Coordination	Outcome	Risk-adjusted proportion of patients with all-cause hospital admissions within the 6-month episodeβ	N/A**
0223/ N/A	N/A	Effective Treatment/ Clinical Care	Process	Adjuvant chemotherapy is recommended or administered within 4 months (120 days) of diagnosis to patients under the age of 80 with AJCC III (lymph node positive) colon cancerβ	American College of Surgeons

[lv] This model is also a MIPS APM. MIPS eligible clinicians participating in this APM will be scored under MIPS on these measures that are required and scored under this APM, as finalized in the CY 2018 Quality Payment Program final rule.

NQF/ MIPS	CMS eMeasure ID	CMS Quality Priority/ MACRA Domain	Measure Type	Measure Title	Measure Steward
0387/ N/A	N/A	Effective Treatment/ Clinical Care	Process	Breast Cancer: Hormonal Therapy for Stage I (T1b)–IIIC Estrogen Receptor/Progesterone Receptor (ER/PR) Positive Breast Cancerβ	American Medical Association-Physician Consortium for Performance Improvement
0559/ N/A	N/A	Effective Treatment/ Clinical Care	Process	Combination chemotherapy is recommended or administered within 4 months (120 days) of diagnosis for women under 70 with AJCC T1cN0M0, or Stage IB–III hormone receptor negative breast cancerβ	Commission on Cancer/ American College of Surgeons
N/A	N/A	Effective Treatment/ Clinical Care	Outcome	Proportion of patients who died who were admitted to hospice for 3 days or moreβ	N/A**
0418/ 134	2v6	Healthy Living/ Population Health and Prevention	Process	Screening for Depression and Follow-Up Planβ	Centers for Medicare & Medicaid Services
0419/ 130	68v6	Patient Safety/Safety	Process	Documentation of Current Medications in the Medical Recordβ	Centers for Medicare & Medicaid Services
0384/ 143	157v5	Person and Family Engagement/ Patient and Caregiver Experience	Process	Oncology: Medical and Radiation – Pain Intensity Quantifiedβ	American Medical Association-Physician Consortium for Performance Improvement
0383/ 144	N/A	Person and Family Engagement/ Patient and Caregiver Experience	Process	Oncology: Medical and Radiation – Plan of Care for Painβ	American Society of Clinical Oncology
Based on QPP 321	N/A	Person and Family Engagement/ Patient and Caregiver Experience	Patient engagement/ experience	Patient-Reported Experienceβ	Agency for Healthcare Research & Quality

** These measures are calculated and maintained by the Center for Medicare and Medicaid Innovation.

β indicates a measure subject to scoring under the MIPS APM scoring standard.

Table 17: Comprehensive Care for Joint Replacement (CJR) Payment Model (Track 1-CEHRT)

NQF/ MIPS	CMS eMeasure ID	CMS Quality Domain/ MACRA Domain	Measure Type	Measure Title	Measure Steward
1550/ N/A	N/A	Patient Safety/Safety	Outcome	Total hip arthroplasty (THA) and/or total knee arthroplasty (TKA): hospital-level risk-standardized complication rate (RSCR) following elective primary THA and/or TKA.*	Center for Medicare and Medicaid Services; Yale-New Haven Health Services Corporation/Center for Outcomes Research and Evaluation under contract to Centers for Medicare & Medicaid Services
0166/ N/A	N/A	Person and Family Engagement/ Patient and Caregiver Experience	Patient engagement/ experience	Hospital Consumer Assessment of Healthcare Providers and Services (HCAHPS)*	Agency for Healthcare Research and Quality; CAHPS Consortium; Centers for Medicare & Medicaid Services

* HCAHPS and complications measure data are collected through the Hospital Inpatient Quality Reporting Program (HIQR). The CJR model gets those data through HIQR and does not make additional changes to the data themselves.

Appendix G – Highly Feasible MDP Evaluation Criteria

Table 18: Priority for Measures and Operational Definitions

CMS MDP Priority and/or Stakeholder Priority for Measures	Operational Definition(s)/ (Value)
Emphasize the therapeutic relationship between the clinician, patient, and family caregiver	Portfolio includes measures that document treatment plan of patient and demonstration of understanding by patient and/or family caregiver (yes/no)
Recognizing personal and family choice	Portfolio includes measures that document patient choice (yes/no)
Individualized goals for treatment	Portfolio includes measures that have a treatment plan/goal that documents patient and/or family caregiver involvement in goal development (yes/no)
Support improved integration of physical and behavioral health for individuals with substance use disorder associated with increased risk of other chronic disease	Portfolio includes behavioral health/substance use disorder measures that address coordination with primary care provider (yes/no)
	Portfolio includes behavioral health measures that address treatment of chronic conditions (yes/no)
	Portfolio includes chronic condition measures that address behavioral health (yes/no)
Include outcomes, balanced with process measures that are proximal to and strongly tied to outcomes	Proportion of measures classified as outcome measures (higher = better)
	Proportion of measures classified as process measures (lower = better)
Include outcomes, including PRO-PMs and measures of functional status	Portfolio includes measures classified as PRO-PMs (yes/no)
	Portfolio includes measures assessing functional status (yes/no)
Address patient experience	Portfolio includes measures that address patient experience (yes/no)
Address care coordination	Portfolio includes measures that address care coordination (yes/no)
Address appropriate use (e.g., overuse and underuse)	Portfolio includes measures that address overuse (yes/no)
	Portfolio includes measures that address underuse (yes/no)
Promote multiple levels of accountability (e.g., individual clinicians, group practices, system-level, population-level)	Proportion of measures that are specified at more than two levels of accountability (higher = better)
Include clinically relevant measures for all specialties/subspecialties and all MIPS eligible professionals who do not currently have clinically relevant measures	Proportion of specialties with at least one specialty-specific measure (higher = better)
Use of registry data	Portfolio includes measures that rely upon valid, audited registry data (yes/no)