APPENDIX

NOTE: For previously finalized MIPS quality measures, we refer readers to Table A in the Appendix of the CY 2017 Quality Payment Program final rule (81 FR 77558). For previously finalized MIPS specialty measure sets, we refer readers to Table E in the Appendix of the CY 2017 Quality Payment Program final rule (81 FR 77686). Except as otherwise proposed in the CY 2018 Quality Payment Program proposed rule (82 FR 30260) and finalized in this final rule, previously finalized measures and specialty measure sets will continue to apply for the Quality Payment Program year 2 and future years.

TABLE Group A: New Quality Measures for Inclusion in MIPS for the 2018 Performance Period and Future Years

A.1. Average Change in Back Pain following Lumbar Discectomy / Laminotomy

Category	Description
NQF #:	Not Applicable (NA)
Quality #:	459
Description:	The average change (preoperative to three months postoperative) in back pain for patients 18 years of age or older who had lumbar discectomy / laminotomy procedure.
Measure Steward:	MN Community Measurement
Numerator:	This measure is not a proportion or rate, and as such, does not have a numerator and denominator, but has an eligible population with a calculated result. The calculated result is: The average change (preoperative to three months postoperative) in back pain for all eligible patients.
Denominator:	Patients 18 years of age or older as of January 1 of the measurement period who had a lumbar discectomy / laminotomy procedure for a diagnosis of disc herniation performed by an eligible provider in an eligible specialty during the measurement period and whose back pain was measured by the Visual Analog Scale (VAS) within three months preoperatively AND at three months (6 to 20 weeks) postoperatively.
Exclusions:	Patient who has had any additional spine procedures performed on the same date as the lumbar discectomy / laminotomy.
Measure Type:	Outcome
Measure Domain:	Person and Caregiver-Centered Experience and Outcomes
High priority measure:	Yes (Patient Experience)
Data Submission Method:	Qualified Registry
Rationale:	We proposed to include this measure because it is outcomes focused and provides measurements related to the variations in improvement after spine surgery. This measure is useful for patients in evaluating what outcomes can be expected from surgery and clinicians who can conduct comparisons across results. The MAP has made a recommendation of conditional support, with the conditions of submission to NQF for endorsement and verification that testing supports implementation at the individual clinician level (https://www.qualityforum.org/map/). Upon further review, we have identified that this measure does support individual clinician level reporting. Furthermore, while we note that NQF endorsement is preferred, it is not a requirement for measures to be considered under MIPS.

Comment: One commenter did not support the implementation of the proposed average change measure, expressing concern regarding the method of performance calculation. The commenter noted that surgeons who perform spine surgeries on more severe patients have the opportunity to outperform surgeons who perform spine surgeries on less severe patients who have little room for improvement.

Response: We understand the commenter's concern, but would like to note that this measure has been tested and implemented within the Minnesota Statewide Quality Reporting and Measurement System. The average change measure has gone through a thorough vetting process, and we anticipate surgeons performing these procedures will provide care to patients with various pain levels. We believe that opportunity for pain improvement will equalize when the reliability case minimum is achieved. This measure is not maintained by CMS, and as such, we encourage the commenter to work with the measure steward to address additional concerns of oversimplification of the measure's concept.

Comment: One commenter encouraged CMS to use the PROMIS scale for pain following Lumbar Discectomy/Laminotomy to improve the validity of their pain measurement and mitigate concern over appropriateness of indications by employing a general pain intensity scale. In addition, the commenter expressed concerns about outcomes for these procedures being combined in the same measure; because the indications, and therefore, the outcomes, are simply too different to be evaluated collectively. Accordingly, the commenter requested that CMS measure change in pain following Lumbar Discectomy and Laminotomy separately. Another commenter recommended that if the VAS scale is used, the system should accept the original VAS data, not the data converted from VAS to a Numeric Pain Rating scale (NRS). Alternatively, the commenter recommended that the NRS could be used as the unit of measurement.

Response: The measure steward has developed and tested the measures using the VAS scale to assess the change in pain level. We do not believe that the PROMIS scale will add value to this quality measure. Rather, we believe that the addition of the PROMIS scale introduces variability and would not provide a standardized tool to assess pain. We do not own this measure and encourage the commenter to collaborate with the measure steward to expand the assessment tools. The denominator includes the lumbar discectomy and laminotomy as a combined procedure. In order to be denominator eligible, the eligible clinician would perform a laminotomy, with decompression of nerve root(s), including partial facetectomy, foraminotomy and/or removal of the herniated disc under the same procedure code. The measure's denominator assesses the change in pain based on one combination procedure.

