

## THE VALUE TRANSFORMATION OF HEALTH CARE: IMPACT ON NEUROMUSCULAR AND ELECTRODIAGNOSTIC MEDICINE

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**ABSTRACT:** Beginning in 2017, most physicians who participate in Medicare are subject to the Medicare Access and CHIP Reauthorization Act (MACRA), the milestone legislation that signals the US health care system's transition from volume-based to value-based care. Here we review emerging trends in development of value-based healthcare systems in the US. MACRA and the resulting Quality Payment Program create 2 participation pathways, the Merit-based Incentive Payment System (MIPS) and the Advanced Alternative Payment Model (AAPM) pathway. Although there are several program incentives for AAPM participation, to date there have been few AAPM options for specialists. MIPS and its widening bonus and penalty window will likely be the primary participation pathway in the early years of the program. Value-based payment has the potential to reshape health care delivery in the United States, with implications for neuromuscular and electrodiagnostic (EDX) specialists. Meaningful quality measures are required for neuromuscular and EDX specialists.

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**P**ayment for healthcare services in the United States has historically been performed on a fee-for-service (FFS) basis. As the name implies, in this model, physicians are paid for each service (e.g., a clinic visit or a procedure) according to a fee schedule that is set by payers. The FFS model has been broadly criticized, increasingly so in recent years, as a contributor to the inexorable rise in

overall US healthcare expenditures because of implied incentives to perform more services.<sup>1</sup> Although the rate of healthcare cost increases has fluctuated over time, the trend has clearly been upward; total healthcare expenditures in the United States were \$3.2 trillion in 2015, reflecting almost 18% of the US gross domestic product.<sup>2</sup>

Prior interventions to slow the rise in healthcare costs have been unsuccessful. In response to concerns about costs as well as quality of care, policymakers have embraced value-based payment for healthcare services. Value-based care models apply incentives to providers to improve quality and control or reduce costs.<sup>3</sup> This article outlines important milestones in this transition to value-based care, how these changes will affect neuromuscular and electrodiagnostic (EDX) providers, and strategies to respond to a changing world of healthcare economics.

### A BRIEF HISTORY OF HEALTH CARE REFORM

Although healthcare reform has persisted in the national discourse since the passage of the Affordable Care Act (ACA) in 2010, calls for reform in US healthcare system costs, quality, or access to care date at least to the early 20th century.<sup>4</sup> In the 1990s, an attempt to control costs through wholesale risk transfer to provider organizations in the form of managed-care programs failed in the face of widespread criticism from physicians and patients. In 1997, the US Congress enacted the Sustainable Growth Rate (SGR), which essentially tied Medicare provider payment increases to measures of growth in the overall economy. Under this formula, if the cost of Medicare Part B exceeded specified limits, Medicare reimbursement rates for the following year would be reduced.<sup>5</sup> By 2002, it became clear that provider payment cuts mandated by the SGR were politically untenable, and Congress began a nearly annual ritual of temporarily patching the payment cuts in a process known as the “doc fix.” For its part, the ACA has largely addressed improvements in access to care through expanded insurance coverage. The Centers for Medicare and Medicaid Services (CMS) have also administered several

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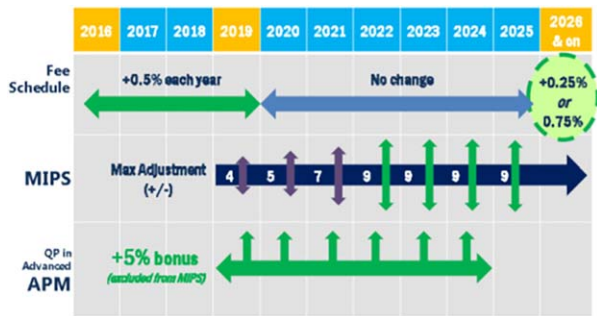
**Abbreviations:** AAN, American Academy of Neurology; AANEM, American Association of Neuromuscular and Electrodiagnostic Medicine; AAPM, Advanced Alternative Payment Model; AAPMR, American Academy of Physical Medicine and Rehabilitation; ACA, Affordable Care Act; ACL, advancing care information; ACO, accountable care organization; CHIP, Children's Health Insurance Program; CMS, Centers for Medicare and Medicaid Services; CPS, composite performance score; EDX, electrodiagnostic; FFS, fee-for-service; IA, improvement activities; MACRA, Medicare Access and CHIP Reauthorization Act of 2015; MIPS, Merit-Based Incentive Payment System; NMM, neuromuscular medicine; PCMH, patient-centered medical home; PQRS, Physician Quality Reporting System; QCDR, qualified clinical data registry; QPP, Quality Payment Program; SGR, sustainable growth rate; VBPM, value-based payment modifier

