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Executive Summary

The Quality Measures Task Force of the American Association of Orthopaedic Executives (AAOE) worked with Minnesota Community Measurement to identify measures for inclusion in federal quality reporting programs. The Task Force was able to identify three measures currently in use that met all criteria for recommendation to the Centers for Medicare and Medicaid Services (CMS). Based on the reason for their exclusion, the excluded measures may be recommended by AAOE for future rulemaking.

The lack of measures meeting criteria for inclusion highlights the need for additional metric identification, testing, and development if musculoskeletal physicians are to have a fair chance at quality of care reimbursement.
Introduction

Medicare reimbursement is rapidly changing in the 21st century. The Centers for Medicare and Medicaid Services (CMS) has announced its intention to quickly move physicians away from traditional fee-for-service reimbursement into quality payments. Under this new structure of Medicare reimbursement, CMS is targeting the end of 2016 to have 85 percent of reimbursements under Medicare fee-for-service linked to some standard of quality, with 30 percent of these payments tied to some form of alternative payment model. These numbers will increase to 90 percent and 50 percent, respectively, by the end of 2018. In contrast, in 2014 only an estimated 20 percent of Medicare reimbursements were tied to some form of quality standard. This will signal a 60 percent increase in payments made based on quality measures in just two years.

To assist with this transition, CMS has created a four tier framework that categorizes healthcare payments based on how providers receive reimbursements for providing medical care [Figure 1.1]. This comes as the healthcare community is reaching the consensus that “scientifically rigorous and valid measurement of performance can be instrumental in improving value in U.S. healthcare.”

Passage of the Patient Protection and Affordable Care Act (PPACA) in 2010 has accelerated the focus on quality measurement reporting as the Department of Health and Human Services has been empowered by that law to incentivize or penalize performance. Despite the uncertainty surrounding the future of PPACA, both Republicans and Democrats support quality reimbursements making it evident that pay for performance will not be going away any time soon.

The participation of stakeholders in the discussion surrounding pay for performance is critical so that providers are judged based on measures that are relevant to their area of medicine. As of 2016, musculoskeletal providers are being reimbursed based on measures that are more relevant to primary care physicians than to specialists. To remedy this, the American Association of Orthopaedic Executives has worked with Minnesota Community Measurement (MNCM) to identify measures relevant to the orthopaedic scope of practice for the benefit of its membership and, more broadly, the membership of the orthopaedic community in the United States and the patients they serve.

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Figure 1.1: Medicare Payment Taxonomy Framework

<table>
<thead>
<tr>
<th>Category 1: Fee-for-Service – No Link to Quality</th>
<th>Category 2: Fee-for-Service – Link to Quality</th>
<th>Category 3: Alternative Payment Models Built on Fee-for-Service Architecture</th>
<th>Category 4: Population-Based Payment</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Description</strong></td>
<td>Payments based on volume of services and not linked to quality or efficiency.</td>
<td>At least a portion of payments vary on the quality or efficiency of healthcare delivery.</td>
<td>Some payment is linked to the effective management of a population or an episode of care. Payments still triggered by delivery of services, but opportunities for shared savings or 2-sided risk.</td>
</tr>
<tr>
<td><strong>Medicare FFS</strong></td>
<td>• Limited in Medicare fee-for-service • Majority of Medicare payments now are [not] linked to quality</td>
<td>• Hospital value-based purchasing • Physician Value-Based Modifier • Readmissions/Hospital Acquired Condition Reduction Program</td>
<td>• Accountable care organizations • Medical homes • Bundled payments • Comprehensive primary care initiative • Comprehensive ESRD • Medicare-Medicaid Financial Alignment Initiative Fee-for-Service Model</td>
</tr>
</tbody>
</table>

What is Quality Measurement

Quality measurement includes the tools that payors use to measure or quantify processes, outcomes, and/or cost and resource use in healthcare. The idea behind quality measurement is that it can help these payors determine which providers are providing quality, cost-effective care to patients. Payors like CMS use these measures to judge how well providers are meeting certain goals for healthcare. These goals include: effective, safe, efficient, patient-centered, equitable, and timely care.4

Types of Quality Measures

Quality measures are designed to assess the delivery of care across the spectrum of the healthcare industry and generally fall into four categories: 1) structure measures, 2) process measures, 3) outcome measures, and 4) patient experience

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measures. Each of these measure categories are explained below but it is important to note that while each category can give a glimpse into quality, all four categories are needed to provide a complete picture of the quality of care delivered.

