Dated: June 20, 2019.

Lowell J. Schiller,

Principal Associate Commissioner for Policy.

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DEPARTMENT OF HEALTH AND HUMAN SERVICES

[CMS–3365–N]

Secretarial Review and Publication of the National Quality Forum 2018 Activities Report to Congress and the Secretary of the Department of Health and Human Services

AGENCY: Office of the Secretary of Health and Human Services, HHS.

ACTION: Notice.

SUMMARY: This notice acknowledges the Secretary of the Department of Health and Human Services' (the Secretary) receipt and review of the National Quality Forum 2018 Annual Activities Report to Congress and the Secretary submitted by the consensus-based entity under contract with the Secretary in accordance with the Social Security Act. The Secretary has reviewed and is publishing the report in the **Federal Register** together with the Secretary's comments on the report not later than 6 months after receiving the report in accordance with section 1890(b)(5)(B) of the Social Security Act.

FOR FURTHER INFORMATION CONTACT: Sophia Chan, (410) 786–5050.

SUPPLEMENTARY INFORMATION:

I. Background

The United States Department of Health and Human Services (HHS) has long recognized that a high functioning health care system that provides higher quality care requires accurate, valid, and reliable measurements of quality and efficiency. The Medicare Improvements for Patients and Providers Act of 2008 (MIPPA) (Pub. L. 110–275) added section 1890 of the Social Security Act (the Act), which requires the Secretary to contract with the consensus-based entity (CBE) to perform multiple duties designed to help improve performance measurement. Section 3014 of the Patient Protection and Affordable Care Act (the Affordable Care Act) (Pub. L. 111–148) expanded the duties of the CBE to help in the identification of gaps in available measures and to improve the selection of measures used in health care programs.

HHS awarded a competitive contract to the National Quality Forum (NQF) in January 2009 to fulfill the requirements of section 1890 of the Act. A second, multi-year contract was awarded to NQF after an open competition in 2012. A third, multi-year contract was awarded again to NQF after an open competition in 2017. Section 1890(b) of the Act requires the following:

Priority Setting Process: Formulation of a National Strategy and Priorities for Health Care Performance Measurement. The CBE must synthesize evidence and convene key stakeholders to make recommendations on an integrated national strategy and priorities for health care performance measurement in all applicable settings. In doing so, the CBE is to give priority to measures that: (1) Address the health care provided to patients with prevalent, high-cost chronic diseases; (2) have the greatest potential for improving quality, efficiency, and patient-centered health care; and (3) may be implemented rapidly due to existing evidence, standards of care, or other reasons. Additionally, the CBE must take into account measures that: (1) May assist consumers and patients in making informed health care decisions; (2) address health disparities across groups and areas; and (3) address the continuum of care across multiple providers, practitioners and settings.

Endorsement of Measures: The CBE must provide for the endorsement of standardized health care performance measures. This process must consider whether measures are evidence-based, reliable, valid, verifiable, relevant to enhanced health outcomes, actionable at the caregiver level, feasible to collect and report, responsive to variations in patient characteristics such as health status, language capabilities, race or ethnicity, and income level, and are consistent across types of health care providers, including hospitals and physicians.

Maintenance of CBE Endorsed Measures: The CBE is required to establish and implement a process to ensure that endorsed measures are updated (or retired if obsolete) as new evidence is developed.

Review and Endorsement of an Episode Grouper Under the Physician Feedback Program: The CBE must provide for the review and, as appropriate, the endorsement of the episode grouper developed by the Secretary on an expedited basis.

Convening Multi-Stakeholder Groups: The CBE must convene multi-stakeholder groups to provide input on: (1) The selection of certain categories of quality and efficiency measures, from among such measures that have been endorsed by the entity; (2) such measures that have not been considered for endorsement by such entity but are used or proposed to be used by the Secretary for the collection or reporting of quality and efficiency measures; and (3) national priorities for improvement in population health and in the delivery of health care services for consideration under the national strategy. The CBE provides input on measures for use in certain specific Medicare programs, for use in programs that report performance information to the public, and for use in health care programs that are not included under the Act. The multi-stakeholder groups provide input on quality and efficiency measures for various federal health care quality reporting and quality improvement programs including those that address certain Medicare services provided through hospices, hospital inpatient and outpatient facilities, physician offices, cancer hospitals, end stage renal disease (ESRD) facilities, inpatient rehabilitation facilities, long-term care hospitals, psychiatric hospitals, and home health care programs.

Transmission of Multi-Stakeholder Input: Not later than February 1 of each year, the CBE must transmit to the Secretary the input of multi-stakeholder groups.

Annual Report to Congress and the Secretary: Not later than March 1 of each year, the CBE is required to submit to Congress and the Secretary an annual report. The report must describe:

- The implementation of quality and efficiency measurement initiatives and the coordination of such initiatives with quality and efficiency initiatives implemented by other payers;
- Recommendations on an integrated national strategy and priorities for health care performance measurement;
- Performance of the CBE's duties required under its contract with the Secretary;
- Gaps in endorsed quality and efficiency measures, including measures that are within priority areas identified by the Secretary under the national strategy established under section 399HH of the Public Health Service Act (National Quality Strategy), and where quality and efficiency measures are unavailable or inadequate to identify or address such gaps;
- Areas in which evidence is insufficient to support endorsement of quality and efficiency measures in priority areas identified by the Secretary under the National Quality Strategy, and where targeted research may address such gaps; and
- The convening of multi-stakeholder groups to provide input on: (1) The selection of quality and efficiency measures from among such measures that have been endorsed by the CBE and

such measures that have not been considered for endorsement by the CBE but are used or proposed to be used by the Secretary for the collection or reporting of quality and efficiency measures; and (2) national priorities for improvement in population health and the delivery of health care services for consideration under the National Quality Strategy.

Section 50206(c)(1) of the Bipartisan Budget Act of 2018 (Pub. L. 115–123) amended section 1890(b)(5)(A) of the Act to require the report to include the following each year: (1) An itemization of financial information for the previous fiscal year, including annual revenues of the entity, annual expenses of the entity, and a breakdown of the amount awarded per contracted task order and the specific projects funded in each task order assigned to the entity; and (2) any updates or modifications to internal policies and procedures as they relate to duties of the CBE, including, specifically identifying any modifications to the disclosure of interests and conflicts of interests for committees, work groups, task forces, and advisory panels of the entity, and information on external stakeholder participation in the duties of the entity.

The statutory requirements for the CBE to annually report to the Congress and the Secretary of HHS also specify that the Secretary must review and publish the CBE's annual report in the **Federal Register**, together with any comments of the Secretary on the report, not later than 6 months after receiving it.

This **Federal Register** notice complies with the statutory requirement for Secretarial review and publication of the CBE's annual report. NQF submitted a report on its 2018 activities to the Secretary on March 1, 2019. Comments from the Secretary on the report are presented in section II of this notice, and the National Quality Forum 2018 Activities Report to Congress and the Secretary of the Department of Health and Human Services is provided, as submitted to HHS, in the addendum to this **Federal Register** notice in section III.

II. Secretarial Comments on the National Quality Forum 2018 Activities Report to Congress and the Secretary of the Department of Health and Human Services

Once again, we thank the NQF and the many stakeholders who participate in NQF projects for helping to advance the science and utility of health care quality measurement. As part of its annual recurring work to maintain a strong portfolio of endorsed measures for use across varied providers, settings of care, and health conditions, NQF reports that in 2018 it updated its measure portfolio by reviewing and endorsing or re-endorsing 38 measures and removing 40 measures.[1] Endorsed measures address a wide range of health care topics to promote value-based transformation of our health care system, and other HHS priorities, including: Person- and family-centered care; care coordination; palliative and end-of-life care; cardiovascular care; behavioral health; pulmonary/critical care; perinatal care; cancer treatment; patient safety; and cost and resource use.

In addition to maintaining measures endorsement, NQF also worked to remove measures from the portfolio for a variety of reasons, such as, measures no longer meeting endorsement criteria; harmonization between similar measures; replacement of outdated measures with improved measures; and lack of continued need for measures where providers consistently perform at the highest level.[2] This continuous refinement of the measures portfolio through the measures maintenance process ensures that quality measures remain aligned with current field practices and health care goals. Measure set refinements also align with HHS initiatives, such as the Meaningful Measures Initiative at Centers for Medicare and Medicaid Services (CMS). CMS is working to identify the highest priorities for quality measurement and improvement and promote patient-centered, outcome based measures that are meaningful to patients and clinicians.

NQF also undertook and continued a number of targeted projects dealing with difficult quality measurement issues. In particular, NQF has worked to help HHS address the unique challenges faced by rural communities. Nearly one in five Americans reside in rural communities and statistically, residents of rural communities tend to have worse health status than those living in urban areas.[3] HHS recognizes the unique challenges facing rural America, and with the support of partners like NQF, we are taking action to improve access and quality for healthcare providers serving rural patients. One of the biggest challenges rural Americans face is access to affordable quality health care.[4] [5] [6] Our reforms in the area of rural health are part of our overall strategy to update our programs and improve access to high quality services.

In 2018, recognizing the lack of representation from rural stakeholders in the pre-rulemaking process, HHS tasked NQF to establish a Measures Application Partnership (MAP) Rural Health Workgroup. The membership of the Workgroup, comprised of 18 organizational members, seven subject matter experts, and 3 federal liaisons, reflects the diversity of rural providers and residents, and allows for input from those most affected and most knowledgeable about rural measurement challenges and potential solutions.[7] With this valuable input from our partners and stakeholders, HHS can continue to improve health care in rural America.

The Workgroup identified a core set of the best available, ''rural-relevant'' measures to address the needs of the rural population and released a report providing recommendations regarding alignment and coordination of measurement efforts across both public and private programs, care settings, specialties, and sectors (both public and private).[8] NQF presented the Workgroup's finding on Capitol Hill to share this valuable work with members of the Congress.[9] The Workgroup also provided guidance for the Measures Application Partnership to ensure that the Measures Under Consideration (MUC) for use in CMS programs address the needs and challenges of rural

[1] National Quality Forum (March 1, 2019) Report of 2018 Activities to Congress and the Secretary of the Department of Health and Human Services, p. 6 (*https://www.qualityforum.org/Publications/2019/03/2018_Annual_Report_for_Congress.aspx,* accessed 4/10/2019).

[2] National Quality Forum, *op. cit.* p. 18.

[3] Centers for Disease Control and Prevention (January 2017) Rural Americans at higher risk of death from five leading causes. (*https://www.cdc.gov/media/releases/2017/p0112-rural-death-risk.html,* accessed 4/10/2019).

[4] Douthit, N., S. Kiv, T. Dwolatzky, and S. Biswas (June 2015). Exposing some important barriers to health care access in the rural USA. *Public Health.* 129(6): 611–620.

[5] D. Williams, Jr., and M. Holmes (January 2018) Rural Health Care Costs: Are They Higher and Why Might They Differ from Urban Health Care Cost? *North Carolina Medical Journal.* 79(1): 51–55.

[6] J. Bhatt and P. Bathija (September 2018) Ensuring Access to Quality Health Care in Vulnerable Communities. *Academic Medicine.* 93(9): 1271–1275.

[7] National Quality Forum (August 31, 2018). A Core Set of Rural-Relevant Measures and Measuring the Improving Access to Care: 2018 Recommendations from the MAP Rural Health Workgroup: Final Report, p. 32 (*https://www.qualityforum.org/Publications/2018/08/MAP_Rural_Health_Final_Report_-_2018.aspx,* accessed 4/10/2019).

[8] National Quality Forum. 2018, *op. cit.*

[9] National Quality Forum (September 17, 2018) NQF Releases Report to Improve Access and Health Needs of Rural Communities (*http://www.qualityforum.org/News_And_Resources/Press_Releases/2018/NQF_Releases_Report_to_Improve_Access_and_Health_Needs_of_Rural_Communities.aspx,* accessed 4/10/2018).

providers and residents.[10] HHS is committed to evaluating our measurement practices and looking at them through a rural lens to ensure rural providers greater flexibility and less regulatory burden.

Additionally, CMS and NQF have worked together to address the low case-volume challenge as it pertains to healthcare performance measurement of rural providers. Low case-volume presents a significant measurement challenge for many rural providers.[11] Rural areas often are sparsely populated, which can affect the number of patients eligible for inclusion in healthcare performance measures, particularly condition- or procedure-specific measures. Other challenges faced by rural residents, such as distance to care or lack of transportation, can also lead to low case-volume in measurement. To develop recommendations to address the low case-volume challenge for rural providers, NQF convened a five-member Technical Expert Panel (TEP) comprised of statistical experts and measure methodologists.[12] The TEP released a report providing recommendations to CMS on how to best address the low case-volume challenge by incorporating new statistical methods into measures specifications.[13]

Going forward, CMS will continue to work with NQF to strengthen the diversity of representation of the MAP Rural Health Workgroup. In particular, CMS is taking into account the largely rural nature of Tribal and Indian Health Service (IHS) health programs, their unique, cultural, funding, and legal status, and their specific challenges in participating in initiatives, which rely heavily on the use of clinical quality measures. For future NQF calls for nomination for the MAP Rural Health Workgroup, CMS will encourage NQF to sit representatives of Tribal Nations, Tribal health programs, or Tribal organizations. CMS will also reach out to IHS for recommendations of individuals with expertise in clinical quality measures and knowledge in health outcomes and barriers to care experienced by rural-dwelling Native Americans and nominate them as Workgroup members, and IHS staff with said expertise and experience as Federal Liaisons for the Workgroup. In addition, CMS will ask NQF to reach out to Tribal Nations, Tribal Health programs, and Tribal organizations for input during the public comment periods for project deliverables.

Addressing the needs of rural health communities is just one of many areas in which NQF partners with HHS in enhancing and protecting the health and well-being of all Americans. Meaningful quality measurement is essential to healthcare delivery reform, as evidenced in many of the targeted projects that NQF is being asked to undertake. HHS greatly appreciates the ability to bring many and diverse stakeholders to the table to help develop the strongest possible approaches to quality measurement as a key component to health care delivery system reform. We appreciate the strong partnership with the NQF in this ongoing endeavor.

III. Collection of Information Requirements

This document does not impose information collection requirements, that is, reporting, recordkeeping, or third-party disclosure requirements. Consequently, there is no need for review by the Office of Management and Budget under the authority of the Paperwork Reduction Act of 1995 (44 U.S.C. 3501 *et seq.*).

IV. Addendum

In this Addendum, we are publishing the *NQF Report on 2018 Activities to Congress and the Secretary of the Department of Health and Human Services,* as submitted to HHS.

Dated: June 7, 2019.

Alex M. Azar II,

Secretary, Department of Health and Human Services.

BILLING CODE 4120–1–P

[10] National Quality Forum (December 12, 2018). MAP Clinician Workgroup In-Person Meeting presentation slides #38–43. (*http://www.qualityforum.org/ProjectMaterials.aspx?projectID=75361,* accessed 4/10/2019).

[11] Quality of Care in Rural Hospitals. (January 2019) Rural Health Research RECAP. Rural Health Research Gateway (*https://ruralhealth.und.edu/assets/2645-9942/quality-of-care-in-rural-hospitals-recap.pdf,* accessed 4/10/2019).

[12] National Quality Forum. (October 31, 2018) MAP Rural Health Technical Expert Panel Conference Call #1 presentation slides (*http://www.qualityforum.org/ProjectMaterials.aspx?projectID=85919,* accessed 4/10/2019).

[13] National Quality Forum (April 2019). MAP Rural Health Technical Expert Panel Final Report—2019 (*http://www.qualityforum.org/Publications/2019/04/MAP_Rural_Health_Technical_Expert_Panel_Final_Report_-_2019.aspx,* accessed 4/10/2019).

NQF Report of 2018 Activities to Congress and the Secretary of the Department of Health and Human Services

March 1, 2019

This report was funded by the U.S. Department of Health and Human Services under contract number HHSM-500-2017-00060I Task Order HHSM-500-T0002.

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I. Executive Summary

The transition to a healthcare system built on value requires meaningful and scientifically sound performance measures. Performance measures are essential to the success of value-based purchasing (VBP) to lower the cost and improve the quality of healthcare in the United States. Measurement is a tool that helps to identify opportunities for improvement, understand areas of success, and promote transparency to allow Americans to become active and empowered healthcare consumers who can seek safe and effective care. Measurement enjoys strong, bipartisan support as well as support across both the public and private sectors. This unified commitment and continued investment in performance measurement ensures all stakeholders have a shared vision of high-quality, cost-effective care, promotes alignment around healthcare system improvement priorities, and reduces unnecessary administrative burden on providers.

The National Quality Forum (NQF) is an independent organization that brings together public- and private-sector stakeholders from across the healthcare system to determine the high-value measures that can best drive improvement in the nation's health and healthcare. NQF facilitates private-sector recommendations on quality measures proposed for use in federal programs, advances the science of performance measurement, and identifies and provides direction to address critical clinical, cross-cutting areas, called gaps, where quality measures are underdeveloped or nonexistent.

This annual report, *NQF Report of 2018 Activities to Congress and the Secretary of the Department of Health and Human Services*, highlights and summarizes the work that NQF performed between January 1 and December 31, 2018 under contract with the U.S. Department of Health and Human Services (HHS) in the following six areas:

- Recommendations on the National Quality Strategy and Priorities;
- Quality and Efficiency Measurement Initiatives (Performance Measures);
- Stakeholder Recommendations on Quality and Efficiency Measures;
- Gaps on Endorsed Quality and Efficiency Measures across HHS Programs;
- Gaps in Evidence and Targeted Research Needs; and
- Coordination with Measurement Initiatives by Other Payers.