**Key words:** alternative payment models; MACRA; MIPS, QPP; value-based care; value-based payment

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**FIGURE 1.** Beginning in 2019, the Quality Payment Program will begin adjusting payments to participating clinicians. The 5% bonus for participation in the Advanced Alternative Payment Model pathway expires in 2024, whereas the range of bonuses and penalties in the MIPS will peak in 2022 and continue indefinitely (publically available image reproduced from CMS.gov). MIPS, Merit-Based Incentive Payment System. <https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/Value-Based-Programs/MACRA-MIPS-and-APMs/Quality-Payment-Program-MACRA-NPRM-Slides.pdf>

programs targeted to improving quality of care (such as the Physician Quality Reporting System [PQRS]) and costs of care (such as through its value-based payment modifier [VBPM]).

In April 2015, Congress passed the Medicare Access and CHIP Reauthorization Act of 2015 (MACRA), repealing the SGR. In contrast to prior legislation, MACRA describes a fundamental transition from volume-based FFS payment systems to value-based payment systems. In its detailed final MACRA rule released in October 2016, CMS outlines how it will reshape Medicare payments through a new program called the Quality Payment Program (QPP).<sup>6,7</sup>

**MACRA AND THE QPP**

Beginning in 2017, most physicians who participate in Medicare will do so in 1 of 2 pathways, the Merit-Based Incentive Payment System (MIPS) or the Advanced Alternative Payment Model (AAPM) track<sup>6,8</sup> (see Fig. 1, Supporting Information Glossary of Terms).

**Merit-Based Incentive Payment System.** The default participation pathway in QPP is the MIPS program, which essentially provides adjustments to provider payments according to performance on value measures. In 2017, some providers will be excused from participation in MIPS: (1) those who are in their first year of Medicare participation, (2) those who see fewer than 100 Medicare patients OR have less than \$30,000 in submitted Medicare Part B payments to Medicare, and (3) those who qualify for the AAPM pathway.<sup>6</sup>

The MIPS program applies an annual composite performance score (CPS) ranging from 0 to 100 to each participant (Fig. 2). This score is derived from performance in 4 domains: (1)

quality (similar to PQRS), (2) cost (similar to VBPM), (3) advancing care information ([ACI; similar to the Electronic Health Record Meaningful Use program), and (4) improvement activities (IA; a measure of participation in continuous practice improvement). The contribution of each of these 4 domains to the total CPS score in 2017 is 60% from quality performance (decreasing to 30% by 2021), 0% from cost (increasing to 30% by 2021), 25% from ACI, and 15% from IA. In the QPP, as with CMS’s prior value-based payment programs, there is a 2-year lag between measurement and payment adjustment. Therefore, 2017 performance will be reflected in 2019 payment adjustments. Payment adjustments will range from -4% to +4% in the 2019 payment year, increasing over time to -9% to +9% by 2022 and beyond.<sup>6</sup>





Based on comment period feedback, CMS indicated in its 2016 final MACRA rule a plan for slower implementation in the initial 2017 measurement year.<sup>9</sup> MIPS providers who submit any data (such as 1 measure from the quality domain or 1 approved activity in IA) will avoid the -4% penalty in 2019. Providers who submit 90 days of data may receive a modest bonus, and participants who submit data for the entire year may receive somewhat larger bonuses. As a largely budget-neutral program, fewer penalties in any measurement year will lead to less funding available for the bonuses described in MACRA.

MIPS reporting may be performed through a variety of mechanisms such as claims, online

**MIPS Performance Categories**



**2017 Performance Category Weights for MIPS**

-  Quality: 60%
-  Resource Use: 0%
-  Clinical Practice Improvement Activities: 15%
-  Advancing Care Information: 25%

**FIGURE 2.** In the MIPS, providers will be scored on performance in 4 domains. Over time, the weighting of the quality domain will decrease to 30% of the score, and the cost weighting will increase to 30% (publically available image reproduced from CMS.gov). MIPS, Merit-Based Incentive Payment System.



**FIGURE 3.** Participation in the Advanced APM pathway requires the model to satisfy a list of specific criteria, including “bearing more than nominal financial risk.” Currently, there are few viable AAPM options for specialists (publically available image reproduced from CMS.gov). APM, Alternative Payment Model; CMMI, center for medicare and medicaid innovation; EHR, electronic health record; MACRA, Medicare Access and CHIP Reauthorization Act of 2015; MIPS, Merit-Based Incentive Payment System.

portal, attestation, or through a qualified clinical data registry (QCDR). Reporting is not necessary for the cost component, which will be calculated automatically from submitted Medicare claims. Participation in a QCDR will also result in improved performance on the IA portion of the MIPS score. Currently, the American Academy of Neurology (AAN) is developing the Axon Registry, which was approved as a QCDR in April 2016.<sup>10</sup> It is likely that more QCDR opportunities from other specialty societies will be forthcoming.