Comment: One commenter recommended that this measure's denominator should capture a more targeted population that focuses primarily on the Medicare population. In addition, the commenter recommended that the measure exclude patients who are primarily diagnosed with neurogenic claudication, particularly in the Medicare population. They also expressed concern about the measurement timeframe of 6 to 20 weeks to measure low back pain. Specifically, pain scores collected at 6 weeks are somewhat higher compared to pain scores collected at 12 weeks.

Response: We recommend that the commenter work with the measure steward to request changes. This measure is not owned by us, and therefore, cannot be modified without coordinating with the measure steward.

FINAL ACTION: We are finalizing the Q459: *Average Change in Back Pain following Lumbar Discectomy / Laminotomy* measure as proposed for the 2018 Performance Period and future years.

A.2. Average Change in Back Pain following Lumbar Fusion

Category	Description
NQF #:	Not Applicable (NA)
Quality #:	460
Description:	The average change (preoperative to one year postoperative) in back pain for patients 18 years of age or older who had lumbar spine fusion surgery.
Measure Steward:	MN Community Measurement
Numerator:	This measure is not a proportion or rate, and as such, does not have a numerator and denominator, but has an eligible population with a calculated result. The calculated result is: The average change (preoperative to one year postoperative) in back pain for all eligible patients.
Denominator:	Patients 18 years of age or older as of January 1 of the measurement period who had a lumbar spine fusion surgery performed by an eligible provider in an eligible specialty during the measurement period and whose back pain was measured by the Visual Analog Scale (VAS) within three months preoperatively AND at one year (+/- 3 months) postoperatively.
Exclusions:	None
Measure Type:	Outcome
Measure Domain:	Person and Caregiver-Centered Experience and Outcomes
High priority measure:	Yes (Patient Experience)
Data Submission Method:	Qualified Registry
Rationale:	We proposed to include this measure because it is outcomes focused and provides measurements related to the variations in improvement after spine surgery in patients. This measure is an example of quality measurement as the results can be used in evaluating whether the patient's pain was reduced as a result of the lumbar fusion. The MAP has made a recommendation of conditional support, with the conditions of submission to NQF for endorsement and verification that testing supports implementation at the individual clinician level. (https://www.qualityforum.org/map/). Upon further review, we have identified that this measure does support individual clinician level reporting. Furthermore, while we note that NQF endorsement is preferred, it is not a requirement for measures to be considered under MIPS.

Comment: One commenter expressed concern on the proposed average change measure regarding the method of performance calculation. The commenter noted that surgeons who perform spine surgeries on more severe patients have the opportunity to outperform surgeons who perform spine surgeries on less severe patients who have little room for improvement.

Response: We understand the commenter's concern, but would like to note that this measure has been tested and implemented within the Minnesota Statewide Quality Reporting and Measurement System. The average change measures have gone through a thorough vetting process, and we anticipate surgeons performing these procedures will provide care to patients with various pain levels and that the opportunity for pain improvement will equalize when the reliability case minimum is achieved. As such, we believe this measure has received sufficient vetting to address the commenter's concern. Nonetheless, please note that this measure is not maintained by CMS, and as such, we encourage the commenter to work with the measure steward to address additional concerns of oversimplification of the measure's concept for future years.

Comment: One commenter encouraged CMS to use the PROMIS scale for pain following Lumbar Fusion to improve the validity of their pain measurement and mitigate concern over appropriateness of indications by employing a general pain intensity scale. Another commenter recommended that if the VAS scale is used, the system should accept the original VAS data, not the data converted from VAS to NRS. Alternatively, the commenter recommended that the NRS could be used as the unit of measurement.

Response: The measure steward has developed and tested the measures using the VAS scale to assess the change in pain level. We do not believe that the PROMIS scale will add value to this quality measure. Rather, we believe that the addition of the PROMIS scale introduce variability and would not provide a standardized tool to assess pain. We do not own this measure and encourage the commenter to collaborate with the measure steward to expand the assessment tools.

FINAL ACTION: We are finalizing the Q460: *Average Change in Back Pain following Lumbar Fusion* measure as proposed for the 2018 Performance Period and future years.