Congress has recognized the role of a "consensus based entity" (CBE), currently NQF, in helping to forge agreement across the public and private sectors about what to measure and improve in healthcare. The 2008 Medicare Improvements for Patients and Providers Act (MIPPA) (PL 110-275) established the responsibilities of the consensus-based entity by creating section 1890 of the Social Security Act. The 2010 Patient Protection and Affordable Care Act (ACA) (PL 111-148) modified and added to the consensus-based entity's responsibilities. The American Taxpayer Relief Act of 2012 (PL 112-240) extended funding under the MIPPA statute to the consensus-based entity through fiscal year 2013. The Protecting Access to Medicare Act of 2014 (PL 113-93) extended funding under the MIPPA and ACA statutes to the consensus-based entity through March 31, 2015. Section 207 of the Medicare Access and Children's Health Insurance Program (CHIP) Reauthorization Act of 2015 (MACRA) (PL 114-10) extended funding under section 1890(d)(2) of the Social Security Act for quality measure endorsement, input, and selection for fiscal years 2015 through 2017. Section 50206 of the Bipartisan Budget Act of 2018

extended funding for federal quality efforts for two years (October 2017 – September 2019) among other requirements. Bipartisan action by numerous Congresses over several years has reinforced the importance of the role of the CBE. In accordance with section 1890 of the Social Security Act, NQF, in its designation as the CBE, is charged to report annually on its work to Congress and the HHS Secretary.

As amended by the above laws, the Social Security Act (the Act)—specifically section 1890(b)(5)(A)—mandates that the entity report to Congress and the Secretary of the Department of Health and Human Services (HHS) no later than March 1st of each year.

The report must include descriptions of:

- *how NQF has implemented quality and efficiency measurement initiatives under the Act and coordinated these initiatives with those implemented by other payers;*
- *NQF's recommendations with respect to an integrated national strategy and priorities for healthcare performance measurement in all applicable settings;*
- *NQF's performance of the duties required under its contract with HHS (Appendix A);*
- *gaps in endorsed quality and efficiency measures, including measures that are within priority areas identified by the Secretary under HHS' national strategy, and where quality and efficiency measures are unavailable or inadequate to identify or address such gaps;*
- *areas in which evidence is insufficient to support endorsement of measures in priority areas identified by the National Quality Strategy, and where targeted research may address such gaps;*
- *matters related to convening multistakeholder groups to provide input on: a) the selection of certain quality and efficiency measures, and b) national priorities for improvement in population health and in the delivery of healthcare services for consideration under the National Quality Strategy;.*[1]
- *an itemization of financial information for the fiscal year ending September 30 of the preceding year, including: (I) annual revenues of the entity (including any government funding, private sector contributions, grants, membership revenues, and investment revenue); (II) annual expenses of the entity (including grants paid, benefits paid, salaries or other compensation, fundraising expenses, and overhead costs); and (III) a breakdown of the amount awarded per contracted task order and the specific projects funded in each task order assigned to the entity; and*
- *any updates or modifications of internal policies and procedures of the entity as they relate to the duties of the entity under this section, including: (I) specifically identifying any modifications to the disclosure of interests and conflicts of interests for committees, work groups, task forces, and advisory panels of the entity; and (II) information on external stakeholder participation in the duties of the entity under this section (including complete rosters for all committees, work groups, task forces, and advisory panels funded through government contracts, descriptions of relevant interests and any conflicts of interest for members of all committees, work groups, task forces, and advisory panels, and the total percentage by health care sector of all convened committees, work groups, task forces, and advisory panels.*

The deliverables NQF produced under contract with HHS in 2018 are referenced throughout this report, and a full list is included in Appendix A. Immediately following is a summary of NQF's work in 2018 in each of the six aforementioned areas. These topics are discussed in further detail in the body of the report.

Recommendations on the National Quality Strategy and Priorities

NQF convened public and private sector organizations to provide input into the national healthcare priorities reflected in the National Quality Strategy (NQS) that HHS released in 2011. In 2018, NQF continued to support these priorities through work to improve the health of Americans living in rural areas. Healthcare performance measurement may be an underutilized tool to improve rural health. While many rural hospitals are required to participate in a variety of quality improvement programs implemented by CMS or face reductions in payment (e.g., the Hospital Inpatient Quality Reporting Program), critical access hospitals participate in these programs on a voluntary basis only. Moreover, many rural clinicians who serve in federally qualified health centers or rural health centers may not reach the minimum caseload or billing thresholds to meet the eligibility requirements for Merit-based Incentive Payment (MIPS). Also, when rural hospitals and clinicians that do not meet minimum sample size requirements for particular measures, their results may not be publicly reported (e.g., on Hospital Compare or Physician Compare), which can impact the ability of rural residents to make informed decisions about their healthcare. Finally, not all performance measures are equally relevant for rural providers. For example, they may assess services not offered by many rural providers, or they may focus on conditions or procedures for which many rural providers do not have enough patients to achieve reliable and valid measure results. To address these issues, in 2018, NQF's multistakeholder MAP Rural Health Workgroup identified a core set measures for the hospital and ambulatory settings. Many of the 20 measures in this core set are cross-cutting, resistant to low case-volume, and address conditions or services that are relevant within rural healthcare settings, and therefore should be applicable to a majority of rural patients and providers.

Quality and Efficiency Measurement Initiatives (Performance Measures)

Evidence-based and scientifically sound performance measures are essential to advancing national healthcare improvement priorities and supporting the transition to value-based purchasing. NQF-endorsed measures allow accurate and effective assessments across a variety of clinical and cross-cutting topic areas. These measures are used by both public- and private-sector payers for quality improvement, public reporting, and payment as users have confidence that NQF-endorsed measures have criteria of importance, scientific acceptability, usability, and feasibility—and can accurately discern the quality of provider performance.

In 2018, NQF endorsed 38 measures and removed 40 from its portfolio, across 28 endorsement projects addressing 14 topic areas. NQF endorsed measures focused on driving key improvements to the healthcare system. NQF aims to identify measures that can promote patient-centered care (e.g., person- and family-centered care, care coordination, and palliative and end-of-life care), improve the delivery of care for prevalent conditions (e.g., cardiovascular; renal; behavioral health; musculoskeletal health; eye care and ear, nose, and throat conditions; infectious disease; pediatrics; and cancer), or

promote quality improvement in cross-cutting areas (e.g., patient safety, cost and resource use, health and well-being, and all-cause admissions and readmissions).

NQF also continued to explore and advance the science underlying performance measurement. NQF completed a project to improve attribution models, and continued to examine the ongoing issue of how to account for the influence a person's socioeconomic status or other social risk factors can have on his or her healthcare outcomes and how measurement should account for this influence. NQF also implemented key improvements to the measure endorsement process, including the creation of the Scientific Methods Panel, charged with assisting in the review of complex measures and providing guidance on NQF on methodological issues, including those related to measure testing, risk adjustment, and measurement approaches.

Stakeholder Recommendations on Quality and Efficiency Measures

The Measure Applications Partnership (MAP) is a public-private partnership convened by NQF that provides input to HHS on the selection of quality and efficiency measures for pay-for-performance and quality reporting programs. Over 135 representatives from 90 private-sector stakeholder organizations and seven federal agencies participate in MAP. This varied representation promotes balanced and attentive input on the selection of performance measures in quality reporting and payment programs.

MAP strives to promote the use of measures that are meaningful to patients while being cognizant of the burden measurement can place on providers. MAP promotes alignment, the use of the same measures across federal programs and the public and private sectors as one strategy to minimize the burden of measurement. Using the same measures allows providers to focus on key quality improvement areas, eases the burden of data collection on clinicians and facilities, and reduces the confusion caused by similar, redundant measures.

For the 2017-2018 pre-rulemaking process, MAP convened three care setting-specific workgroups—Clinician, Hospital, and Post-Acute Care/Long-Term Care (PAC/LTC)—to review proposed measures for use in Medicare programs. MAP reviewed 35 measures—recommending 34 either for use in a federal program or for continued development. MAP workgroups convened again in late 2018 to review measures for the 2018-2019 pre-rulemaking process. In addition, in its pre-rulemaking work, MAP also continued to provide guidance to strengthen core measure sets for Medicaid and CHIP programs.

Gaps on Endorsed Quality and Efficiency Measures across HHS Programs

NQF strives to promote measures that are meaningful to patients and target the most important areas for improvement in the healthcare system. A crucial part of NQF's work is identifying measure gaps, areas in which evidence-based, scientifically sound measures are too few or do not exist. Identifying these gap areas allow stakeholders such as measure developers and policymakers to better understand critical measurement needs. The gaps identified in 2018 span conditions, settings, and issues, from care for costly and prevalent diseases to access to care to patient experience, and more. NQF continued to highlight the need for more outcome measures, especially ones that are patient-reported. Other common gap areas include more measures to address behavioral health and substance abuse as well as

measures to address social determinants of health—conditions in a person's environment that affect health, function, and quality of life.

Gaps in Evidence and Targeted Research Needs

NQF also undertook several projects in 2018 to develop approaches to leverage measurement in new ways to improve health and healthcare for the nation. These projects develop conceptual models for organizing ideas that are important to measure for a topic area and for describing how measurement should take place (i.e., whose performance should be measured, care settings where measurement is needed, when measurement should occur, or which individuals should be included in measurement). NQF's foundational work in these important areas underpins future efforts to improve quality through measurement and ensure safer, patient-centered, cost-effective care that reflects current science and evidence.

NQF completed one project in 2018 to identify measure concepts to improve the quality and safety of care in ambulatory care settings. NQF began new projects to identify areas for measure development and gaps in trauma care, assess the readiness of hospitals, healthcare systems, and communities to respond to and recover from disasters and public health emergencies, and develop a strategic plan for how chief complaints can be addressed through quality measurement. In other work, NQF continued its efforts to support structured reporting of patient safety events in hospitals and other care settings.

Coordination with Measurement Initiatives by Other Payers

In 2018, NQF began two projects to promote coordination across payers. The first project aims to develop a process to collect feedback from payers using NQF-endorsed measures, as well as other stakeholders, about measures after they are implemented. Stronger and more standardized feedback would allow a better understanding of how a measure performs when in use, and the possible issues or risks that may be associated with the measure's implementation, such as whether a measure is having the intended effect of improving quality of care and health outcomes or evaluating if the measure is causing unintended consequences.

Adding to NQF's efforts to encourage the use of more meaningful measures and reduce measure burden on providers, NQF in 2018 became the host of the Core Quality Measures Collaborative after several years of providing technical assistance. The initiative, led by America's Health Insurance Plans (AHIP), and which also involves the Centers for Medicare & Medicaid Services (CMS), brings together private- and public-sector payers to reach consensus on core performance measures. NQF convened the CQMC to maintain the core sets, identify priority areas for new core sets, refine the group's measure selection criteria, and provide technical support to the CQMC.

II. NQF Funding and Operations

Section 1890 (b) (5) (A) of the Social Security Act is amended by adding the following financial and operations information in the Annual Report to Congress and the Secretary —

(i) Annual revenues of the entity (including any government funding, private sector contributions, grants, membership revenues, and investment revenue)

(ii) Annual expenses of the entity (including grants paid, benefits paid, salaries and other compensations, fundraising expenses and overhead costs); and

(iii) a breakdown of the amount awarded per contracted task order and the specific projects funded in each task order assigned to the entity

(iv) Any updates or modifications of internal policies and procedures of the entity as they relate to the duties of the entity under this section, including (i) specifically identifying any modifications to the disclosure of interest and conflicts of interests for committees, work groups, task forces, and advisory panels of the entity; and (ii) information on external stakeholder participation in the duties of the entity under this section (including complete rosters for all committees, work groups, task forces, and advisory panels funded through government contracts, descriptions of relevant interests and any conflicts of interests for members of all committees, work groups, task forces and advisory panels, and total percentage by health care sector of all convened committees, work groups, task forces, and advisory panels.

Congress reauthorized funds for a consensus-based entity (CBE) for fiscal years (FY) 2018 and 2019 in Section 50206 of the Bipartisan Budget Act of 2018. The Department of Health and Human Services (HHS) awarded a contract to the National Quality Forum (NQF) to serve as the CBE. NQF is an independent, not-for-profit, membership-based organization that brings healthcare stakeholders together to recommend quality measures and improvement strategies that reduce costs and help patients get better care.

The Bipartisan Budget Act of 2018 amended the requirements of this annual report to include, in addition to the previous requirements set forth, new contract, financial, and operational information related to the CBE. Federally funded contracts awarded under the CBE authority were $14,036,728 in FY 2018. Of this amount, $13,288,778 were funded through the Trust Fund. NQF's revenues for FY 2018 were $20.6 million, including federal funds authorized under SSA 1890(d), private sector contributions, membership revenue, and investment revenue. NQF's expenses for FY 2018 were $18.8 million. These expenses include grants and benefits paid, salaries and other compensations, fundraising expenses, and overhead costs.

A complete breakdown of the amount awarded per contract is available in Appendix A. NQF has made no updates or modifications to disclosure of interest and conflict of interest policies. Rosters of committees and workgroups (along with a total percentage breakdown by healthcare sector) funded under the CBE contract are available in Appendix B.

III. Recommendations on the National Quality Strategy and Priorities

Section 1890(b)(1) of the Social Security Act (the Act), mandates that the consensus-based entity (entity) shall "synthesize evidence and convene key stakeholders to make recommendations . . . on an integrated national strategy and priorities for health care performance measurement in all applicable settings. In making such recommendations, the entity shall ensure that priority is given to measures: (i) that address the health care provided to patients with prevalent, high-cost chronic diseases; (ii) with the greatest potential for improving the quality, efficiency, and patient-centeredness of health care; and (iii) that may be implemented rapidly due to existing evidence, standards of care, or other reasons." In addition, the

entity is to "take into account measures that: (i) may assist consumers and patients in making informed health care decisions; (ii) address health disparities across groups and areas; and (iii) address the continuum of care a patient receives, including services furnished by multiple health care providers or practitioners and across multiple settings."[2]

At the request of HHS, the NQF-convened National Priorities Partnership (NPP) provided input that helped shape the initial version of the National Quality Strategy (NQS) that HHS released in March 2011.[3] The NQS set forth a comprehensive roadmap for achieving better, more affordable care, as well as better health. HHS accentuated the word "national" in its title, emphasizing that healthcare stakeholders across the country, both public and private, all play a role in making the NQS a success.

Annually, NQF continues to promote the NQS by endorsing measures linked to its priorities and convening diverse stakeholder groups to reach consensus on key strategies for performance measurement and quality improvement. In 2018, NQF began work to address healthcare quality measurement in rural settings. Rural Americans face well documented challenges accessing healthcare, and rural providers have historically been left out of quality measurement initiatives. NQF explored ways to leverage quality measurement to improve the health of Americans living in rural areas and to identify ways to overcome the unique challenges to measuring the quality of care received.

Priority Initiative to Improve Rural Healthcare

Rural areas span across 97 percent of the U.S. with approximately 60 million individuals residing in these areas.[4] Of these, 47 million are adults aged 18 years and older. Compared to the urban and suburban regions in the U.S., rural communities have higher proportions of elderly residents, higher rates of poverty, greater burden of chronic diseases (e.g., diabetes, hypertension and chronic obstructive pulmonary disease), and limited access to the healthcare delivery system. For example, while 60 percent of all trauma deaths in the U.S. occur in rural areas, only 24 percent of rural residents are able to access a trauma center compared to 85 percent of all U.S. urban and suburban residents, highlighting the severity of the problem of insufficient access to care.[5]

In addition, healthcare providers in rural areas face many challenges in reporting quality measurement data and implementing care improvement efforts to address the needs of their populations. In a 2015 HHS-funded project, NQF convened a multistakeholder Rural Health Committee to explore the quality measurement challenges facing rural providers. This Committee noted that multiple and disparate demands (e.g., direct patient care, business and operational responsibilities) compete for the time and attention of providers who serve in small rural hospitals and clinical practices—particularly those in geographically isolated areas. Thus, these providers may have limited time, staff, and finances available for quality improvement activities. In addition, some rural areas may lack information technology (IT) capabilities altogether and/or IT professionals who can leverage those capabilities for quality measurement and improvement efforts.

The heterogeneity of rural areas, such as variations in geography, population density, availability of healthcare services, and numbers of vulnerable residents (e.g., those with economic or other social disadvantages, those in poor health, etc.), has particular implications for healthcare performance

measurement. These include limited applicability of many healthcare performance measures and, potentially, the need for modifications in the risk-adjustment approach for certain measures. Moreover, depending on the particular performance measure, rural providers may not have enough patients to achieve reliable and valid measurement results. This has been referred to as the low case-volume challenge.

The 2015 Rural Health Committee made an overarching recommendation to CMS to make participation in CMS quality measurement and quality improvement programs mandatory for all rural providers, but to do so via a phased approach and in a way that explicitly addresses the low case-volume challenge. The Committee noted that nonparticipation in federal quality programs may affect the ability of these providers to identify and address opportunities for improvement, as well as demonstrate how they perform compared to their nonrural counterparts.

However, the Committee noted that additional work was needed to address the unique measurement challenges rural providers face and to ease their transition to reporting measures. These recommendations include:

- developing rural-relevant measures (e.g., to address topics such as patient hand-offs and transitions, address the low case-volume challenge, and include appropriate risk adjustment);
- aligning measurement efforts (including measures, data collection efforts, and informational resources);
- considering rural-specific challenges during the measure-selection process;
- creating a rural health workgroup to advise the Measure Applications Partnership (MAP); and
- addressing the design and implementation of pay-for-performance programs.

To address these recommendations NQF, with funding from HHS, convened the MAP Rural Health Workgroup. In 2018, the Workgroup released a report identifying a core set of measures that can be used for hospitals and for ambulatory settings such as hospital outpatient departments and clinician offices or clinics. The Workgroup recommended 20 measures for the core set: nine for the hospital setting and 11 for the ambulatory setting. In general, the measures recommended by the Workgroup for the core set align with the recommendations made by NQF's 2015 Rural Health Committee. For example, the number of proposed measures aligns with the recommended range of 10-20 measures per setting. The majority of the recommended measures are cross-cutting or resistant to low case-volume and therefore should be applicable to a majority of rural patients and providers. Also, the core set includes process and outcome measures, including measures based on patient report. Finally, measures in the core set align with those used in other federal quality programs.

