In this issue of Neurology®, Nuwer et al.¹ present the results of a recent survey of American Academy of Neurology members concerning practice patterns for intraoperative neurophysiologic monitoring (IOM). The study confirms the continued growth of IOM but also sheds light on striking differences between 2 practice models—“local” monitoring and the “remote” telemetry. For historical reasons, a single Current Procedural Terminology (CPT) code has applied to both models, generating considerable ambiguity and resulting in lack of transparency, particularly to third-party payers, which now presents a serious challenge to the field and to neurologists providing IOM services. On November 1, 2012, with the issuance of the Centers for Medicare & Medicaid Services’s (CMS’s) Final Rule for Medicaid physician payments,² this challenge became a crisis that threatens to limit IOM services available to Medicare patients.

Traditionally, the practice of IOM has adhered to an on-site or “local” model. The physician neurophysiologist is present in the operating room (OR), or monitors from a nearby display. The physician readily and quickly enters the OR to confer with the technologist, anesthesiologist, and surgeon, and to review medical records and imaging studies. The physician directly supervises the technologist who operates the IOM equipment, and may assist in the identification and resolution of technical problems that interfere with effective IOM. Whether routinely or at times of crisis, the on-site neurophysiologist is able to contribute effectively to real-time decision-making through live, face-to-face interaction with the surgeon and the anesthesiologist. The intensity of local monitoring typically limits the physician to monitoring and supervising up to 3 cases concurrently.³ Indeed, the local model is very much analogous to an anesthesiologist supervising a similar number of residents or nurse anesthetists. Importantly, the utility of IOM has been established based on extensive Class I and Class II evidence acquired using the traditional, local, practice model.⁴

A different practice model, remote telemetry, has gained enormous popularity over the last decade. The remote IOM model developed as a natural outgrowth of traditional monitoring. First, direct cable connections, and then telephone modem–based systems, made it possible for the monitoring physician to maintain close tabs on a case from the office, and to monitor more than one case from a central location. Prior to 2001, the 95920 IOM CPT code required that IOM be performed under direct supervision, and so the monitoring physician was necessarily present on-site. In 2001, the direct supervision requirement was eliminated,⁵ and monitoring from anywhere was permissible, as long as there was a real-time data link with the OR. Remote IOM is an important application of telemedicine in neurology; it complements traditional on-site monitoring, making IOM available to patients at remote locations and at sites without physicians with the necessary skills.

Remote IOM is substantively different from the traditional on-site monitoring. Rather than being in the OR quickly when needed, the remote monitoring physician can never be physically present. Accordingly, the technologist functions without direct supervision; the neurologist has very limited ability to assist with the resolution of technical issues. Rather than face-to-face interaction, communication with OR personnel is restricted to text messages or telephone. Communication with the surgeon or anesthesiologist commonly entails “texting” with the technologist, who then relays messages. Depending on technological capabilities, the monitoring physician may or may not be able to access the medical record or imaging studies.

This survey highlights strikingly different utilization patterns that further distinguish local and remote IOM models. While a relatively small minority of providers perform remote IOM, nearly half of the IOM cases in the United States are now monitored remotely. Although the 95920 JOM CPT code does not distinguish local from remote monitoring, it seems clear that the proliferation of remote monitoring following rescission of the direct supervision requirement likely accounts for much of the past decade’s exponential growth. The survey provides further insight by examining the types of cases monitored, and numbers of

See page 1156

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cases concurrently monitored, by the 2 models. Spinal surgery, in particular lumbar discectomy and fusion, accounts for a disproportionately large fraction of remote monitoring; spinal (cervical plus lumbar) surgery accounts for 65% of the typical (median) remote responder’s practice but only 15% of the typical local practice. Remote providers monitor far more cases concurrently; both at the median and the 75th percentile, the number of cases monitored concurrently by remote providers is double that of local providers.

The CPT Editorial Panel had the opportunity to resolve the ambiguity created by a single CPT code describing 2 distinct IOM practice models in the 2013 CPT code book. Regrettably, it failed do so. It replaced the old 95920 code with 2 new codes: one, 95940, for time spent physically in the OR devoted to a single patient, and the other, 95941, for all other IOM. Code 95941 fails to distinguish between local, on-site, monitoring and remote monitoring, fails to account for differences in case mix and complexity, and permits an unlimited number of cases to be monitored concurrently without reporting.

Not surprisingly, CMS has rejected the 95941 code, and deemed it “invalid” for Medicare patients. Instead, in the Final Rule for the Medicare physician fee schedule, CMS has taken the unusual step of establishing its own code G0453, effective January 1, 2013. G0453 severely limits IOM for Medicare patients, limiting payment to providers for attention directed to one patient only, in 15-minute increments.

Failure to create CPT codes that accurately describe IOM services, with attention to location of the monitoring physician, access to the OR, supervision of the technologist, case mix and complexity, and number of cases concurrently monitored, has created a crisis that threatens to limit Medicare patients’ access to IOM services. To resolve this crisis, it is necessary that the American Medical Association CPT reconvene a workgroup that will establish a family of codes that properly address these issues.

DISCLOSURE
R. Emerson estimates that 70% of his effort is spent on intraoperative monitoring. He performs both on-site and remote monitoring. In the past 2 years, he has given expert testimony 2 times and he is a consultant to Reach Bionics Corporation. A. Husain estimates that 20% of his effort is spent on intraoperative monitoring. He performs both on-site and remote monitoring. He has research grant support from UCB Pharma. In the last 2 years, he has been on the Speakers’ Bureau of UCB Pharma and Jazz Pharma. He also receives royalty payments for books on intraoperative monitoring and EEG. Go to Neurology.org for full disclosures.

REFERENCES