Structure Measures
Structure measures assess the environment in which healthcare is provided such as a physician office or a hospital and whether those environments are capable of providing care. Measures in this group could include measures to evaluate the staffing of the facility under review, the knowledge and capabilities of staff, and the resources available for the delivery of care.

Process Measures
Process measures assess the consistency of providers to provide care to patients and whether providers follow the standard, recommended guidelines for care for a particular diagnosis. Measures in this group could include measures to evaluate the care given to all patients with a particular ailment such as diabetes.

Outcome Measures
Outcome measures assess the patients’ health as a result of the treatment given. These measures evaluate the effects, intended or unintended, of the care the patient received. Measures in this group could include mortality measures (did the patient survive?), morbidity measures (incidence of the disease), quality of the healthcare during the treatment episode, and quality of life issues related to the ailment or care received.

Patient Experience Measures
Patient experience measures assess the patient experience as they received care. These measures generally involve the interpersonal aspects of providing healthcare. The following chart [Figure 2.1] can be helpful in gaining a brief understanding of the types of quality measures:

<table>
<thead>
<tr>
<th>Type</th>
<th>Description</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Structure</td>
<td>Assesses the characteristics of a care setting, including facilities, personnel, and/or policies related to care delivery</td>
<td>Does an intensive care unit (ICU) have a critical care specialist on staff at all times?</td>
</tr>
<tr>
<td>Process</td>
<td>Determines if the services provided to patients are consistent with routine clinical care.</td>
<td>Does a doctor ensure that his or her patients receive recommended cancer screenings?</td>
</tr>
<tr>
<td>Outcome</td>
<td>Evaluates patient health as a result of the care received.</td>
<td>What is the survival rate for patients who experience a heart attack?</td>
</tr>
<tr>
<td>Patient Experience</td>
<td>Provides feedback on patients’ experiences of care.</td>
<td>Do patients report that their provider explains their treatment options in ways that are easy to understand?</td>
</tr>
</tbody>
</table>

Development of Quality Measures

All quality measures start life in some form of clinical research. Universities, professional associations, private organizations, and the federal government all fund and direct research to create the clinical quality guidelines that will eventually be used by the measure. Consequently, all quality measures are evidence based, that is, the research shows that the clinical guidelines result in improved care for the patient. This is why development of quality metrics (particularly outcome measures) is a complex process.

If all patients are unique, finding and developing generalizable guidelines to improve quality of care and treatment requires that guidelines must improve the conditions of a majority of patients. This is why measure development can be such a slow process, often taking years between the beginnings of clinical research to the actual use of a new measure.

Post-Development

After a measure has been developed, organizations (including government actors, universities, healthcare providers, and non-profit organizations) test the measure for reliability and validity to ensure that the measure accurately measures the quality of care provided.

Once the measure is determined to be sufficiently reliable and valid, professional societies, individual providers, universities, health systems, etc. recommend the measures to CMS for inclusion on the Measures under Consideration (MUC) list. Near the beginning of the second quarter of each year, CMS will begin the annual pre-rulemaking cycle of “collecting and compiling quality and efficiency measures” into the MUC list.

CMS’ first goal of including measures in the MUC list and eventual adoption of the measure in rule-making is to support CMS’ quality strategy and the National Quality Strategy (NQS). CMS publishes the annual MUC list every December 1. Measures on this list are then eligible for proposal in the next year’s rule-making cycle. Thus, measure adoption, or denial, typically takes two years once the pre-rulemaking cycle begins.

