Neuroradiology Measure Development
Technical Expert Panel (TEP) Meeting Summary
June 11, 2025

Panel Attendees: Nadja Kadom, MD (Chair); Melissa Davis, MD; Brianna Damadian, MD; Matt Zygmont, MD
Panel Member Absence: Melissa Chen, MD
Staff Attendees: Judy Burleson, MHSA; Samantha (Sam) Shugarman, MS; Zach Smith, Brendon Alves

Welcome

Dr. Kadom thanked attendees for joining today's meeting. Sam noted that while the panel is charged with developing three measure concepts into fully formed measures, today, they would focus on the vertebral count measure.

Measure Concept Review and Specification Discussion

Presenting the draft measure statement, ACR staff informed the panel that they would discuss the draft measure statement comprising comments, recommended edits, and questions, including those posed during the April 2025 Centers for Medicare and Medicaid Services (CMS) QCDR Measure Preview Meeting attended by Rich Heller, MD, FACR (ACR leadership) and ACR staff.

- *Measure title*

In response to questions regarding the concepts' connection to pre-surgical MRI, one technical expert panel (TEP) member stated that depending on imaging report findings, radiologists are often unaware of whether their patients are going to have surgery. After consideration, the TEP agreed to update the title from *Top-to-Bottom Count and Description of Abnormalities on Spinal MRI* to *Accurate Reporting of Vertebral Body Numbering on Spinal MRI*.

- *Measure description*

ACR staff suggested that the panel wait to revise the measure description until they discuss the denominator and numerator details. In response to a question from CMS included in the description section, it was confirmed that this measure should not include cervical spine (C-spine) count because radiologists always count from top to bottom on the C-spine with most segmentation anomalies discovered at the numero sacral and thoracolumbar junctions; further noting that it is infrequent for these anomalies to be found at the cervical thoracic and craniocervical junctions.

- *Measure type*

Panelists decided that developing an intermediate outcome measure (i.e., the measure would not immediately assess the final patient outcome but track a process strongly associated with the outcome) that directly links to the desired outcomes, like improving diagnostic accuracy, enhancing

communication with referring clinicians, and reducing wrong-side surgery or intervention, would more accurately describe the measure's narrative specifications and connection to the outcome.

- *Denominator*

There were no objections to the denominator specifications, which comprise all patients, regardless of age, undergoing MRI studies of the spine (total, thoracic, and lumbar). Regarding the denominator current procedural terminology (CPT) codes proposed in the draft, ACR staff explained that the code list may not be exhaustive; however, ACR measure development staff will ensure that all appropriate codes are included before finalizing the measure so that it captures MRI exams of the total spine, thoracic, and lumbar regions. Panelists confirmed that there are no indications for these types of procedures, as the reasons for exams may vary.

- *Numerator*

Clarity was requested on how radiologists would document the measure numerator in reports. It was suggested that updates to the spine reporting templates would affirm whether there is a normal count from top to bottom. It was further explained that without template changes, additional content would have to be captured in radiology reports. A panelist emphasized the importance of radiology reports that illustrate anatomical landmarks visible on intraoperative x-ray images.

To support measure-user performance, the panel agreed to include a numerator note stating that "the landmarks must be visible on intraoperative x-rays like ribs, lowest fully formed vertebral body, lumbosacral angle." The panel confirmed that providing sample statements in the numerator notes offers additional guidance for reporting this measure accurately.

- *Numerator Exceptions*

ACR staff explained that exceptions ensure measures are fair and clinically appropriate by specifying instances when radiologists cannot reasonably perform the numerator action. In other words, distinct measure details that remove patients or exams from the measure numerator. For this measure, the panel agreed that an exception would apply to studies in which image quality is insufficient for providing top-to-bottom count. For instance, reasons may include patient movement and issues with stitching (the technique used to digitally combine multiple images, creating a single, continuous view of a large portion of an entire spine). As such, panelists recommended incorporating patient movement, addressing problems with stitching, and addressing technical issues to elaborate on acceptable exceptions from the top-to-bottom count. The TEP defined 'technical issues' as non-diagnostic or incomplete studies. One panelist cautioned against exceptions that do not include instances of incomplete anatomical coverage.

- *Denominator Exclusions*

ACR staff explained to meeting attendees that denominator exclusions are functionally similar to numerator exceptions because they remove cases inappropriate for measurement. Exclusions, however, remove cases that meet the exclusion criteria from the initial patient population, which results in the denominator value (the initial population minus the exclusions equals the measure denominator). In response, the TEP decided to omit exclusions for this measure.

- *Measurement rationale*

Informing meeting participants that the rationale plays an integral role for CMS when it considers whether to adopt measures into MIPS, ACR staff stated that this section must establish the measure's clinical issue, in this case, atypical spinal anatomy. It must also inform on the severity or frequency of misidentified or incomplete spinal counts and its impact on patient safety and outcomes and health care costs.

ACR staff requested feedback from panelists on the draft rationale, drawing on their clinical experience. Panelists suggested the rationale reference the commonality of spinal segmentation anomalies, noted that the rationale should contain incidences of numerical variants and transitional lumbosacral vertebrae on whole spine MRIs (found in citation number five, listed in the Evidence Index document), and requested including a 2023 paper about wrong-side surgery that drills down to the additional costs associated with repeat imaging and surgeries, as well as complications from wrong-site surgery.

Concerned with the data collection burden, ACR staff questioned the effort required of radiologists to capture and report this measure data. Panelists expect that using this measure would be a low burden, as many of its elements may be easily pulled and automated within the report via templates.

Next Steps/Action Items

1. Brendon will distribute meeting minutes to the TEP and relevant ACR staff.
2. Sam will revise the measure draft based on today's discussion and add subheadings to the rationale, designating the criteria needed to make a strong argument for the value of this measure in MIPS.
3. Sam will share the revised draft specifications with Dr. Kadom for her to review before requesting TEP edits and other feedback by email.