A.3. Average Change in Leg Pain following Lumbar Discectomy / Laminotomy

Category	Description
NQF #:	Not Applicable (NA)
Quality #:	461
Description:	The average change (preoperative to three months postoperative) in leg pain for patients 18 years of age or older who had lumbar discectomy / laminotomy procedure.
Measure Steward:	MN Community Measurement
Numerator:	The average change (preoperative to three months postoperative) in leg pain for all eligible patients.
Denominator:	Patients 18 years of age or older as of January 1 of the measurement period who had a lumbar discectomy and/or laminotomy procedure for a diagnosis of disc herniation performed by an eligible provider in an eligible specialty during the measurement period and whose leg pain was measured by the Visual Analog Scale (VAS) within three months preoperatively AND at three months (6 to 20 weeks) postoperatively.
Exclusions:	Patient had any additional spine procedures performed on the same date as the lumbar discectomy/ laminotomy.
Measure Type:	Outcome
Measure Domain:	Person and Caregiver-Centered Experience and Outcomes
High priority measure:	Yes (Patient Experience)
Data Submission Method:	Qualified Registry
Rationale:	We proposed to include this measure because it is outcomes focused and provides measurements related to the variations in improvement after spine surgery. This measure is useful for clinicians who can conduct comparisons across results.

Comment: One commenter expressed concern on the proposed average change measure regarding the method of performance calculation. The commenter noted that surgeons who perform spine surgeries on more severe patients have the opportunity to outperform surgeons who perform spine surgeries on less severe patients who have little room for improvement.

Response: We understand the commenter's concern, but would like to note that this measure has been tested and implemented within the Minnesota Statewide Quality Reporting and Measurement System. The average change measure has gone through a thorough vetting process, and we anticipate surgeons performing these procedures will provide care to patients with various pain levels. The opportunity for pain improvement will equalize when the reliability case minimum is achieved. As such, we believe this measure has received sufficient vetting to address the commenter's concern. Nonetheless, please note that this measure is not maintained by CMS, and as such, we encourage the commenter to work with the measure steward to address additional concerns of oversimplification of the measure's concept for future years.

Comment: One commenter recommended that if the VAS scale is used, the system should accept the original VAS data, not the data converted from VAS to NRS. Alternatively, the commenter recommended that the NRS could be used as the unit of measurement.

Response: The measure steward has developed and tested the measures using the VAS scale to assess the change in pain level. We do not believe that the PROMIS scale will add value to this quality measure. Rather, we believe that the addition of the PROMIS scale introduce variability and would not provide a standardized tool to assess pain. We do not own this measure and encourage the commenter to collaborate with the measure steward to expand the assessment tools.

FINAL ACTION: We are finalizing the Q461: *Average Change in Leg Pain following Lumbar Discectomy / Laminotomy* measure as proposed for the 2018 Performance Period and future years.

A.4. Bone Density Evaluation for Patients with Prostate Cancer and Receiving Androgen Deprivation Therapy

Category	Description
NQF #:	Not Applicable (NA)
Quality #:	462
Description:	Patients determined as having prostate cancer who are currently starting or undergoing androgen deprivation therapy (ADT), for an anticipated period of 12 months or greater and who receive an initial bone density evaluation. The bone density evaluation must be prior to the start of ADT or within 3 months of the start of ADT.
Measure Steward:	Oregon Urology Institute
Numerator:	Patients with a bone density evaluation within the two years prior to the start of or less than three months after the start of ADT treatment.
Denominator:	Patients determined as having prostate cancer who are currently starting or undergoing androgen deprivation therapy (ADT), for an anticipated period of 12 months or greater.
Exclusions:	None
Measure Type:	Process
Measure Domain:	Effective Clinical Care
High priority measure:	No
Data Submission Method:	EHR
Rationale:	We proposed to include this measure as there are no quality measures that currently address patients with prostate cancer and a diagnosis of osteoporosis. This measure will result in better care, reduced fractures, and reduced bone density loss. The MAP has made a recommendation of conditional support, with the condition for the completion of NQF endorsement. (https://www.qualityforum.org/map.) Furthermore, while we note that NQF endorsement is preferred, it is not a requirement for measures to be considered under MIPS.

Comment: Several commenters expressed support for this new measure.

Response: We thank the commenters for their support.

FINAL ACTION: We are finalizing the Q462: *Bone Density Evaluation for Patients with Prostate Cancer and Receiving Androgen Deprivation Therapy* measure as proposed for the 2018 Performance Period and future years.