Measures adopted from the MUC list for rule-making are subject to public notice and comment. Therefore, any organization, individual, etc. can stymie the adoption of a measure. Measures not included in rule-making but included on the MUC list are unlikely to be reconsidered due to CMS policy.
The Project

In January 2015, the AAOE Advocacy Council approved the creation of the Quality Measures Task Force which was tasked with identifying an organization that could help AAOE make recommendations to CMS on the inclusion of orthopaedic specific metrics to measure the quality of care provided to patients. The Task Force identified Minnesota Community Measurement (MNCM), a non-profit organization in Minneapolis that provides quality data to the public for use in comparing the quality of healthcare providers, as a partner in this program.

In April 2015, the AAOE Board of Directors awarded the funds for MNCM to pursue research into quality measures currently in use by orthopaedic practices. These measures were then to be used to educate the AAOE membership on the available quality measures and to make recommendations to CMS for inclusion in the Physician Quality Reporting System (PQRS).

In total, MNCM identified 157 measures in the literature surrounding measurement of quality in orthopaedics. Of those measures, 12 were cost/resource use measures, 21 were outcome measures, 121 were process measures, and three were categorized as structure measures. For a full list of measures and their classification by MNCM, see Appendix I at aaoe.net/quality.

AAOE conducted two rounds of surveys of the 1,034 practices represented by our members. In total, 304 practices participated (29% participation rate) and submitted data on their use of the measures in question. Figure 3.1 shows the number of respondents by state.

The states with the highest concentrations of respondents include Illinois, Florida, California, Virginia, and Pennsylvania; however, a majority of responses came from Arizona, Connecticut, Indiana, Kentucky, Louisiana, Maryland, Massachusetts, Missouri, Montana, Nevada, New Jersey, New York, Oregon, Tennessee, Washington, and Wisconsin. The states with the least participation include Hawai‘i, New Hampshire, North Dakota, Rhode Island, and Utah. 6

Following the close of the surveys, AAOE staff aggregated the data and worked with MNCM to identify measures that could be recommended for inclusion on the CMS MUC list.

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6 Numerous respondents (58) failed to include their demographic information in either round of surveys. It is possible that every state has at least one respondent but the data available leaves out five states.
Selected Measures

In consultation with MNCM, the Quality Measures Task Force selected three measures to recommend to CMS for inclusion in the Physician Quality Reporting System to measure the quality of care provided to patients. See Appendix II at aaoe.net/quality for a list of measures not selected, along with the reasons for their exclusion.

Selected measures include:

<table>
<thead>
<tr>
<th>Measure</th>
<th>Use-Yes</th>
<th>Use-No</th>
<th>Use-No Answer</th>
<th>Ease of Use-Poor</th>
<th>Ease of Use-Good</th>
<th>Ease of Use-Great</th>
<th>Used in PQRS</th>
<th>NQF Endorsed</th>
<th>Measure Type</th>
<th>Implementation</th>
<th>CMS Priority</th>
<th>CMS Desired</th>
<th>PQRS Allowed</th>
</tr>
</thead>
<tbody>
<tr>
<td>49</td>
<td>Lumbar Fusion: Average change in back pain</td>
<td>18</td>
<td>113</td>
<td>168</td>
<td>2</td>
<td>5</td>
<td>6</td>
<td>5</td>
<td>N</td>
<td>N</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>53</td>
<td>Lumbar Discectomy/ Laminotomy: Average change in back pain</td>
<td>12</td>
<td>114</td>
<td>173</td>
<td>1</td>
<td>5</td>
<td>5</td>
<td>1</td>
<td>N</td>
<td>N</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>54</td>
<td>Lumbar Discectomy/ Laminotomy: Average change in leg pain</td>
<td>11</td>
<td>116</td>
<td>172</td>
<td>1</td>
<td>4</td>
<td>4</td>
<td>1</td>
<td>N</td>
<td>N</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
</tr>
</tbody>
</table>

The following images show the response percentages for each of the selected measures:
49: Lumbar Fusion: Average Change in Back Pain
53: Lumbar Discectomy/Laminotomy: Average Change in Back Pain
These measures were selected despite low use scores relative to other measures because of their relatively high ratings for ease of use. All three measures had between 61% and 90% of respondents rating the measure’s ease of use at good and higher. These were also the only measures identified that had completed all rounds of testing necessary for inclusion in a federal reporting program.