To determine criteria for selecting measures for the core set, the Rural Health Workgroup first considered the guiding principles for measure selection that were developed by the 2015 Rural Health Committee. Building on those principles as well as on members' experience and expertise, the Workgroup developed a set of measure selection criteria. The Workgroup emphasized selecting measures that are NQF-endorsed, cross-cutting, resistant to low case-volume, and address transitions in

care. The latter is particularly important as many rural providers do not provide specialized care for highly acute patients, and transfers are common.

The Workgroup also sought to ensure that the core set addressed the broad scope of care provided by rural clinicians and hospitals. The Workgroup supported the inclusion of measures that address specific conditions or services that are particularly relevant to rural populations such as mental health, substance abuse, medication reconciliation, diabetes, hypertension, chronic obstructive pulmonary disease (COPD), hospital readmissions, and perinatal and pediatric conditions and services.

Additionally, the MAP Rural Health Workgroup also provided recommendations on access to care from the rural perspective, a topic that arose on multiple occasions as members deliberated on the core set of rural-relevant measures and discussed gap areas in measurement. The Workgroup identified three key elements of access from the rural perspective: availability, accessibility, and affordability. The Workgroup noted the multifaceted elements of these domains and explored current challenges and potential ways to address those challenges.

Under the domain of availability, the Workgroup discussed rural residents' ability to schedule same day and/or after hours appointments, their access to specialty care such as trauma care, and the timeliness of care, including specialty care, palliative care and nontraditional care. Telehealth was championed as one of the ways that could address these challenges.

Under the domain of accessibility, the Workgroup focused on language barriers between patients and their families/guardians with their healthcare providers, limited health information due to inadequate phone or internet connectivity and transportation challenges. Suggestions for addressing accessibility challenges included tele-access to interpreters, continued expansion of remote access technology, and community partnerships that assist in transportation.

Lastly, under the domain of affordability, the Workgroup examined how out-of-pocket costs (e.g., deductibles, co-pays, and travel expenses) can impact a person's ability to access healthcare. The lack of financial resources can result in delayed care because patients and families cannot afford the out-of-pocket costs. The Workgroup recommended exploring the appropriateness of including distance as a potential risk adjuster, continuing efforts to preserve the nation's healthcare safety net, increasing literacy about insurance and providing care to the full extent of a provider's education and credentials.

NQF continues to build on the recommendations of the MAP Rural Health Workgroup. NQF organized a Capitol Hill briefing on the findings of the report with then co-chairs of the U.S. Senate Rural Health Caucus, Senators Heidi Heitkamp (D-ND) and Pat Roberts (R-KS), on Tuesday, September 18, 2018. Additionally, NQF began new work in 2018 to advance the use of measurement to improve rural health. NQF re-convened the MAP Rural Health Workgroup to provide input into the annual pre-rulemaking process, and seated a Technical Expert Panel (TEP) to provide feedback and recommendations to address the low case-volume challenge faced by many rural providers. A report on the findings of the TEP is expected in April 2019.

IV. Quality and Efficiency Measurement Initiatives (Performance Measurement)

Section 1890(b)(2) and (3) of the Social Security Act requires the consensus-based entity (CBE) to endorse standardized healthcare performance measures. The endorsement process must consider whether measures are evidence-based, reliable, valid, verifiable, relevant to enhanced health outcomes, actionable at the caregiver level, feasible for collecting and reporting, responsive to variations in patient characteristics, and consistent across types of healthcare providers. In addition, the CBE must establish and implement a process to ensure that measures endorsed are updated (or retired if obsolete) as new evidence is developed.[6]

Working with multistakeholder committees to build consensus, NQF reviews and endorses healthcare performance measures. Measures help clinicians, hospitals, and other providers understand whether the care they provide their patients is optimal, and appropriate, and if not, where to focus improvement efforts. The federal government, states, and private-sector organizations use NQF-endorsed measures to evaluate performance; inform employers, patients, and their families; and drive quality improvement. NQF-endorsed measures serve to enhance healthcare value by ensuring that consistent, high-quality performance data are available, which allows for comparisons across providers as well as the ability to benchmark performance. Currently, NQF has a portfolio of 543 NQF-endorsed measures that are used across the healthcare system. Subsets of this portfolio apply to particular settings and levels of analysis.

Cross-Cutting Projects to Improve the Measurement Process

In 2018, NQF undertook two projects to better understand the science of performance measurement. These projects aimed to provide greater insights to measure methodology and provide future guidance for NQF's work to endorse performance measures. In particular, NQF explored ways to improve attribution models—that is, the methodology through which a patient and his or her healthcare outcomes are assigned to a provider—and examined the ongoing issue of how to account for the influence a person's socioeconomic status or other social risk factors can have on his or her healthcare outcomes.

Improving Attribution Models

Changing from a healthcare system that pays on volume of services to one that pays on value requires an understanding of who is accountable for a patient's outcomes. However, it is not always clear who is responsible for a patient's care and outcomes as many different providers may be involved. Attribution is a methodology to assign patients, encounters, or episodes of care to a healthcare provider or practitioner. It attempts to determine a patient-provider relationship for the purposes of determining accountability for a person's care. Fair and accurate attribution is essential to the success of value-based purchasing and alternative payment models.

In 2018, NQF concluded a one-year project to provide guidance on an attribution model design and to provide a foundation for future multistakeholder review of attribution models. This work built on NQF's previous work to define the elements of an attribution model. This work centered on three main attribution challenges: determining what evidence is necessary to demonstrate a provider could influence the outcomes assigned, exploring what testing could be done to show how well an attribution

model reflects the actual patient-provider relationship, and understanding how incorrect attribution and potential unintended consequences could be avoided.

As a first step in developing this guidance, NQF conducted an environmental scan of references and research that provided insights on current attribution practices and specific challenges to attributing complex patient populations. The scan included papers that highlight private sector and state initiatives as well as articles that incorporate attribution models as part of more general work on best practices, outcome and cost measurement, and measure alignment.

Key findings from the scan included:

- Information about how attribution models are tested for reliability and validity is limited
- The availability of data from electronic health records, as well as from both patient and clinician attestation of relationships could improve attribution models
- Flawed attribution models can contribute to unchecked poor performance and cause physicians to feel a loss of control over their practice.
- Specific attribution challenges exist for patients who may see numerous clinicians and providers for longer periods of time and across multiple care settings.

NQF supplemented the findings of the environmental scan with key informant interviews with clinicians, representatives from payer organizations, and patient advocates. These interviews helped identify examples of the current realities of attribution and information available to physicians and patients; the discrepancies between current models and how care is delivered; and the potential for misattribution to have negative consequences for both patients and providers.

NQF convened an Attribution Expert Panel to explore a set of key attribution challenges, identify best practices, and outline key considerations for evaluating attribution models. The Expert Panel developed a set of evaluation criteria to guide future multistakeholder reviews of attribution models, including:

- **Does the attribution model assign accountability to an entity that can meaningfully influence the results?** This evaluation consideration emphasized the need for evidence demonstrating the relationship between a patient and provider and that the provider had a reasonable degree of control over the patient's care including demonstrating how the party being held accountable can include results, why a given set of rules was selected, and the consideration of consequences.
- **How has the model been tested?** Given the number and variation of attribution methodologies that can be employed and how the methodology selected can influence results, attribution models must be tested to ensure they are valid and to understand which patients would be covered under different attribution rules.
- **What data were used to support the attribution model?** Data play an essential role in the implementation of an attribution model. Available data sources and data quality should be considered when designing and selecting an attribution model.

- **Does the model align with the context of its use?** Attribution models should be designed and used in the specific program context for which they are intended. They should take into account the program goal, whether the program is mandatory or voluntary, the accountability mechanism used (e.g., payment or public reporting), and the intended behavior change.
- **Have potential unintended consequences of the model been explored, and have negative consequences been mitigated?** The attribution model selected will drive consequences, both intended and unintended. Improperly designed attribution models carry a risk of negative unintended consequences to patients. Attribution models should not diminish access to care or detract from the patient-centeredness of care, such as interfering with patient choice or preventing patients from receiving care they need.
- **Is the model transparent to all stakeholders?** The details of attribution model algorithms currently are not always available to all affected parties, making it difficult to understand the results of the model and for providers to improve their performance. Insufficient transparency also prevents patients from knowing who is held accountable for their care and can prevent them from being empowered consumers.

NQF's improving attribution models project lays the groundwork to address issues related to attribution throughout NQF work. Currently, NQF processes do not explicitly address attribution. However, opportunities exist to build on current processes to allow for multistakeholder review of attribution models, such as including attribution as a consideration in the Consensus Development Process (CDP) or MAP process.

Social Risk Trial

Public- and private-sector payers are increasingly using value-based purchasing to reduce healthcare spending while improving quality by tying provider payments to performance on cost and quality measures. Public- and private-sector payers also are increasingly using outcome measures as the performance metrics in value-based purchasing programs. However, healthcare outcomes are not solely the result of the quality of care received and can be influenced by factors outside a provider's control, such as a patient's comorbid conditions or severity of illness. Because patients are not randomly assigned to providers, performance measures should account for these underlying differences in patients' health risk to ensure performance measures make fair conclusions about provider quality. Risk adjustment (also known as case-mix adjustment) refers to statistical methods to control or account for patient-related factors when computing performance measure scores.

Risk adjusting outcome measures to account for differences in patient health status and clinical factors (e.g., comorbidities, severity of illness) that are present at the start of care is widely accepted. However, there is a growing evidence base that a person's social risk factors (i.e., socioeconomic and demographic factors) can also affect health outcomes.[7] Previous NQF policy did not allow for measure developers to include social risk factors in the risk-adjustment models of measures being submitted for NQF review and endorsement. This policy was developed because of concerns that including these factors in the risk-adjustment models of endorsed measures could mask disparities or create lower standards of care

for people with social risk factors. However, the increased use of performance measures for public reporting and payment purposes underscores the need to ensure that these measures fairly and accurately assess quality. As a result, stakeholders and policymakers have called for the federal government to examine the impact of social factors on the results of performance measures.

In April 2017, NQF concluded a self-funded two-year trial period during which measure developers were required to explore the impact of social risk factors on the results of their measures and could include social risk factors in the risk-adjustment models of measures submitted for endorsement review if there were a conceptual basis and empirical evidence to support doing so. NQF's work, as well as recent reports from the National Academies of Science, Engineering, and Medicine[8] and the Office of the Assistant Secretary for Planning and Evaluation,[9] adds to growing evidence that individuals' social risk factors affect their health and healthcare.

The trial period highlighted challenges to adjusting measures for social risk factors. First, the trial revealed challenges in obtaining data on social risk factors, including data granular enough to reflect individuals' social risk accurately. Stakeholders expressed varying views on whether or not including social risk factors would worsen healthcare disparities. Some stakeholders reiterated concerns about masking disparities or creating different standards of care. However, others cautioned that using measures that are not adjusted for social risk factors for payment purposes disproportionately penalizes safety-net providers and could worsen disparities by threatening access to care. Next, the trial found that social risk factors had variable impacts on performance scores, reaffirming the Expert Panel's guidance that each measure must be assessed individually to determine if there is an empirical basis for social risk factor adjustment. In July 2017, NQF issued a report of its findings[10] from the trial, highlighting key conclusions and areas where further study may be needed.

NQF, with funding from HHS, will build on the findings of the initial two-year trial that ended in April 2017. NQF is implementing the extended trial as part of the CDP, and decisions about whether or not a measure is appropriately adjusted for social risk will be discussed as part of the validity subcriterion. To allow for monitoring of potential disparities in care, NQF requires the developers of measures that include social risk factors in their risk-adjustment models to also submit specifications to calculate a version of the measure that only includes clinical risk factors and which can be stratified by social risk. This allows measure users to compare the measure when adjusted for social risk and when only adjusted for clinical risk to better understand the effects of adjustment for social risk. NQF will continue to allow measure developers to submit measures for endorsement with social risk factors included in their risk-adjustment model.

NQF built upon the lessons of the first trial to improve the process for the new trial period. NQF included updated information for measure developers and stewards as part of the measure submission form, measure testing attachment, and measure developer guidebook. NQF will use one of its monthly measure developer webinars to provide developers and stewards an update on the new social risk trial.

This trial period will examine unresolved issues from the initial trial period to advance the science of risk adjustment and explore the challenges and opportunities related to including social risk factors in risk-adjustment models.

NQF Scientific Methods Panel

NQF relies on five criteria for evaluating measures for endorsement: Importance to Measure and Report, Scientific Acceptability of Measure Properties, Feasibility, Usability and Use, and Related and Competing Measures. The second criterion, Scientific Acceptability of Measure Properties, addresses the reliability and validity of measures. The use of measures that are unreliable or invalid undermines confidence in measures among providers and consumers of healthcare; however, during the redesign process stakeholders, raised concerns about the rigor and consistency of evaluation of the reliability and validity of a performance measure due to the increasing sophistication of methodologies involved.

To address these issues, NQF created the Scientific Methods Panel (see Appendix C) to assist in conducting methodological reviews of submitted measures. The Scientific Methods Panel has a two-part charge: 1) Conduct evaluation of complex measures for the criterion of Scientific Acceptability, with a focus on reliability and validity analyses and results; and 2) Serve in an advisory capacity to NQF on methodologic issues, including those related to measure testing, risk adjustment, and measurement approaches.

Beginning in the fall of 2017, all complex measures submitted for NQF endorsement have been reviewed by the Scientific Methods Panel for scientific acceptability.[a] A subset of the Panel evaluates each complex measure for reliability and validity to aid the standing committees with their endorsement review. NQF staff conduct an initial evaluation for all other measures. This review has reduced the burden on the standing committee members, particularly for members who may not have the needed expertise to adequately review and rate the scientific merits of a measure. Previously, the complexity of measures and the evaluation methodology could hinder full engagement of standing committee members, particularly those less familiar with measure development, statistics, or psychometrics. NQF standing committees are multistakeholder by design and consist of members with varying expertise such as practicing clinicians, consumers and patients, purchasers, and policy experts. Shifting the scientific, methodological review of measures to this Panel and NQF staff allows for greater engagement and participation, particularly by consumers, patients, and purchasers on NQF standing committees.

Additionally, the Scientific Methods Panel provides guidance that informs NQF's work broadly. Measurement science continues to evolve, and there is a greater focus on the use of outcome measures as well the use of innovative data sources such as electronic health records and patient-reported data. To ensure that NQF's testing requirements and other evaluation criteria adjust to the growing complexity of measures and measurement approaches, the Scientific Methods Panel serves in an ongoing advisory capacity to NQF on methodologic issues related to measure testing, risk adjustment, and measurement approaches.

Current State of the NQF Measure Portfolio

NQF's measure portfolio contains measures across a variety of clinical and cross-cutting topic areas. Forty-four percent of the measures in NQF's portfolio are outcome measures. NQF's multistakeholder

[a] NQF has defined complex measures as outcome measures (including intermediate clinical outcomes), instrument-based measures (e.g., patient-reported outcomes), cost/resource use measures, and composite measures.

committees—which include patients, consumers, providers, payers, and other experts from across healthcare—review both previously endorsed and new measures using rigorous evaluation criteria. All measures submitted for NQF endorsement are evaluated against the following criteria:

1. Importance to Measure and Report
2. Reliability and Validity—Scientific Acceptability of Measure Properties
3. Feasibility
4. Usability and Use
5. Comparison to Related or Competing Measures

NQF proactively seeks measures from the field that will help to fill known measure gaps and that align with healthcare improvement priorities. NQF encourages measure developers to submit measures that can drive meaningful improvements in care, particularly outcome-focused measures. NQF multistakeholder committees evaluate measures for endorsement twice a year, with submission opportunities in the spring and fall of each year. By implementing this more frequent review process, NQF has reduced standing committee downtime, allowing measure developers to receive a timely review of their measures, and is more responsive to needs of the rapidly evolving healthcare system. More information is available in *Measure Evaluation Criteria and Guidance for Evaluating Measures for Endorsement.*[11]

NQF-endorsed measures undergo evaluation for maintenance of endorsement approximately every three years. The maintenance process ensures that NQF-endorsed measures represent current clinical evidence, continue to have a meaningful opportunity to improve, and have been implemented without negative unintended consequences. In a maintenance review, NQF multistakeholder committees review previously endorsed measures to ensure they still meet the criteria for endorsement. This maintenance review may result in removing endorsement for measures that no longer meet rigorous criteria, facilitating measure harmonization among competing or similar measures, or retiring measures that no longer provide significant opportunities for improvement.

Measure Endorsement and Maintenance Accomplishments

In 2018, NQF received HHS funding to convene 14 multistakeholder topic-specific standing committees for 28 quality measure endorsement projects. NQF's redesign of the endorsement process created the opportunity for measure developers to submit a measure for NQF endorsement consideration twice each year, with submission opportunities in the spring and fall of each year. Measure developers may submit measures for during these designated measure review cycles. Funding received in 2018 created three opportunities for measure submission and review: the completion of the review of measures submitted in November 2017, and measure review cycles initiated in April 2018 and November 2018. The next review cycle is scheduled for initiation in April 2019.

To review these measures, NQF convened multistakeholder standing committees in 14 topic areas. However, not all measure endorsement projects received measures for review each cycle. In these instances, standing committees convened to discuss overarching issues related to measurement in their

topic area. Through projects completed in 2018, NQF endorsed 38 measures and removed 40 measures from its portfolio. Appendix D lists the types of measures reviewed in 2018 and the results of the review.

Below are summaries of endorsement projects completed in 2018, as well as projects that began but were not completed before the end of the year.