A.5. Prevention of Post-Operative Vomiting (POV) - Combination Therapy (Pediatrics)

Category	Description
NQF #:	Not Applicable (NA)
Quality #:	463
Description:	Percentage of patients aged 3 through 17 years, who undergo a procedure under general anesthesia in which an inhalational anesthetic is used for maintenance AND who have two or more risk factors for post-operative vomiting (POV), who receive combination therapy consisting of at least two prophylactic pharmacologic anti-emetic agents of different classes preoperatively and/or intraoperatively.
Measure Steward:	American Society of Anesthesiologists
Numerator:	Patients who receive combination therapy consisting of at least two prophylactic pharmacologic anti-emetic agents of different classes preoperatively and/or intraoperatively.
Denominator:	All patients, aged 3 through 17 years, who undergo a procedure under general anesthesia in which an inhalational anesthetic is used for maintenance AND who have two or more risk factors for POV.
Exclusions:	Cases in which an inhalational anesthetic is used only for induction. Organ Donors as designated by ASA Physical Status 6
Measure Type:	Process
Measure Domain:	Effective Clinical Care
High priority measure:	No
Data Submission Method:	Qualified Registry
Rationale:	We proposed to include this measure because it recognizes the difference in therapy required for the pediatric population with regards to the prevention of post-operative vomiting; furthermore, the American Society of Anesthesiologists have verified that testing supports the implementation of the measure at the individual clinician level.

Comment: One commenter supported the rationale of the proposed measure Prevention of Post-Operative Vomiting (POV)-Combination Therapy (Pediatrics) for the 2018 performance period; however, they were concerned that other stakeholders were not involved in the development nor were they able to comment on this measure and potential specifications.

Response: We note that stakeholders had a chance to provide feedback on the measures during the Measure Applications Partnership (MAP) process. The potential technical specifications are posted on the measures steward website, and are available for public review. Furthermore, we believe that commenters had adequate notice and opportunity to comment on all substantive aspects of the measure through notice and comment rulemaking for the CY 2017 Quality Payment Program proposed rule, which allowed opportunity for concerns to be addressed prior to implementation. We encourage the commenter to collaborate with the measure steward to request a review of the measure specifications and provide input regarding suggested changes to this measure for future rulemaking.

Comment: One commenter expressed support for this new measure.

Response: We thank the commenter for their support.

FINAL ACTION: We are finalizing the Q463: *Prevention of Post-Operative Vomiting (POV) - Combination Therapy (Pediatrics)* measure as proposed for the 2018 Performance Period and future years.

A.6. Otitis Media with Effusion (OME): Systemic Antimicrobials - Avoidance of Inappropriate Use

Category	Description
NQF #:	657
Quality #:	464
Description:	Percentage of patients aged 2 months through 12 years with a diagnosis of OME who were not prescribed systemic antimicrobials.
Measure Steward:	American Academy of Otolaryngology – Head and Neck Surgery Foundation (AAOHNSF)
Numerator:	Patients who were not prescribed systemic antimicrobials.
Denominator:	All patients aged 2 months through 12 years with a diagnosis of OME.
Exclusions:	Documentation of medical reason(s) for prescribing systemic antimicrobials.
Measure Type:	Process
Measure Domain:	Patient Safety, Efficiency and Cost Reduction
High priority measure:	Yes (Appropriate Use)
Data Submission Method:	Qualified Registry
Rationale:	We proposed to include this measure as it promotes the practice of appropriate prescription and usage of medications in the care of all beneficiaries to facilitate health and promote well-being. The MAP has made a recommendation of support for this NQF endorsed measure. (https://www.qualityforum.org/map/).

Comment: One commenter expressed support for this new measure.

Response: We thank the commenter for their support.

FINAL ACTION: We are finalizing the Q464: *Otitis Media with Effusion (OME): Systemic Antimicrobials- Avoidance of Inappropriate Use* measure as proposed for the 2018 Performance Period and future years.

A.7. Uterine Artery Embolization Technique: Documentation of Angiographic Endpoints and Interrogation of Ovarian Arteries

Category	Description
NQF #:	Not Applicable (NA)
Quality #:	465
Description:	Documentation of angiographic endpoints of embolization AND the documentation of embolization strategies in the presence of unilateral or bilateral absent uterine arteries.
Measure Steward:	Society of Interventional Radiology
Numerator:	Number of patients undergoing uterine artery embolization for symptomatic leiomyomas and/or adenomyosis in whom embolization endpoints are documented separately for each embolized vessel AND ovarian artery angiography or embolization performed in the presence of variant uterine artery anatomy. Embolization endpoints: Complete stasis (static contrast column for at least 5 heartbeats) / Near-stasis (not static, but contrast visible for at least 5 heartbeats) / Slowed flow (contrast visible for fewer than 5 heartbeats) / Normal velocity flow with pruning of distal vasculature / Other [specify] / Not documented Embolization strategy options for variant uterine artery anatomy: Ovarian artery angiography, Ovarian artery embolization, Abdominal Aortic angiography, None
Denominator:	All patients undergoing uterine artery embolization for symptomatic leiomyomas and/or adenomyosis.
Exclusions:	SIR Guidance: Any patients that should be excluded from reporting either in the eligible population (denominator) or from both numerator and denominator (if patient experiences outcome then exclude from denominator and numerator; if not then include in denominator). Method to risk adjust measure.
Measure Type:	Process
Measure Domain:	Patient Safety
High priority measure:	Yes (Patient Safety)
Data Submission Method:	Qualified Registry
Rationale:	We proposed to include this measure as field testing has been completed and there are currently no applicable uterine artery embolization technique measures in CMS quality programs.