Several measures identified in the literature review but not selected for inclusion in our recommendation will be included in the forthcoming Comprehensive Care for Joint Replacement (CJR) model from the Center for Medicare and Medicaid Innovation (CMMI), which will allow CMS to further test the measures for inclusion. For others, however, there is no intention of testing and it is likely that these measures will never be included unless an organization can offer evidence based support for their inclusion.

54: Lumbar Discectomy/Laminotomy: Average Change in Leg Pain
Measure Exclusion

Measures were excluded from the final recommendation for a variety of reasons including:

- The measure was not from a PQRS allowed data source;
- The measure was not a CMS desired area of focus;
- The measure was not within a CMS priority National Quality Strategy domain of care;
- The measure was not ready for implementation;
- The measure steward had stopped supporting maintenance of the measure; and
- The measure had appeared under a previous MUC list.

Many measures met multiple criteria for exclusion. Figure 3.2 shows the frequency of these exclusions across measures.

Measures excluded because they are currently being tested will be monitored by the Task Force for changes in status and may be included in future recommendations. The measures that are not in a desired area of focus and/or not in the National Quality Strategy may eventually be eligible for recommendation depending on changes to CMS policy. The two measures that have appeared in previous versions of the MUC list will not be recommended in the future unless CMS policy on these measures changes. To see which categories individual measures fit in, visit aaoe.net/quality and click on “Appendix II”.

Top Tools Used for Selected Measures

In addition to collecting data on frequency of use for the identified measures, the Task Force also asked members which specific tools they used to quantify the measure (for a list of tools for all measures, see Appendix III at aaoe.net/quality). An overview of the most used measures is provided in Figure 3.3.

In our analysis of the responses provided, we did not change respondent answers except to better classify a response into the categories “No Specific Tool” and “In-House Developed”.

Figure 3.2

Figure 3.3
Assessment”. For example, if a respondent answered that to measure a knee metric they utilized a tool designed for hip metrics, that answer was recorded and included in our analysis.

Tools used for the selected measures are included in the graphs showing measure use and ease of use. Among respondents, there was a general consensus about the use of the Oswestry Disability Index (ODI) and the Visual Analog Scale (VAS) to measure these metrics. Lesser used, but still identified by respondents, were the SF-12 and VR-12 surveys.

For more information about the tools available for collecting quality data, please visit aaoe.net/quality.
Conclusions

Throughout this project, the Quality Measures Task Force had been hopeful that a handful of measures could be identified that would be applicable across the broad field of orthopaedics and musculoskeletal care. Unfortunately, this did not occur. The three measures selected for recommendation to CMS, on the advice of our partner, represent only a small (albeit growing) fraction of orthopaedic care in the United States. These measures include:

- Lumbar Fusion: Average change in back pain
- Lumbar Discectomy/Laminotomy: Average change in back pain
- Lumbar Discectomy/Laminotomy: Average change in leg pain

We are heartened that many of the measures eligible for reporting under Medicare’s quality reporting programs are under testing in the recently finalized Comprehensive Care for Joint Replacement (CJR) reimbursement model and that other measures are planned for testing. However, we come away with one conclusion: orthopaedics will continue to lag behind primary care and other specialties in quality reporting unless additional metrics can be identified, tested, and implemented to measure the quality of care musculoskeletal physicians provide to their patients. Until these metrics are realized, orthopaedists will have to continue reporting using metrics that fail to accurately illustrate the care they provide.

The Quality Measures Task Force will continue to monitor developments in quality of care measurement and determine ways in which AAOE can continue to contribute to the discussion surrounding quality measurement in orthopaedics.