**AAPM Pathway.** The AAPM pathway is available to providers who deliver a sufficient percentage of their services through an approved AAPM. Qualifying providers in an AAPM will receive a 5% lump sum bonus in each payment year from 2019 through 2024 which, like the MIPS adjustment, will follow a 2-year lag from the measurement year. Broadly defined in MACRA and the QPP, alternative payment models are methods of payment for clinical services that reward good quality and cost performance and penalize poor performance. Examples from recent years include accountable care organizations (ACOs), bundled payments for services, and patient-centered medical home (PCMH) programs. To qualify as an AAPM, the model must accept “greater than nominal” financial risk, among other requirements (Fig. 3). The relatively narrow AAPM definition used by CMS effectively excluded a large number of alternative payment models in 2017 (for example, approximately 80% of current ACOs do not qualify).<sup>9</sup> The small number of qualifying programs relevant to specialists, burdens on physicians in small practices, and potential inherent limitations of the

AAPMs to control costs while improving quality have been early and prominent criticisms of MACRA.<sup>11</sup>

**MACRA, SPECIALTIES, AND SUBSPECIALTIES**

Although MACRA calls for CMS to develop a broader array of quality measures available to providers, neuromuscular and EDX physicians will find a relatively small number of quality measures relevant to their practices. A number of quality measures are available for general neurology or physical medicine practice, but at the subspecialty level there are not many options. For example, a physiatrist with an exclusively EDX practice is unlikely to find a sufficient number of approved and available quality measures that meaningfully address the quality of care provided. A list of potentially useful existing measures is shown in Supporting Information Table 1. The American Association of Neuromuscular and Electrodiagnostic Medicine (AANEM) is actively developing subspecialty measures relevant to electrodiagnosis. Although quality measures for neuromuscular disorders such as amyotrophic lateral sclerosis,<sup>12</sup> peripheral neuropathy,<sup>13</sup> and muscular dystrophy<sup>14</sup> have been developed, at present these are not incorporated in QPP.

An additional challenge for specialists and subspecialists is the relative lack of relevant and available AAPMs. Most alternative payment models, such as ACOs and PCMHs, are designed essentially for primary care providers in the context of population care. Again, by example, a neuromuscular neurologist in an independent practice may not have access to an ACO, or his local ACOs may require untenable terms of participation. MACRA

required the creation of the expansively named Physician-Focused Payment Model Technical Advisory Committee, which is charged with reviewing and recommending specialty-relevant AAPMs to CMS.<sup>8</sup>

#### **IMPACT ON SMALL PRACTICES**

For many small and solo practices, the infrastructure requirements inherent in MACRA and the QPP are prohibitively expensive. Furthermore, the complexity of the programs can be overwhelming. CMS has made some allowances for physicians in small groups, for example, by excluding small practice providers from a MIPS penalty for excess hospital readmissions and easing the scoring for the IA portion of MIPS. MACRA acknowledges that it is essential to support small practices and has allocated \$100 million over 5 years to address the needs of these providers,<sup>8</sup> although it is unclear how these resources will be deployed.

#### **IMPACT ON PROCEDURAL PRACTICES**

Although most of the preceding discussion focuses on MACRA, it is very likely that private payers will soon increase their emphasis on quality and cost outcomes in their contracts with providers. One potential model that could become more widespread is bundled services. Payment bundles group a common set of services for a given condition, for which the payer offers a flat rate. Bundled payments for neuromuscular conditions could certainly include EDX procedures. Before entering into bundled payment contracts, neuromuscular and EDX physicians should have a clear understanding of their practice patterns, cost structures, and which specific conditions would trigger the bundle.

#### **WHAT MUST I DO NOW?**

The first step in determining a strategy to respond to MACRA and other value-based payment models is to become informed. After determining your eligibility for MIPS and the AAPM track, decide if you have the option to choose. Although there are many incentives in the AAPM pathway, neurologists and physiatrists should look carefully at AAPM agreements, for example, to determine how quality and costs are measured and how bonuses are distributed. Understand the best option for your practice before making a final decision. Several physician societies, such as the American Medical Association,<sup>15</sup> have developed tools to help physicians determine their best approach. If you will participate in MIPS, decide on a data submission option and to what extent you want to participate in 2017 (for example, reporting a single quality measure, submitting data for 90 days, or submitting a full year of data). Consider participating in a QCDR to streamline reporting and potentially improve your

scores.<sup>16</sup> You can find additional information and suggestions from the AANEM,<sup>17</sup> American Academy of Physical Medicine and Rehabilitation (AAPMR),<sup>18</sup> and AAN<sup>19</sup> websites.