All-Cause Admissions and Readmissions

A hospital readmission can be defined as when a patient is admitted to a hospital within a specified time period after having been previously discharged from the hospital.[12] Reducing avoidable admissions and readmissions to acute care facilities continues to be an important focus of quality improvement across the healthcare system, as readmissions can result in higher healthcare spending and can lead to patients being exposed to additional safety risks.[13] A June 2018 report from the Medicare Payment Advisory Commission (MedPAC) states that efforts to reduce avoidable readmissions in recent years have resulted in a net savings to the Medicare program of approximately $2 billion a year.[14] Moreover, readmission rates have declined not only for traditional Medicare beneficiaries but also for Medicare Advantage beneficiaries and those with private insurance.[15] Successful efforts to drive down readmissions are being applied beyond inpatient hospital stays to post-acute care settings and across the entire continuum of care.[16,17]

The focus on reducing unnecessary readmissions means fair and accurate measures of admissions and readmissions are needed. Concerns have been raised about challenges such as the influence of a socioeconomic status on a person's risk of readmission, the relationship between declining readmission rates and mortality, and the difficulty of determining an appropriate target rate of readmissions as some readmissions are unavoidable and necessary for quality patient care.[18] NQF's portfolio currently includes 48 endorsed all-cause admissions and readmissions measures including all-cause and condition-specific admissions and readmissions measures addressing numerous settings. Many of these measures are used in private and federal quality reporting and value-based purchasing programs, including CMS' Hospital Readmission Reduction Program (HRRP) as part of ongoing efforts to reduce avoidable admissions and readmissions.

NQF did not receive any measures for the review cycle initiated in November 2017. Instead, the Standing Committee convened virtually to discuss attribution challenges in measurement and the impact of social risk on admissions and readmissions. Specifically, the Standing Committee provided input onto NQF's attribution project and Social Risk Trial. NQF completed two cycles to review admissions and readmissions measures in 2018. During the April 2018 review cycle, NQF's All-Cause Admissions and Readmissions Standing Committee evaluated one currently endorsed measure. This measure was expanded to assess 30-day readmissions for various conditions at a new level of analysis: accountable care organizations. Ultimately, this measure was endorsed, and the final report is expected in January 2019.

NQF has ongoing work to review newly submitted measures of admissions and readmissions. Seven measures were submitted during the November 2018 review cycle. Measures are also expected for review during the April 2019 cycle.

Behavioral Health and Substance Use

Mental illness and substance use disorders are leading causes of disability and premature mortality in the U.S.[19,20,21] Behavioral health is a term used to include mental, behavioral, and/or substance use disorders and addresses treatment and services for individuals either at risk or suffering from these disorders. Performance measurement is necessary to ensure access to quality behavioral healthcare for the approximately one in five Americans experiencing mental illness.[22] NQF's portfolio currently includes 50 endorsed behavioral health and substance use measures addressing topics such as alcohol and drug use, care coordination, depression, medication use, tobacco, and physical health.

During the November 2017 review cycle, NQF's Behavioral Health and Substance Use Committee evaluated five new measures. Ultimately, four measures were endorsed, and one measure did not receive endorsement. NQF completed two cycles to review behavioral health measures in 2018. During the April 2018 review cycle, the Committee evaluated two newly submitted measures and seven measures undergoing maintenance review. All measures were endorsed. The final report was published in January 2019.

NQF has ongoing work to review newly submitted measures of behavioral health and substance use. Four measures were submitted for the November 2018 cycle. Measures are also expected for review during the April 2019 cycle.

Cancer

Cancer significantly influences mortality and healthcare spending in the United States as nearly one-third of all Americans will develop cancer during their lifetime.[23] Cancer is second leading cause of death for Americans[24] and treatment costs are estimated to reach $174 billion by 2020.[25] The National Cancer Institute estimates that in 2018, 1,735,350 new cancer cases will be diagnosed and 609,640 Americans will die from cancer.[26] Although 1,600 Americans still die from cancer each day,[27] survival rates are increasing. In 2016, over 15 million Americans with a history of cancer were alive and the number of cancer survivors is estimated to increase to over 20 million by 2026.[28]

Cancer is a complex disease and its treatment involves numerous clinicians and providers across multiple settings of care. The intricacy of its treatment necessitates high-quality measures that capture the complexity of care as well care coordination. The impact cancer has on patients and their families requires assurance that care is appropriate, timely, and high-value and consumers are supported in their decision making. NQF's portfolio currently includes 26 general cancer measures as well as measures that address prevalent forms of cancer including breast cancer, colon cancer, hematology, lung and thoracic cancer, and prostate cancer. These measures address quality across an episode of care including measures to promote screening and early detection, appropriate treatment (including surgery, chemotherapy, and radiation therapy, and morbidity and mortality).

NQF did not receive any measures for review during the cycles initiated in November 2017 and April 2018. Instead, the Standing Committee convened virtually to provide strategic guidance on how to identify the highest-value measures for cancer care and attribution challenges in cancer measurement.

NQF has ongoing work to review newly submitted measures of cancer care. Four measures were submitted for the November 2018 review cycle. Measures are also expected during the April 2019 cycle.

Cardiovascular

Cardiovascular disease (CVD) remains the number one cause of death for people of most ethnicities in the U.S. High blood pressure, high cholesterol, and smoking are key risk factors for CVD, with half of Americans (49 percent) having at least one of these three risk factors.[29] It kills approximately 610,000 Americans (nearly one in four deaths)[30] and costs approximately $200 billion in health expenditures and lost productivity annually.[31] Considering the overall toll of cardiovascular disease, measures that assess clinical care performance and patient outcomes are paramount to reducing the negative impacts of CVD.

NQF's current portfolio includes 54 endorsed measures addressing cardiovascular care. These measures address primary prevention and screening or the treatment and care of disease such as coronary artery disease (CAD), heart failure (HF), ischemic vascular disease (IVD), acute myocardial infarction (AMI), and hypertension. Other endorsed measures assess specific treatments, diagnostic studies, or interventions such as cardiac catheterization, percutaneous catheterization intervention (PCI), implantable cardioverter-defibrillators (ICDs), cardiac imaging, and cardiac rehabilitation.

During the November 2017 review cycle, NQF's Cardiovascular Standing Committee evaluated one new measure and four measures undergoing maintenance review. Four measures were endorsed, and one was withdrawn from further endorsement consideration. This project concluded in August 2018. In 2018, NQF completed two cycles to review cardiovascular measures. During the April 2018 review cycle, the Committee reviewed one measure undergoing maintenance. Ultimately, this measure was endorsed. The final report was published in January 2019.

NQF has ongoing work to review newly submitted cardiovascular measures. Four measures were submitted for review during the November 2018 cycle. Measures are also expected for the April 2019 cycle.

Cost and Efficiency

In 2016, the United States spent nearly twice as much on healthcare as other high-income countries, spending 17.8 percent of its gross domestic product on healthcare.[32] Healthcare spending continued to increase in 2017 by 3.9 percent to reach a total of $3.5 trillion or approximately $10,739 per person.[33] Despite this high level of spending, the health of the population of the United States is lacking as Americans have lower life expectancies and greater prevalence of chronic disease compared to the populations of other nations.[34] Moreover, as much as 30 percent of all healthcare spending may be on unnecessary or ineffective services.[35]

Measurement is essential to better understand healthcare spending and where resources are being utilized. Measuring healthcare costs is critical to improving the value of care to reduce the rate of cost growth while improving the quality of care. NQF's current portfolio contains nine endorsed cost and resource use measures including both condition-specific and noncondition-specific measures of total cost, using per capita or per hospitalization episode approaches.

NQF did not receive any measures for review during the cycle initiated in November 2017. Instead, the Committee met to discuss the new phase of the Social Risk Trial and guidance on attribution challenges in cost and efficiency measurement. NQF offered two opportunities in 2018 for the review and endorsement of cost and efficiency measures. During the April 2018 review cycle, NQF's Cost and Efficiency Standing Committee evaluated one noncondition-specific measure of cost and resource use—currently in the Hospital Outpatient Quality Reporting Program. The Committee emphasized the need to ensure that performance measures are producing meaningful results and driving necessary improvements, highlighting the lack of risk adjustment for factors impacting clinical complexity. This measure did not receive continued endorsement. The final report was published in January 2019.

NQF has ongoing work to review newly submitted cost and efficiency measures. One measure was submitted for the November 2018 cycle. Measures are also expected for the April 2019 cycle.

Geriatrics and Palliative Care

By 2030 in the U.S., the aging population (individuals aged 65 years and older). is projected to reach 72 million.[36, 37] Improving both access to and quality of palliative and end-of-life care grows increasingly important with the growing number of aging Americans with chronic illnesses, disabilities, and functional limitations. With the current landscape, inevitable gaps in patient care will result in reduced quality of life, comfort, and quality of care. The need for individualized, person-centered care is therefore vital in mitigating unnecessary medical expenditures and improving the quality of life for older patients and support for family members.[38] NQF's current portfolio includes 27 endorsed geriatric and palliative care measures including experience with care, care planning, pain management, dyspnea management, care preferences, and quality of care at the end of life.

NQF did not receive any new measures for review during the November 2017 and April 2018 review cycles. Instead, the Committee convened virtually to review the current landscape of performance measurement and provide guidance on how to identify high-value measures.

NQF has ongoing work to review newly submitted geriatric and palliative care measures. Five measures were submitted for the November 2018 cycle. These measures address experience with care, care planning, pain management, dyspnea management, care preferences, and quality of care at the end of life. Measures are also expected for the April 2019 cycle.

Neurology

Neurological disorders are diseases of the brain, spine, and the nerves that connect them. These neurological conditions can be severe, affecting the normal function of both the spinal cord and the brain by impeding muscle function, lung function, swallowing, and even breathing. Every year, an estimated 50 million Americans are impacted by the more than 600 neurologic diseases and disorders.[39] According to the U.S. Centers for Disease Control and Prevention, 1 in 26 people will develop epilepsy during their life. In addition, nearly 800,000 Americans suffer a stroke each year, making stroke the fifth leading cause of death in the nation.[40] The Alzheimer's Association estimates that more than 5 million Americans are living with Alzheimer's disease and ranks the disease as the sixth-leading cause of death

for older individuals in the United States. The estimated cost of care for people with dementia was $277 billion in 2018.[41, 42]

NQF's current portfolio includes 16 neurological measures addressing topics including stroke, epilepsy, multiple sclerosis, dementia and Alzheimer's disease, Parkinson's disease, and traumatic brain injury. These measures are intended to improve care for millions of Americans with neurological diseases and disorders.

NQF did not receive any new measures for review during the November 2017 cycle. NQF did not review measures for either of the two cycles offered in 2018. During the April 2018 cycle, submitted measures were deferred to a later review cycle. Instead, the Committee convened virtually to provide guidance on high-priority gap areas and measure concepts still in development. Measures are expected for the April 2019 cycle.

Patient Experience and Function

Over the past decade, there have been efforts to change the healthcare paradigm from one that identifies persons as passive recipients of care to one that empowers individuals to participate actively in their care. The presence of high-quality performance measures is essential in providing information and insight on how providers are responding to the needs and preferences of patients and families with regards to healthcare delivery. Measures address how healthcare organizations can create effective care practices that include individual patient preferences, needs, and values while improving the quality of care. Measures also ensure that accountable structures and processes are in place for communication and integration of comprehensive plans of care across providers and settings that align with patient and family preferences and goals. NQF's current portfolio includes 56 endorsed measures addressing concepts such as functional status, communication, shared decision making, care coordination, patient experience, and long-term services and supports. During the November 2017 review cycle, NQF's Patient Experience and Function Standing Committee evaluated four new measures. None of which were endorsed. This project concluded in August 2018. During the April 2018 review cycle, the Committee evaluated two new measures. Both of these patient-reported outcome (PRO) measures were endorsed. The final report was published in January 2019.

Six measures were submitted during the November 2018 review cycle. These measures address health-related quality of life, patient and family engagement in care, functional status, symptoms and symptom burden, experience with care, and care coordination. Measures are also expected during the April 2019 cycle.

Patient Safety

Patient safety failures cause hundreds of thousands of preventable deaths each year; a recent analysis estimated that up to 440,000 Americans die annually from medical errors in United States hospitals.[43] NQF's current portfolio of 73 endorsed patient safety measures includes medication safety, falls, venous thromboembolism, mortality, pressure ulcers, healthcare-associated infections, falls, and workforce and radiation safety.

During the November 2017 review cycle, NQF's Patient Safety Standing Committee evaluated one measure. This measure focused on the safe use of opioids, a national healthcare priority. Ultimately, this measure was endorsed.

No measures were evaluated during the April 2018 review cycle. Instead, the Committee convened virtually to discuss strategies for identifying high-value measures and to provide guidance on how to measure medication reconciliation in a more standardized way. NQF received six measures for review during the November 2018 cycle. These measures address pressure ulcers, healthcare-acquired conditions, sepsis, mortality rates, and medication management. Measures are also expected during the April 2019 cycle.

Perinatal and Women's Health

In 2017, there were approximately 4 million births in the U.S. in connection with which approximately 50,000 expectant and new mothers had to endure dangerous and life-threatening conditions, and between 700 and 900 women died as a result of pregnancy and childbirth complications. Despite perinatal healthcare accounting for the largest expenditure in U.S. healthcare ($111 billion in 2010), the U.S. continues to rank last in maternal outcomes in the industrialized world.[44] There are vast disparities in reproductive and perinatal healthcare and outcomes among different racial and ethnic groups making the issue a major concern for women, mothers, families, and the providers who care for them, and accordingly, making this area important for quality measurement.[45] NQF's current portfolio of 18 endorsed measures includes reproductive health, pregnancy, labor and delivery, post-partum care for newborns, and childbirth-related issues for women.

No measures were evaluated during the November 2017, April 2018, or November 2018 review cycles. Instead, the Committee discussed strategic issues in perinatal and women's health measurement such as identifying high-value measures, considering the need for "balancing" measures, or measures that can potentially mitigate an unintended or adverse consequence within a specific measurement focus, and providing guidance on measure concepts still under development.

Measures are expected for the April 2019 cycle.

Prevention and Population Health

The United States ranks lower than many other developed nations on health outcomes, yet spends more on healthcare than any other nation,[46] and continues to struggle with significant disparities in health and healthcare. Medical care has a relatively small influence on overall health when compared with behaviors such as smoking and poor diet, physical environmental hazards, and social factors (e.g., low educational achievement and poverty).[47] Social, environmental, economic, and behavioral factors all play a significant role in maintaining and improving health and well-being. These and other determinants of health contribute to up to 60 percent of deaths in the United States,[48] yet less than 5 percent of health expenditures target prevention.[49] NQF's current portfolio includes 34 endorsed measures that include immunization, pediatric dentistry, weight and body mass index; community-level indicators of health and disease, and primary prevention and/or screening.

During the November 2017 review cycle, NQF's Prevention and Population Health Standing Committee evaluated seven measures undergoing maintenance review. Ultimately, five measures were endorsed, and two measures did not maintain endorsement. This project concluded in August 2018. During the April 2018 review cycle, the Committee evaluated one measure undergoing maintenance review. This measure focused on primary prevention and/or screening. Ultimately, this measure was endorsed. The final report was published in January 2019.

NQF has ongoing work to review newly submitted measures of prevention and population health. Four measures were submitted for the November 2018 cycle. Measures are also expected for the April 2019 cycle.

Primary Care and Chronic Illness

Primary care offers a unique opportunity to improve the health of people and populations, as well as being a place where effective care management is practiced. In the primary care setting, focus is given to diagnosis and treatment of the entire patient, rather than a single disease. Chronic illness persists over long periods of time, at times without exhibiting any symptoms, thus making continued monitoring vital. The incidence, impact, and cost of chronic illness in the U.S. have drastically increased. At least 29 million Americans are living with diabetes, while 86 million are identified as having prediabetes. The estimated total cost of diagnosed diabetes has risen from $245 billion in 2012, to $327 billion in 2017 representing a 26 percent cost increase over a five-year period.[50]

High-quality performance measurement that captures the complexity of primary care and chronic illnesses is essential to improve diagnosis, treatment, and management of conditions. NQF's portfolio of measures may focus on nonsurgical eye or ear, nose, and throat conditions, diabetes care, osteoporosis, HIV, rheumatoid arthritis, gout, back pain, asthma, chronic obstructive pulmonary disease (COPD), and acute bronchitis.

No measures were evaluated during the November 2017 review cycle. Instead, the Committee convened virtually to provide guidance on prioritizing key areas for measure concepts still in development. During the April 2018 review cycle, NQF's Primary Care and Chronic Illness Standing Committee evaluated seven measures undergoing maintenance review. Six measures were endorsed, and one did not receive endorsement. The final report was published in January 2019

NQF has ongoing work to review newly submitted measures of primary care and chronic illness care. Two measures were submitted for the November 2018 cycle. Measures are also expected for the April 2019 cycle.

Renal

Renal disease is a leading cause of death and morbidity in the United States. An estimated 30 million American adults (15 percent of the population) have chronic kidney disease (CKD), which is associated with premature mortality, decreased quality of life, and increased healthcare costs. Left untreated, CKD can result in end-stage renal disease (ESRD), which afflicts over 700,000 people in the United States and is the only chronic disease covered by Medicare for people under the age of 65.[51, 52] NQF's current

portfolio of 21 endorsed renal measures includes dialysis monitoring, hemodialysis, peritoneal dialysis as well as patient safety.

No measures were evaluated during the November 2017 review cycle. During the April 2018 cycle, NQF's Renal Standing Committee evaluated two new measures that focus on kidney or kidney-pancreas transplant waitlists. Both measures received a reconsideration of endorsement request and are currently undergoing further review by the Standing Committee. The final report was published in January 2019.

No measures were submitted for the November 2018 cycle. However, measures are expected for the April 2019 cycle.

Surgery

Millions of Americans undergo surgical procedures each year, and the rate of these procedures is increasing annually, with 51.4 million inpatient procedures performed in 2010. In 2012, 28 percent of hospital stays (excluding maternal and neonatal stays) involved operating room procedures and accounted for nearly half of total hospital costs.[53] Consumers are increasingly turning to public reports of quality measures to make decisions about surgical care, looking specifically at the likelihood of surgical success, i.e., the surgery achieving its intended outcome and avoiding complications. Despite advances in improving surgical care and given the increasing rates of surgical procedures and associated costs, gaps persist in performance measurement and reporting that impair efforts to improve the safety and quality of surgical care. Performance measurement and reporting provide an opportunity to further improve the safety and quality of surgical care.