Comment: Several commenters expressed support for this new measure.

Response: We thank the commenters for their support.

FINAL ACTION: We are finalizing the Q465: *Uterine Artery Embolization Technique: Documentation of Angiographic Endpoints and Interrogation of Ovarian Arteries* measure as proposed for the 2018 Performance Period and future years.

A.8. Well-Child Visits in the Third, Fourth, Fifth, and Sixth Years of Life

Category	Description
NQF #:	1516
Quality #:	Not Applicable (NA)
Description:	The percentage of children 3-6 years of age who had one or more well-child visits with a PCP during the measurement year.
Measure Steward:	National Committee for Quality Assurance
Numerator:	Children who received at least one well-child visit with a PCP during the measurement year. The measurement year (12-month period).
Denominator:	Children 3-6 years of age during the measurement year.
Exclusions:	Numerator Exclusions: Do not include services rendered during an inpatient or ED visit. Preventive services may be rendered on visits other than well-child visits. Well-child preventive services count toward the measure, regardless of the primary intent of the visit, but services that are specific to an acute or chronic condition do not count toward the measure.
Measure Type:	Process
Measure Domain:	Community/Population Health
High priority measure:	No
Data Submission Method:	Qualified Registry
Rationale:	This pediatric measure fulfills an important measurement gap for pediatric patients in the 3 through 6 year olds age range; therefore, we proposed its inclusion in the *Pediatric Specialty Measure Set.*

We did not receive specific comments regarding this measure.

FINAL ACTION: While we did not receive comments regarding this measure, it has been determined in conjunction with the measure steward that there are analytical challenges in implementing this measure in a manner consistent with the intent of the measure. Therefore, we are not finalizing the *Well-Child Visits in the Third, Fourth, Fifth, and Six Years of Life* measure as proposed for the 2018 Performance Period or future years.

A.9. Developmental Screening in the First Three Years of Life

Category	Description
NQF #:	1448
Quality #:	467
Description:	The percentage of children screened for risk of developmental, behavioral and social delays using a standardized screening tool in the first three years of life. This is a measure of screening in the first three years of life that includes three, age-specific indicators assessing whether children are screened by 12 months of age, by 24 months of age and by 36 months of age.
Measure Steward:	Oregon Health & Science University
Numerator:	The numerator identifies children who were screened for risk of developmental, behavioral and social delays using a standardized tool. National recommendations call for children to be screened at the 9, 18, and 24- OR 30-month well visits to ensure periodic screening in the first, second, and third years of life. The measure is based on three, age-specific indicators. Numerator 1: Children in Denominator 1 who had screening for risk of developmental, behavioral and social delays using a standardized screening tool that was documented by their first birthday. Numerator 2: Children in Denominator 2 who had screening for risk of developmental, behavioral and social delays using a standardized screening tool that was documented by their second birthday. Numerator 3: Children in Denominator 3 who had screening for risk of developmental, behavioral and social delays using a standardized screening tool that was documented by their third birthday. Numerator 4: Children in Denominator 4 who had screening for risk of developmental, behavioral and social delays using a standardized screening tool that was documented by their first, second or third birthday.
Denominator:	Children who meet the following eligibility requirement: Age: Children who turn 1, 2 or 3 years of age between January 1 and December 31 of the measurement year. Continuous Enrollment: Children who are enrolled continuously for 12 months prior to child's 1st, 2nd or 3rd birthday. Allowable Gap: No more than one gap in enrollment of up to 45 days during the measurement year. To determine continuous enrollment for a Medicaid beneficiary for whom enrollment is verified monthly, the beneficiary may not have more than a 1-month gap in coverage (i.e., a beneficiary whose coverage lapses for 2 months (60 days) is not considered continuously enrolled.
Exclusions:	None
Measure Type:	Process
Measure Domain:	Community/Population Health
High priority measure:	No
Data Submission Method:	Qualified Registry
Rationale:	This pediatric measure fulfills an important measurement gap related to developmental screening for pediatric patients in the 1 through 3 year olds age range; therefore, we proposed its inclusion in the *Pediatric Specialty Measure Set.*

We did not receive specific comments regarding this measure.

FINAL ACTION: We are finalizing the Q467: *Developmental Screening in the First Three Years of Life* measure as proposed for the 2018 Performance Period and future years.