In conclusion, we are much closer to the beginning of the process than the end. MACRA and the QPP are clearly outlined in the near term, but many specific variables are subject to change in future rulemaking. The discussion surrounding possible ACA repeal following the 2016 presidential election has largely bypassed MACRA and value-based care in general. It is worth noting that MACRA passed with overwhelming bipartisan majorities. Despite changes in the political climate, a return to unadjusted FFS payment models is unlikely. Value-based payments likely are here to stay. Private payers and, eventually, patients are likely to increasingly follow suit in the focus on seeking and paying for value in healthcare. For specialists and subspecialists, challenges remain in developing relevant quality measures, identifying adequate reporting mechanisms, and managing regulatory burdens. For small and solo practitioners, additional challenges include the financial burden of these reporting requirements. Professional organizations such as the AANEM, AAN, and AAPMR play critical roles in developing meaningful and specialty-relevant measures and working with CMS to incorporate these measures into QPP. Active member involvement in the advocacy efforts of these organizations is required to ensure fair representation of EDX and neuromuscular practices in future value-based payment models.

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#### **REFERENCES**

1. Emanuel EJ, Fuchs VR. The perfect storm of overutilization. *JAMA* 2008;299(23):2789-2791.
2. Centers for Medicare and Medicaid Services. 2015 US National Health Expenditure Data. Available at <https://www.cms.gov/research-statistics-data-and-systems/statistics-trends-and-reports/nationalhealthexpenddata/nationalhealthaccountshistorical.html>.
3. Porter ME. What is value in health care? *N Engl J Med* 2010; 363(26):2477-2481.
4. Markel H. Give 'em health, Harry. *Milbank Q* 2015;93(1):1-7.
5. Thrall JH. Unintended consequences of health care legislation. *J Am Coll Radiol* 2011;8(10):687-691.
6. Medicare Access and CHIP Reauthorization Act of 2015. Available at <https://www.congress.gov/bill/114th-congress/house-bill/2/text>. Accessed May 26, 2017.
7. Jones LK Jr. The roadmap to value-based care. *JAMA Neurol* 2016; 73(10):1173-1174.
8. Jones LK Jr, Raphaelson M, Becker A, Kaloides A, Scharf E. MACRA and the future of value-based care. *Neurol Clin Pract* 2016;6:459-465.
9. Medicare Program; Merit-Based Incentive Payment System (MIPS) and Alternative Payment Model (APM) incentive under the physician fee schedule and criteria for physician-focused payment models. Final rule with comment period. *Fed Regist* 2016;81(214):77008-77831.
10. Sigsbee B, Goldenberg JN, Bever CT Jr, Schierman B, Jones LK Jr. Introducing the Axon Registry: an opportunity to improve quality of neurologic care. *Neurology* 2016;87(21):2254-2258.

11. Clough JD, Richman BD, Glickman SW. Outlook for alternative payment models in fee-for-service Medicare. *JAMA* 2015;314(4):341–342.
12. Miller RG, Brooks BR, Swain-Eng RJ, Basner RC, Carter GT, Casey P, *et al*. Quality improvement in neurology: amyotrophic lateral sclerosis quality measures: report of the quality measurement and reporting subcommittee of the American Academy of Neurology. *Neurology* 2013;81(24):2136–2140.
13. England JD, Franklin G, Gjorvad G, Swain-Eng R, Brannagan TH 3rd, David WS, *et al*. Quality improvement in neurology: distal symmetric polyneuropathy quality measures. *Neurology* 2014;82(19):1745–1748.
14. Narayanaswami P, Dubinsky R, Wang D, Gjorvad G, David W, Finder J, *et al*. Quality improvement in neurology: muscular dystrophy quality measures. *Neurology* 2015;85(10):905–909.
15. American Medical Association. Understanding Medicare Payment Reform (MACRA) Available at <https://www.ama-assn.org/practice-management/understanding-medicare-payment-reform-macra>. Accessed March 21, 2017.
16. American Academy of Neurology. Axon Registry. Available at <https://www.aan.com/practice/axon-registry/>. Accessed March 21, 2017.
17. American Association of Neuromuscular and Electrodiagnostic Medicine. MACRA. Available at <https://www.aanem.org/Practice/Medicare/MACRA>. Accessed March 21, 2017.
18. American Academy of Physical Medicine and Rehabilitation. Medicare Access and CHIP Reauthorization Act. Available at <http://www.aapmr.org/quality-practice/macra>. Accessed March 21, 2017.
19. American Academy of Neurology. MACRA. Available at <https://www.aan.com/practice/medicare-payment-reform/>. Accessed March 21, 2017.