NQF's current portfolio includes 62 endorsed surgery measures, one of its largest, addressing cardiac, vascular, orthopedic, urologic, and gynecologic surgeries, and including measures for adult and child surgeries as well as surgeries for congenital anomalies. The portfolio also includes measures of perioperative safety, care coordination, and a range of other clinical or procedural subtopics. However, while significant strides have been made in some areas, measure gaps remain for certain types of procedures. Additionally, effective measures are needed to evaluate and improve overall surgical quality, shared accountability, and patient-centered care.

During the November 2017 review cycle, NQF's Surgery Standing Committee evaluated two new measures and one measure undergoing maintenance review. All three measures were endorsed. This project concluded in August 2018. During the April 2018 review cycle, the Committee evaluated two measures undergoing maintenance review. Ultimately, both measures received endorsement. The final report was published in January 2019.

NQF has ongoing work to review newly submitted measures of surgery care. Fifteen measures were submitted for the November 2018 cycle. Measures are also expected for the April 2019 cycle.

V. Stakeholder Recommendations on Quality and Efficiency Measures and National Priorities

Section 1890(b)(5)(A)(vi) of the Social Security Act requires the CBE to include in this report a description of annual activities related to multistakeholder group input on the selection of quality and efficiency measures from among: (i) such measures that have been endorsed by the entity; and (ii)... [that] are used or proposed to be used by the Secretary for the collection or reporting of quality and efficiency measures. Additionally, it requires that this report describe matters related to multistakeholder input on national priorities for improvement in population health and in delivery of health care services for consideration under the National Quality Strategy.

Measure Applications Partnership

Under section 1890A of the Act, HHS is required to establish a pre-rulemaking process under which a consensus-based entity (currently NQF) would convene multistakeholder groups to provide input to the Secretary on the selection of quality and efficiency measures for use in certain federal programs. The list of quality and efficiency measures HHS is considering for selection is to be publicly published no later than December 1 of each year. No later than February 1 of each year, the consensus-based entity is to report the input of the multistakeholder groups, which will be considered by HHS in the selection of quality and efficiency measures.[54]

NQF convenes the Measure Applications Partnership (MAP) to provide guidance on the use of performance measures in federal healthcare quality programs. MAP makes these recommendations through its pre-rulemaking process that enables a multistakeholder dialogue to assess measurement priorities for these programs. MAP includes representation from both the public and private sectors and includes patients, clinicians, providers, purchasers, and payers. MAP reviews measures that CMS is considering implementing and provides guidance on their acceptability and value to stakeholders. MAP was first convened in 2011 and completed its eighth year of review in 2018.

MAP comprises three setting-specific workgroups (Hospital, Clinician, and Post-Acute/Long-Term Care), one population-specific workgroup (Rural Health) and a Coordinating Committee that provides strategic guidance and oversight to the workgroups. MAP members represent users of performance measures, and over 135 healthcare leaders from 90 organizations serve on MAP. MAP conducts its pre-rulemaking work in an open and transparent process: the list of measures under consideration is posted publically, MAP's deliberations are open to the public, and the process allows for the submission of both oral and written public comments to inform the deliberations. For detailed information regarding MAP representatives, criteria for selection to MAP, and rosters, please see Appendix E and Appendix F.

MAP aims to provide input that ensures the measures used in federal programs are meaningful to all stakeholders. MAP focuses on recommending measures that empower patients to be active healthcare consumers and support their decision making, are not overly burdensome on providers, and can support the transition to a system that pays on value of care. MAP strives to recommend measures that will improve quality for all Americans and ensure that the transition to value-based purchasing and alternative payment models improves care and access, while reducing costs for all.

2018 Pre-Rulemaking Input

MAP published the findings of its 2017-2018 pre-rulemaking deliberations in a series of reports delivered in February and March 2018. MAP made recommendations on 35 measures under consideration for eight HHS quality reporting and value-based payment programs covering ambulatory, acute, and post-acute/long-term care settings (see Appendix G). A summary of this work is provided below. Additionally, MAP began new work in November 2018 to provide input on 39 measures under consideration for 10 HHS programs. Reports on this work are expected in February and March 2019.

MAP's pre-rulemaking recommendations reflect its Measure Selection Criteria and how well MAP believes a measure under consideration fits the needs of the specified program. The MAP Measure Selection Criteria are designed to demonstrate the characteristics of an ideal set of performance measures (see Appendix E). MAP emphasizes the need for evidence-based, scientifically sound measures while minimizing the burden of measurement by promoting alignment and ensuring measures are feasible. MAP also promotes person-centered measurement, alignment across the public and private sectors, and the reduction of healthcare disparities.

MAP Clinician Workgroup

The MAP Clinician Workgroup reviewed 25 measures under consideration (MUCs) for two programs addressing clinician or accountable care organization (ACO) measurement, making the following recommendations.

Merit-based Incentive Payment System (MIPS). MIPS was established by section 101(c) of MACRA.[55] MIPS is a pay-for-performance program for eligible clinicians. MIPS applies positive, neutral, and negative payment adjustments based on performance in four categories: quality, cost, promoting interoperability, and improvement activities. MIPS is one of two tracks in the Quality Payment Program (QPP).

MAP reviewed 22 measures for the MIPS. MAP supported three measures and conditionally supported 17 measures, including nine measures that promote affordability of care by assessing healthcare costs or appropriate use pending receipt of NQF endorsement. MAP recommended that two measures under consideration be refined and resubmitted prior to rulemaking. The Committee noted that the measures addressed promising concepts for measurement (e.g., in opioid use disorder and patient outcomes) but stressed the need for further testing to be completed prior to implementation in the MIPS. In particular, MAP emphasized the importance of completing measure testing at the clinician level of analysis prior to implementation in the MIPS program.

Measures for MIPS on the 2017 MUC list were under consideration for potential implementation in the 2019 measure set affecting the 2021 payment year and future years.

Medicare Shared Savings Program. Section 3022 of the Affordable Care Act (ACA) created the Medicare Shared Savings Program.[56] The Shared Savings Program creates an opportunity for providers and suppliers to create an Accountable Care Organization (ACO). An ACO is responsible for the cost and quality of the care for an assigned population of Medicare fee-for-service beneficiaries. For ACOs entering the program in 2017 or 2018 there were multiple participation options: (1) one-sided risk

model (sharing of savings only for all three years), (2) two-sided risk model (sharing of savings and losses for all three years) with preliminary prospective assignment with retrospective reconciliation, and (3) two-sided risk model (sharing of savings and losses for all three years) with prospective assignment.

In its 2017-2018 pre-rulemaking work, MAP reviewed and conditionally supported three measures for the Shared Savings Program. MAP conditionally supported two measures addressing diabetes care, noting the importance of these measures given the prevalence of diabetes but noted the need to ensure the set is as parsimonious as possible and that there are no competing measures in the program. MAP conditionally supported one measure addressing the use of aspirin or anti-platelet medication for ischemic vascular disease, again emphasizing the need to ensure there are not competing measures in the program. These measures have not yet been proposed by CMS for addition to the Shared Savings Program measure set.

An overarching theme of MAP's pre-rulemaking recommendations for measures in the MIPS and the Shared Savings Program was the need to balance driving improvements with accurate and actionable measurement. MAP recognized the tension between developing measures that address important outcomes and costs and concerns about accuracy and a clinician's locus of control. MAP members emphasized the importance of appropriate attribution and adequate risk adjustment. MAP members noted that measures that give actionable information are more likely to be acceptable to clinicians.

MAP emphasized the need to ensure that the information generated by these measures is actionable and allows clinicians to understand how they can improve their performance. MAP members encouraged CMS to provide detailed data to clinicians, as detailed data are more actionable for clinicians than an aggregated measure score alone. MAP also emphasized the importance of providing equitable care and that appropriate risk adjustment can help ensure that clinicians who care for more complex and vulnerable patients are not unfairly penalized with lower measure scores for factors that these clinicians cannot control.

MAP Hospital Workgroup

The MAP Hospital Workgroup reviewed nine measures under consideration (MUCs) for five hospital and other setting-specific programs, making the following recommendations.

End-Stage Renal Disease Quality Incentive Program. The End-Stage Renal Disease Quality Incentive Program (ESRD QIP) is a value-based purchasing program established to promote high-quality services in dialysis facilities treating patients with ESRD. Payments to dialysis facilities are reduced if facilities do not meet or exceed the required total performance score established by CMS for the year. Payment reductions are on a sliding scale, which could amount to a maximum of 2 percent per year.

MAP reviewed three measures under consideration for the ERSD QIP program, supporting one and conditionally supporting two.

PPS-Exempt Cancer Hospital Quality Reporting Program. The Prospective Payment System (PPS)-Exempt Cancer Hospital Quality Reporting (PCHQR) Program is a voluntary quality reporting program for PPS-exempt cancer hospitals.[57]

MAP reviewed and supported one measure under consideration for the PCHQR program.

Ambulatory Surgery Center Quality Reporting Program. The Ambulatory Surgical Center Quality Reporting (ASCQR) Program is a pay-for-reporting program. Ambulatory Surgical Centers (ACSs) that fail to meet program requirements receive a 2 percent reduction in the annual payment update.

MAP reviewed one measure under consideration for the ASCQR program, conditionally supporting it.

Hospital Outpatient Quality Reporting Program. The Hospital Outpatient Quality Reporting (OQR) Program is a pay-for-reporting program. Subsection (d) hospitals that fail to meet program requirements receive a 2 percent reduction in the annual payment update. MAP reviewed one measures under consideration for the Hospital OQR Program. MAP did not support the measure.

Hospital Inpatient Quality Reporting Program/Medicare and Medicaid Promoting Interoperability Program. The Hospital Inpatient Quality Reporting (IQR) Program is a pay-for-reporting program that requires subsection (d) hospitals to report on process, structure, outcomes, patient perspectives on care, efficiency, and costs of care measures. For hospitals that do not participate or meet program requirements, the applicable percentage increase is reduced by one-quarter. MAP reviewed three measures under consideration for the Hospital IQR Program and/or Promoting Interoperability Programs, conditionally supporting two, and suggesting refinements to one.

The MAP Hospital Workgroup noted the need to promote alignment and harmonization to reduce provider burden and provide better information to patients. MAP noted the need to balance addressing cost and quality issues through measurement with the finite resources available. MAP noted that greater alignment across public and private payers is a strategy to minimize the burden of measurement while maximizing the power of value-based purchasing incentives. Aligned measures could also help consumers make more informed choices about where to seek high-quality care, especially for treatments that could be provided in different settings.

MAP PAC/LTC Workgroup

The Measure Applications Partnership (MAP) reviewed measures under consideration for one setting-specific federal program addressing post-acute care (PAC) and long-term care (LTC), making the following recommendations

Skilled Nursing Facility Quality Reporting Program. The Skilled Nursing Facility Quality Reporting Program (SNF QRP) is a pay-for-reporting program[58] that applies to freestanding SNFs, SNFs affiliated with acute care facilities, and all noncritical access hospital swing-bed rural hospitals. SNFs that do not submit the required data with respect to a fiscal year are subject to a 2 percent reduction in their annual payment rates for the fiscal year.

MAP reviewed and supported one measure under consideration for the SNF QRP. Additionally, the MAP PAC/LTC Workgroup noted that important progress has been made in addressing critical measurement gaps but that important concepts remained unmeasured. In particular, MAP emphasized the importance of care coordination in post-acute and long-term care, as patients may frequently transition between sites of care. The PAC/LTC Workgroup also provided guidance on additional potential gaps in the Merit-

Based Incentive Payment System (MIPS), noting that post-acute and long-term care clinicians may find it challenging to report measures that allow them to participate in the program.

2018 Measurement Guidance for Medicaid and CHIP

Collectively, the 57 Medicaid state plans act as one of the largest purchasers of healthcare services in the United States, serving nearly 73 million individuals.[59] Over 35 million, or almost half of the people enrolled in Medicaid and CHIP, are children.[60] As the primary healthcare program for the nation's low-income population,[61] Medicaid covers many individuals with a high need for medical and healthcare services, including the growing population of more than 11 million individuals who are dually eligible for both Medicare and Medicaid.[62] Medicaid beneficiaries with complex care needs account for roughly 54 percent of total Medicaid expenditures, despite comprising just 5 percent of all Medicaid beneficiaries.[63] Moreover, Medicaid covers nearly 50 percent of all births as well as 40 percent of children's healthcare in the United States.[64] Understanding the needs of adults and children who rely on Medicaid for their healthcare is imperative for improving their health and the quality of their care.

In 2018, NQF continued its efforts to improve healthcare for the population enrolled in Medicaid and CHIP by recommending standardized measures to evaluate quality of care across states in key areas. NQF issued its recommendations on Medicaid's core measures in a series of three reports.

Strengthening the Core Set of Healthcare Quality Measures for Adults Enrolled in Medicaid, 2018[65]

Section 1139B of the Social Security Act (amended by the ACA)[b] called for the creation of a Core Set of Health Care Quality Measures for Adults Enrolled in Medicaid (the Adult Core Set) to assess the quality of care for adults enrolled in Medicaid. HHS established the Adult Core Set to standardize the measurement of healthcare quality across state Medicaid programs, assist states in collecting and reporting on the measures, and facilitate use of the measures for quality improvement.[66] In January 2012, HHS published the initial Adult Core Set of measures in partnership with a subcommittee to the AHRQ's National Advisory Council.[67] The 2018 Adult Core Set contained 33 healthcare quality measures.

In 2018, NQF's Medicaid Adult Workgroup recommended improvements to the Adult Core Set. The Workgroup identified high-priority gaps where more or better quality measures are needed (see Appendix I). In its final and sixth set of recommendations on the Adult Core Set, published in August 2018, the Workgroup recommended the addition of up to eight measures to address patients' feedback about the quality of long-term services received in a community setting, opioid use, depression, tobacco and alcohol cessation, and access to medication. The Workgroup supported the removal of two measures from the Adult Core Set. The Workgroup noted states' reporting challenges regarding data collection for one measure and potential duplication with the reporting required of hospitals by The Joint Commission. For the other measure, the Workgroup noted the reporting challenges caused by the measure's data source and by confidentiality laws. This further exemplifies MAP's role in reducing measurement burden and increasing data collection feasibility.

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[b] Funds allocated in accordance with duties prescribed under Section 1139B are authorized in accordance with SSA Sec. 1139B(e) and not attributed to the funding received under SSA Sec. 1890(d)(1-2).

In federal fiscal year (FFY) 2017, 43 states voluntarily reported data for the Adult Core Set, up from 41 states in FFY 2016. The Workgroup made several recommendations to continue improving Adult Core Set reporting at the state level. The Workgroup emphasized maximizing data utility and lowering data collection burden. A key element of both recommendations was improving the information available on social risk factors—noting how the collection of those data support stratification based on unique subpopulation needs. Better access to social risk data will allow Medicaid agencies, providers, and payers to better address nonclinical community level factors that adversely affect health and healthcare outcomes.

Strengthening the Core Set of Healthcare Quality Measures for Children Enrolled in Medicaid and CHIP, 2018[68]

Under SSA Section 1890(b)(1)(B) the NQF is required to synthesize evidence and convene key stakeholders to make recommendations on priorities for health care performance measurement in all applicable settings. In making such recommendations, the NQF must take into account measures that may assist consumers and patients in making informed health care decisions, address health disparities, and, address the continuum of care a patient received, including services furnished by multiple health care providers or practitioners and across multiple settings.

The Children's Health and Insurance Program Reauthorization Act of 2009 (CHIPRA) required HHS to develop standards to measure the quality of children's healthcare. This legislative mandate led to the identification of the Core Set of Health Care Quality Measures for Children Enrolled in Medicaid and CHIP (the Child Core Set). CMS released the initial Child Core Set in 2010. Measures in the Child Core Set are relevant to children ages 0-20 as well as pregnant women because these measures address both prenatal and postpartum quality-of-care issues. CHIPRA also required CMS to recommend updates to the initial Child Core Set annually beginning in January 2013. The 2018 Child Core Set contained 26 healthcare quality measures.

NQF's Medicaid Child Workgroup recommends improvements to the Child Core Set annually. The Workgroup also has identified high-priority gaps where more or better quality measures are needed (see Appendix I). In its fifth set of annual recommendations on the Child Core Set, published in August 2018, the Workgroup recommended the addition of six measures to address patients with sickle cell anemia, hospital readmissions, behavioral health, and patient experience of care. The Workgroup did not recommend any current measures for removal from the set.

Every state reported at least one of the Child Core Set measures for FFY 2017.[69] As with the Adult Core Set, the gradual addition of measures to the Child Core Set has allowed states to build their measure-reporting infrastructure, as evidenced by the increase in the number of states voluntarily reporting on measures. The Workgroup suggested maximizing the usefulness of data collection as well as lowering the burden of data collection. In particular, the Workgroup highlighted the need for better data on social determinants of health (SDOH), noting this information could help agencies identify the needs of specific populations. Moreover, better information on SDOH could allow Medicaid agencies, providers, and payers to consider nonclinical community level factors that lack funding yet adversely affect health

outcomes. The review of the Medicaid Adult and Child Core Measure Sets was concluded with the completion of the 2018 report.

Medicaid and CHIP (MAC) Scorecard Initiative

The Medicaid and CHIP (MAC) Scorecard initiative aims to provide greater public transparency about Medicaid and CHIP program administration and outcomes. The Scorecard is also a resource to assist states and CMS in aligning efforts to drive improvements, at the federal and state-levels, in the health outcomes of the Medicaid/CHIP beneficiaries and in the administration of these programs. The Scorecard is divided into three pillars: state health system performance, state administrative accountability, and federal administrative accountability. Each of these areas contain state and federally reported measures.[70]

NQF will convene the Medicaid Adult and Child Workgroups to provide input to HHS on the state health system performance pillar of the Medicaid Scorecard. This one-year project will inform the selection of measures for the Scorecard. A final report is expected in September 2019.

VI. Gaps on Endorsed Quality and Efficiency Measures Across HHS Programs

Under section 1890(b)(5)(A)(iv) of the Act, the entity is required to describe in the annual report gaps in endorsed quality and efficiency measures, including measures within priority areas identified by HHS under the agency's National Quality Strategy, and where quality and efficiency measures are unavailable or inadequate to identify or address such gaps.

Gaps Identified in Completed Projects 2018

During their deliberations, NQF's endorsement standing committees discussed and identified gaps that exist in current project measure portfolios. A list of these gaps included in related reports issued in 2018 can be found in Appendix J.

Measure Applications Partnership: Identifying and Filling Measure Gaps

In addition to its role in recommending measures to CMS in the pre-rulemaking process, MAP also provides guidance on measure gaps in the individual federal programs and measure portfolios. The individual MAP workgroups consult the Program Specific Measure Priorities and Needs document published by CMS prior to the commencement of workgroup deliberations.[71] In this document, CMS identifies high-priority domains in each of the federal programs for future measure consideration. A list of gaps identified by CMS program can be found in Appendix H.

VII. Gaps in Evidence and Targeted Research Needs

Under section 1890(b)(5)(A)(v) of the Act, the entity is required to describe areas in which evidence is insufficient to support endorsement of quality and efficiency measures in priority areas identified by the Secretary under the National Quality Strategy and where targeted research may address such gaps.

NQF undertook several projects in 2018 to create needed strategic approaches, or frameworks, to measure quality in areas critical to improving health and healthcare for the nation but for which quality measures are too few, are under developed, or nonexistent.

A measurement framework is a conceptual model for organizing ideas that are important to measure for a topic area and for describing how measurement should take place (i.e., whose performance should be measured, care settings where measurement is needed, when measurement should occur, or which individuals should be included in measurement). Frameworks provide a structure for organizing currently available measures, areas where gaps exist, and prioritization for future measure development.

NQF's foundational frameworks identify and address measurement gaps in important healthcare areas, underpin future efforts to improve quality through metrics, and ensure safer, patient-centered, cost-effective care that reflects current science and evidence.

NQF began projects to create strategic measurement frameworks for assessing population-based trauma outcomes, healthcare system readiness, chief complaint-based quality for emergency care, and developing a systematic way to collect feedback on performance measures. In other work, NQF continued its efforts to support structured reporting of patient safety events in hospitals and other care settings. NQF completed a project to identify measure concepts that can improve the quality and safety of care in ambulatory care settings.

Population-Based Trauma Outcomes

According to the Centers for Disease Control and Prevention, trauma, including both non-intentional and intentional injuries, is the fourth leading cause of death in the United States. Furthermore, it is the leading cause of death in individuals ages 1-46.[72,73] In addition to the loss of life and potential lasting disabilities from trauma, the financial impact of trauma on both the healthcare system and society is significant. Injuries result in 40 million emergency department (ED) visits and 11.2 million hospital admissions every year in the U.S.[74] In 2012, the highest condition-related expenditure total among adults ages 18–64 was for treatment of trauma-related disorders ($56.7 billion).[75]

Despite the magnitude and expense of trauma, there are few performance measures that address the quality of trauma care. Performance measures provide an opportunity to assess key aspects of care for specific conditions or settings of care and identify levers and areas where focused attention can promote improvement in the quality of care. In its 2016 report *A National Trauma Care System*, the National Academies of Science, Engineering, and Medicine (NASEM) convened a committee to examine military and civilian trauma systems to identify opportunities for improving the quality of trauma care.[76] The committee noted the absence of standard, national metrics for trauma care, and called for further development of measures in this area.

Measurement related to trauma care presents unique challenges, such as assessing and attributing performance across the trauma care continuum, including prehospital care (e.g., emergency medical services and coordination of patient transport) and post-acute care (e.g., rehabilitation). Responsibility for patient care and patient outcomes is distributed among multiple stakeholders, including regional and

community actors. Measures that promote shared accountability, such as population-level measures, may help to drive greater integration of care and system-wide improvement.

NQF has convened a multistakeholder Expert Panel to identify areas for measure development and gaps in trauma care. This one-year project, in collaboration with the HHS Office of the Assistant Secretary for Preparedness and Response (ASPR), will inform the development of measures related to the quality of trauma care and synthesize evidence to identify the most promising approaches to measurement in this area. A report is expected in May 2019.

Healthcare Systems Readiness

Preparing and responding to natural or manmade disasters—such as bioterrorism, disease outbreaks, and inclement weather—is an essential part of meeting the nation's healthcare needs. Improving healthcare and public health systems and capacities for health security threats has been a focus in recent years. Despite substantial progress, complex challenges persist, and preparedness efforts may not be sufficient.[77] Despite the development of cross-sector programs to improve the nation's preparedness capabilities during national and regional emergencies, many parts of the U.S. remain unprepared for emergencies. Results from the 2017 National Health Security Preparedness Index show preparedness improvements; however, there are still large differences in preparedness capabilities across the U.S. with some regions lagging significantly behind the rest of the nation.[78]

A successful and robust response to health threats requires collaborative action and engagement between public sector entities and private sector healthcare facilities; however, there remain challenges in applying incentives to improve the quality and effectiveness of these capacity-expanding efforts. The current landscape of healthcare system readiness measurement includes critical and relevant metrics for public health and disease surveillance programs. There is, however, a lack of quality and accountability metrics specific to health system readiness to incentivize private-public partnerships within the healthcare sector to ensure the delivery of high-quality care during times of system stress with the goal of improving person-centered care, value, and cost efficiency.

NQF has convened a multistakeholder Expert Panel to develop a measurement framework to assess the readiness of hospitals, healthcare systems, and communities to respond to and recover from disasters and public health emergencies. This one-year project will define the concept of health system readiness and inform the development of measures related to the quality of the health system's response to emergencies. A report is expected in June 2019.

Chief Complaint Based Quality for Emergency Care

Emergency physicians are playing an increasingly important role in the delivery of acute, unscheduled care. The National Center for Health Statistics estimates there were 141.4 million ED visits in 2017.[79] The majority of ED care focuses on diagnosing and treating a patient's chief complaint or the reason for the person's visit rather than addressing a definitive diagnosis. A patient's chief complaint describes the most significant symptoms or signs of illness (e.g., chest pain, headache, fever, abdominal pain, etc.) that caused him or her to seek healthcare.

Current measurement approaches are primarily based on discharge diagnoses, and do not address the variability in practice required to establish the diagnosis from a chief complaint. Moreover, there is a lack of standard nomenclature to define how chief complaints are organized, categorized, and assigned. In addition, a reliance on diagnosis-based administrative claims for quality measurement creates barriers to establishing valid and reliable patient groups. Currently, there is no national guidance to overcome these barriers to use chief complaints in quality measurement for patients presenting to the ED.

NQF has convened a multistakeholder Expert Panel to develop a strategic plan for how chief complaints can be addressed through quality measurement. This one-year project, funded by HHS, will identify performance measures (NQF-endorsed or otherwise), measure concepts, and gaps in the set of available performance measures related to chief complaints, as well as nomenclatures and data sources thereof. Additionally, NQF will elicit suggestions from the Expert Panel for standardizing chief complaint-based nomenclature, as well as existing assessments of the strengths and weaknesses of current data sources (e.g., existing clinical content standards, processed free text, EHRs) for developing either new eMeasures in this space, or new measures that incorporate the patient perspective. A report is expected in June 2019.

Ambulatory Care Patient Safety

According to the National Center for Health Statistics (NCHS), there were approximately 884.7 million physician office visits compared with 125.7 million hospital visits in 2014.[80] A review of patient safety in primary care found that incidents happen in 2 to 3 percent of visits compared to 10 percent of hospitalizations.[81] Measurement of patient safety in ambulatory care settings is critical to promoting better and safer care for patients and families. Yet the current landscape of performance measures that can assess patient safety in ambulatory care is poorly understood, as patient safety research and measurement have largely focused on adverse events in hospital settings.[82]

Several barriers impede the measurement of patient safety in ambulatory care settings. First, ambulatory care often involves short, infrequent, or irregular interactions between patients and providers, which makes establishing a measurement period or episode of care challenging. Second, the lack of standardized measures itself results in a limited evidence base for the nature and frequency of patient safety events and interventions to reduce them. As a result, few guidelines or best practices exist for improving patient safety in ambulatory care. Third, patients interact with multiple providers and across multiple settings, including specialty and primary care, which makes it difficult to attribute processes and outcomes of care. In addition, the heterogeneity across providers, professionals, and patient populations may undermine the comparability of measure results.

In 2018, NQF concluded a one-year project to improve measurement of patient safety in ambulatory care settings and inform the development of priority measures to improve patient safety across ambulatory care settings. NQF convened an advisory panel of experts to identify a representative sample of measures and measure concepts that apply to care provided by clinicians, health plans, health systems, and others engaged in ambulatory care. To support this work, NQF conducted an environmental scan of measures and measure concepts and found 55 performance measures and 297

measure concepts. For the purposes of the environmental scan, NQF defined a measure as an assessment tool that aggregates data to assess the structure, processes, and outcomes of care within and between entities. NQF defined a measure concept as a description of an existing or potential assessment tool or instrument that includes planned target and population.

Based on a literature review and input from the advisory group, measures and concepts were grouped into one of the following categories:

- medication management and safety;
- care transitions and handoffs;
- diagnostic safety;
- prevention of adverse events and complications; and
- safety culture.

NQF also conducted key informant interviews with experts who practice or research patient safety in ambulatory care to provide input on important areas for measure development based on the findings of the environmental scan. The advisory group and key informants identified antibiotic overuse and opioid prescription patterns as some of the most important topical areas for measurement. Both key informants and advisory group members acknowledged the barriers to measure development in ambulatory care. For example, there is a lack of standardized methods for data collection, poor interoperability between medical record systems, and a lack of funding for clinical informatics to support continuous quality improvement.

The report revealed significant gaps in research and performance measures that can assess safety in ambulatory care settings. The majority of research has focused on safety in hospital settings, which has created an evidence-base for many patient safety measures that exist today. However, there remains a need to research, measure, and mitigate harm in ambulatory care settings. The lag in patient safety research in ambulatory care has several potential causes. Primarily, patient safety in ambulatory care settings has yet to receive the national attention that errors in hospital settings have attracted. Moreover, the perception of risk in ambulatory care is lower leading to limited monitoring of patient safety. However, improved measurement provides an opportunity to better understand and address patient safety in outpatient settings.

Common Formats for Patient Safety

Under section 1890(b)(5)(A)(v) of the Act, the entity is required to describe areas in which evidence is insufficient to support endorsement of quality and efficiency measures in priority areas identified by the Secretary under the National Quality Strategy and where targeted research may address such gaps.

In 2008, AHRQ first released Common Formats to support structured reporting of safety events in hospitals. These reporting techniques standardize the collection of patient-safety event information using common language, definitions, and reporting formats. Use of common data fields for event reporting ensures that information shared with Patient Safety Organizations (PSOs) is consistent across healthcare providers and can be aggregated to provide population-level insights into trends in adverse events.

In 2018, NQF continued to collect comments on all elements of the Common Formats, including the most recent release, Hospital Common Formats Version 0.2 Beta. The public has an opportunity to comment on all elements of the Common Formats modules using commenting tools developed and maintained by NQF. An NQF Expert Panel reviews the public comments and provides AHRQ feedback with the goal of improving the Common Formats modules.

VIII. Coordination with Measurement Initiatives by Other Payers

Section1890(b)(5)(A)(i) of the Social Security Act mandates that the Annual Report to Congress and the Secretary include a description of the implementation of quality and efficiency measurement initiatives under this Act and the coordination of such initiatives with quality and efficiency initiatives implemented by other payers.

Exploration of Approach to Measure Feedback

Over the past decade, the National Quality Forum (NQF) has endorsed more than 630 healthcare performance measures addressing many important areas of health and healthcare. NQF actively seeks feedback on NQF-endorsed measures currently in use. While NQF receives some information from measure developers and stewards about the implementation and use of measures within both the measure endorsement and selection processes, stronger and more standardized feedback is needed to better understand what happens after a measure is implemented. Stakeholders need information that would allow them to better understand how a measure performs when in use, and the possible issues or risks that may be associated with the measure's implementation, such as whether a measure is having the intended effect of improving quality of care and health outcomes or evaluating if the measure is causing unintended consequences. By gathering meaningful, timely, and comprehensive feedback on measures in use, the healthcare quality improvement enterprise can continually improve and the resources required to develop, implement, and endorse measures that will drive improvement can be targeted effectively.

Numerous individuals at all levels of clinical care provide information for, and contribute data used in, measure performance tracking. For this reason, successful collection of measure feedback will require extensive communication and outreach to individuals at all levels of measure implementation, as well as easy to use digital tools and tracking mechanisms that complement existing activities. Feedback mechanisms can be rolled out across settings to assist in identifying and resolving problems as they arise, thereby adapting measures to ensure best practice.

NQF has convened a multistakeholder Expert Panel to identify and recommend potential options for the implementation of a "measure feedback loop", a process that conveys qualitative and quantitative information about measure performance to the NQF standing committee members evaluating the measure for endorsement. This 15-month project, funded by HHS, will identify current sources of information about measure performance, explore options for a process to pilot a measure feedback loop, and outline options for implementing the selected plan. A report is expected in June 2019.

Core Quality Measures Collaborative – Private and Public Alignment

A majority of Americans receive care through a value-based care arrangement, one that ties payment to the quality of care. Both public- and private-sector payers use value-based purchasing to ensure care is high quality and cost efficient. Ensuring the right quality measures are used across payers is essential to delivering results that will lead to a stronger, better healthcare system and reduce clinician burden. To achieve that goal, the Centers for Medicare & Medicaid Services (CMS) and America's Health Insurance Plans (AHIP)—in partnership with the National Quality Forum (NQF)—have officially formalized the Core Quality Measures Collaborative (CQMC) to improve healthcare quality for every American.

The Core Quality Measures Collaborative (CQMC) is a multistakeholder, voluntary effort created to promote measure alignment and harmonization across public and private payers. The collaboration aims to add focus to quality improvement efforts, reduce the reporting burden for providers, and offer consumers actionable information to help them make decisions about where to receive their care. The CQMC is comprises of over 55 member organizations and overseen and governed by the CQMC Steering Committee. It includes experts from insurance providers, businesses, primary care and specialty societies, patient groups, measurement experts, and regional leaders.

The Collaborative has three main aims:

- Recognize high-value, high-impact, evidence-based measures that promote better patient health outcomes, and provide useful information for improvement, decision making, and payment.
- Reduce the burden of measurement and volume of measures by eliminating low-value metrics, redundancies, and inconsistencies in measure specifications and quality measure reporting requirements across payers.
- Refine, align, and harmonize measures across payers to achieve congruence in the measures being used for payment and other accountability purposes.

The CQMC has developed and released core sets of quality measures that could be implemented across both commercial and government payers. The guiding principles used by the CQMC in developing the core measure sets are that they be meaningful to patients, consumers, and physicians, while reducing variability in measure selection, collection burden, and cost. The core measure sets address:

- Accountable Care Organizations (ACOs), Patient Centered Medical Homes (PCMH), and Primary Care
- Cardiology
- Gastroenterology
- HIV and Hepatitis C
- Medical Oncology
- Obstetrics and Gynecology
- Orthopedics
- Pediatrics

NQF will provide expertise to the CQMC on updating existing core measure sets and expanding into new clinical areas. NQF will also work collaboratively with CQMC members to develop strategies for facilitating implementation across care settings and promote measure alignment. Specifically, with funding from AHIP, NQF will convene the CQMC to update the existing core sets by reviewing new measures that could be added to the sets, removing measures that no longer represent a meaningful opportunity for improvement or have implementation issues, and refining the key measurement gaps in that topic area. With funding from CMS, NQF developed web site to support the Collaborative, identify priority areas for new core sets, refine the group's measure selection criteria, provide guidance on implementation and offer technical support to the CQMC as well as other stakeholders seeking to use the core measures. More information can be found on the Collaborative's website at http://www.qualityforum.org/cqmc.

IX. Conclusion

NQF's work is fundamental to supporting the healthcare system's transition to value instead of volume. Public and private payers continue to look to value-based purchasing and alternative payment models as methods to reduce the growth of healthcare costs and to incentivize high-quality care. However, such payment models require evidence-based and scientifically sound performance measures to assess the value of care provided rather than the volume of services rendered. Moreover, these measures must be implemented in a way that minimizes provider burden while advancing national healthcare improvement priorities.

The National Quality Strategy outlined a series of national priorities for healthcare improvement including making care safer, strengthening person and family engagement, promoting effective communication, promoting effective prevention and treatment of chronic disease, working with communities to promote best practices of healthy living, and making care affordable. In 2018, NQF continued to advance these priorities by focusing on work to improve health and healthcare for Americans living in rural areas. NQF completed work to identify key measures that could improve rural health and explore healthcare access challenges faced by rural residents. Additionally, NQF began a new project to provide feedback and recommendations to address the low case-volume challenge faced by many rural providers and convened the Rural Health Workgroup to provide input into the annual pre-rulemaking process.

NQF continued to bring together experts through multistakeholder committees to identify high-value, meaningful, and evidence-based performance measures. NQF's work to review and endorse performance measures provides stakeholders with valuable information to improve care delivery and transform the healthcare system. NQF-endorsed measures enable clinicians, hospitals, and other providers to understand if they are providing high-quality care and where improvement efforts may need to be focused. Similarly, NQF-endorsed measures support efforts by public- and private-sector payers and purchasers to promote value-based purchasing and compare quality across providers.

NQF maintains a portfolio of evidence-based measures that address a wide range of clinical and cross-cutting topic areas. NQF strives to endorse meaningful and high-value measures and recognizes the

need for measures of healthcare outcomes. In 2018, NQF endorsed 38 new measures and removed endorsement for 40 measures across 28 endorsement projects addressing 14 topic areas.

NQF remains committed to ensuring the endorsement process is innovative and efficient. In 2018, NQF implemented key process improvements that reduced the measure endorsement process to seven months, allowed for two measure review cycles every year, and enhanced transparency through an expanded 15+ week opportunity for public comment for each endorsement project. NQF also established a Scientific Methods Panel to assist in the review of complex measures and provide methodological guidance across NQF's work. NQF also continued to advance the underlying science of measurement through work on attribution and social risk.

NQF's Measure Applications Partnership (MAP) convenes organizations across the private and public sectors to recommend measures for use in federal programs and provide strategic guidance on future directions for these programs. MAP comprises stakeholders from across the healthcare system including patients, clinicians, providers, purchasers, and payers. Through its seven years of pre-rulemaking reviews, MAP has aimed to lower costs while improving quality, promote the use of meaningful measures, reduce the burden of measurement by promoting alignment and avoiding unnecessary data collection, and empower patients to become active consumers by ensuring they have the information necessary to support their healthcare decisions. MAP's work that concluded in 2018 included a review of 35 unique performance measures under consideration for use in eight HHS quality reporting and value-based payment programs covering clinician, hospital, and post-acute/long-term care settings. Additionally, MAP began new work in November 2018 to provide input on 39 measures under consideration for 10 HHS programs.

In 2018, NQF standing committees identified measure gaps, areas where high-value measures are too few or may not yet exist, but are needed. MAP also identified measure gaps in federal healthcare programs, and NQF's Medicaid Workgroup noted gaps in the core measure sets that states use to assess care for adults and children on Medicaid.

NQF's work also laid out strategic directions for how measurement could be leveraged to advance quality in areas that may not currently be assessed. NQF identified measure concepts that can be used to improve the quality and safety of care in ambulatory care settings and began new work to improve trauma care, assess the readiness the healthcare system to respond to and recover from disasters and public health emergencies, and develop a strategic plan for how chief complaints can be addressed through quality measurement.

Finally, NQF sought to promote coordination across public and private payers to promote the use of high-value measures and support the transition to value while minimizing the burden on clinicians and providers. NQF began work to support the collection of better information about what happens after a measure is implemented to ensure that NQF-endorsed measures are driving meaningful improvements and not causing negative unintended consequences. NQF also began hosting the Core Quality Measure Collaborative to promote alignment across public and private payers through the use of core measure sets.

In 2019, NQF looks forward to continuing work that supports the transition to value by improving the science of measurement, promoting improvements towards key national health and healthcare priorities, and continuing to develop a portfolio of meaningful measures that public and private payers, providers, and patients can rely upon to improve health and healthcare value.

X. References

[1] Throughout this report, the relevant statutory language appears in italicized text.

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Appendix A: NQF Funding and Operations

1. Federally Funded Contracts Awarded in FY 2018

IDIQ Contract	Contract Number	Task Order Name	Period of Performance	Contract Amount
HHSM-500-2017-00060I	75FCMC18F0001	Social Risk Trial	May 15, 2018 – May 14, 2019 (Base Year)	$402,295
HHSM-500-2017-00060I	75FCMC18F0002	Population-based Trauma Outcomes	May 22, 2018 – May 21, 2019	$647,575
HHSM-500-2017-00060I	75FCMC18F0003	Healthcare System Readiness	June 20, 2018 – June 19, 2019	$691,934
HHSM-500-2017-00060I	75FCMC18F0004	MAP Rural Health	September 1, 2018 – March 31, 2019	$413,020
HHSM-500-2017-00060I	75FCMC18F0005	Chief Complaint-Based Quality for Emergency Care	June 29, 2018 – June 28, 2019	$695,282
HHSM-500-2017-00060I	75FCMC18F0007	Feedback Loop	September 14, 2018 – March 13 2020	$805,994
HHSM-500-2017-00060I	75FCMC18F0008	Medicaid and CHIP (MAC) Scorecard	September 10, 2018 – September 9, 2019 (Base Year)	$747,950
HHSM-500-2017-00060I	75FCMC18F0009	Core Quality Measures Collaborative	September 14, 2018 – September 13, 2019 (Base Year)	$122,271
HHSM-500-2017-00060I	75FCMC18F0010	Common Formats	September 14, 2018 – September 13, 2019	$126, 621
HHSM-500-2017-00060I	HHSM-500-T0001	Endorsement and Maintenance	September 27, 2018 – September 26, 2019 (Option Year 1)	$9,263,381
HHSM-500-2017-00060I	HHSM-500-T0002	Annual Report	September 27, 2018 – September 26, 2019 (Option Year 1)	$120,405
TOTAL AWARD				**$14,036,728**

2. NQF Financial Information for FY 2018 *(unaudited)*

NQF Internal Financial Information	
Contributions and Grants	**$19,845,540**
Program Service Revenue	$597,364
Investment Income	$148,765
Other Revenue	$50,964
TOTAL REVENUE	**20,642,633**
Grants and Similar Amounts Paid	---
Benefits Paid To or For Members	---
Salaries, Other Compensation, Employee Benefits	12,854,288
Professional Fundraising Fees	
Other Expenses[c]	$5,960,996
TOTAL EXPENSES	**$18,815,284**

[c] "Other Expenses" may include operating and overhead costs.

Appendix B: Multistakeholder Group Rosters: Committee, Workgroups, Task Forces, and Advisory Panels

As a consensus-based entity, NQF ensures there is comprehensive representation from the healthcare sector across all of its convened committees, workgroups, task forces, and advisory panels. In 2018, NQF convened 677 volunteers across 30 multistakeholder groups. Of these groups, it included the following:

Healthcare Sector	Percentage by Healthcare Sector
Provider	43%
Patient/Caregiver	1%
Consumer	4%
Health Professional	19%
Supplier/Industry	2%
Health Plan	6%
QMRI	6%
Health Agency	1%
Health Plan	6%
Public/ Community Health	4%
Public Health and Measurement Researcher (PHMR)	7%

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Appendix D: 2018 Activities Performed Under Contract with HHS

1. Recommendations on the National Quality Strategy and Priorities

Description	Output	Status	Notes/Scheduled or Actual Completion Date
Improving attribution models	Exploration of key attribution challenges and key considerations for evaluating attribution models	Completed	Final report published August 2018
Improving access to healthcare in rural populations	Provides multistakeholder recommendations for a core set of rural-relevant measures	Completed	Final report published August 2018
Assessing patient safety in ambulatory care settings	Provides multistakeholder recommendations on a representative sample of ambulatory care patient safety measures and measure concepts for further exploration	Completed	Final report published June 2018
An environmental scan of measurement strategies for addressing trauma care	Provides multistakeholder recommendations on measurement strategies to address the quality of trauma care that include level of analysis, attribution and risk adjustment	Completed	Final report published October 2018
Improving access to healthcare in rural populations: Technical expert panel recommendations	Provides multistakeholder recommendations to address the low case-volume challenge faced by rural providers	In progress	Final report expected March 2019
Healthcare Systems Readiness	Provides multistakeholder recommendations to assist in assessing healthcare system readiness to ensure the sustained delivery of high-quality care during times of disasters and public health emergencies.	In progress	Final report expected June 2019
Medicaid and CHIP (MAC) Scorecard	Provides multistakeholder recommendations on quality measures for the MAC Scorecard's state health performance pillar	In progress	Final report expected September 2019
Exploration of approaches to measure feedback	Provides multistakeholder recommendation on the implementation of a 'measure feedback loop', a process that conveys information about measure performance (qualitative and quantitative) to multistakeholder groups evaluating measures	In progress	Final report expected February 2020
Evaluation of the NQF Trial Period for risk adjustment of social risk factors	Findings and lessons learned on key themes identified when reviewing risk-adjusted measures for endorsement or maintenance, with a special focus on scientific acceptability (i.e. reliability and validity)	In progress	Final report published May 2021

2. Quality and Efficiency Measurement Initiatives

Completed in 2018

Description	Output	Status	Notes/Scheduled or Actual Completion Date
Behavioral Health and Substance Use Fall 2018	Set of endorsed measures for behavioral health	Completed	Final report published July 2018
Patient Safety Fall 2017	Set of endorsed measures for patient safety	Completed	Final report published July 2018
Cardiovascular Conditions Fall 2017	Set of endorsed measures for cardiovascular conditions	Completed	Final report published August 2018
Patient Experience and Function Fall 2017	Set of endorsed measures for care coordination	Completed	Final report published August 2018
Prevention and Population Health Fall 2017	Set of endorsed measures for prevention and population health	Completed	Final report published August 2018
Surgery Fall 2017	Endorsed measure for surgical procedures	Completed	Final report published August 2018

Started in 2018

Description	Output	Status	Notes/Scheduled or Actual Completion Date
All-Cause Admissions and Readmissions Spring 2018	Set of endorsed measures for all-cause admissions and readmissions	In progress	Final report expected January 2019
Behavioral Health and Substance Use Spring 2018	Set of endorsed measures for behavioral health	In progress	Final report expected January 2019
Cardiovascular Spring 2018	Set of endorsed measures for cardiovascular conditions	In progress	Final report expected January 2019
Cost and Efficiency Spring 2018	Set of endorsed measures for cost and resource use	In progress	Final report expected January 2019
Patient Experience and Function Spring 2018	Set of endorsed measures for patient experience and function	In progress	Final report expected January 2019
Prevention and Population Health Spring 2018	Set of endorsed measures for prevention and population health	In progress	Final report expected January 2019
Primary Care and Chronic Illness Spring 2018	Set of endorsed measures for primary care and chronic illness	In progress	Final report expected January 2019
Surgery Spring 2018	Set of endorsed measures for surgical procedures	In progress	Final report expected January 2019
All-Cause Admissions and Readmissions Fall 2018	Set of endorsed measures for all-cause admissions and readmissions	In progress	Final report expected September 2019
Behavioral Health and Substance Use Fall 2018	Set of endorsed measures for behavioral health	In progress	Final report expected September 2019
Cancer Fall 2018	Set of endorsed measures for cancer care	In progress	Final report expected September 2019
Cardiovascular Fall 2018	Set of endorsed measures for cardiovascular conditions	In progress	Final report expected September 2019
Cost and Efficiency Fall 2018	Set of endorsed measures for cost and resource use	In progress	Final report expected September 2019
Geriatric and Palliative Care Fall 2018	Set of endorsed measures for geriatric and palliative care	In progress	Final report expected September 2019
Patient Experience and Function Fall 2018	Set of endorsed measures for patient experience and function	In progress	Final report expected September 2019

Description	Output	Status	Notes/Scheduled or Actual Completion Date
Patient Safety Fall 2018	Set of endorsed measures for patient safety	In progress	Final report expected September 2019
Prevention and Population Health Fall 2018	Set of endorsed measures for prevention and population health	In progress	Final report expected September 2019
Primary Care and Chronic Illness Fall 2018	Set of endorsed measures for primary care and chronic illness	In progress	Final report expected September 2019
Renal Fall 2018	Set of endorsed measures for renal conditions	In progress	Final report expected September 2019
Surgery Fall 2018	Set of endorsed measures for surgical procedures	In progress	Final report expected September 2019

3. Stakeholder Recommendations on Quality and Efficiency Measures and National Priorities

Description	Output	Status	Notes/Scheduled or Actual Completion Date
Recommendations for measures to be implemented through the federal rulemaking process for public reporting and payment	Measure Applications Partnership pre-rulemaking recommendations on measures under consideration by HHS for 2018 rulemaking	Completed	Completed February 2018
Considerations for implementing measures in federal programs for hospitals	Measure Applications Partnership pre-rulemaking recommendations on measures under consideration by HHS for 2018 rulemaking for the hospital setting	Completed	Completed February 2018
Considerations for implementing measures in federal programs for post-acute care and long-term care	Measure Applications Partnership pre-rulemaking recommendations on measures under consideration by HHS for 2018 rulemaking for the post-acute care and hospital settings	Completed	Completed February 2018
Considerations for implementing measures in federal programs: Merit-Based Incentive Payment System (MIPS) and Medicare Shared Savings Program (MSSP)	Measure Applications Partnership pre-rulemaking recommendations on measures under consideration by HHS for 2018 rulemaking for the clinician setting	Completed	Completed March 2018
Identification of quality measures for dual-eligible Medicare-Medicaid enrollees and adults enrolled in Medicaid	Measure Applications Partnership Annual input on the Initial Core Set of Health Care Quality Measures for Adults Enrolled in Medicaid	Completed	Completed August 2018
Identification of quality measures for children in Medicaid	Measure Applications Partnership Annual input on the Initial Core Set of Health Care Quality Measures for Children enrolled in Medicaid.	Completed	Completed August 2018

Appendix E: MAP Measure Selection Criteria

The Measure Selection Criteria (MSC) are intended to assist MAP with identifying characteristics that are associated with ideal measure sets used for public reporting and payment programs. The MSC are not absolute rules; rather, they are meant to provide general guidance on measure selection decisions and to complement program-specific statutory and regulatory requirements. Central focus should be on the selection of high-quality measures that optimally address the National Quality Strategy's three aims, fill critical measurement gaps, and increase alignment. Although competing priorities often need to be weighed against one another, the MSC can be used as a reference when evaluating the relative strengths and weaknesses of a program measure set, and how the addition of an individual measure would contribute to the set. The MSC have evolved over time to reflect the input of a wide variety of stakeholders.

To determine whether a measure should be considered for a specified program, the MAP evaluates the measures under consideration against the MSC. MAP members are expected to familiarize themselves with the criteria and use them to indicate their support for a measure under consideration.

1. NQF-endorsed measures are required for program measure sets, unless no relevant endorsed measures are available to achieve a critical program objective

Demonstrated by a program measure set that contains measures that meet the NQF endorsement criteria, including importance to measure and report, scientific acceptability of measure properties, feasibility, usability and use, and harmonization of competing and related measures

Subcriterion 1.1 *Measures that are not NQF-endorsed should be submitted for endorsement if selected to meet a specific program need*

Subcriterion 1.2 *Measures that have had endorsement removed or have been submitted for endorsement and were not endorsed should be removed from programs*

Subcriterion 1.3 *Measures that are in reserve status (i.e., topped out) should be considered for removal from programs*

2. Program measure set adequately addresses each of the National Quality Strategy's three aims

Demonstrated by a program measure set that addresses each of the National Quality Strategy (NQS) aims and corresponding priorities. The NQS provides a common framework for focusing efforts of diverse stakeholders on:

Subcriterion 2.1 *Better care, demonstrated by patient- and family-centeredness, care coordination, safety, and effective treatment*

Subcriterion 2.2 *Healthy people/healthy communities, demonstrated by prevention and well-being*

Subcriterion 2.3 *Affordable care*

3. Program measure set is responsive to specific program goals and requirements

Demonstrated by a program measure set that is "fit for purpose" for the particular program

Subcriterion 3.1 *Program measure set includes measures that are applicable to and appropriately*

	tested for the program's intended care setting(s), level(s) of analysis, and population(s)
Subcriterion 3.2	*Measure sets for public reporting programs should be meaningful for consumers and purchasers*
Subcriterion 3.3	*Measure sets for payment incentive programs should contain measures for which there is broad experience demonstrating usability and usefulness (Note: For some Medicare payment programs, statute requires that measures must first be implemented in a public reporting program for a designated period)*
Subcriterion 3.4	*Avoid selection of measures that are likely to create significant adverse consequences when used in a specific program*
Subcriterion 3.5	*Emphasize inclusion of endorsed measures that have eCQM specifications available*

4. Program measure set includes an appropriate mix of measure types

Demonstrated by a program measure set that includes an appropriate mix of process, outcome, experience of care, cost/resource use/appropriateness, composite, and structural measures necessary for the specific program

Subcriterion 4.1	*In general, preference should be given to measure types that address specific program needs*
Subcriterion 4.2	*Public reporting of program measure sets should emphasize outcomes that matter to patients, including patient- and caregiver-reported outcomes*
Subcriterion 4.3	*Payment program measure sets should include outcome measures linked to cost measures to capture value*

5. Program measure set enables measurement of person- and family-centered care and services

Demonstrated by a program measure set that addresses access, choice, self-determination, and community integration

Subcriterion 5.1	*Measure set addresses patient/family/caregiver experience, including aspects of communication and care coordination*
Subcriterion 5.2	*Measure set addresses shared decision making, such as for care and service planning and establishing advance directives*
Subcriterion 5.3	*Measure set enables assessment of the person's care and services across providers, settings, and time*

6. Program measure set includes considerations for healthcare disparities and cultural competency

Demonstrated by a program measure set that promotes equitable access and treatment by considering healthcare disparities. Factors include addressing race, ethnicity, socioeconomic status, language, gender, sexual orientation, age, or geographical considerations (e.g., urban vs. rural). Program measure set also can address populations at risk for healthcare disparities (e.g., people with behavioral/mental illness).

Subcriterion 6.1	*Program measure set includes measures that directly assess healthcare disparities (e.g., interpreter services)*
Subcriterion 6.2	*Program measure set includes measures that are sensitive to disparities measurement (e.g., beta blocker treatment after a heart attack), and that facilitate stratification of results to better understand differences among vulnerable populations*

7. Program measure set promotes parsimony and alignment

Demonstrated by a program measure set that supports efficient use of resources for data collection and reporting, and supports alignment across programs. The program measure set should balance the degree of effort associated with measurement and its opportunity to improve quality.

Subcriterion 7.1	*Program measure set demonstrates efficiency (i.e., minimum number of measures and the least burdensome measures that achieve program goals)*
Subcriterion 7.2	*Program measure set places strong emphasis on measures that can be used across multiple programs or applications (e.g., Physician Quality Reporting System, Meaningful Use for Eligible Professionals, Physician Compare)*

Appendix F: MAP Structure, Members, Criteria for Service, and Rosters

MAP operates through a two-tiered structure. Guided by the priorities and goals of HHS' National Quality Strategy, the MAP Coordinating Committee provides direction and direct input to HHS. MAP's workgroups advise the Coordinating Committee on measures needed for specific care settings, care providers, and patient populations. Time-limited task forces consider more focused topics, such as developing "families of measures"—related measures that cross settings and populations—and provide further information to the MAP Coordinating Committee and workgroups. Each multistakeholder group includes individuals with content expertise and organizations particularly affected by the work.

MAP's members are selected based on NQF Board-adopted selection criteria, through an annual nominations process and an open public commenting period. Balance among stakeholder groups is paramount. Due to the complexity of MAP's tasks, individual subject matter experts are included in the groups. Federal government *ex officio* members are nonvoting because federal officials cannot advise themselves. MAP members serve staggered three-year terms.

MAP Coordinating Committee

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American Academy of Physician Assistants
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Appendix G: Federal Public Reporting and Performance-Based Payment Programs Considered by MAP

1. Ambulatory Surgical Center Quality Reporting (ASCQR) Program
2. End-Stage Renal Disease Quality Improvement Program (ESRD QIP)
3. Home Health Quality Reporting Program[d]
4. Hospice Quality Reporting Program
5. Hospital Acquired Condition (HAC) Reduction Program (HACRP)
6. Hospital Inpatient Quality Reporting (IQR) Program and Medicare and Medicaid Promoting Interoperability Program
7. Hospital Outpatient Quality Reporting (OQR) Program
8. Hospital Readmission Reduction Program (HRRP)
9. Hospital Value-Based Purchasing (VBP) Program
10. Inpatient Psychiatric Facility Quality Reporting (IPFQR) Program
11. Inpatient Rehabilitation Facility Quality Reporting Program
12. Long-Term Care Hospital Quality Reporting Program
13. Medicare Shared Savings Program
14. Merit-based Incentive Payment System
15. Prospective Payment System (PPS)-Exempt Cancer Hospital Quality Reporting (PCHQR)
16. Skilled Nursing Facility Quality Reporting Program
17. Skilled Nursing Facility Value-Based Purchasing Program

Appendix H: Medicare Measure Gaps Identified by NQF's Measure Applications Partnership

During its 2017-2018 deliberations, MAP identified the following measure gaps—where high-value measures are too few or nonexistent to drive improvement—for Medicare programs for hospitals and hospital settings, post-acute care/long-term care settings, and clinicians.

Program	Measure Gaps
End-Stage Renal Disease Quality Incentive Program (ESRD QIP)	• Assessment of quality of pediatric dialysis • Management of comorbid conditions (e.g., congestive heart failure, diabetes, and hypertension)
PPS-Exempt Cancer Hospital Quality Reporting (PCHQR) Program	• Measures that assess safety events broadly (i.e. a measure of global harm) • Patient-reported outcomes
Ambulatory Surgery Center Quality Reporting (ASCQR) Program	• Comparisons of surgical quality across sites of care • Infections and complications • Patient and family engagement • Efficiency measures, including appropriate pre-operative testing
Inpatient Psychiatric Facility Quality Reporting Program (IPFQR Program)	• Medical comorbidities • Quality of psychiatric care provided in the emergency department for patients not admitted to the hospital • Discharge planning • Condition-specific readmission measures
Hospital Outpatient Quality Reporting (OQR) Program	• Communication and care coordination • Falls • Accurate diagnosis
Hospital Inpatient Quality Reporting (IQR) Program and Medicare and Medicaid Promoting Interoperability Program	• Patient-reported outcomes • Dementia
Hospital Readmissions Reduction Program (HRRP)	• None discussed
Hospital Value-Based Purchasing Program (VBP)	• None discussed
Hospital-Acquired Condition Reduction Program (HACRP)	• Adverse drug events • Surgical site infections in additional locations
Merit-Based Incentive Payment System (MIPS)	• Composite measures to address multiple aspects of care quality • Outcome measures • Measures that allow a broad range of clinicians to report data
Medicare Shared Savings Program	• Composite measures to address multiple aspects of care quality
Inpatient Rehabilitation Facility Quality Reporting Program (IRF QRP)	• Transfer of patient information • Appropriate clinical use of opioids • Refinements to current infection measures

Program	Measure Gaps
Long-Term Care Hospital Quality Reporting Program (LTCH QRP)	• Mental and behavioral health
Skilled Nursing Facility Quality Reporting Program (SNF QRP)	• Bidirectional measures • Efficacy of transfers from acute care hospitals to SNFs • Appropriateness of transfers • Patient and caregiver transfer experience • Detailed advance directives
Skilled Nursing Facility Value-Based Purchasing Program (SNF VBP)	• None discussed
Home Health Quality Reporting Program (HH QRP)	• Measures that address social determinants of health • New measures to address stabilization of activities of daily living
Hospice Quality Reporting Program (HQRP)	• Medication management at the end of life • Provision of bereavement services • Effective service delivery to caregivers • Safety • Functional status • Symptom management, including pain • Psychological, social, and spiritual needs

Appendix I: Medicaid Measure Gaps Identified by NQF's Medicaid Workgroups

1. Key Gap Areas in the Adult Core Set

Gap Areas	Subtopics
Behavioral Health and Integration with primary Care	• Integration of substance use disorders with mental Health
Assessing and Addressing of Social Determinants of Health	• Disparities and equity focused measures in conjunction with social determinants of health
Maternal and Reproductive Health	• Interconception care to address risk factors • Poor birth outcomes (e.g. premature birth) • Postpartum complications • Support with breastfeeding after hospitalization • Interpregnancy interval
Planning and Transition to Well Woman Care	• Minimize low value care
Long-Term Support and Services	• Home and community-based services
Efficiency	• Inappropriate emergency department utilization
Beneficiary- Reported Outcomes	• Health-related quality of life • Perception of care
Access to Primary, Specialty, and Behavioral Healthcare	• Access to care by a behavioral health professional
New or Chronic Opiate Use (45 days)	—
Polypharmacy	—
Workforce/Access	—
Treatment Outcomes for Behavioral health Conditions and Substance Use Disorders	—
Care Coordination	—

2. Key Gap Areas in the Child Core Set

Gap Areas	Subtopics
Behavioral Health Domains	• Screening abuse and neglect (part of primary care as well) • Substance abuse • Mental health (including primary care integration) • Care coordination/integration
Public Health Domains	• Behavioral health • Social determinants of health: adverse childhood experience • Maternity care (including experience of care and breastfeeding) • Cost (including finance reform for behavioral health) • Duration of child health insurance coverage over 12 months • Care coordination

Appendix J: Measure Gaps Identified by NQF Measure Portfolio

In 2018, NQF's standing committees identified the following measure gaps—where high-value measures are too few or non-existent to drive improvement—across topic areas for which measures were reviewed for endorsement. Subject areas marked as "2017" are subjects that did not identify new measure gaps in 2018, or endorse new measures that alleviated existing gaps.

All-Cause Admissions and Readmissions

No identified measure gaps

Behavioral Health and Substance Use (2017)

- Outcome measures for psychotic disorders, including schizophrenia
- Overprescription of opiates
- Setting-specific measures (e.g., jails)
- Proximal outcome measures
- Measures that focus on substance use disorders in the primary care setting
- Composite measures that incorporate myriad mental illnesses (e.g., bipolar disorder, depression, and schizophrenia) rather than separate screening measures for each illness
- Patient-reported outcome measures
- Measures that encompass multiple settings to better assist in the push towards integrated behavioral health and physical health
- Measures that examine the period of time between screening and remission
- Measures that address access to behavioral health facilities, or lack thereof
- Measures that focus not only on treatment and prevention but also on recovery

Cancer (2017)

- Prostate and thoracic cancer measures that range from screening to advanced disease
- Oral chemotherapy compliance measures
- Outcome measures including risk-adjusted morbidity and mortality measures

Cardiovascular

- Patient-reported outcomes
- Patient-centric composite measures

Cost and Efficiency (2017; new language to describe existing identified measure gaps)

- Total per capita cost for Medicare patients
- Measures focused on costs in post-acute care settings including home health, skilled nursing facilities and long-term acute care
- Episode-based measures that focus on the care acute conditions in settings such as the emergency department, primary and urgent care
- Episode-based measures focused on high-cost chronic conditions and capture acute exacerbations and events, including diabetes, cerebral vascular disease, coronary artery disease, chronic obstructive pulmonary disease, and dementia

Geriatric and Palliative Care (2017)

- Screening for depression, anxiety, etc.
- Access to nutritional support
- Use of decisional conflict scale

- Dying in preferred site of death
- Provider Orders for Life-Sustaining Treatment (POLST) form completion according to patient values
- Assessing family/caregivers for risk (e.g., depression, complicated bereavement, etc.)
- Preservation of functional status
- Total pain (including spiritual pain)
- Psychosocial health
- Unmet need (e.g., through Integrated Palliative Care Outcome Scale (iPOS) instrument)
- Quality of life
- Goal-concordance
- Shared decision making
- Comfort with decisions that are made (e.g., less decisional conflict)
- Patient/family engagement
- Values conversation that elicits goals of care
- Good communication (e.g., prognosis, health literacy, clarity of goals for all parties)
- Unwanted care/care that is not goal-concordant
- Symptomatology due to use of excess/poor value medications/ interventions
- Unmet psychosocial and spiritual need
- Medication reconciliation
- Safe medication use and disposal
- Feeding tube placement in dementia patients
- Discontinuation of available interventions in terminal patients (e.g., statin, aspirin, multivitamins, memory drugs, ICDs, CPR, chemo in last 2 weeks)
- Caregiver support
- Caregiver stress
- Good communication (early, open/shared)

Patient Experience and Function

- Measures that focus on patient stabilization when improvement is not the goal of treatment
- Measures directly related to patient goals versus treatment goals

Patient Safety (2017)

- Interoperability of health information technology
- Transitions in care
- Safety in ambulatory surgical centers
- Measurement focused on episodes of care across and within settings
- Outcome measures related to medical errors and complications
- Greater focus on ambulatory, outpatient, and post-acute care
- Assessment of workforce performance
- Patient-reported outcomes

Perinatal and Women's Health

- Overuse, underuse, including physiologic childbirth
- Woman-reported experience and outcomes of care
- Clinician and health plan levels to align with facility measures

Prevention and Population Health (2017; the project was reconfigured from Health and Wellbeing in 2017)

- Measures that detect differences in quality across institutions or in relation to certain benchmarks, but also differences in quality among populations or social groups.
- Measures that assess access to care
- Measures that assess environmental factors
- Measures that address food insecurity
- Measures that address language and literacy (e.g., health literacy)
- Measures that address social cohesion

Primary Care and Chronic Illness

- Ischemic vascular disease evaluation and treatment
- Chronic kidney disease evaluation and treatment (Stage 4 referrals, as an example)
- Wound care/Wound Status measures
- Nutrition/Malnutrition Measures (Screening, Assessment, plan, discharge, etc.)
- Additional Functional Status Measures
- Telehealth/ Remote Patient Monitoring Measures
- Community Acquired Pneumonia Measures including those related to appropriate use of rapid diagnostic testing to direct treatment and prevent antimicrobial resistance
- Acute sinusitis
- Imaging for sinusitis
- Long-Term Complications of Diabetes
- Depression measures
- Counseling
    - Accident prevention in children (helmets, seat belts)
    - Accident prevention in adults (seat belt use, distracted driving)
    - Fall prevention in the elderly (exercise)
- Quality of Life

Renal (2017)

- Patient-reported outcomes
- Patient experience of care and engagement
- Care for comorbid conditions
- Palliative dialysis
- Vascular Access
- Young dialysis patients' preparedness for transition from pediatric facilities to adult facilities
- Rehabilitation of people who are working age
- Harmonization and improvement of measuring bloodstream infections across dialysis and other facilities

Surgery

- Pediatrics
- Orthopedic surgery, bariatric surgery, neurosurgery, obstetrics, and gynecology
- Measures that assess overall surgical quality, shared accountability, and patient focus

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DEPARTMENT OF HEALTH AND HUMAN SERVICES

National Institutes of Health

National Center for Complementary & Integrative Health; Notice of Closed Meeting

Pursuant to section 10(d) of the Federal Advisory Committee Act, as amended, notice is hereby given of the following meeting.

The meeting will be closed to the public in accordance with the provisions set forth in sections 552b(c)(4) and 552b(c)(6), Title 5 U.S.C., as amended. The grant applications and the discussions could disclose confidential trade secrets or commercial property such as patentable material, and personal information concerning individuals associated with the grant applications, the disclosure of which would constitute a clearly unwarranted invasion of personal privacy.

Name of Committee: National Center for Complementary and Integrative Health Special Emphasis Panel; Early Phase Clinical Trials of Natural Products (R33 and R61/R33) and Natural Products Phase II Clinical Trial Cooperative Agreements (U01) (NP).

Date: July 25, 2019.

Time: 12:00 p.m. to 3:00 p.m.

Agenda: To review and evaluate grant applications.

Place: National Institutes of Health, Two Democracy Plaza, 6707 Democracy Boulevard, Bethesda, MD 20892 (Virtual Meeting).

Contact Person: Martina Schmidt, Ph.D., Chief, Office of Scientific Review, National Center for Complementary & Integrative Health, NIH, 6707 Democracy Blvd., Suite 401, Bethesda, MD 20892, 301–594–3456, *schmidma@mail.nih.gov.*

(Catalogue of Federal Domestic Assistance Program Nos. 93.213, Research and Training in Complementary and Alternative Medicine, National Institutes of Health, HHS)

Dated: June 20, 2019.

Ronald J. Livingston, Jr.,

Program Analyst, Office of Federal Advisory Committee Policy.

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DEPARTMENT OF HEALTH AND HUMAN SERVICES

National Institutes of Health

Center for Scientific Review; Notice of Closed Meetings

Pursuant to section 10(d) of the Federal Advisory Committee Act, as amended, notice is hereby given of the following meetings.

The meetings will be closed to the public in accordance with the provisions set forth in sections 552b(c)(4) and 552b(c)(6), Title 5 U.S.C., as amended. The grant applications and the discussions could disclose confidential trade secrets or commercial property such as patentable material, and personal information concerning individuals associated with the grant applications, the disclosure of which would constitute a clearly unwarranted invasion of personal privacy.

Name of Committee: Center for Scientific Review Special Emphasis Panel; Member Conflict: Pain and Multisensory Integration Processes.

Date: July 23–24, 2019.

Time: 8:00 a.m. to 6:00 p.m.

Agenda: To review and evaluate grant applications.

Place: National Institutes of Health, 6701 Rockledge Drive, Bethesda, MD 20892 (Virtual Meeting).

Contact Person: John Bishop, Ph.D., Scientific Review Officer, Center for Scientific Review, National Institutes of Health, 6701 Rockledge Drive, Room 5182, MSC 7844, Bethesda, MD 20892, (301) 408–9664, *bishopj@csr.nih.gov.*

Name of Committee: Center for Scientific Review Special Emphasis Panel; Member Conflict: Auditory and Memory Processes.

Date: July 23, 2019.

Time: 9:00 a.m. to 5:00 p.m.

Agenda: To review and evaluate grant applications.

Place: National Institutes of Health, 6701 Rockledge Drive, Bethesda, MD 20892 (Virtual Meeting).

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Name of Committee: Center for Scientific Review Special Emphasis Panel; Member Conflict: Eye Cell Biology.

Date: July 23, 2019.

Time: 10:00 a.m. to 1:30 p.m.

Agenda: To review and evaluate grant applications.

Place: National Institutes of Health, 6701 Rockledge Drive, Bethesda, MD 20892 (Virtual Meeting).

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Name of Committee: Center for Scientific Review Special Emphasis Panel; Review of U01 Collaborative Research Applications.

Date: July 23, 2019.

Time: 10:30 a.m. to 1:00 p.m.

Agenda: To review and evaluate grant applications.

Place: National Institutes of Health, 6701 Rockledge Drive, Bethesda, MD 20892 (Virtual Meeting).

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Name of Committee: Center for Scientific Review Special Emphasis Panel; Member Conflict: Endocrine and Reproductive Biology.

Date: July 23, 2019.

Time: 11:00 a.m. to 5:00 p.m.

Agenda: To review and evaluate grant applications.

Place: National Institutes of Health, 6701 Rockledge Drive, Bethesda, MD 20892 (Virtual Meeting).

Contact Person: Raul Rojas, Ph.D., Scientific Review Officer, Center for Scientific Review, National Institutes of Health, 6701 Rockledge Drive, Room 6185, Bethesda, MD 20892, (301) 451–6319, *rojasr@mail.nih.gov.*

Name of Committee: Center for Scientific Review Special Emphasis Panel; Member Conflict: Child Psychopathology.

Date: July 23, 2019.

Time: 1:00 p.m. to 4:30 p.m.

Agenda: To review and evaluate grant applications.

Place: National Institutes of Health, 6701 Rockledge Drive, Bethesda, MD 20892 (Telephone Conference Call).

Contact Person: Jane A. Doussard-Roosevelt, Ph.D., Scientific Review Officer, Center for Scientific Review, National Institutes of Health, 6701 Rockledge Drive, Room 3184, MSC 7848, Bethesda, MD 20892, (301) 435–4445, *doussarj@csr.nih.gov.*

Name of Committee: Center for Scientific Review Special Emphasis Panel; PAR16–275: Adverse Drug Reaction Research.

Date: July 23, 2019.

Time: 3:00 p.m. to 6:00 p.m.

Agenda: To review and evaluate grant applications.

Place: National Institutes of Health, 6701 Rockledge Drive, Bethesda, MD 20892 (Virtual Meeting).

Contact Person: Alexander D. Politis, Ph.D., Scientific Review Officer, Center for Scientific Review, National Institutes of Health, 6701 Rockledge Drive, Room 3210, MSC 7808, Bethesda, MD 20892, (301) 435–1150, *politisa@csr.nih.gov.*

Name of Committee: Center for Scientific Review Special Emphasis Panel; PAR 17–094: NIGMS Maximizing Investigators' Research Award (R35).

Date: July 24, 2019.

Time: 8:00 a.m. to 8:00 p.m.

Agenda: To review and evaluate grant applications.

Place: Residence Inn Bethesda, 7335 Wisconsin Avenue, Bethesda, MD 20814.

Contact Person: William A. Greenberg, Ph.D., Scientific Review Officer, Center for Scientific Review, National Institutes of Health, 6701 Rockledge Drive, Room 4168, MSC 7806, Bethesda, MD 20892, (301) 435–1726, *greenbergwa@csr.nih.gov.*

Name of Committee: Center for Scientific Review Special Emphasis Panel; Member Conflict: Brain Injury and Chronic Neurodegeneration.